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Contributors

Hecht, Charles E.

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REARING AN IMPERIAL RACE



Edited by CHARLES E. HECHT

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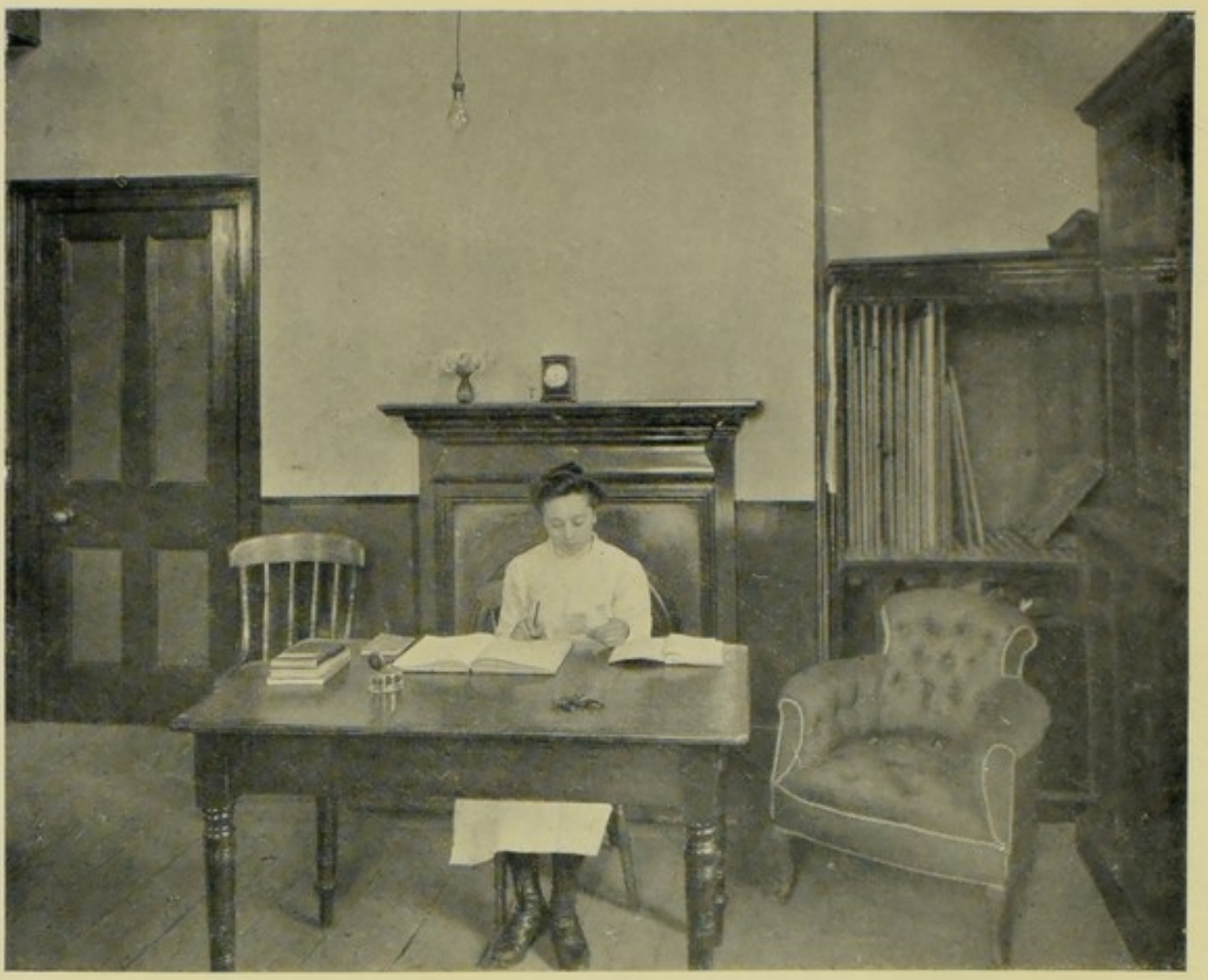

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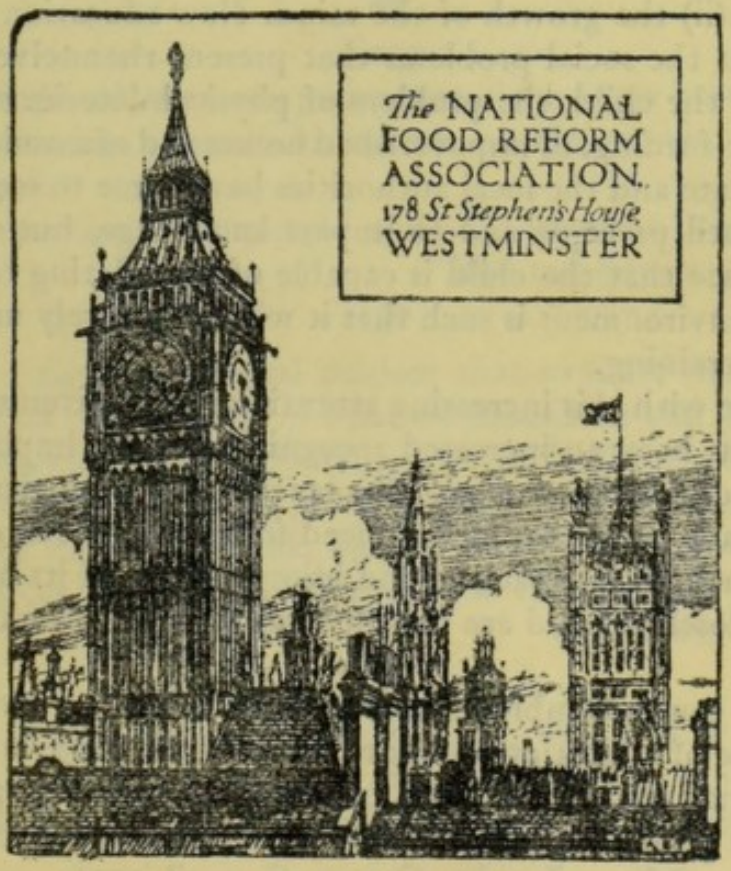
Frontispiece

REARING AN IMPERIAL RACE

Containing a full Report of the Second Guildhall School Conference on Diet, Cookery and Hygiene, with Dietaries; Special Reports from H.M. Ambassadors Abroad; Articles on Children's Food Requirements, Clothing, etc.

Edited by CHARLES E. HECHT M.A.

Illustrated



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1913

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The Place of Health in Education

WHAT we do not call education is more precious than that which we call so. Ralph Waldo Emerson.

VERY closely allied to the Science of Eugenics on the one hand and to Education on the other, is the Science of Nutrition. It comes as it were between the two, for only the child who is well born and wisely fed can make the most of the education offered.—Miss Marian E. Cuff, 1913.

IF one considers what is now included in the domain of "education" and compares it with what was included under the term as recently as seven years ago, one cannot but be struck with the change that has come over the meaning of the word. Formerly, education was in the main confined to two aspects of the life of the individual child—(i) the growth of character; (ii) the growth of the mind. Now education tends to look increasingly at the social problems that present themselves for solution in the case of the child, the problem of physical deterioration, the problem of under-feeding, of impoverished homes and of unsuitable employment. The State and the local authorities have come to see that it is not enough to instil precepts and to impart knowledge, but that it is also their task to see that the child is capable of assimilating the knowledge and that his environment is such that it will not entirely undo the effect of the school training.

Side by side with this increasing attention that is given to social questions there has been an increased recognition of the importance of the child as an individual organism. The teachings of biological science and psychology have laid stress for the need for treating each child as a distinct individual, with capacities and idiosyncracies of its own, and have shown how closely related are the physical, mental and moral aspects of child life.

These two causes combined have led to a widening and a deepening of the purpose of education and have placed upon those who administer the educational system the duty of watching over the physical well-being and the general welfare of the children committed to their care.—The Education Officer, London County Council, 1910.

THE health of the people is really the foundation upon which all their happiness and all their powers as a nation depend; but if the population of that country is stationary or yearly diminishes in stature and strength, that country is doomed.—Lord Beaconsfield.

A WEAK body weakens the character. This specially applies to the child. JEAN JACQUES ROUSSEAU, 1712–1778.

THE twentieth century is to be a children's century, and the conscience of the nation is being stirred by revelations about the mental and physical condition of enormous numbers of school children.

SIR WILLIAM MATHER, June 22, 1913.

MEDICAL inspection is steadily disintegrating the ancient superstition that every child is equally ready for education, and that each child is always equally fit for work.

DR W. LESLIE MACKENZIE, 1913.

ONE can neither teach a child suffering from cold feet, nor educate a child with a headache. DR A. D. EDWARDS, 1911.

FOOD

ANIMALS feed, man eats; wise men alone know how to eat. The destiny of nations depends on the manner wherein they take their food.

Tell me what thou eatest, and I will tell thee what thou art.

BRILLAT SAVARIN, 1755–1826.

IT is not a sign of ancestral wisdom that so little thought has been bestowed on the teaching of what we should eat and drink, or on the relations necessarily existing not only between food and a healthy population, but between food and a virtuous life. . . . The influence of food is not only itself cardinal in rank, but, by priority of action, is the source of various forces, injurious or the reverse as the case may be.

SIR HENRY THOMPSON.

WISE food is the most essential thing of all. The cheapest food, wisely chosen, contains all the nourishment which dearer food can possibly give. The rich pay for flavours and variety to tickle the jaded palate.

PROFESSOR LEONARD E. HILL, January 3, 1913.

ECONOMIC ASPECT OF OUR FOOD

FOOD is the fuel—the source of energy—of the human machine, and not only the fuel, but the very material out of which the body is constructed.

From the food the muscles must be built before they can liberate and make use of the energy contained in the food subsequently consumed. Hence the capacity of an individual for work depends not only upon his nourishment from the time of his birth, but also upon the nutrition of his parents, and particularly of the nutrition of his mother before his birth.

For this reason, not only must a man's diet during his working years be considered, but also his nourishment during the whole period of his development and growth. Throughout his existence his ultimate power as a wage-earner is being influenced by the character of his food supply.

Under natural conditions of trade, the working man brings into the market his energy—his power of doing work—and obtains for it the most favourable price he can secure. His profits depend, on the one hand, upon the amount of energy he can supply, and the price at which he can sell it, and, on the other hand, upon the price for which he can buy his *source of energy*—his food. An abundance of cheap and good food is the first essential for a productive working class.

The food, to be available, must not only be eaten—it must be digested and absorbed so that it may be used by the muscles. Hence any disturbance in the organs of digestion, induced by inappropriate or imperfect feeding in early life, or by neglect of the teeth in childhood, handicaps a worker throughout his whole life by limiting the supply of energy available for work.

NOËL PATON, Regius Professor of Physiology, Glasgow University, 1913.

AS this will be a most important economic problem during the next hundred years, the question of the character of our food supply should be most carefully considered in the study of the conservation of natural resources.

IRVING FISHER, Professor of Political Economy, Yale University; Member of the National Conservation Commission appointed by President Roosevelt.

SPECIAL IMPORTANCE OF CHILDREN'S DIET

IT must be remembered, as a physiological fact, that a set-back of development occasioned by insufficient feeding in childhood, is usually irremediable afterwards, and that its effects upon the brain and intelligence are likely to be as pronounced as its effect upon the skeleton and the muscle. Nature has many resources, and can do many things, but the making of bricks without straw seems to be beyond her capacity;

and the nation which would maintain ability with its enemies in the gate should secure, as a primary condition, the proper and sufficient feeding of its children. *Times* Reviewer, 1913.

IF I have views it would not be proper for me to express them, but looking at it from a purely scientific point of view, if there is one thing I would like to do for the six million children—if we want to rear an Imperial race—it would be to feed them. It might be asked how I would do it. That is not for me to say, but the great, urgent, pressing need is nutrition. With that we can get better brains and a better race.

Sir George Newman, Chief Medical Officer,
Board of Education, August, 1913.

IT seems to be a general principle in biology, that the younger the cell the greater is its power of oxidizing and breaking down food, and that the older it is the less of this power does it possess; in other words, what the cells of the body gain by multiplication they lose in individual activity. In accordance with this principle, the assimilative powers of a child are greater than those of an adult, and those of the latter greater than those of an old man. The child, therefore, relatively to its weight, will require the greater amount of food. Two other considerations emphasize this necessity. Like all small animals, a child has a large surface in proportion to its bulk, and that means, as we have just seen, a relatively great heat loss. Further, a child is a *growing* animal; it has not merely to keep its tissues in repair, but has to go on adding to them, and that necessitates a relatively abundant supply of building material. Dr Robert Hutchison.

Cookery

COOKING is another point that needs attention. That we do not know how to feed children is not, perhaps, very wonderful, considering how little the mass of this nation know about feeding themselves. *The Times*, December 17, 1908.

IT is not food that is dear and scarce in England—it is the mind to cook it with! Food is extraordinarily cheap and good in England—the raw material of food, that is to say. Even the labourer on 18s. or 21s. a week could live plentifully, so far as food is concerned, if he or his wife knew all there is to be known by ordinarily intelligent people about food and its preparation. But, unfortunately, his wife, as a rule, knows hardly anything of what can be done on a few pence to please and nourish her family. She has none of the instinctive knowledge of and

aptitude for what makes a savoury dish that the French or German woman has. She buys monotonously, omitting dozens of foods that she ought to include, because she is quite ignorant about them, and often prejudiced against them; and she comes more and more to depend on tinned abominations of all sorts, and to get all the cooking she wants done for her at the cook-shop. And meanwhile her own mind stagnates for lack of any real interest or variety in her housekeeping; her husband gets no pleasure out of his meals, and, as man is a feeding animal, begins to take less interest in his home; and her children are wretchedly nourished. MRS HUMPHRY WARD.

HYGIENE

HYGIENE aims at rendering growth more perfect, decay less rapid, life more vigorous and death more remote.—*Encyclopædia Britannica.*

TO hygiene belongs, without a doubt, the place of honour in modern medicine. METCHNIKOFF.

IS it not living in a continual mistake to look upon diseases, as we do now, as separate things, which must exist, like cats and dogs, instead of looking upon them as conditions, like a dirty and a clean condition, and just as much under our control, or rather as the reaction of a kindly Nature against the conditions in which we have placed ourselves?
FLORENCE NIGHTINGALE.

NO one can have attended out-patients' departments of hospitals and consulting rooms for a quarter of a century, as I have done, without being almost overwhelmed, when he reflects what an enormous amount of sickness and suffering is the direct result of avoidable folly, of thoughtless and wilful neglect of the simplest rules of health, as well as of wanton wickedness and vice. SIR WILLIAM J. COLLINS, 1902.

THE hygienic conscience seems to be acquired almost unconsciously if the environment is uniformly hygienic. The only rational order appears to us to be—live hygiene, learn hygiene, teach hygiene.
MRS E. ADAIR IMPEY, 1907.

IT is practically impossible to teach a child self-respect who is clothed in rags, and the clothing of some of the children cannot otherwise be described. DR RALPH WILLIAMS, 1910.

The Family, the School, and the State

THE day is past when domestic economy was considered a minor matter and the Cinderella of education. Conditions of modern life make home training impossible, and the school is obliged, more or less, to take the place of the home, and the teachers to undertake some of the duties of the parents. The home and the parents should be brought into close touch with the school and the teachers.

The Lady Edmund Talbot, 1913.

RECENT legal changes affecting the family are not hostile to the family. They are rather designed to further some of the objects which the family has in view. The encroachments of the State resemble those of the Church, which led to a strengthening of the family. It is a partnership rather than a substitution that is claimed.

Sir John Macdonell, January, 1913.

The Coming Education Bill

EDUCATION authorities, however, are only machinery, and it is not exclusively, or even mainly, of them that we should be thinking when we consider the question of national education. We must think first and last and all the time of the children, whether in their early years in elementary schools, in later boyhood and girlhood in intermediate schools, or when on the threshold of mature life they enter the university. In the interests of the State, we are bound to have regard to the child from the earliest age. I am not sure that it does not begin with their mothers before the children are born—I refer to mothercraft. If the State makes education obligatory, it has a responsibility for seeing that the child is physically fit to receive it. It must not be forgotten that the education of the young child is primarily physical, and not primarily intellectual, and education, during the first years of its life, should take the form almost wholly of physical training, rather than of direct intellectual stimulation. Healthy motherhood, healthy infancy, and a healthy school life are progressive and indispensable steps to healthy citizenship in later years.

The President of the Board of Education
(The Rt Hon. J. A. Pease, M.P.),
July 22, 1913.

EDUCATION will never be complete until we train the eye, hand and ear, as well as the mental faculties, and look after the physical. It is a great problem, but I think that two hundred years hence people

will look back on the twentieth century and wonder that we had not thought of the obvious duty of taking care of future generations.

THE LORD CHANCELLOR (Viscount Haldane),
April 25, 1913.

BOTH the medical and physical training of the young is a side of education which, if we are to have a national system, it is altogether impossible to ignore. Leaving out of the question all feelings of kindness and humanity, and looking at the matter from the most callous point of view, what a bad bargain we are making in allowing children who are not properly furnished physically to attend our schools. In the first place, a child will derive no benefit from a costly education; in the second, the child is not being turned into a useful citizen. In the third place, we are educating, at great expense, a child who, within a short period, will become an insured person under the Insurance scheme. Looking at the subject from the most hard-hearted point of view points to renewed consideration and, if necessary, reorganization of our medical and physical methods of looking after and improving the condition of the children in our schools.

THE LORD PRIVY SEAL (The Earl of Crewe),
April 4, 1913.

CONTENTS

Introduction *Page* xix

Part I. Second Guildhall School Conference 1

Diet, Cookery, and Hygiene under the Education (Provision of Meals) Act, 1906, and Education (Scotland) Act, 1908 1

A Brief Account of the Working of the Provision of Meals Act in Bradford. By Marian E. Cuff 7

The Social and Educational Aspects of the School Meal. By Millicent Mackenzie, M.A. 15

The Selection of Children. By Victor J. Blake, M.B., B.S. 20

Criticisms and Suggestions, by L. Haden Guest, M.R.C.S., L.R.C.P. 26

Meals for Under-nourished Children in Glasgow. By Ernest T. Roberts, M.D., D.P.H. 37

Life and Diet of Primary Scholars 75

How far is the Feeding of Public Elementary School Children an Educational Function? By W. A. Nicholls 75

Relation of School and Home. By M. Cecile Matheson 90

In an English Mining District. By Amy Walker Black 98

The English Country Side. By George Finch, M.R.C.S., L.R.C.P., D.P.H. 106

Conditions in the Highlands. By Gordon A. Lang, M.B., C.M. 112

Teaching in Public Elementary Schools of Personal Hygiene, Food Values, Domestic Catering and Cookery 133

The Teaching of Personal Hygiene, theoretical and practical, to Town Children. By W. Spencer Badger, M.B., D.P.H. 136

The Teaching of Cookery under the London County Council. By Catherine R. Gordon 158

Town and Country Methods. By Gertrude Irons 167

Diet, Cookery and Hygiene in Day and Residential Institutions for Children and Adolescents 185

Philanthropic Institutions. By Edith Butler 186

Open-Air Schools. By Edward J. Morton, M.B., Ch.B., F.R.C.S. 196

Special Schools. By Christine M. Murrell, M.D., B.S. 205
Residential Open-Air Schools. By D. M. Taylor, M.A., M.D., D.P.H. 212
Reformatory and Industrial Schools. By I. Ellis 230
Poor Law Institutions. By James R. Motion and John M. Henderson, M.B., Ch.B. 239
Some Impressions of the Conference 247
The Burden of the Conference 249
The Schools Committee 251
List of Members 253
Letters of Apology 258

Part II. Dietaries and other Exhibits 263
Contributions from Education Authorities and others 265
Contributions Relating to Institutions 278
How to Save the Teeth 293

Part III. Facing the Facts 307
Life at the Heart of the Empire 307
England 309
Wales and the Sister Isle 315
Lord Rosebery's Lament 317
Self-Respect in Rags 323
The Town Child 323
Lot of the Country Scholar 329
How the Family of the Agricultural Labourer Lives. By Ronald T. Herdman, M.D., D.P.H. 337
The Diet of Country School Children. By E. Bertram Smith, M.B., B.S., D.P.H. 347
Malnutrition, its Causes and Consequences 349
Alcoholism and Childhood. By A. Delcourt, M.D. 355
Food Requirements of Children. By Chalmers Watson, M.D., F.R.C.P.E. 356
The Bradford Feeding Experiment. By Ralph H. Crowley, M.D., M.R.C.P. and Marian E. Cuff 366
London's Under-nourished Children 385
How Edinburgh feeds and clothes her Children. By J. W. Peck 390

An Essex Village Health Centre 403
A Tale of Two Cities. By George Rainey 410
Clothes and the Child. By Alice M. Burn, M.B., D.P.H. 424
More about Meals for Under-nourished Children 432
Breakfasts or Dinners? 435
The School Teacher as Health Missioner. By S. B. Walsh, B.A., M.D., D.P.H. 438
A Side Attack on Intemperance 445
Employers who lead the Way 449
Institutional House-keeping.—A New Career for Women 457

Part IV. Light from Abroad 461
The United States 461
The Case for School Meals 461
France 463
Caisse des Ecoles 463
Switzerland 465
Provision for Meals and Clothing:
Canton of Basle 465
Canton of Geneva 466
Town of Zürich 467
Germany 472
The Teaching of Domestic Subjects 472
Young Mistresses of the Art of Cookery 475

Part V. National Food Reform Association 479
Objects and Methods 479
Membership 480
Publications 481
Membership Form and Banker's Order 489
Form of Bequest 491
Addenda 492
Index 494

ILLUSTRATIONS

	To face page
Responsibility Shoreditch L.C.C. Technical Institute, Domestic Economy School	*Frontispiece*
Infants in Composite Hammocks Summer Lane Council School, Birmingham	61
Penny Dinner Children Martin's Farm, Newport, Essex, Health Centre	122
Shower Bath Installation Floodgate Street Council School, Birmingham	151
Packing Portable Dinners Shoreditch L.C.C. Technical Institute, Domestic Economy School	161
Lesson on boiling Roots and Tubers Beaufort House L.C.C. School, Fulham	188
General View of the Class Rooms Uffculme Open Air School, Birmingham	196
Resting Shed Uffculme Open Air School, Birmingham	196
An Open Air Class Cocoa Works, York	221
Marketing Shoreditch L.C.C. Technical Institute, Domestic Economy School	273
Mothers' Meeting Martin's Farm, Newport, Essex, Health Centre	407
Children waiting to be fed, Glasgow Prior to the School Board taking over the work	421
An up-to-date Dining-Room Cranstonhill Board School, Glasgow	421
Domestic School Cottages Cocoa Works, York	452

INTRODUCTION

An Earlier Gathering.—The National Food Reform Association was early alive to the need for the bestowal of greater thought and attention on the nature of the meals provided for elementary school children. Already on December 4, 1908, before it was a year old, it held at Rutland House, Knightsbridge, by kind permission of Mrs Anstruther, a "Conference on the Scientific Feeding of Elementary School Children." Among the speakers on that occasion were two who took part in the recent proceedings at the Guildhall, viz.:—Dr Haden Guest and Mr Gerald Maberly. The Association was here, however, perhaps trying to run before it had learnt to walk and no practical results were forthcoming.

Scope of the Conference.—It seems safe to predict that this will not be the fate of its successor. Its deliberations extended over a far wider field, dealing as they did also with the dietary and home conditions of both town and country school children, and the teaching of hygiene, indirect and direct, theoretical and practical, of food values, domestic catering and cookery alike in our primary schools and in institutions, both public and philanthropic, for children and adolescents.

Its Timeliness.—In the first place, though like last year's Guildhall School Conference, its arrangements were completed without any inkling of coming events,* the latter have undoubtedly given to it, as well as to its immediate predecessor, an opportuneness and importance, which does not often fall to the lot of similar gatherings. The thought and conscience of the nation are to be directed to the subject of education in all its aspects, as perhaps never before; what is not less noteworthy is that the physical side of education is, for the first time in our history, to receive its due share of attention, as constituting the foundation on which the entire edifice must be reared.

The reasons which led to the convening of the present Conference were thus stated in the invitations. "A sufficient period has now elapsed since the passing of the Education (Provision of Meals) Act, 1906, and the Education (Scotland)

* The Government has announced its intention of introducing a comprehensive Education Bill in the next Parliamentary Session.

Act, 1908, and since the general advance in the teaching of housecraft, cookery and hygiene, to render an exchange of views among fellow-workers in these fields, as well as among those responsible for the management of institutions for the young, as timely as it should be profitable."

Its Success.—Of the success of the Conference, there appear to be no two opinions, whether we appeal to the judgment of its members or to the Press. The admirable series of papers were followed by discussions, which were thoroughly practical and maintained throughout a high level of interest. This was hardly to be wondered at, seeing the deep human interest of the subjects under consideration and the calibre of many of those taking part.

Ireland.—It was a source of keen regret to the Organising Committee, which will be shared by all who know anything of the fine health propaganda carried on by the Women's National Health Association of Ireland, that it was not found possible to secure a paper descriptive of this work. In these circumstances, it was all the more unfortunate that a misunderstanding should have deprived the Conference of the presence of Lady Aberdeen, the life and soul of the movement.

Meals for Under-Nourished Town Scholars.—The discussion on the diet of under-nourished town children, in relation to the working of the English and Scottish Acts of 1906 and 1908, was fruitful in suggestions. The Conference was singularly fortunate in being able to base its conclusions on facts and arguments supplied by men and women, who had, in one direction or another, given exceptional thought to the subject and, in more than one instance, carried through experiments of the utmost value. It appeared to be generally recognized that the best use had not been made of the limited powers available. There was too often a failure to link up the provision of meals with the School Medical Service, with the result that the selection of the children was made on a Poor Law rather than on an educational and medical basis.* Again, the attendant circumstances of the meals, with certain

*A School Medical Officer writes: The real difficulty is that generally Local Education Authorities are so holden to the eleemosynary aspect of the Act and regard it from the old Poor Law point of view, as a means of supplementing the weekly budget of a family oscillating at the destitution line.

notable exceptions, came in for much criticism. It was recognized that the unique social and educational opportunities afforded were far from being utilized and that in numerous cases it was simply "a distribution of food" and "feeding" and nothing more.

A Bolder Policy Advocated.—The plea advanced by Professor Mackenzie and Mr Nicholls for a bolder policy, which would provide, as does that of Paris, New York and other cities abroad, a meal prepared, where possible by the pupils themselves, for all children whose parents were unable to do so and would draw no distinction between those paying and those not, did not fall on deaf ears. The argument for such a course of action finds powerful support in Mr George Rainey's article and in the additional particulars obtained through His Majesty's Ambassador at Paris. In this connexion, it is instructive to note that the Edinburgh School Board supplies dinners for 5d. per week (five dinners) to pupils considered by the head-masters to be semi-necessitous. The experiment has proved very successful and has tended to reduce applications for free meals. Bradford also provides dinners in its secondary schools from 3d. upwards.*

The nation has, moreover, in a well-organized system of school meals, a most serviceable weapon in the fight against tuberculous and other forms of malnutrition, which lie at the root of much preventable physical suffering, inefficiency and death.

Some Criticisms and Suggestions.—The character of the food supplied naturally received a large share of attention. It was felt in most places to be susceptible of considerable improvement. The delicate digestion of the average under-nourished child is unequal to dealing with the indigestible, unappetizing and monotonous fare so often set before it. It is not enough to provide a scientifically balanced dietary; account must be taken, in framing the latter, of home conditions and greater allowance made for the likes and dislikes of the individual child, which involves increased variety. In planning the meals, due regard ought also to be paid to the principles of oral hygiene

*For a detailed account of school meals provided by the Manchester Grammar School and High School for Girls, with menus, see *Our Children's Health at Home and at School*, pp. 78-88, 101-2, 266-70.

and steps taken to enforce mastication. In this connexion the element of haste, too often the result of defective organization and supervision, must be eliminated. Among numerous other points, which came up for consideration, were the service and supervision, too often described as "totally inadequate," more particularly in the case of infants, whose special food and feeding requirements it was suggested might be met by an increased staff, as at Bradford, or the provision of smaller centres or by both. The proposed amendments of the law, which would render legal the provision of meals during school holidays and facilitate proceedings against negligent parents, met with general approval.

Lot of Country Scholars.—It is often too readily assumed that the country school child has comparatively slight claim upon public sympathy. The series of papers contributed on this subject, coming as they do on the top of the known results of medical inspection, will tend speedily to dispel any such illusion. On the contrary, it may be maintained, without fear of contradiction, that if it be true, as is often alleged, that the rural districts supply the backbone and sinew of the nation, then things are indeed in a parlous state and cry aloud for remedy. The writers showed that malnutrition is rife be the air never so pure and the surroundings quite arcadian, and necessaries of life, such as milk, well-nigh unprocurable in the midst of plenty, that parents for the most part are unable, through ignorance, lack of time or facilities rather than poverty, to ensure to the children suitable food and that the midday meal, which the large majority partake of away from home, is totally inadequate and unsuitable, wholly lacking in social and educational advantages, and too often eaten under unhygienic conditions. It must further be remembered, as Dr Gordon Lang reminded the Conference, that, as a rule, school attendance for children in the country involves a far greater tax on their physical powers than it does in the case of the town child.*

*The problem here is quite different to that in towns. The children, as a rule, are not in want of food, and, where actual destitution exists, it can be best dealt with through the ordinary channels, without any special school organization. But, quite apart from the actual need of victuals, no one, who is conversant with the conditions under which in an ordinary country school the children from distant homes get their midday meal, can feel that these conditions are

How it may be Alleviated.—The remedies were clearly indicated and need not detain us long. They centred in the provision of meals by the school authorities, for which the parents, unless their circumstances precluded it, should pay. The " Penny Dinners " established by Lady Meyer in Essex and the cook-houses and voluntary methods extensively employed in Inverness-shire supply admirable examples of what is required. It would be an additional advantage if the meals, as Dr Finch suggests, could be prepared by the elder scholars in classes, attendance at which was made compulsory and, where possible, enjoyed in the open-air under a shelter, adaptable also for class teaching.

Teaching of Hygiene.—The crux of the problem, which accounts for the failure of so much of our teaching of hygiene, is the conversion of theory into practice, or, to use Miss Gordon's phrase " the relation of deeds to words." " Yet mere talk about health," as Dr Cecil Reddie* forcibly put it last year, " is only part of the job; still more important is action, practice, habit. We must create health, see it around, feel it within or words mean nothing. In Germany, where theory is never neglected, practice often is ignored. I have listened to a lecture on School Hygiene in a room where asphyxiation was imminent."†

Theory and Practice.—There is still too great a discrepancy between the teaching of our health societies and social workers and their practices, alike collective and individual. The writer has attended a meeting in support of the Garden City

altogether satisfactory. The food (bread and cheese or bacon or some kind of pie or cake) is brought by the children wrapped in paper or in handkerchiefs. If the weather is wet, it is often sodden and pulpy. It is consumed by them in the school-room or a class-room, the use of which is allowed them during the midday meal, while their more fortunate school-fellows go home to dinner and, even on cold winter days, the only accompaniment of the meal is a draught of cold water. The room in which the meal is eaten does not get a proper chance of ventilation before afternoon school begins and crumbs and fragments, which require to be tidied up, fall upon the floor and desks. Report of the Inter-departmental Committee on Medical Inspection and Feeding of Children Attending Public Elementary Schools, 1905. Cd. 2779. 1s. 3d.

*Dr Reddie gives hygiene a place of honour in his curriculum and has himself for twenty years taught it to his boys. cp. *Our Children's Health at Home and at School*, pp. 133-146 and monographs, *ibid.*, pp. 220-239.

† Cp. also *Our Children's Health at Home and at School*, Introduction pp. 1-4.

movement in an atmosphere which, in the words used by a medical speaker at another gathering for the same purpose, "will involve the physical deterioration of those present on the following morning."

An open window census taken by the *Manchester Guardian** among all classes of houses and in typical districts and streets on a warm and sunny spring day in March last, yielded not less astonishing than disconcerting results.†

PART OF THE SCHOOL AND THE TEACHER.—The conditions in the schools themselves should be, like Cæsar's wife, "above suspicion," but it is clear from official reports that that of many, particularly the older ones and those in country districts, leaves much to be desired.‡ The master key of the schools is in the possession, it was generally agreed, of the teacher—"the captain and guide of the future democracy," as Lord Rosebery once happily termed him—who was shown by Dr Spencer Badger and others to be doing educational work of the utmost value.

WHY SCHOOL BATHS ARE WANTED.—There is no greater obstacle to personal cleanliness than lack of bathing facilities. "I think that it is not sufficiently recognized," writes the School Medical Officer of one of our great cities§ in a recent letter, "that amongst other nations, the Englishman is

* March 6, 1913, or *Medical Officer*, March 15, 1913.

†Paddington, more than a year ago, obtained the approval of the Local Government Board to the following among other by-laws.

Except as hereinafter provided, every lodger in a tenement house shall cause every window of every room which has been let to him and is used as a sleeping-room to be opened and to be kept fully opened for at least one hour in each morning and afternoon.

Provided that the lodger shall not be required to cause any such window to be opened or kept opened at any time when the state of the weather is such as to render it necessary that the window shall be closed or when any bed in any such room is occupied by any sick person, to whom such opening of the window would prove harmful.

The penalty is a fine of £5.

‡ The Board of Education recently informed a deputation from Carlisle that they were going to require the erection of an entirely different class of school. This would have a minimum of masonry and secure a maximum of fresh air and sunlight, with special provision for delicate children. Bradford and Sheffield were instanced as cities which had erected schools on these lines, The cost of such schools will be much less.

§Dr George Auden, Birmingham.

considered to be one of the dirtiest (excluding, of course, the "cultured classes"). The average standard of cleanliness amongst the working classes is appallingly low and I believe this to be largely due to the absence of any school bath installations,* and the consequent ignorance of the joys of cleanliness. One has only to see the school baths in Holland, Germany or Scandinavia to realize what a potent factor the school bath is in the production of the clean and self-respecting citizen."

Some Likely Developments.—It seems probable that the attention directed to this subject at the Conference, together with the frank recognition of the difficulties, in some instances well nigh insuperable, which at present stand in the way of reform, chief among them the housing problem, will lead to a rapid extension of the system of school baths, with administrative action or legislation, which shall ensure a supply of water to all the inmates of blocks or tenements and to improved arrangements in our villages.

Should the Teaching of Hygiene be Compulsory?—It was generally recognized at the Guildhall that this subject had not been allotted the position in the curriculum that its supreme importance demands.† This remark applies equally to institutions. Indeed, in his memorandum to the recent Report of the Departmental Committee on Industrial and Reformatory Schools, which in this instance is endorsed by Mr Charles E. B. Russell, the recently appointed Chief Inspector, Mr J. Howard Whitehouse, M.P. remarks:—" No attempt is made as a rule to teach hygiene or even the elementary laws of health and this might be made a compulsory subject." It is to be

*Of all forms of extended provision to ensure greater cleanliness, there seems no doubt that the shower or spray bath is at once the most suited to the purpose and the most economical, both to instal and to use. Exactly what form the installation shall take will depend entirely on local circumstances. It may be convenient to make use of an existing part of an old school building, to erect a special building or to arrange a series of douches in connexion with the public swimming baths.

The subject is one which has engaged the close attention of the Board. They are impressed by the fact of the educational value of such baths and there can be no doubt that the benefit obtained extends far beyond the mere cleansing of the child.—Annual Report, Chief Medical Officer, Board of Education, 1909, p. 34. Cd. 5426, 11d.

† Cf. also *Our Children's Health at Home and at School*, Introduction, pp. 1-4.

hoped that the coming Education Bill will redress the balance in this matter.

HYGIENE AND PHYSIOLOGY OF SEX.—With regard to the teaching of Sex Hygiene, the view was expressed by representatives of the teaching profession that this question would have to be faced in the elementary schools, as it is beginning to be in the secondary schools.* The Board of Education recently intimated that they had no wish to discourage experiments in the teaching of sex hygiene or eugenics in public elementary schools and training colleges.

CLOTHING AND FOOTGEAR.—The question of clothing and footgear was, in a sense, outside the scope of the Conference, and was therefore only referred to incidentally. Yet enough was said to show how intimate, in point of fact, is its connexion with the physical and moral well-being of our child population. The statements and figures included in this volume,† as well as the moving contrast which Mr Rainey draws between the state of things obtaining in the French capital and in our own, will surely assist in some degree to ripen public opinion and lead it to make an attempt to remove what constitutes a national reproach.

MR SEEBOHM ROWNTREE'S SUGGESTIONS.—Writing in *The Child*‡ a year ago, Mr Seebohm Rowntree, author of *Poverty, A Study of Town Life* and *How the Labourer Lives*, observed: "Again, the provision of sufficient nutriment, important as it is, is by no means the only requirement. The adequate clothing of school children is another pressing need still very much neglected. It is a very general remark with foreign students of our social conditions, that in no other civilized country can such a large number of ragged and badly-shod children be seen about the streets. The teachers, of course, may exclude from the schools any children who are dirty or ragged, but they are unwilling to do this except in extreme cases, especially as, financially, every inducement is given to make the attendances as large as possible. This problem is not one which can be directly affected by legislation, and even less by charity, however beneficent may be the work of 'police-aided'

* Cf. *Our Children's Health at Home and at School*, Index.

† See *Self-Respect in Rags*.

‡ August, 1912.

societies for the clothing of children in a few towns. But while the increase of wages and the raising of the general standard of life must be aimed at as the ultimate solution of this problem, it might be rendered less acute by public insistence on the provision of proper clothing by the parent on pain of prosecution, and its purchase from public funds in the case of his proved inability—in short by a law similar to that on the feeding of school children."

Practical Reformers.—The discussion on the three cognate subjects of Food Values, Domestic Catering and Cookery was second in interest and practical value to none. No rest-and-be-thankful spirit pervaded the assembly. On the contrary, there was the pleasing and unwonted spectacle of several of the most experienced and distinguished superintendents frankly and freely arguing out their difficulties *coram populo*, and putting forward their suggestions for reform just as if they were addressing a purely professional gathering.

Place of Handwork in Education.—"There is nothing," said Miss Gordon, in her inspiring address, which like her paper, claimed for her subject a high place in the educational curriculum, "like handwork for helping men and women to find their level; in other words, there is nothing like craftsmanship for character building and character building is the whole object of school teaching, I take it."* Her contention finds strong support in the recently issued report by the Consultative Committee of the Board of Education on Practical Work in Secondary Schools.† The witnesses examined were unanimous in their high estimate of the educational results produced by manual training. Everywhere its introduction in a reasonable form has led to a distinct improvement in the general efficiency of the school.

Position of the Housewife.—One result of a study of the papers and speeches at the Conference should be to exalt the position of the head of the household. There is sometimes, as Miss Janet Case recently pointed out in another connexion, a disposition to ignore her part in the home, just because it is

* To give a little girl the use of her hands is to bring a disinherited princess back into her kingdom.—*Our Experience of the Influence of Handicraft upon the Workers.* Ethel Blount and Maude E. King.

† Cd. 6849, 1s. 9d.

unpaid. It may also help to bring home to many, perhaps for the first time, the combination of adverse circumstances against which the normal head of a working-class household has to struggle, too often, alas, in vain. In some districts, such as Durham, the contest is aggravated by the indirect results of recent legislation, such as the Miners Eight-Hours' Act.

An Indictment of Existing Methods.—" There is no doubt," said Miss Irons, in a passage of such cogency that no apology seems required for quoting it in full, " that the teaching of domestic subjects is the most important part of a girl's life—indeed, at school, quite the most important. The majority of them, in fact, nine-tenths of them, sooner or later have homes of their own or may be looking after somebody else's home. What does our educational system do? It gives the most fortunate of these girls half a day per week for three years of school life. If you put that together it comes to a little under three months. The girl leaves school the moment she is fourteen and goes into some other occupation—to office-work or into a mill—and for seven or eight years she does nothing practically in the domestic world whatever. At the end of that time she marries or changes her occupation in some way and becomes the mistress of a household." These are strong words, tinged with not unjustifiable irony, yet not a whit too strong considering the momentous issues involved. They show clearly what a long road we have yet to travel, notwithstanding the undoubted progress in organization and methods of instruction that the last decade has witnessed.*

Cookery: A Lost Art.—The gravity of the situation may be gauged from the following extracts, which might easily be multiplied.

" The art of cookery," writes a Scottish School Medical Officer in a country district, " appears to be obsolescent among working people in certain districts."

" The poorest class of people," observes a St Pancras School Inspector, " obtain the greater part of their food ready cooked, which is a blessing, as it saves a large amount of suffering,

*Cp. General Report on the Teaching of Domestic Subjects to Public Elementary School Children in England and Wales by the Chief Woman Inspector of the Board of Education, 1912, 2d. This report gives a most encouraging and interesting account of progress effected since the previous report in 1907, though mingling praise with helpful criticism.

for quite 90 per cent know as much about cooking as they do about astronomy."

"Amongst labour-saving methods in domestic life," writes the late Dr J. F. Sykes, Medical Officer of Health for St Pancras,* "nothing is more striking in urban centres during the present generation than the diminution of cookery in the home, not only amongst the richer but also among the poorer classes. In poorer areas the number of places where cooked foods may be obtained has increased with a diminution of cookery carried on at home. Amongst the working classes this has been due to two causes: firstly, the increase of woman's labour away from home; and secondly, the packing of many families in houses constructed originally only for one, so that the separate dwellings have not the fittings necessary for a complete dwelling. Amongst these fittings are those for cookery purposes, that is water and sink for washing food and utensils, safe for storing food, and stove or range for cooking food.† To these must be added poverty and ignorance of utensils and the want of knowledge of marketing, preparation and cooking of food in their plainest and simplest aspects."

The Remedies.—Fortunately, there was no lack of practical suggestions forthcoming for remedying this deplorable state of affairs. Foremost among them was that for the allocation of increased time for the study of a subject of such consequence to the future mothers of the race. It was recognized that this would almost necessarily involve the extension of the leaving age‡ to fourteen, if not sixteen, with com-

*The "Pudding Lady," 6d. pp. 13-14.

†Demanding the provision, in every dwelling let for the occupation of a family, of a grate suitable for cooking (cp. recommendation 21 of the Inter-Departmental Committee) and of facilities for the proper storage of food. Both these requirements are made obligatory in new tenement houses in London by the London County Council (General Powers) Acts, 1908, 1909.—*Questions to Parliamentary Candidates*, N.F.R.A., General Elections, January and December, 1910.

‡It is a matter, I should have thought, which is somewhat damaging to the *amour propre* of this country, that in all those countries on the continent of Europe, to which we look as supplying any form of model of educational efficiency, the age of the child for leaving the elementary school is not less than 14, and in some cases there is added to that necessity of remaining at the elementary school till 14, the necessity of compulsory attendance at continuation schools for two or three years after. The Earl of Crewe, April 4, 1913.

pulsory* attendance at a continuation school, to be held preferably before 8 p.m., until sixteen or even eighteen, coupled with the abolition of the "half-timer," "the plague of my existence," as Miss Irons described her. In this connexion, it may be hoped that many employers of labour will follow the example set by Messrs Cadbury and Rowntree. Last, though not least, more money and more teachers are required.

Where Co-operation is Needed.—Too often, again, as was shown by Miss Cuff in a helpful contribution to the debate, relations between the centre and the school and between the centre and the home are too distant, or the teachers are out of touch with the conditions prevailing in the homes of the children.

Rural Problems and Their Solution.—The special difficulties of such work in rural and thinly populated districts were vividly portrayed by Miss Irons. Here the remedies are more difficult to apply, though the most obvious are increased money, bringing with it increased staff, and the grouping of villages, where feasible.

In leaving this portion of the subject, the writer feels that he cannot do better than use the wise and far-seeing words of Sir Lauder Brunton to the Society of the Medical Officers of Health, in opening a discussion eight years ago on the report of that Inter-departmental Committee on Physical Deterioration in the bringing into being of which he had played so conspicuous a part, as he is still foremost amongst those who to-day are seeking to give practical effect to its conclusions.

"The feeding of school children is another question of the utmost importance and the opinion of the Medical Officer of Health would in all probability be required, both as to what children are to be fed and how they are to be fed. If I may venture upon a suggestion, it seems to me that a regular school kitchen might be attached to every school, and in this

*Endeavouring to secure the more practical and scientific teaching of Cookery, Hygiene and Domestic Economy in schools and continuation classes, these subjects being as far as possible made compulsory for the older girls (cp. recommendations 20 and 37 of the Inter-Departmental Committee).—*Questions to Parliamentary Candidates*, N.F.R.A., General Elections, January and December, 1910.

meals might be prepared and such children as could pay for them might buy and those who could not pay might be provided for, either by voluntary subscription or by the rates. The large demand for food this would bring about would give ample opportunity for the girls attending the schools to learn cookery and the instruction which they would receive, in the art of preparing palatable meals at a cheap rate would not only be useful to the children themselves in their own future life, but it would probably react upon their mothers at home, and might induce them to learn a little more about the way of preparing food. At the same time that the children are learning how to cook food they might receive instruction as to the comparative values of the different kinds of food and the best way of spending money so as to get the utmost value for it. Such school kitchens might perhaps sometimes give cooking lessons to adults and occasional lectures on food and food values might perhaps be given to them, and here also the services of the Medical Officer of Health will probably be required to give them instruction or to secure those who are capable of doing so. Schools should thus become great object lessons to children in ventilation, exercise and food, but in addition to this, there should be systematic instruction in the general principles of hygiene, the evils of alcohol, the disadvantages of early smoking and the injury that may be done by excessive tea-drinking. In this way we may hope that the rising generation will know a good deal more about the laws of health than their predecessors."

Food Values and Dietetics.—If the teaching of food values does not receive the place in the curriculum it deserves, the omission appears to be in part attributable to the limited time available. There is, however, another side to the question. Dr Robert Hutchison has deplored* " the almost total neglect of the subject of dietetics in ordinary medical education "—a neglect which he has done so much to rectify and which has been fraught with such disastrous consequences to the health of the community.†

The Price of Ignorance.—Our material prosperity, too, has suffered severely as a result of this all-pervading ignorance.

* *Food and Dietetics*, Hutchison, 3rd ed., Preface p. ix.

† See pp. 310, 419, and Addenda, p. 492.

Agriculture, in particular, in which far more people are engaged than in any other of our great industries and upon which—taking England and Wales alone—we depend to the extent of half of the food consumed, has been placed at a great disadvantage, as compared, for instance, with the United States.

A Question for Parliamentary Candidates.—Among the questions addressed to Parliamentary candidates by the National Food Reform Association at the last two general elections appeared the following: "Urging His Majesty's Government to make provision for studying the value for human food of agricultural products and to publish the results in a popular and accessible form, as has been done since 1894 by the Office of Experiment Stations in connexion with the U.S.A. Department of Agriculture."

How America Helps Its Citizens.—The publications of this office include Farmers' Bulletins, upon such subjects as Milk as Food, Care of Food in the Home, Principles of Nutrition and Nutritive Value of Food, Preparation of Vegetables for the Table; studies on such questions as Dietaries in Public Institutions, the Cost of Food as related to its Nutritive Value; popular summaries of experiments on food and nutrition; bulletins on all manner of matters ranging from Dietary Studies in Boston, etc., and Experiments in Losses in Cooking Meat to Dietary Studies of University Boat Crews.

Value of Such Publications.—These pamphlets, which may be obtained gratuitously by citizens of the United States and by others for a nominal sum, fulfil other important functions, and are constantly cited as authoritative by members of the medical profession, teachers of domestic subjects and students of economics and sociology throughout the civilized world. In this country, they would supply to all those mentioned above the ammunition with which to shatter the popular ignorance, the extent of which such investigations as those of Mr Seebohm Rowntree at York, Professor Noël Paton at Edinburgh, and Miss Lindsay at Glasgow enable us to gauge.

Mr Runciman's Opportunity.—Mr Runciman has signalized his occupation of the office of President of the Board of Agriculture by his enthusiasm in the cause of scientific research,

upon which as he points out, notwithstanding recent developments, " we spend less than continental countries or than those across the Atlantic."* The Government, as he stated at Dewsbury in August, " are trying to put material science at the service of the farmers and gardeners of England and Wales." Is it too much to hope that its spokesman will select, as his method of commemorating the centenary of the happy relations which have existed between the two great English-speaking communities on either side of the Atlantic, the carrying out of the above suggestion, thus placing the coping-stone to his edifice? The organization for making available to the public the fruits of the activity of such an office is apparently partially in existence and the enhanced cost, as compared with the advantages to be gained, would be infinitesimal.

The fact that the Board of Trade have in recent years deemed it desirable to institute investigations into such subjects as the cost of living among artisans at home and abroad and the budgets of wage-earning women and girls, in itself would seem to lend support to the argument.

An Indirect Gain.—To the nation, moreover, that is well equipped, as for example the French, with a knowledge of the relative value of foods, as well as resourceful and thrifty in its domestic catering and cookery, a rise in prices is shorn of half its terrors.†

School and Home.—One of the indirect lessons of the Conference, and in particular of the discussion arising out of Miss Matheson's thought-provoking paper, was the need for increased effort to secure the co-operation of the parents in the work of the school, in which direction Bradford was shown to have achieved remarkable success. More intimate relations, too, between the teachers and the social workers, who are not infrequently able to shed valuable light on local conditions and traditions, should be cultivated. Perhaps the chief conclusion of the debate was the futility of teaching the

* Armstrong College, Newcastle-on-Tyne, April 5, 1913.

† A Board of Trade Report (1909) showed that though the cost of living in French towns was considerably higher, yet a French artisan's family spending 57% of its income on food (in 1905) was far better fed than a similar family in this country spending about 64%. Cd. 4512: 4s. 1d.

hygiene of the home and domestic subjects in part anyhow to one sex only, with the result that the other constitutes a fatal stumbling-block to progress in the practice of the laws of health and of dietetic reform, and too often to domestic happiness.

What is Wrong with our Educational Methods?—"How is it," asks Miss Matheson, "that we still have slums in worse condition than can be accounted for by bad housing and poverty?" She finds the explanation in part in the fact that "school teaching is not becoming a part of the life experience of the children in the same way as do the traditions of the parents with regard, say, to food or to slops and the result is a disappointing reversion, as soon as independence is attained."

Sir James Yoxall's Theory.—That experienced educationist, Sir James Yoxall, suggests that the problem is susceptible of a simpler explanation. "We all can remember in our own lives, or we see it in the lives of our children, that not till after fourteen years of age do we recognize much relation between school and life. Nearly all children in the elementary schools leave before that age. Not five per cent remain after that critical and important age. That is, I think, the explanation, simple but adequate."

Where Reform Should Begin.—More than one speaker insisted, as was urged a year ago by speakers of the eminence of Drs Clement Dukes and Eric Pritchard, that reform must begin in the home.* On this occasion, however, there was no failure to recognize the difficulties that stand in the way of its realization in many of the homes of the workers. The moral, as regards primary and secondary school children, appears to be the same: educate the children, the parents of the next generation.

The Need for Open-air Schools.—Some idea of the extent of the necessity for Open-air Schools may be formed from the statement made by Dr Frederick Rose at the Second International Congress on School Hygiene in 1907,† that he estimated there were no fewer than 30,000 children in London

* Cp. *Our Children's Health at Home and at School*, index, Parents, Responsibility of.

† Transactions, Vol. 3, p. 970.

alone and a quarter of a million in England in want of such treatment.

Future Type of School.—One fact clearly emerged from the discussion, namely, the great superiority of the residential school, of which Dr D. M. Taylor, of Halifax, has been the pioneer in this country. This type of school ensures, to use his own words, "that no child may return to the ordinary school life until well fitted to withstand its social and family environment." It is gratifying, therefore, to learn from *The Times** that "the residential open-air school is apparently to be the type which is to be adopted by most local authorities in the future, and certainly the evidence of Medical Officers all tends to show that there are many difficulties in the way of attempting to treat children, who go back to their homes daily and spend the greater part of their time under unhealthy or dirty conditions." Elsewhere, in the same article, it observes: "A non-residential open-air school labours under the disadvantage that the children spend only 25 per cent of their time in satisfactory conditions and the long journey backwards and forwards minimizes the advantage obtained from the treatment." Indeed, it would be possible, as Sir William Mather lately pointed out in an analogous case, to effect a revolution in a single generation, if all the children living in bad conditions were removed and properly cared for from infancy, instead of allowing them to reach school-age before dealing with them.

Do Residential Schools Involve Greater Expense?—Discussing the financial aspect of the problem in connexion with fresh arrangements, which the Sheffield Education Committee are making, the same article proceeds: "The present proposal is to provide dormitory accommodation for 40 children, at a cost of about £1,100, so that 160 children may be dealt with annually—on the assumption that each child stays at the school for three months, as against 100 children now received in the day-time only. To judge from the experience of other authorities, it is anticipated that the children will derive more benefit from a three months' stay in a residential school than from seven months in a day school. The present cost of feeding 100 children at 2s. 6d. a week amounts to £375,

*Educational Supplement, August 5, 1913.

whereas under the residential scheme it would amount to only £364, for 40 children at a time at 3s. 6d. per week; and there would further be a saving on the cost of daily conveyance of the children, which is estimated this year as £191 10s. Altogether the total estimated annual expenditure for the residential school amounts to £957 1s. 6d., as compared with £1,003 10s. 6d. for the present day school—or a charge on the rates of £317 1s. 6d., as compared with £477 18s. 9d.

Institutional Life.—Here we naturally find a repetition on a large scale of the evils already noted. In this case, however, these are, as a rule, accentuated by the conservative tendency, which usually manifests itself among groups of individuals, whether children or adults, with its unreasoning adherence to tradition and precedence and its diminished regard for the feelings and rights of the individual, whose life, as it were, becomes merged in that of the community. In such an atmosphere it is scarcely to be wondered at that the monotony of food* of which Dr Branthwaite's last report to the Home Office† makes complaint, is a feature, or that the element of surprise, upon which Mr Ellis justly laid such stress, is non-existent.

Home Office Committee's Views.—There are doubtless few institutions to which one or other of the following observations

* The question of the dietary of these children is one which appeared to me hardly to receive the attention it should, even in the institutions visited. The food supplied to the children in poorhouses, so far as I saw it, seemed to be good and wholesome and the quantities allowed by the diet scales to be sufficient, but the dietaries lack variety, which it is so important they should possess, and are deficient in some of the articles of diet, which specially appeal to children's tastes. These badly developed and poorly nourished children require individual dieting, so as to suit their special likes and dislikes, and careful supervision to ensure that a sufficient amount of food is eaten. It would be easy to arrange for a much more varied diet without any addition to the cost. It is curious to observe that such a valuable article of diet as fish appears in only one of the dietaries, bacon, which is valuable as a palatable means of increasing the amount of fat consumed, does not appear in any of the dietaries, and eggs, fresh fruit and cake are also not mentioned. Extract from report to the Royal Commission on the Poor Laws and Relief of Distress on the Condition of the Children who are in receipt of various forms of Poor Law Relief in certain Parishes in Scotland, by C. T. Parsons, M.D., Medical Superintendent, Fulham Infirmary and Medical Officer of Fulham Workhouse; Appendix, vol. 23, 1910.

† Reformatories and Industrial Schools Inspector's Annual Report, 1911. Cd 6502, 6½d., pp. 25-26

made by the Departmental Committee on Reformatory and Industrial Schools will not be helpful.

"The cost per head for food varies considerably, the general average being between £5 and £7 per head per year, but the quantity or quality of the dietary is not always better in those schools which spend the larger sums of money.

"The Committee do not propose to lay down rules as to what should be required in the way of dietary, but we are not satisfied that in all schools the dietary is suitable or adequate. We think the question should be considered by the Central Authority in consultation with the medical inspector, and general directions and advice issued to managers.

"There is need for more variety in the diet. The dietary tables are usually drawn up for one week only, the same set of meals being repeated each week; often in the one week meals are repeated. The repetition of meals week by week must be very monotonous. It ought to be possible to draw tables for a fortnight or three weeks, and the tables should allow for the provision of different dishes at different periods of the year.

"In some schools there is abundance of milk, and special diet is given to young or weakly children. This practice should be widely imitated.

"In many cases meals are not well served; the children are too closely crowded at table and the arrangements generally are not good; the use of enamelled ironware is common and the articles in use are often chipped and rusty. A well served and orderly meal on a decently appointed table, presided over by one of the members of the higher staff of the institution, has a good educative influence which ought not to be missed.

"We are surprised to find that in some schools the rule of silence at meals still obtains. We think such a rule cannot be justified."

Nature of the Problem.—The problem, in the case of the institutions coming within the purview of the Second Guildhall Conference, differs but little from that raised at its predecessor, except in so far as some of them are already subject to Government inspection and control. Accordingly, it will suffice to recall the remedies suggested on that occasion, namely, inspection, coupled with adequate training alike of teachers

and heads of households and the inclusion of women upon committees and governing bodies.*

PROSPECTS OF REFORM.—In regard to all four reforms, the horizon has brightened considerably during the intervening twelve months. To begin with, it is clear from the speeches of Ministers that Government inspection will figure in their proposals for secondary schools, and it may be reasonably inferred that similar inspection will, after no long interval, be enforced on such other educational institutions as are not subject to it or have not already, like many secondary schools recognized by the Board of Education, invited it. Again, improved education both for teachers and scholars with emphasis on the physical side is likewise foreshadowed.

A NEW CAREER FOR WOMEN.—In the third place, as stated fully elsewhere,† as a direct outcome of the Caxton Hall and First Guildhall School Conferences, a strong and representative Joint Committee from the Matrons and Schools Committees has been formed to take steps to obtain facilities at the Universities, University Colleges and Training Schools of the United Kingdom, for training in institutional housekeeping, leading up to a degree or a diploma, until now conspicuous by their absence. Sufficient influential support has already been accorded to the movement to warrant the prediction that this "New Career for Women" will shortly become an accomplished fact.

"THE TIMES" ON ITS SCOPE.—The potentialities of such a fresh departure were clearly set out by *The Times* as far back as May 4, 1909, in an article entitled "Home Economics as a Career for Women."

"Of the many aims of education," it remarked, "not the least important is that of preparing individuals, whether men or women, for their duties to the community. This is especially applicable to the management of the home, which, as has been truly said, is the indispensable factor, the moral unity in the community.

". . . Apart altogether from individual homes all institutions are but homes on a large scale, and many philanthropic

* *Our Children's Health at Home and at School*, Introduction, pp. 1-9.

† See pp. 457-60.

undertakings resolve themselves into a complicated form of housekeeping. And the day has gone by when the big heart or the big purse was sufficient for the successful management of philanthropic enterprise. To-day 'trained intelligence' is indispensable. Women educated on the lines indicated could prevent much waste of public money and add to their usefulness generally, whether as members of boards of hospitals, boards of guardians, and of philanthropic committees of all kinds; or as paid officials in the capacity of medical officers, secretaries of charity organizations, matrons of hospitals, and housekeepers in the great college halls, sanatoriums, and elsewhere. A lady combining something of the trained nurse and trained housekeeper might with profit to the next generation find a place at the head of all domestic affairs, including food, health and control of 'service staff,' in all our big schools and colleges. When once the women of this country realize the potentialities of such a movement, they will take their place not only as Empire-builders, but above all as Empire-conservers. But one word of warning is necessary. The fuller results can only be achieved if women enlist at every stage the sympathy and co-operation of men. The attainment of this ideal should add immensely to the permanent stability of the country, for no nation can rest on surer foundations than that in which the most capable women, those most highly trained, are the housekeepers and the mothers."

Women and Committees.—The fourth and last suggestion has likewise been advanced a stage nearer realization by its inclusion in the list of recommendations of the recent Departmental Committee of the Home Office on Reformatory and Industrial Schools,* which affect upwards of 15,000 boys and girls.

In removing all boarded-out children from the purview of the male Relieving Officer and providing for the appointment of a special Boarding-out Committee in each Union a few years previously,† Mr John Burns similarly prescribed that one-third, at least, of such committees should be women.

A Valuable Opportunity.—The circumstances of boarded-out children, who according to the latest official figures

* Cd 6838, 1s. Recommendation 2a. The Committees of all Schools, both boys' and girls', to have women members.

† The Boarding-out Order, 1911.

number 11,397, though within the scope of the Conference, were not touched upon on that occasion. Yet it is obvious that an opportunity is here afforded of not merely benefitting the children but also the families in which they live, thus raising the general standard of health. Under existing regulations, a woman member of each Boarding-out Committee, or the paid Visitor, appointed by the latter in some Unions, is under obligation to visit every child and its home "not less often than once in every six weeks," and is desired to pay special attention to such matters as food, clothing, cleanliness and sleeping arrangements, and the care of the teeth. The same remark applies to the 178,815 boys and girls on out-relief.* It is not enough that the weekly allowance for their maintenance should be adequate, it must be expended under proper supervision as to dietary and other matters. Here again it has been suggested by the Local Government Board that the Visitor might visit such children and ascertain their condition.

A Modern Movement and Its Consequences.—In the Preface to his *Children in Health and Disease*, Dr David Forsyth says: "One of the most notable developments of public opinion in recent years has been the growth of a wide-spreading interest in the conditions of child-life. This movement has specially concerned itself with the health of the young, which, for the first time, has become recognized as the essential factor in their lives. As a natural result, the direct bearing of medical science on all matters relating to childhood is now admitted. For the future, therefore, medical men will require a broader experience of children than can be obtained in the sickroom alone, and they must possess a more general knowledge of childhood than is implied in an acquaintance with its diseases.†

While modern opinion has thus brought the physician into closer relation with childhood, it demands also that education-

* In addition to these two classes there are 70,676 children in Poor Law Institutions.

† Dr George I. T. Stewart, County Medical Officer of Health and School Medical Officer for East Suffolk, who read a paper on "Oral Sepsis and its Relation to Preventive Medicine" at the Cambridge meeting of the British Dental Association, August 4, 1913, in replying on the discussion, agreed that doctors knew nothing at all about the mouth, so few of them had had a dental training, and that was the cause of the trouble.

ists themselves should no longer regard the health of their scholars as a matter outside their province. They must be familiar with the physiology and psychology of children, and they should possess some knowledge of the medical problems of children in general and of school children in particular. The teacher and the doctor must meet on common ground. Both work for the same end, and though they advance from different directions, each should attempt to understand the aims and difficulties of the other. The closer the harmony between them the better for the children.

In all cases, however, the final results of their efforts must largely depend on the attitude of those who in municipal and public life control the fate of the younger generation. Public authorities are not yet sufficiently alive to the lamentable amount of preventable disease that exists among children, nor do they fully appreciate the necessity of basing our educational methods on the physiological and psychological requirements of the young."

The Medical Profession To-day.—In the introduction to *Our Children's Health at Home and at School*,* the writer considered in some detail the position of the medical profession in this country and in America, together with the adequacy of the existing curriculum of the medical schools, and showed the steps contemplated by the American Medical Association, in order to place the training and practice of its members abreast of the times. He further insisted on the share of responsibility attaching to the public for the defects of the present system through the emphasis laid by it on the cure of disease as opposed to its prevention. Meanwhile, the silent revolution in the practice of certain sections of the profession, noted on that occasion, is making rapid headway.

"The New Specialism."—In this connexion it may be permissible to quote the following passage from Dr Leslie Mackenzie's *First Report on Medical Inspection of School Children in Scotland*.†

"As time has gone on, the authorities have been more exacting in the qualifications required from candidates. From the beginning, the Diploma in Public Health was regarded,

* See pp. 9-18.

† 1913. 6d.

almost everywhere, as essential. Practically in all cases, the principal medical officer of schools possessed the diploma; where he did not possess it on appointment he has usually obtained it later. But, in addition to this diploma, the authorities now require evidence of experience in the examination of the eyes, ears, throat, skin, and children's diseases generally. The new specialism is rapidly developing its own specialist. And, from the medical standpoint, the "specialism" is new in a very real sense. For whereas the ordinary medical curriculum trains a medical man to deal principally with gross disease, the new specialism requires that he should be trained in the observation of the first beginnings of disease and in the precautions necessary for prevention. The older clinical medicine concerns itself chiefly with pathology and treatment; the new clinical medicine concerns itself chiefly with physiology and prevention. The new specialism is clinical medicine on the preventive plane."

Some Results of the International Medical Congress.—That this changed attitude tends to pervade the profession as a whole and that regardless of occupation or geographical limitations, is clearly brought out by the medical correspondent of the *Daily Telegraph* at the International Congress of Medicine. "It is doubtful," he writes, "if the doctors have ever before taken the public so much into their confidence in regard to scientific matters. They have certainly availed themselves of this opportunity of emphasizing in the clearest possible terms many rules of health and living that have not been thoroughly appreciated before. It is noticeable that now that medicine and surgery have been founded on the rock of a sound scientific basis, the atmosphere of mystery which formerly surrounded the healing art has been, to a great extent, dissipated. The observer of medical progress cannot fail to gather the impression that the cloak of mystery which for hundreds of years surrounded medical work was originally assumed by the leeches of old times as a protective garment; custom is strong and the habit of wearing that garment lasted till very close to our own time, although its need had become less and less.

A Change of Attitude.—"During the course of the past week, the doctors have finally cast off the threadbare robe, and declared themselves willing to work hand in hand with the

members of the general public in everything that can assist in the improvement of national health; and to share, moreover, their latest discoveries and their most important secrets. It cannot fail to be one of the most beneficial consequences of the Congress which has just closed that every intelligent member of the community can now feel that scientific doctors of to-day are doing their best to make clear the lines upon which they are working and the directions in which the next advances are expected to be made.

"Cures" at a Discount.—"Perhaps one of the most striking characteristics of the whole meeting has been the conspicuous absence of reputed 'cures.' One can imagine that the medical gatherings of long ago were largely concerned with the bringing forward of new combinations of drugs and learned discourses as to their wonderful curative properties. During the past week, with one or two exceptions, we have heard little or nothing as to the therapeutic efficacy of drug treatment. But, on the other hand, we have heard much of the principles of living that can protect the body against disease—a subject that was unmastered by our forefathers.

Dawn of a New Era.—"True enough, at all times, there have been individuals who have said that the secret of health is to be found in simple living and due regard for the natural care of the body. But, indeed, these have not always been physicians, and it is certain that their messages were neglected by doctors up to comparatively recent times. It may be said that the chief concern of the Congress has been the prevention of disease, rather than its cure, and that its deliberations have definitely marked the beginning of a great era of preventive medicine, the triumphs of which will eclipse even those splendid victories of medicine which have characterized the past twenty or thirty years.

Part of the Individual.—"The doctors have taken a great step forward by showing each intelligent person how he or she can play a part in the improvement of public health. It is, after all, the family which is the basis of society to-day, and it is in the family that its individual units can be most readily shown the right way to live, and how best to maintain a sound

mind and a sound body. The realization of this necessarily throws a great responsibility upon the heads of households, and the outspoken declarations of the Congress have unquestionably emphasized the responsibilities of every one who is at the head of a family. For they have particularly shown how much disease arises in the early years of life and how much depends on the proper education of the growing child in regard to everyday habits. In a word, the doctors have declared that not only in the matter of exercise and fresh air, but as to regulation and constitution of meals, the care of the teeth, temperance, and even mental attitude, parents can do a vast amount towards securing such strength of constitution to the younger members of the community that they will be to a great extent protected from many common diseases.

Parental Responsibility.—"This responsibility is no light one and it has been borne for many years by the family doctor, whose most difficult task has not infrequently been to convince the fathers and mothers of his younger patients as to the urgent necessity of some alteration in their mode of living, education or diet. After the plain speaking of the doctors last week and the wide publicity given to their opinions, it is difficult to see how any reasonable person can henceforth refuse to accept a share of that burden.

Advice to the Public.—"Particularly in regard to the question of feeding infants and the purity of our milk supply, as well as in the care of the teeth, have various speakers pointed out ways in which the average individual can exercise a beneficial influence on the health both of the family and the nation. On the whole, we have been told that we must live simply, but we may live well. It is only in regard to the unwise consumption of too large an amount of food in the course of the day, or the careless use of unsuitable substances, that an embargo has been placed upon our diet. Alcohol has not been described as invariably detrimental to health, whilst, on the other hand, due emphasis has been placed on the evils of intemperance and particularly on the dire results that may happen to both parents and offspring as the results of what may perhaps be described as moderate intemperance. The ills resulting to the community from defective teeth have, perhaps,

never before been so thoroughly exposed, and it should be one inevitable result of the Congress that many parents will pay more attention to this matter. Many may say that the rules so strongly emphasized by the doctors are merely common sense; but, on the other hand, it cannot be asserted that the public have always displayed this requisite.

The Secret of Health.—" A general service has no doubt been rendered also by the blow struck at the unlimited confidence still placed in drugs and pills, which have been assigned their true place in treatment, a position which popular opinion has no doubt much over-estimated. It is a great thing to have shown that health depends on living in a common-sense manner and attending to common-sense rules; and that it is better to bring up families in a healthy manner than to allow them to become weakly through careless disregard of Nature's laws and then to rely on the magic of a pill or potion to correct the lamentable results of sickness and ignorance."

Recent Discoveries in Dietetics.—On the subject of dietetics the same writer observes: " The experiments in diet discussed in one of the sections again opened out another new and apparently limitless field of profitable research; for the conclusion was arrived at that it is not only the main groupings of food-stuffs that must be properly proportioned in the regulation of health, but that due allowance must be made for certain substances lately discovered in food materials that have a most important influence on the nourishment of the body. Considering that the actual quantity of these substances —of which vitamine is one of the few that have been named and thoroughly studied—is so large and their effect so far-reaching, it is quite clear that much laborious research will have to be accomplished before doctors can make use of these experiments in treatment. Nevertheless, it seems quite certain that investigation in this direction will revolutionize the whole science of dietetics, and result in placing yet another sure means of directly controlling bodily nutrition in the hands of the physicians.

Coming Changes in Medical Education.—"The effects of wrong diet in other ways, notably in causing beri-beri,

a scourge of various tropical regions, were also dealt with in a decisive manner that must give support to all practitioners who may have to deal with any of these maladies. When once it is remembered that the subject of diet is one to which comparatively small attention has hitherto been given in medical training, a notable consequence to hospital education may be foreshadowed as the result of these particular deliberations."

How They may be Facilitated.—In connexion with the remarks in the last paragraph, it may be of interest to mention that among the educational methods of the National Food Reform Association appears the following:

"Encouraging the study of various aspects of diet by offering certificates, prizes and scholarships at medical, domestic economy, and other schools and colleges."

Main Lines of Advance.—In view of the rapidly growing importance of the work of the School Medical Service, it seems not unreasonable to anticipate that the extension of the medical curriculum predicted above will, in the main, follow the lines laid down in the Report of the Sub-Committee on Hygiene, Medical Jurisprudence and Medical Economics of the American Medical Association.*

H.M. the Queen and the Conferences.—In acknowledging the receipt of an advance copy of the programme of the Second Guildhall School Conference, H.M. the Queen was graciously pleased to intimate her desire to receive a copy of the report, which she would peruse with much interest. It may be added that a copy of *Our Children's Health at Home and at School* was also accepted by Her Majesty.

Though the subjects considered at the two Conferences are nominally distinct, they are found in practice constantly to overlap, so that the one volume may be regarded as complementary to the other.

An Announcement.—Acting on suggestions made to it, which have found favour in several quarters, the Committee of the National Food Reform Association has decided to convene at an early date a further Conference on Diet, Cookery and

* Cp. *Our Children's Health at Home and at School*, pp. 10-12, Introduction.

Hygiene in relation to Home Management and the Nutrition and Physical Welfare of Children under School Age.

Sir Thomas Barlow and Dr Leslie Mackenzie are among those who have recently directed public attention to the comparative neglect in our network of social agencies of children between one and five years of age. It is further generally recognized that pre-natal influences and conditions have not hitherto received adequate consideration in this country. The Conference above referred to may possibly be given an international character.

Contents of the Volume.—The foregoing remarks and references have been based, in the main, on the proceedings at the Conference recorded in the earlier portion of this volume. They are not, however, without application to the series of articles and reports in the later portions, to which the attention of readers is earnestly directed.

A Word of Thanks.—The writer desires to acknowledge his indebtedness to Mr George Elliston, Editor of the *Medical Officer* and of *National Health*, to Dr Kelynack, Editor of *The Child*, and to Mr W. A. Nicholls, Chairman of the Organizing Committee of the Conference, for much wise counsel, to his brother-in-law, Mr Edgar Morris, for valuable assistance in the work of translation, to Miss Carr, the official reporter of the Association, for her faithful record of the proceedings, to his colleague, Miss Thorburn, and last, though assuredly not least, to Mr Cuthbert Wilkinson of the St Catherine Press, and to Mr Bernard Newdigate of the Arden Press, who have spared no efforts to render the letterpress and outward form of the volume worthy of the subjects of which it treats.

Thanks are likewise due to the German Imperial Foreign Office, to H.M. Ambassadors at Berlin and Paris, to H.M. Chargé d'Affaires at Berne, to H.M. Consul at Geneva and to H.M. Vice-Consuls at Basle and Zürich, for the great pains taken by them to furnish information, which has so materially enhanced the value of the volume.

Finally, the writer wishes to thank Lady Meyer, Dr George Auden, School Medical Officer, Birmingham, Mr Martin Haddow, of the Glasgow School Board and, Messrs Rowntree and Co. for their generous loan of blocks, and the Clerk of the

London County Council for permission to reproduce photographs, illustrating the teaching of domestic subjects by the Council, thereby contributing greatly to the attractiveness and usefulness of the book.

Tend the growth of little children,
Let them have their due;
For the future then we're building
Nations strong and true.*

CHAS. E. HECHT.

178, St Stephen's House,
Westminster,
October 11th, 1913.

* New Froebel Song, written for the Camden House Guild meetings, by one of the most distinguished of living Froebellians, Miss F. Franks.

PART I

SECOND GUILDHALL SCHOOL CONFERENCE

A CONFERENCE ON DIET, COOKERY AND HYGIENE IN PUBLIC ELEMENTARY SCHOOLS AND PUBLIC AND PHILANTHROPIC INSTITUTIONS FOR CHILDREN AND ADOLESCENTS HELD AT THE GUILDHALL UNDER THE AUSPICES OF THE NATIONAL FOOD REFORM ASSOCIATION ON MONDAY AND TUESDAY, JUNE 30 AND JULY 1, 1913.

MONDAY, JUNE 30

MORNING SESSION

I. DIET, COOKERY AND HYGIENE IN PUBLIC ELEMENTARY SCHOOLS

UNDER THE EDUCATION (PROVISION OF MEALS) ACT, 1906, AND EDUCATION (SCOTLAND) ACT 1908.

Writers of Papers were desired to pay special attention to the following matters:

1. Organization. 2. Place. 3. Selection of Children. 4. Nature, Quality, Quantity, and Cost of Food. 5. Variety in Dietary, seasonal and otherwise. 6. Variations in Feeding for Infants and Delicate Children. 7. Time of Meal. 8. Accommodation, Equipment, Cooking, Service, Supervision, Educational and Social side of Meal. 9. Results: Physical, Mental and Moral. 10. Holidays, Feeding in.

Chairman: Sir GEORGE W. KEKEWICH, K.C.B., D.C.L., former Secretary, Board of Education.

AT the commencement of the proceedings the chair was taken by ALDERMAN AND SHERIFF SIR EDWARD COOPER, who formally opened the Conference with the following remarks:

TRIBUTE TO A PIONEER.—Owing to the unavoidable absence of the Lord Mayor,* the honour has devolved upon me of opening this, the Second Guildhall School Conference on

* Owing to a previous engagement to attend the opening of the International White Slave Traffic Congress which, for the reason given below, he was unable to fulfil.—Ed.

Diet, Cookery and Hygiene. Before I say anything else, I think you would like me to express our regret at the death, on Saturday, of Mrs Hyndman. She was the first to organize a regular system of school meals for children,* and threw herself with great enthusiasm into the work you are here to discuss this morning.

The late Dr Abernethy used to give us his advice to live on 6d. a day and earn it. No doubt that may have been good advice to the Aldermen of his day, but an Alderman of the present day knows what is, and what is not, good for him.

Task of the Conference.—We are here this morning to discuss the best means and the most scientific and economical methods of securing to the children of the future Great Britain a *mens sana in corpore sano*. It would be presumption on my part if I attempted to advise you who have studied the subject much more deeply than I have as to the best methods of cooking food, and what are the relative values of different foods, but as a superficial observer, I have noticed that very few children know how to eat. They bolt their food before it is half masticated and, however good the food may have been, the value of it as a body or brain producer is very greatly diminished. Napoleon I used to say that the great want of France was good mothers, a remark which might apply in part to our own country. If this Conference can be the means of teaching what is the best diet, how it is best prepared, and the value of hygiene, not only in public institutions but in the homes of the people of England, the members of the National Food Reform Association will have deserved well of their country.

I have very great pleasure in declaring this Conference open, and I shall ask Sir George Kekewich to occupy the Chair which I am vacating.

Sir George W. Kekewich, k.c.b., d.c.l. (former Secretary to the Board of Education), then took the Chair, and, before making his opening speech, called upon the Secretary, Mr Charles E. Hecht, m.a., to make some announcements as to procedure and to read letters of apology.

* It may be of historical interest to mention that an account of the modest beginnings of the "Children's Dinner Table" Movement, with which the names of Victor Hugo and Lady Thompson are associated, will be found in *Food and Feeding*, Sir Henry Thompson, 12th ed., appendix, 3s. 6d.—Ed.

A Regrettable Circumstance.—The Chairman: I listened with very great interest to the Secretary's statement as regards the absence of various people. I deeply regretted to hear that there was not a single official from the Board of Education here to take part in this discussion. When I was at the Board of Education I always found that there was no better education for me than to get into close touch with those who are actually engaged in the work of teaching and the work of organizing. I wish, therefore, that we could have seen some of the officials here to-day.*

National Importance of Subject.—I esteem it a very great honour to have been asked to open the first Session of this Conference, because I regard the subject as of truly national importance, perhaps of greater importance to the future of this country than any other that is at present on our card.

Twofold Call for Action.—I look at it from two points of view, first of all, the happiness of the child—which cannot exist so long as he is in want of proper food—is, and always has been, most dear to my heart—that is the first consideration. The second is this: that if he is destitute of physical vigour, destitute of the food which produces physical vigour, he cannot possibly grow up so as to be of advantage to the State, and, after all, our chief concern is not for the individual, but for the State. The child must have good and proper food, because without it he cannot obtain that physical vigour which is necessary for the productivity of our industries or for the defence of the country. He must have it also because, as you know full well, education of the intellectual and the moral faculties is absolutely impossible for the starved child. You might as well try to educate a child who was on a sick bed.

Existing Methods Criticized.—Well, the State has recognized this fact, and has dealt with the problem up to a certain

* We are glad to record the success of the Conference. . . Papers of immense importance not only to the schools but to the community generally were contributed by experts on school meals, hygiene and domestic economy. . . . It is a matter for regret that it was not better supported by the Local Education Authorities. Rarely has a Conference discussed subjects of greater importance to their work. *Education*, the official organ of many Education Authorities and Organizations, July 5, 1913. It is but just to add that there were certain notable exceptions.—Ed.

point. The question for me is whether we ought not to go a great deal further. At present, as I understand, children are selected for school feeding mainly because they show signs of malnutrition, that is to say, we first let them get ill, because malnutrition is surely, in a sense, an illness, and then we apply the remedy. In this case, as in others, that is a most unscientific procedure. "Prevention," says the old proverb, "is better than cure," and we ought to prevent any child suffering from malnutrition. To my mind no child should be allowed to suffer, or begin to suffer, from lack of proper food.

Lessons from Abroad.—I should like to see the principle of free meals extended to all children in our Elementary Schools, the parents contributing what they could according to their means. This is the plan which is adopted, I believe, in more than one foreign country, and, after all, it is a plan which has been acted upon with great success in an analogous case, that is, in our hospitals. You must remember, moreover, that we give free education to the people, and have spent enormous sums of money upon it, and that all, or a great part, of that money is wasted unless the children are in a position and a condition to take advantage of it. I agree—I know people say, that it is a Socialistic creed—but I agree with those who say that free food is a corollary of free education.*

A False Analogy.—People say to us, well, what about free clothes? The answer to that is this: that free food is necessary for the education of the children, free clothing is not. It does not matter what the clothing of the child is like, provided it is clean—he can receive education.

Justification of Free Meals.—Why, however, are free meals necessary for the children at all? There are two causes, both remediable. The first and greater is poverty and the neglect which is inseparable from poverty. Destroy poverty, which is the fault of the State, and the fault of the laws of the State, and which ought not to exist in any well-

* The nation is slowly beginning to perceive that unless the bodies of children are attended to, as well as their minds, they will tend as they grow up to swell the ranks of the unemployed and unemployable. Physical training, supplemented by feeding and if necessary by free food, is therefore a necessity. Sir Lauder Brunton, Introduction to *Medical Examination of Schools and Scholars*, Kelynack, p. xiii, 10s. 6d.—Ed.

ordered country, and then, and not till then, can the State safely leave the mass of the parents to provide for their children. Remember that not even free meals can provide an antidote to the insanitary dwellings and the unwholesome atmosphere, the drunken society and immoral surroundings which always accompany poverty.

Remedy for Parental Ignorance.—Then, again, you have got to destroy ignorance. The mortality among young children because of the ignorance of the mothers is enormous, and in the case of the children who survive the period of infancy, their health is often seriously impaired before they ever reach school age. Feed them by all means, but here again, "prevention is better than cure." Surely the remedy is that every woman before marriage should know how to do her duty by her children. Some day or other we shall come to recognize the truth of that. We are not ready for it yet—it would be an interference with the liberty of the subject, I suppose, if you were to insist on that sort of examination being passed before marriage.*

* Until this year (1912) compulsion to attend the elementary day school has ceased for girls in Munich when they have completed their thirteenth year, and they have not been compelled to attend continuation schools. Since 1869 girls have been allowed to continue to attend the elementary day school till the end of their fourteenth year, and those who have done so have received in that year of voluntary attendance a large amount of excellent household training. There have also been continuation schools giving household training which all girls might attend, and which many have attended, on the payment of a small fee. Thus there has been in Munich a considerable number of girls who have received good household training at school and also a large number who have not. This year Dr Kerschensteiner asked the Munich school authority to make attendance at the day school till the end of the fourteenth year, and at a continuation school for six hours a week for two years till the end of the sixteenth year, compulsory for all girls, and the school authority, which has seen the good effect of compulsory eighth year classes and continuation schools for boys and of household training for some girls, complied with the request by a unanimous vote. The most remarkable part of this evidence of the high value of compulsory classes was a statement made by Dr Kerschensteiner in support of his proposal that requests were often received by the school authority from young working men in Munich that all girls might be compelled to receive training in household management, as young workmen cannot otherwise afford to marry, untrained girls being unable to make a workman's wages defray the cost of a home.—T. C. Horsfall in *Manchester Guardian*, March 28th, 1912.

In her presidential address last year to the Association of Teachers of Domestic Science the Duchess of Sutherland declared that if she were a man she would only marry a woman who had been taught Domestic Science.—Ed.

Changing Views on Diet.—As to the food, most of us agree that children should all have proper food, and all agree that the food should be wholesome. We have made enormous progress in diet. During my life, which is now getting—well—somewhat long, I remember very well that the staple food for children was often meat and alcohol. More than that, that food was recommended in many cases by the medical profession of the day. Now the medical profession has learnt something better, and it has ceased to recommend these very deleterious articles of diet, at all events to the same extent. I remember when I was in training for boat racing at Oxford, the more chops and steaks a man ate the better he was supposed to be fitting himself for his work. We were also encouraged to drink a considerable amount of beer and wine. Now I think that system has gone out altogether, and it has been proved that an enormous quantity of meat—I do not say some—is not required; as a matter of fact many races have been won by athletes who excluded it from their dietary. I am not here to discourse upon the merits of a flesh versus a non-flesh diet, but in my opinion nothing is worse than giving the children an excessive amount of meat unless it be an excessive amount of alcohol.* I began to drink port wine almost as soon as I left off drinking milk, and everybody in those days did the same. Now, however, doctors have progressed and the general view of the population has progressed.

Conclusion.—I am afraid I have given a very inadequate

* It should be remarked that it (flesh-eating) appears to be by no means a natural taste with the young. Few children like that part of the meal which consists of meat, but prefer the pudding, the fruit, or the vegetables, if well-dressed, which unhappily is not always the case. Many children manifest great repugnance to meat at first, and are coaxed and even scolded by anxious mothers until the habit of eating it is acquired. Adopting the insular creed, which regards beef and mutton as necessary to health and strength, the mother often suffers from groundless forebodings about the future of a child who rejects flesh, and manifests what is regarded as an unfortunate partiality for bread and butter and pudding. Nevertheless, I am satisfied, if the children followed their own instinct in this matter, the result would be a gain in more ways than one. Certainly if meat did not appear in the nursery until the children sent for it, it would be rarely seen there, and the young ones would as a rule thrive better on milk and eggs, with the varied produce of the vegetable kingdom. *Diet in Relation to Age and Activity*, Sir Henry Thompson, 4th ed., pp. 69-70, cp. also John Locke's counsel in *Our Children's Health at Home and at School*, p. 26, footnote.—Ed.

address, but you will excuse one who is now absolutely broken down with old age—a person who is on the scrap heap, but who still likes to make that scrap heap rattle a little now and again. I hope that the results of our propaganda, which we intend to enforce, will be to show that, at all events, to the present generation, the words of the old Latin poet in the days of the Empire, when degeneracy was the story of the day, as it is now, are not appropriate. I am not going to apologize for quoting Horace, because I am sure you understand Latin. He said:

" Ætas parentum pejor avis tulit
Nos nequiores, mox daturos
Progeniem vitiosiorem! "*

Well, I do not believe we are a bit worse than our ancestors —I believe we are better, and I believe that the generation that succeeds ours is going to be better still.

DIET, COOKERY AND HYGIENE IN PUBLIC ELEMENTARY SCHOOLS, UNDER THE EDUCATION (PROVISION OF MEALS) ACT, 1906. A Brief Account of the Working of the Provision of Meals Act in Bradford. *By* Marian E. Cuff (*Organizing Superintendent of Domestic Subjects, Bradford City Council*).

The Housekeeper's Point of View.—Of the headings under which the subject to be dealt with this morning has been divided, I have been asked to deal more especially with points 4, 5, 7 and 8, which may be regarded as essentially the woman's (i.e., the housekeeper's) side in distinction to the medical and administrative sides of the question. I think this can best be done by telling you of the experiment which preceded and formed the basis of our Bradford system of Child Feeding.

Dr Crowley's Experiment.—In April, 1907, Dr Ralph Crowley, now Medical Officer to the Board of Education, who was then the School Medical Officer to the Bradford Education Committee, told me that he wished to ascertain the effect of feeding (wise and otherwise) on the physical condition of the child, whilst not altering in any way the other conditions of

* The age of our parents, itself less vigorous than that of our grandsires, has produced in ourselves a more degenerate race, which in its turn will give to the world a still more vicious progeny.—Ed.

its life—as, for example, the lack of pure air, insufficient sleep, etc.

Choice of Food.—He asked me to ascertain, by practical experience, three things:

1. The food which contained the greatest amount of nourishment procurable at the least cost.

2. The food that the children would most enjoy eating.

3. The dishes their parents could prepare with the time and equipment at their disposal, should they wish to do so.

Selection of Children.—The Lord Mayor having kindly guaranteed us £50 to cover the cost, we straightway went to work. The doctor selected the children—109 altogether—all chosen because their condition showed that they were either insufficiently or unsuitably fed, the body not being properly nourished in consequence. Of these children, 40 were given breakfast and dinner 5 days per school week from April 17 to July 24. They were weighed each week, and the record was contrasted with that of the other 69 children who were also weighed weekly, but not fed by us.

The Holiday Problem.—During the experiment we did not feed in the holidays. The sudden drop during the Whitsuntide vacation and at the close of the experiment clearly showed the necessity for *continuous* feeding, which has since been done in Bradford.

Breakfast.—The breakfast consisted of oatmeal porridge with treacle and hot milk, followed by brown and white bread and butter, and the rest of the hot milk, half-a-pint in all per child.

Steps to Secure a Balanced Dietary.—Each dinner consisted of two courses, and was arranged to supply the amount of proteid* and of fat needed per child. We knew that if this were ensured there would be a sufficiency of carbo-hydrate, whilst the fresh vegetables and fruit given would supply the salts.

* Since the muscles and all active tissues of the body are built up of proteins, the necessity of an adequate supply of these in the diet of growing children is so manifest as to require no further elaboration.—Professor Noel Paton.

To growing children a deficiency of proteid in the diet is specially disastrous, for the lack of building material, which it entails, may result in impaired growth and development, the consequences of which may last throughout life. *Food and Dietetics*, Hutchison, 3rd ed., p. 175.—Ed.

Cost.—We also worked out the exact cost of each meal at current prices, both wholesale and retail. The price for the dinners varied from 1d. to 1¾d. per head in catering for the 40 children, and at retail prices was 1¼d. to 2½d. per meal.

Dinners.—During the first few weeks a great many different dinners were cooked and served; 16 of these and the fish dinner (served each Friday) were retained as the most suitable, Non-flesh food was provided on Monday and Wednesday, meat being included on Tuesday and Thursday each week.

The Parents—A New Departure.—The recipes of these seventeen dinners were published by the Education Committee, a copy of the booklet being sent to every home from which children attended the schools. The purpose of this distribution was twofold—first, that the parents might know exactly what their children would receive at the school dining-rooms, and also that the mothers, in a position to do so, might be enabled to prepare similar meals at home. A few copies of these recipe books may still be obtained from the Education Office, Town Hall, Bradford, at 1d. each or 9d. per dozen. The report of the experiment, written by Dr Crowley, has long been out of print.*

The Act at Work.—The advent of the summer holidays brought the experiment to a close. The opening of the new school year saw preparations in hand for the adoption of the Provision of Meals Act.

Kitchen Equipment and Staff.—Part of a school gymnasium was divided off and equipped as a central kitchen. The boiler which heated the water for the adjacent school swimming-bath provided steam for cooking purposes, and also for the washing up of the plates, spoons, etc., used in the dining-rooms. This kitchen was opened by the Lady Mayoress (Mrs, now Lady, Godwin) on October 28, 1907, and 670 dinners were sent that day to 6 dining-rooms. The equipment then consisted of three 100-gallon and two 50-gallon steam-jacketted pans and two gas ovens, with the necessary labour-saving machines worked by hand. A staff of three women and one man was then employed, although the bread sent with each dinner was purchased from a local baker.

* It has, however, been reprinted here, p. 366.—Ed.

RECENT DEVELOPMENTS.—The number of children on the list quickly rose until in the winter of 1908-9, owing to depression in trade, breakfasts were also given, and for a while 2,000 breakfasts and approximately 3,500 dinners were served daily. The building was extended, and larger machines worked by an electric motor were installed which enabled this far heavier work to be dealt with by a staff of ten men—a chef, assistant chef, and eight kitchen porters. The addition of a large baker's oven saves a considerable amount on the cost of the bread required, and is also invaluable for baking to perfection the meat, fish and fruit pies, and the cakes which are served on certain days instead of puddings.

NATURE AND QUANTITY OF FOOD.—The nature and quantity of the food allowed are such as we believe to be the most suitable for growing children. The results, as seen after six years' experience, fully justify our decision.

ALLOWANCE PER CHILD.—The allowance per child of some of the leading ingredients is as follows:

MEAT.—1 to 2 oz. if peas or beans form part of the meal; 2½ to 3 oz. if not thus supplemented.
FISH.—4 oz.
POTATOES.—3 to 6 oz.
CARROTS, TURNIPS, ONIONS.—1 to 1½ oz.
PEAS OR BEANS.—3 oz.
CHEESE (in pudding).—½ oz.
BREAD.—2 oz. for breakfast, 1½ oz. for dinner.
MILK.—½ pint for break ast, ¼ pint in milk puddings.
CEREALS (rice, etc.).—½ oz.
FRUIT (stewed or in tarts).—3 oz.
PASTRY (baked).—Amount made from 1½ oz. flour, ¾ oz. lard or margarine, and other ingredients.
PASTRY (steamed).—Amount made from 1½ oz. flour and ¾ oz. nutter suet* and other ingredients.
WATER (used in making gravy).—¼ pt.
WATER (used in making soup).—½ pt.

* There is every reason to believe that these substitutes for ordinary butter in the kitchen are equal to it in nutritive value, whilst they are decidedly more economical.—*Food and Dietetics*, Hutchison, 3rd ed., p. 260.

Such vegetable suet is obtainable under various names. It goes further and keeps much longer than ordinary suet, It can be used for puddings or for frying, etc., in the place of cooking butter. Grocers usually stock it. In case of difficulty apply Secretary, National Food Reform Association.

Cp. also N.F.R.A. Booklet No. 2, note 3, Booklet No. 4, note 6.—Ed.

Water is served at meal-time at the request of the children. A separate mug is provided for each child.

Quality and Cost.—Each year contracts are tendered for by the local tradesmen. The samples submitted are tested by members of the Canteen Committee, and the choice made is based on the *quality*, price only being considered when two samples are equally good. The cost of the food varies, prices now being considerably higher than formerly, whilst the cost of administration varies still more, according to the number of meals provided.

	1908-9	1911-12
Cost of food only per meal. . .	1·1d.	1·21d.
Cost of administration per meal . .	·7d.	1·11d.
Total cost per meal . .	1·8d.	2·32d.

A Neglected Opportunity.—It was hoped that the demand for dinners would not be confined to necessitous children, but that, in a district where so many mothers are working in the mills, advantage would be taken of the opportunity offered to parents to procure dinner tickets at cost price for children for whom, owing to the economic conditions mentioned, suitable meals cannot be provided in the home. It is a very great pity that, owing to the association of the term "free meals" with the school dining-rooms, reluctance has been shown to take advantage of what would be of great benefit to the children.

How Variety is Secured.—Four breakfasts are given in rotation throughout the year as follows:

(1) Bread and jam; milk.
(2) Currant loaf; cocoa.
(3) Porridge and treacle; bread and margarine; milk.
(4) Bread and jam; cocoa.

Seasonal Variations.—For the dinners three distinct lists of menus are arranged:

(1) For spring and autumn.
(2) For summer.
(3) For winter.

The more heating foods, such as suet puddings, are given in winter, and lighter foods at other times.

The following actual menus will show the kind of food provided. One week's meals from each season are given:

SPRING, 1913, AND AUTUMN, 1912.

MONDAY.—Potato and Onion Soup, Wholemeal Cake.
TUESDAY.—Hashed Beef and Savoury Balls, Rice Pudding.
WEDNESDAY.—Yorkshire Cheese Pudding, Peas and Gravy, Stewed Fruit.
THURSDAY.—Shepherd's Pie, Green Peas, Sago Pudding.
FRIDAY.—Fish and Potato Pie, Peas and Parsley Sauce, Rice and Sultanas.

SUMMER, 1912.

MONDAY.—Potato and Onion Soup, Sago Pudding.
TUESDAY.—Shepherd's Pie, Green Peas, Stewed Fruit.
WEDNESDAY.—Yorkshire Pudding, Gravy, Greens, Rice and Sultanas.
THURSDAY.—Scotch Barley Broth, Currant Pastry.
FRIDAY.—Fish and Potato Pie, Peas, Parsley Sauce, Blancmange and Jam.

WINTER, 1912-13.

MONDAY.—Brown Vegetable Soup, Jam Roly-Poly Pudding, Sauce.
TUESDAY.—Savoury Batter, Beans and Gravy, Semolina Pudding.
WEDNESDAY.—Potato and Onion Soup, Ginger Pudding and Sweet Sauce.
THURSDAY.—Stewed Beef and Gravy, Mashed Potatoes, Baked Jam Roll.
FRIDAY.—Fish and Potato Pie, Parsley Sauce, Peas, Sago Pudding.

WHY MENUS HAVE BEEN MODIFIED.—Several of the dinners given in the recipe book and served in 1907 have since been abandoned as unsuitable for very large dining-rooms, where it is hardly possible to give the same attention to individual scholars as was done during the experimental period.

TIMES AND LENGTH OF MEALS.—Breakfast is served at 8.15 a.m.; dinner from 12 to 12.30 noon according to the distance of the dining-room from schools attending. This meal usually lasts about forty minutes, as the children are encouraged to eat slowly.

METHODS OF COOKING.—The cooking of the food is done entirely at the central depot—soups, stews, vegetables, milk puddings, fruit, and the porridge are cooked in steam-jacketted pans. Roly-poly, ginger and other suet puddings are steamed in the large presses. The pies (meat and fish), fruit tarts, currant pastry and cakes (wholemeal, plum and cocoanut) are baked in the bread oven.

DISPATCH OF FOOD.—This is done by motor-van and tramcar service to the dining-rooms, the pies travelling in boxes

interlined with cork-dust, the more liquid food in cans interlined with silicated cotton, which ensures the dinners being thoroughly hot when served.

SUPERVISION.—Among the regulations for the management of the dining-rooms* are the following:

A teacher, assisted by monitresses, to be appointed to apportion the food; the remainder of the staff to be as free as possible to supervise the behaviour of the children. The teachers volunteer for this work, for which a slight remuneration is given.

One monitress to be appointed to wait on every twelve children; the monitresses to be selected, in turn, from the older girls attending the dining-room, to serve for four weeks, or longer, at the discretion of the teacher in charge.

These girls set and clear the tables and have their own dinners when the other children have finished. Overalls are provided each week for their use, larger ones also for the teachers who serve the food. One adult helper attends for each fifty children.

SERVICE AND EQUIPMENT.—Infants and small eaters are served at separate tables. The children must at least try to eat the first course, or no pudding is given. More than one helping is allowed, but all present are served before any child is allowed a second portion, and the children understand that food asked for must be eaten. The first course is entirely cleared away before the second is served.

There is no waste, even the plate-scrapings being returned to the depot and added to the "swill" which is sold for pigs. Very little, even of plate scrapings, comes back now.

EDUCATIONAL AND SOCIAL SIDE.—For each child is provided daily a soup plate, pudding plate, two spoons and a mug. Each week clean tablecloths and overalls are sent. At several of the dining-rooms flowers and plants are provided by those interested in them.

The children are expected to come with clean hands and faces and to keep the tablecloths as clean as possible. Conversation is allowed during the meal, and an endeavour is made

* See also pp. 265-7.—Ed.

to train the children in good manners and quiet behaviour at table.

THE RESULTS.—The majority of teachers say that the children benefit both physically and mentally by the meals, and have therefore increased ability to take full advantage of the education provided for them. They say also that the conduct and manners of the children are improved by attendance at the dining-rooms. Children respond very quickly to quiet, refined surroundings. The clean, light, airy room, the order and the cheerful kindliness shown them by the teachers cannot fail to be an influence for good.

MODE OF SELECTION.—The selection of the children to be granted free meals is made by the members of the Canteen Committee on reports presented after investigation by the Attendance Officers. Parents' statements as to wages earned are verified by reference to their employers wherever possible. Notice of the need for feeding may be given by (*a*) the School Medical Officer, (*b*) the parents, (*c*) the teachers, (*d*) the visitors of the Bradford City Guild of Help, or (*e*) any private individual sufficiently interested.

ITS FINANCIAL BASIS.—The rule followed is that after deducting the house rent, if there remains an income from all sources of less than 3s. per week per head of the family, dinners are allowed to the children of school age (3 to 14). If less than 2s. per week per head, then breakfasts also are given.

In the case of very small families, and other special circumstances, exceptions are sometimes made.

In working out the nutrient values and retail cost of the food necessary to maintain the health of growing children, we found that the minimum cost per week per head was half-a-crown.

EFFECT ON THE PARENTS.—Much has been said of the probable evil effect on the parents of feeding children, by lessening their sense of responsibility, but the keenest sense of responsibility cannot provide the necessary food without the money to pay for it. We are glad to say that, as a rule, the parents report immediately when improvement in the family circumstances renders them no longer in need of this help.

SUMMARY.—Meals, varied daily, and also according to season, are cooked on five days per week throughout the year (excepting only the Bank Holidays) at a central kitchen, from which the food is sent by motor-van and tramcar to the dining-rooms. It is there distributed at noon to the scholars attending by an adult server, who is assisted by monitresses. The arrangements and the behaviour of the children are supervised by teachers who have volunteered for this service, and who report favourably of its effects, physical, mental and moral, upon the children.

The selection of the children to receive free meals is in the hands of the Canteen Committee, who during the last six years have devoted much time and thought to the question in order that the pressing need, so often felt under present conditions of industrial life, may at least be partially met.

Miss Marian E. Cuff then read an abstract of her paper.

THE SOCIAL AND EDUCATIONAL ASPECTS OF THE SCHOOL MEAL. *By* MILLICENT MACKENZIE, M.A. (*Professor of Education, University College, Cardiff*).

IS THE PROVISION OF SCHOOL MEALS DEMORALIZING?—In dealing with the problem of the provision of meals for children in our elementary schools, we are, perhaps, too apt to fix our attention on the economic aspects and to lose sight of the important social and educational effects which necessarily follow from any such provision. Or, possibly, it would be truer to say that those who do concern themselves with these social and educational effects consider them mainly from the point of view of the adult members of the community, e.g., the parents, the working classes, the ratepayers, etc. Many who admit the necessity for such provision of meals—not only because the children suffer if insufficiently fed, but because, if hungry, they are unable to profit by our compulsory system of education—yet regard this provision as a necessary evil, demoralizing alike to parents and children.

A NEGLECTED POINT OF VIEW.—There are some of us, however, who believe that, whatever the effect on the parents (and, from our experience of the last few years, it seems doubtful whether any demoralization can be proved, even in their case),

the children not only are not pauperized, but actually benefit socially and educationally by the school meal. We maintain also that they would do so still more if a bolder policy were pursued, and the school meal were given its proper educational place and importance.

THE RIGHTS OF THE CHILD.—It cannot be too often repeated that a child cannot be a pauper, because until he is old enough to earn his living he has natural claims for food, shelter, clothing and protection—in the first place, no doubt, from his parents, but, failing them, from the rest of the adult community. Rightly, he feels no shame in receiving what is necessary for his life from the hands of grown-up people. Even begging is not a *crime* in a child, although we try to check it because we fear that the child will form the *habit* of begging, which will be injurious to him in later life. It may be bad for a child to have to beg for a penny or for a meal, but at the stage of his life when everything must be provided for him it does him no more harm to eat the meal than to use the books, etc., provided at the school. With a little better management, indeed, he would not know how the meal was provided, and might readily regard it as arranged for by his parents.

A COMMON MISCONCEPTION.—In discussing this subject, indeed, we are too apt to assume that the provision of school meals must necessarily mean *free* provision. This is no doubt due to the fact that, except in our Day Industrial Schools, the provision of meals in our elementary schools was not seriously faced by Education Authorities until the need of the children led to legislation in respect of free meals.

A PRECEDENT FOR A BOLDER POLICY.—Nor must it be forgotten that school dinners are provided at many of our large secondary day schools,* and, although pupils attending there can thus secure a wholesome meal under better conditions and at less cost than they could anywhere than at home, no one suggests that either parents or pupils are morally injured by these benefits. If only, therefore, we could secure (as is done in Paris) that all children whose parents wished them to do so could share in the same school dinner, most parents paying, and the cost of the meal being remitted only in the case of those who, temporarily or permanently, were proved to be

*Cp. *Our Children's Health at Home and at School*, pp.78-88, 101-2, 266-70.—Ed.

really unable to pay, most of the objections raised on the score of demoralization would be satisfactorily met. We really need to adopt a bolder policy—that of providing a midday dinner in every school at which no distinction should be made between paying and non-paying children.

Children who Need an Organized School Meal.—In elementary as in secondary schools, there are many children who must remain at school during the dinner-hour for certain quite legitimate reasons. Some (especially in country districts) have to come from a distance; others cannot go home because the mother is away at work. In many cases, too, even if the child goes home, no hot meal is possible, because, in order to save fuel, cooking is only done once a day, when the father returns from work. These children usually bring with them a cold and often quite insufficient meal, or are given a penny, which may be spent in sweets on the way to school. Such children need an organized school meal, as well as those who are destitute. It is well, too, for us to remember that an insufficiently or improperly fed child is not much better able to profit by instruction than one who is actually hungry.

Social and Educational Value.—Let us now turn to the more purely social and educational advantages to be derived from the school meal. Even in secondary schools, it is regarded as advantageous for the pupils to meet together at the dinner table under the supervision of a teacher who will also thus get to know them in a less formal and more friendly way than is otherwise possible. For the children in our elementary schools—to some of whom, perhaps, a properly laid table with flowers etc., would be a complete revelation*—the social training would

* A meal at which all the family sit down to a properly appointed table, with a clean cloth and crockery, is almost unknown in some of the homes from which the children come. Food generally lies about all day, and there is no settled "meal-time." When a child feels hungry or is specially troublesome and has to be kept good, he is given a piece of bread, on which some lard or butter is hastily dabbed and he eats this walking about the room or in the streets. Even if the "grown ups" are found sitting at the table, the children will nearly always come and help themselves and then eat their portions walking about the room.

The Public Feeding of Elementary School Children, Phyllis D. Winder, p. 39, 2s. This is one of the Birmingham Studies in Social Economics, edited by Professor W. J. Ashley, and can be cordially recommended to students and social workers. With other books bearing on the subject, it may be obtained from the office of the National Food Reform Association.—Ed.

be of the utmost value. How many are hampered in later life and become a nuisance to others because they have not been taught to eat and drink properly, nor to show each other the little politenesses which are, after all, very important in life as expressions of good feeling. Our children need to be taught to express themselves in action, as well as in language.

Safeguarding the Teacher.—It is very important to remember, however, that this work of supervising (or, still better, of sharing) of the school meal is very fatiguing; consequently, no teacher should be required to undertake it unless an equivalent amount of free time can be allowed during school hours, either before or after the meal.

Neglected Opportunities.—Volunteer visitors might undertake this work, and be used, not as is so often the case, merely to serve the food, but to talk to the children and help to make the meal a social success. Such outside helpers might be willing sometimes to stay and play games with the children for a time after dinner, thus further relieving the teachers, tired with the morning's work, while at the same time introducing a new and valuable element into school life.

Existing Methods and Results Examined.—All this presupposes, what is indeed fundamental, that each school shall have its own meal. There is very much less in the way of social and educational advantages in connexion with a meal provided at certain centres (attended by children from several schools), while such advantages are entirely absent when the children get their meals by tickets presented at coffee taverns and eating-houses. In this last case the hungry may indeed be fed, but the children are marked out from the others; they eat their food hurriedly (often because others are waiting), and so get little good from it; and especially, they partake of the meal in an environment which is neither socially nor educationally helpful.

One School one Meal—Is it a Practicable Solution?—There are two main difficulties to be faced in connexion with the provision of a meal in every school, viz.:

(1) Catering and cooking.

(2) Arrangements for serving and supervising.

Catering and Cooking—A Choice of Methods.—(1) The first difficulty can be met in two ways:

(*a*) By providing a central cooking centre* from which the food is distributed to all the schools. (Bradford seems to have adopted this plan with success.)

(*b*) By having the catering and cooking done in each school by the girls and boys (the boys often enjoy cooking even more than girls) under the direction of a teacher. This plan is obviously much better educationally, as it gives real meaning to the cookery lesson. As, moreover, the pupils would take the work in turn, it would not press hardly on any, nor distract them unduly from other school work.

There are, of course, some practical obstacles due to our present arrangement of cookery centres, the absence of kitchens in some schools, and the rather unsuitable syllabuses in cookery which have at present to be followed. Yet these are surely not unalterable conditions.

Far-Reaching Possibilities.—The Board of Education might be induced to see reason in connexion with this vitally important educational matter, while the resulting advantage to the future homes of the country, when mothers and fathers should be found competent as cooks, can hardly be overestimated. Every day some small portion of the food could be prepared over an open fire, so that the children should learn to understand cottage cookery, as well as that requiring gas or range ovens.

Choice of Place.—(2) Most modern schools have either a central hall or wide corridor in which the meal could be served on trestle tables. Special problems will, of course, arise in connexion with some of the older schools. Where land is available, the erection of a corrugated iron dining-room, which could also be used for drill or handwork, would probably be sanctioned, and would not prove expensive. Or a room might be rented near the school.

Service—The Children's Part.—The meal should be served by the pupils themselves—the servers having their own dinner either before or after the others. Laying the table and washing

* See Addenda, p. 492.—Ed.

up should also be undertaken by the pupils, and would prove as valuable a training as the cooking itself.

A Possible Danger.—The question of supervision has already been dealt with, so that there is little more to add, except to urge the danger of over-supervision. It is, of course, necessary to instruct the pupils, but when once they understand their work, it is educationally better to make them as responsible as possible for the organization and carrying out of arrangements. The presence of teachers and visitors is socially desirable, but, as far as may be, the children should be encouraged to regard them as guests, for whose comfort and entertainment they feel responsible.

Conclusion.—In this way, the school meal might be made to serve a truly social and educational purpose, and would take its place as an important and even indispensable part of the elementary school curriculum.*

THE IMPORTANCE OF A WELL-ADVISED AND COMPREHENSIVE SCHEME IN THE SELECTION OF CHILDREN IN PUBLIC ELEMENTARY SCHOOLS UNDER THE EDUCATION (PROVISION OF MEALS) ACT, 1906, WITH SOME SUGGESTIONS AS TO ORGANIZATION. *By* Victor J. Blake, m.b., b.s. (Lond.) (*School Medical Officer to the County Borough of Portsmouth*).

Significance of the Act.—In a recent annual report of the Chief Medical Officer of the Board of Education, Sir George Newman writes:

"The subject of the provision of meals for elementary school children at the expense wholly or partially of public funds is one which involves thorny questions of political and social economics. These it is no part of my duty to discuss. But whatever may have been the motives which contributed to secure the adoption of the principle of the Act or the

* As regards the children, who will be the mothers and housekeepers of the future, the school dinner may itself be made to serve a valuable object lesson and used to reinforce practical instruction in hygiene, cookery and domestic economy, which is one of the best features of the curriculum of a good public elementary school.—Report on the Working of the Education (Provision of Meals) Act, 1906, 1909. Cd. 5131. 3d.—Ed.

restrictions with which its provisions are guarded, the Act itself, in my view, is but one link in the chain of measures statutory and administrative which have illustrated the growth of the national consciousness that the physical health and well-being of the individual child are not only essential to the welfare of the State as a whole, but also constitute the primary condition upon which the increasingly large expenditure upon public education can be justified."

THE IMPORTANCE OF SELECTION.—Are we as Medical Officers—and here I speak generally of School Medical Officers throughout the country—sufficiently recognizing, or impressing upon the Local Authorities we serve and represent, the extreme value and importance of a somewhat more comprehensive and far-reaching scheme in the selection of children for free meals than that which at the present moment is more or less in general existence?

A TWOFOLD DUTY.—It is certainly due to the children that we provide them with food to enable them to take full advantage of the education the State provides; it is equally due to the ratepayer, who provides his quota, that he at least, if he himself sees no financial return for his money, should be satisfied that his share is being spent in the best possible way and to the best advantage of the children thus provided for.

A PLEA FOR MORE SEARCHING INQUIRY.—In many cases there now exist greater facilities for inquiry on the part of the School Medical Officers themselves, such as the presence of a School Clinic, where, if treatment is not carried out, there are at least facilities for the work of "inspection." Are sufficient inquiries being made by School Medical Officers throughout the country as to the result of the feeding of children in public elementary schools?

The whole framing of the Act* appears to me to be for an educational advancement, and, as such, demands inquiry into the causes or conditions of the under or improperly fed child,

* The words of the Act of 1906 refer to children "who are unable, by reason of lack of food, to take full advantage of the education provided for them." The explanatory circular issued by the Board of Education in January, 1907, by its use of the phrase "insufficiency of suitable food," makes it clear that children suffering from malnutrition due to improper feeding are equally within the scope of the Act.—Ed.

without which inquiry it is impossible to advise or to suggest a remedy. The fault is not altogether the School Medical Officers', but in many instances that of the Local Authorities themselves, who unfortunately have given them very little scope in which to act.

"A Clearing Centre."—These, I believe, are but errors which in the near future will be gradually corrected, and although each administrative area has its own facilities for and difficulties in carrying out the working details of the Act, I feel convinced that if the feeding of school children, under whatever Local Education Authority, is in the future looked upon more as a "clearing centre," in which the great and difficult problem of malnutrition and the under or improperly fed child can be dealt with, and if possible eliminated, that more thorough and lasting results will be obtained, than by merely writing out a menu, making provision for cooking the food, feeding the children, and then practically forgetting all about them.

Selection and Supervision, Essentials of.—The main points to which I would briefly draw your attention are:

(1) Nature of Test.—*Children should be selected by both "Physical" and "Poverty" Test.* It is not right that the feeding of children should be based merely on the financial state of their parents' pockets. In all areas any children reported on by the teachers or attendance officers, school nurses and the medical officers themselves, as presenting a pinched appearance or to be suffering from want of food should be temporarily put on the list.

(2) Case for the Medical Examination of all Selected Children.—*All* children, however selected, either by the physical or poverty test, *should be examined by the School Medical Officer.** This in many areas would involve a good deal of extra work on many medical men who find their time already fully occupied. Yet if any work is worth doing it is worth doing well, and here it is that the value of the School Medical Officer comes in by culling and recording facts relating to the personal condition

*Cp. Annual Report, Chief Medical Officer, Board of Education, 1911, p. 276. —Ed.

of the child, as well as the home conditions and surroundings of his or her life. Pinched faces and pale looks are not always dependent on lack of food. Want of fresh air at night, verminous beds, disturbed sleep from irritation and associated conditions are those in which the visit of the School Nurse is the food required, with some enlightening talk to the parents on the hygiene of the home. Full records should be taken of heights and weights and *re-examination*, either at a stated interval, or at the end of a course of meals, is an indispensable factor, if any comparisons are to be obtained as to the value of the school feeding.

(3) An Indispensable Preliminary.—After the medical examination *every child should have its mouth and teeth put in order by the school dentist.* The essence of good feeding is obtained through proper mastication. Why then provide good and clean food if one omits to clean and perfect the machinery which prepares for the proper assimilation of the food in the stomach, or why foul that stomach with septic material from dirty teeth?

I recognize the difficulty in areas which at the present moment have not provided for dental treatment. They at least should now see the error of their ways and the immense advantage accruing to children from dental treatment; but there should be no difficulty in areas where school dentists are already appointed.

(4) A Vicious Circle.—*All physical defects found on examination*, such as defective vision or tonsils, and adenoids, suppurating ears, impetigo, etc., *should be immediately dealt with.*

This, from my experience, is most needed. Many children who are under or improperly fed are often in a very dirty and sore state, suffering perhaps from scabies or ringworm, and, as such, are of necessity not allowed to be at school. Being absent from school, they are not permitted to have free meals, and in consequence are those children most likely to be in the greater want, and to suffer more accordingly. It is to the interest here equally of the Authority and of the child that by treatment at the School Clinic* a speedy cure and return to school may be brought about.

(5) The School Nurse's Part.—In all cases I would suggest

* See Addenda, p. 492.—Ed.

that where necessary the *visit of the School Nurse* be utilized as a means of still further increasing the Medical Officer's knowledge of the home condition and as a means whereby useful hints as to points of practical hygiene can be given as required, and any further directions conveyed to the parents from the Medical Officer as to the diet of the child at home.

The School Nurse's visit in these cases should be of immense importance in helping to make this branch and phase of school life what it should be, viz., a means to an end, an attempt to educate the parents as well as the child to the advantage of both—indeed, a Public Health measure, by educating, to prevent. Prevention is better than cure.

Methods of Organization.—Intimately associated with the methods adopted for the careful selection and subsequent medical supervision of the children in question is the process of "organization," involving as it often does many difficult problems in various administrative areas.

Composition of Canteen Committee.—It is essential in the first place that *the work of this department should be carried out by a Canteen Committee*. This, in my own area, is composed of a committee consisting of a certain number of the members of the Education Committee plus the ladies in charge of the different feeding centres, ten in number, who are co-opted members; ladies who voluntarily give up a great deal of their time and thought to the welfare of the children under their respective and immediate charge, and to whom a large measure of the success of school feeding in Portsmouth is due. The Medical Officer of Health and myself, as School Medical Officer, are members of the Committee and the construction of the menu is entrusted to our hands. This provides for a liberal diet, which is varied each week for three consecutive weeks, thus preventing any chance of the children becoming tired of the sameness of their food. A free hand is also left to me for inspecting the actual arrangements made in regard to the preparation, distribution and service of the meals. This is an important factor which should be established in all areas.

Official Approval.—In a brief paper of this description, without wishing in any way to claim self-aggrandizement, perhaps, I may be allowed to quote an extract from the Annual

Report of the Chief Medical Officer of the Board of Education for last year, which conveys shortly the method adopted:

"The scheme adopted in Portsmouth offers an excellent instance of the efficiency of the 'Centre' system when carefully organized. It is thus described by His Majesty's Inspector:

The "Centre" System Described.—"A contractor is employed to supply and prepare the food, which he does in a centre kitchen provided and fully equipped for the purpose by the Canteen Committee. The cost of fuel and other establishment charges is also directly borne by the Committee, the contractor being responsible only for the food itself and the labour required in its preparation and distribution. At 11.30 each day the meals are packed in separate portions in specially fitted vans and conveyed to the ten dinner centres, where they arrive in a thoroughly hot and appetizing condition. These centres are, on the whole, very suitable for the purpose, and are conveniently situated in different parts of the borough. The lady in charge of each centre is responsible for good order, and is supported by the attendance officer, but no trouble arises in this respect. The service is good, the children behave well, and all begin and finish together with grace before and after the meal."

Its Advantages.—*The advantages of the centre system may be briefly summarized as follows*:

1. The framing of a definite menu by the Medical Officers.
2. Careful preparation of this menu at a centre kitchen set apart and used only for this purpose.
3. Definite supervision of the service of the meals by ladies who inculcate the educational side of good manners and order.
4. Convenient centres arranged at suitable places in the districts, whereby the meals may be served off school premises in a hot and appetizing condition.
5. General supervision of kitchen and feeding centres by the School Medical Officer.

School Feeding not an Isolated Function.—In conclusion, while recognizing the fact that many of the suggestions placed before you may present difficulties in various administrative

areas, the one great factor remains, the future need to incorporate and weld the many individual assets of the branches of medical inspection, medical treatment and school feeding into one combined asset for the furtherance of the splendid work now performed by the School Medical Service for the immediate need of the children and hence for the future well-being of the State.

Some Essential Factors.—*In pursuance of this aim, the work of the school feeding should:*

1. Form a definite part of the work of the School Medical Service Department.

2. Opportunity should be taken of the provision of:

(*a*) The dental department for the care of the teeth of the children.

(*b*) The ophthalmic department for the treatment of defective vision, blepharitis, ophthalmia, etc.

(*c*) The nurses' treatment department for the treatment of all kinds of sores, scabies, ringworm, impetigo, which are so often associated with conditions of malnutrition and under-feeding.

(*d*) Home visiting by school nurses to improve the social conditions and general hygiene of the child's home life.

These factors are indispensable as aids to the successful results to be obtained under the Education (Provision of Meals) Act, 1906.

Abstracts of the papers by Professor Millicent Mackenzie, who was unable to be present, and by Dr Victor J. Blake, who had not arrived, were also read by the Secretary.

PROVISION OF MEALS IN PUBLIC ELEMENTARY SCHOOLS. *By* L. Haden Guest, m.r.c.s., l.r.c.p. (*Assistant School Doctor, L.C.C., Superintendent, St George's Dispensary School Clinic; and School Doctor, Strand School, King's College, London*).

Provision of Meals as a Remedial Measure.—From the School Doctor's standpoint, the provision of meals in public elementary schools is to be regarded as one of the remedial

measures to be used in the case of children suffering from lack of sufficient or lack of satisfactory food. A very large proportion of elementary school children are in such a state of nutrition as would arouse very serious concern if it occurred in a middle-class family. A considerable degree of pallor, thinness, under-development and flabbiness is taken as a matter of course. The really robust child, in London, at any rate, is the exception.

Malnutrition—A Threefold Classification.—Conditions of malnutrition and improper nutrition exist not only, however, in poor homes, but in those of the well-circumstanced. It is therefore necessary to separate the class of those with insufficient food from those in which the food is unsuitable. There is a third class of children showing signs of malnutrition, in whom the root cause is to be found in some physical defect or ailment apart from the food. These, however, require medical treatment, and need not be further considered, as they constitute only a small proportion of the total under-nourished children.

A "Poor Law" Interpretation of the Act.—The Provision of Meals Act is concerned primarily with children who actually lack adequate food. Yet it is very doubtful whether this "necessitous" class can be dealt with satisfactorily apart from the under-nourished from other causes. For the Act, in thus stressing the relief, or what we may call the "Poor Law" aspect of the question, neglects the School Doctor's or "educational" aspect.

The "Educational" Aspect.—It is very important to keep these two aspects separate and to realize that what the Education Authority is primarily concerned with is the efficient administration of its work in educating the child, not the work of relieving destitution.* To this end it must secure that the child is in such a condition that it can be educated, and employ remedial measures of medical treatment, special gymnastics, school baths and school feeding to attain this result.

* The wording of the Provision of Meals Act shows clearly that the object with which it was framed was to enable Authorities to provide that no children should be prevented by reason of lack of food from taking full advantage of the education provided for them. If this object is to be attained, a careful and well-considered scheme will need to be devised for selecting children to be fed, with a view to

THE TWO VIEWS CONTRASTED.—That the feeding of school children is too often thought of as a charity relief and not as an educational function is obvious to anyone who looks into the matter at first hand. To put the opposition of the two views briefly, the charity aspect view would lead us to feed only children who are "necessitous"; the educational would have us secure the feeding of children who are under-nourished, whatever the cause, and irrespective of the circumstances of the parents.

A POSSIBLE ALTERNATIVE.—I have used the phrase "secure the feeding of children who are under-nourished" in preference to "feed children who are under-nourished," because it may be possible in some cases to secure adequate nutrition by giving dietetic instruction in the home. This implies, of course, the appointment of qualified persons who can visit homes and give instruction. It would be a delicate task, require enormous tact (imagine telling a mother of ten how to cook!), and is not very practicable. I mention it, however, as the only alternative to actual feeding which exists as a means of dealing with a case of malnutrition in a child which can be ascribed to improper feeding.

POLICY OF THE LONDON COUNTY COUNCIL.—In the London County Council elementary schools at present children are selected for feeding almost entirely because they are necessitous and because their parents apply. When a father falls out of work, his children may be fed, but as soon as he gets work again that feeding is stopped. In some few cases the medical

ensuring that provision is made for the feeding of every child that appears to be suffering from malnutrition, whether that condition is due to the poverty of the child's parents or to any other cause. Far too many Authorities in selecting children for admission to the meals have regard only to the means of the parents, and some indeed make hard and fast rules that no child whose parents' weekly income exceeds a given sum, or whose parents are not out of work, shall be admitted. Now, whilst inquiry into the means of the parents is necessary for the purpose of enabling an Authority to decide in what cases demands should be made for the payment of the cost of meals provided and even as a rough preliminary indication as to the possible need of feeding, to use the information so gained for the purpose of deciding finally what children shall, and what children shall not, be fed, not only involves hardship in the case of individual children, but also stultifies the real purpose of the Act. Annual Report, Chief Medical Officer, Board of Education, 1911, pp. 275-6.—Ed.

inspectors note children as suffering from " bad nutrition " and the cases are investigated and some fed as a result of this report. Yet most children fed in London are fed on the ground of their being necessitous, that is to say, the " Poor Law " aspect is predominant. Only a very little change in method is required, however, to bring out the more important educational aspect, and I venture to suggest the following procedure:

Modification of Methods Proposed.—At the beginning of every term each class teacher in every department of the elementary schools should draw up a list of children (*a*) definitely under-nourished, (*b*) doubtful. This list could be compiled from the teachers' own knowledge of the children (including, of course, their circumstances) and from the teachers' observation of the children's appearance, vigour in class and at play, and their liability to illnesses as shown from day to day and from the attendance register. This list should then be submitted to the head teacher, who should add to either class at discretion, but not subtract from either. All the children thus noted should be inspected by the school doctor, particular attention being given to the doubtful cases, and all of those certified by him as being in need of feeding should receive it.

A Distinction Deprecated.—At this stage, but not before, the question of necessitous and non-necessitous cases should be considered. The necessitous should have meals free and the non-necessitous should pay, and that should be the only difference between them. No one in the school except the doctor and teachers should know who pays and who does not. The command, sometimes now heard in the class-room or school hall, " Dinner children stand out "—to be marked and noted—should be abolished.

The School Meal as it Might Be.—The meals themselves, breakfasts or dinners, should be provided in some pleasant, well-lighted and airy room. The service should be quick and deft, the cutlery and crockery sufficient, the table laid with a cloth and decorated with plants or flowers. Good manners should be expected and elicited from all by the example of the supervisor and the monitors. Indeed, the standard of manners and cleanliness at meals should not fall below the standard of the elementary school itself.

A Radical Error and its Consequences.—As a rule, practically none of these conditions are now observed. The feeding centres are often dark and dirty, the service slipshod, the crockery and utensils inadequate, a cloth is almost unknown, plants and flowers are as rare as oases in a desert. No provision for washing hands is usually made, and " manners " is confined to a " grace before meat " chanted meaninglessly and followed by a scramble for food.* Worst of all, the food is insufficient in quantity and unsatisfactory in quality. In a word, feeding is at present carried out as a relief on " Poor Law " lines instead of as an educational function. This springs from the radical error of conceiving the free meals as a sort of relief to the necessitous.

Breakfast and Dinner Dietaries Outlined.—The food required at a breakfast is bread and milk, cocoa and bread and butter, porridge and milk, or some such simple meal, served in sufficient quantity according to the needs of the individual child. The dinner should have two courses,† and ordinary soup should not form a staple part of this meal, which should consist of dishes on the pattern of those given at Bradford, or as used by myself in the Lambeth School Feeding Experiment. Non-flesh dishes may be introduced into the *menu* with advantage in order to vary the diet, but the staple diet for ordinary children should be that which they may be expected normally to get at home. That is to say, the meals will consist of some form of meat and vegetables, followed by some form of pudding. Pappy food such as milk puddings should be avoided; food which needs to be chewed is more appetizing to children and better for their digestions. The quantity of food given should never be limited to one serving, second or even third helpings being given as required.

* In the Report on the Working of the Education (Provision of Meals) Act, 1906, issued by the Board of Education in 1911, Cd. 5724, 2d., a number of similar instances are given. Two brief extracts must suffice here. At another centre about 400 children are fed daily and the supervisors are nine in number. Four are busily employed in serving out the food. The discipline is bad. The children rush to the seats, bolt their food as quickly as possible and then rush out. At another place, the dinner is eaten in a perfect pandemonium of noise. Nine charwomen of a rather low type attend to about 470 children. Cp. also Annual Report, Chief Medical Officer, Board of Education, 1911, p. 281. Cd. 6530, 1s. 5d.—Ed.

† Respecting the merits of one course meals for under-nourished children, see pp. 363-5.—Ed.

THE SPECIAL REQUIREMENTS OF INFANTS.—Infants clearly require a food different from that suited to older children; usually they do not get it. In general, this food should be somewhat softer, while still not being pappy, and anything of a heavy character—such as suet pudding or meat pies—should be avoided. In many places no separate feeding for infants is attempted, and, in consequence, the infants either do not go to the meals or do not derive benefit from them.

THE COOKERY TEACHER'S PART.—There is, however, no mystery about the food required for children. Every Education Authority which employs a teacher in cookery has only to request that teacher to supply a list of *menus* suitable for children at different ages, to obtain it. The Bradford Education Authority have published such a list of *menus*, and the London County Council have such lists in their possession, which can no doubt be made available for the use of duly accredited persons.

RESULTS—PHYSICAL, MENTAL AND MORAL.—The results of feeding children who are under-nourished are very much what one would expect. They improve physically, mentally and morally. The physical improvement is seen in an increase of weight, in an improvement of muscular tone, of colour and of vigour of play at games. The child who is fed also improves at school work, learns more easily and more quickly, attends with more persistence and shows less signs of fatigue. Morally the improvement is that of greater vitality and decreased irritability.

A LAMBETH EXPERIMENT.—During the early months of 1908 I carried out a feeding experiment on 244 children at Addington Street School, Lambeth, which lasted about three months. The reports* made at the time indicate accurately the results of good feeding. After one month's feeding, the report on boys in Standards VI and VII runs: "The boys in this class, six in number, have, with the exception of one, shown increased mental activity, and seem to apply themselves closer to work. Their attention is more sustained, and restlessness gone." On Standard III boys the report is: "The general impression left is a marked improvement in physical appearance, less evidence

* To the London County Council, which, however, has not published it.—Ed.

of listlessness and a greater capacity and inclination for the school work."

Effect on the Boys—The Headmaster's Testimony.—" The Headmaster of the boys' school, speaking of all the boys, says: ' The effect of the feeding on the children is a marked improvement judged from the general appearance of the boys, who are almost all brighter. The improvement is particularly noticeable in their play. They are more vigorous and enter more heartily into the rougher games of boys and bear the knocks without coming to teacher to complain. They certainly enjoy their play more and show less fatigue. There are few lads shivering against the wall with hands in pockets, sloping shoulders and pale faces. In school, the effect of the first few weeks was drowsiness. This was succeeded by improved tone and greater independence of character, and generally a greater individuality. The difference in mental condition is not so marked, and is certainly more difficult to measure. There is less fatigue in lessons, and the lads are capable of more continuous exertion. There is frequent evidence of the improper feeding in the children's homes. Some at first were so hungry that dry bread was eaten eagerly. Yet the same children had to be coaxed into eating several of the dishes, all of which were excellent and specially prepared. At first some children ate enormous quantities, others very little, and had to be educated into eating what was placed before them.' Other reports on the boys are equally positive."

"More Troublesome" Girls.—" The reports on the girls were of the same character, but not so decided in tone. One statement, however, was universal: the fed girls were ' more troublesome,' i.e., more full of vitality. It was noticed also that their play was more vigorous."

A Significant and Encouraging Sequel.—The following is interesting as an example of the moral effect of feeding on one of the members of a properly conducted social meal:

" A typical ' bad case ' of the district, verminous and disreputable, which had resisted every missionary and charitable agency and remained in its original dirt, became, under the passive suggestion of the social meal, and because of the

stimulus of the improved nutrition, spontaneously free from vermin, clean and tidy."

The report on the infants is not so satisfactory. The following quotation puts the matter concisely:

Infants—Disquieting Disclosures.—"On the infants the reports were different. The whole condition, indeed, of the infants, fed and unfed, as revealed by these observations is very disquieting. The loss in weight sustained by both boys and girls from the infants' department during the first week was a result not anticipated and not realized until the various observations were compared together." The loss of weight was quite considerable in some cases. "Partly, it must be explained by the fact that infants require more individual care and attention than they were able to receive during the first week, partly by the fact that they were unfamiliar with good nourishing food (a factor operating in all children alike), but largely because, depending on the unfamiliarity, they were actually unable to digest and assimilate good food. As it is in the highest degree improbable that these infants were receiving at home food, at best, 50 per cent as suitable as the food provided for them, these observations point to a very serious state of infant school children's health."

Infants, indeed, as already observed, need altogether special treatment, a special diet and special care to see that they eat properly. Many infants attending school are so young and so helpless as not to be able to properly feed themselves.

Meals in Holidays and Illness.—The important question of feeding in holidays must not be overlooked, nor the fact that the most frequent holiday is that on every Saturday and on every Sunday. All children who are fed should have meals on Saturday, and, in certain cases, even for Sunday special arrangements should be made. During all other holidays feeding should also be continued. Observation shows clearly that during holidays children who are on the feeding list deteriorate in health. It should likewise be possible to feed a child excluded from school on medical grounds, which it is not possible to do now. A child excluded for anæmia or for incipient tuberculosis of the lung cannot now be fed. This needs change. Children who are ill are frequently found to be more in want of food than of any special medical treatment.

SUMMARY.—(1) The general level of nutrition in elementary school children is low. Those suffering from malnutrition fall into three classes—the underfed, the improperly fed and the ailing. These classes, as a matter of practical convenience, cannot be separated except by a doctor.

(2) Children should be selected for feeding by the teachers on the ground of their observation of the physical, mental and moral condition, and all cases referred to the school doctor for confirmation. No outward distinction should be made between necessitous and non-necessitous children; one class should pay and the other not, but who pays should be confidential information.

(3) The conditions under which meals are given and the food supplied should be very much improved; both are often inferior at the present time.

(4) The food required is ordinary good food, of which two or even three helpings are given. It should be varied every day. Soup and pappy foods should be avoided. A list of *menus* can be drawn up by the Education Authority's Cookery Instructor.

(5) Infants require a different kind of food, and special handling.

(6) The results of feeding are increased physical health, improved brain power, less irritability, but more vitality.

LOOSE THINKING AND SPEAKING. — DR HADEN GUEST: I only wish now to emphasize one or two points which are dealt with in some detail in the printed paper which is taken as read. They are points of considerable importance, because the question of the feeding of school children always seems to me to be described in the elastic terminology in which we think about it. We think about it in terms of administration instead of in terms of the common sense of the matter. As a consequence, therefore, we fail to look at the subject from the human and from the educational points of view.

HUMAN POINT OF VIEW.—First let me speak of the human point of view. One sees a great many children in schools who are not fed. Suppose, instead of thinking of so many children in such and such a standard, we think of them as if they were

our own children. What should we want to do for them? We should want to feed those children. That is the only way in which we should approach the problem. There are a number of children who are thin and pale, with lips sunken in, and who are obviously in need of food.* These children should be fed, and if you think of them as our children, then there is no argument about the subject. It seems to me we go wrong by not thinking of children in a sufficiently intimate and human way. Children are not fed, they require to be fed and there is no more to be said about it.

How London Children are Selected.—Sir George Kekewich said the children are selected because they are suffering from malnutrition. I am not acquainted with the full details of the procedure in the country, but in London children are not selected because they are under-nourished, but because their parents apply to get free meals. The children may be absolutely half starved in the school, yet, if the parents do not apply, these children will not necessarily be fed.

Reforms Suggested.—I want especially to insist that all children who need feeding should be fed as one of the duties of the Education Authority. There should be no half measures. It should be the duty of the teachers to draw up a list of any children known to be suffering from under-feeding, and to see that all their children get a sufficiency of food. At the present time that duty is put upon the parents, and most of you know the kind of parents we have to deal with—poor and ignorant people who themselves are only children, and who are so hemmed in by walls of ignorance that they do not understand those formalities of procedure which are so plain to us and which are to them so complicated. These people do not apply, partly for these reasons and partly through slackness and inattention. We must insist upon parental responsibility, but we must also insist on our responsibility as members of the big family of the State, for the feeding of all our children.

Educational Point of View.—I want to ask this Conference, if possible, to give one final death blow to the Poor Law way in which this question is approached. The question of feeding

* Or at any rate, of suitable food.—Ed.

school children is too often treated as if it were a question of giving relief, as if it were necessary to deter people from applying for free meals. The Education Authority has nothing to do with the Poor Law or with the policy of deterrence. It should have no concern with anything but equipping the children for their functions of learning and expansion, and of growing in the knowledge of the schools. If you keep these two things in mind, if you look upon the young from the family point of view, and remember that the Education Authority has nothing to do with the Poor Law, you get a simpler view of the matter. We have to feed children because they are human beings and need the food, and secondly because they cannot profit by education unless they are fed. We have to realize that it is our duty to see the children are fed, and the duty of the State becomes more paramount if the parents fail in theirs. People often fail in their duty from no fault of their own, but from the ignorance which is the fault of the State.

An Astonishing Result.—The results of feeding are very astonishing indeed. In the experience I have had I have been more than surprised at the results. I will quote one case of the extraordinary moral change that took place in a child that was verminous which, when given proper and suitable meals—as a matter of fact, the Bradford menus—became spontaneously clean and free from vermin. This is a remarkable fact. The food had a stimulating effect upon the child's responsibility, because it made it realize "these people are doing something and I must do more." Consequently the child does more. We realize that education means the drawing out of the faculties of the child, but you cannot draw out the faculties unless you put physical energy in.

A Plea for Better Conditions.—Do not let us go on feeding children under disgusting conditions. They ought to be fed on beautiful lines with nice table cloths and flowers on the table. I have myself seen food taken out of a dirty bucket and spooned on to the plates. That is disgusting. The children, of course, get a certain amount of nourishment, but they do not get an all round stimulation. They require not only food but beautiful surroundings for the food. They also require great kindness and supervision. This is especially the case with regard to infants in order that they may learn to eat.

I have seen a child leave its food day after day because it had never been taught to eat by itself.

SUMMARY.—I want, therefore, to emphasize this simple aspect of the matter: to insist on feeding children because they need food and because they cannot be educated without food. Do not allow the Poor Law aspect to come in, because the child needs to be fed irrespective of the parents. Deal with the parents afterwards, but deal with the child first, because that is the duty of the Education Authority.

DIET, COOKERY AND HYGIENE IN PUBLIC ELEMENTARY SCHOOLS UNDER THE EDUCATION (SCOTLAND) ACT, 1908. *By* ERNEST T. ROBERTS, M.D. (EDIN.), D.P.H. (CANTAB.); (*Chief Medical Officer, School Board of Glasgow*).

LEGAL POWERS OF SCHOOL BOARDS.—It will be necessary in the first place to refer to the Education (Scotland) Act, 1908, in order to define the present powers of School Boards in that country in connexion with the feeding of school children.

Section 3, sub-section 2, states that:

> It shall be lawful for a School Board, if they think fit, to incur expenditure in providing accommodation, apparatus, equipment and service for the preparation and supply of meals to pupils attending schools within their district; provided that no expense incurred in the purchase of food prepared and served at such meals shall be defrayed out of the school fund except as hereinafter provided.

It will be noticed, therefore, that this sub-section does not give powers to a Board to provide, from the school fund, food for the pupils generally. Advantage is taken of this sub-section by the Glasgow School Board to defray from the Education Fund the cost of equipment, etc., necessary for the preparation and supply of meals to the children in attendance at the Centres for Physical Defectives, the net cost of the food being paid for by the parents, where the latter are able to do so. The case of neglected children is met by Section 6 of the Act.*

POSITION OF THE "NECESSITOUS" CHILD.—The last clause of Section 6 is very beneficial to the child, as it enables its wants

* See p. 390.—Ed.

to be supplied immediately, temporary provision being made for the child out of the school fund, pending the completion of the procedure prescribed.

It should be observed that the powers given to meet the needs of "necessitous" children are not optional, but compulsory. The School Board is notified of the condition of the child by the school doctor or otherwise, in the latter case usually by the report of a teacher or an attendance officer; but in any event the Board must take action if the child is unable by lack of food to take full advantage of the education provided. There is no alternative. The procedure is described in the section itself, and need not be referred to, except to point out that the Procurator Fiscal is directed by this section to institute a prosecution under Section 12 of the Children's Act, 1908, which enacts that:

> A parent or other person legally liable to maintain a child or young person shall be deemed to have neglected him in a manner likely to cause injury to his health if he fails to provide adequate food, clothing, medical aid, or lodging for the child or young person, or if, being unable otherwise to provide such food, clothing, medical aid, or lodging, he fails to take steps to procure the same.

As a School Medical Officer, one may be permitted to remark *en passant* that this section (12) is of the greatest use in the conduct of medical inspection, as it enables the doctor to insist upon the parent or guardian's providing not only adequate food and clothing, but also medical aid.

Preparation of a Scheme.—Sub-section 2 of Section 6 of the Education (Scotland) Act 1908 requires that a Board shall be satisfied that the necessities of the case will not be provided for by voluntary agency. Failing such voluntary aid, it is then the duty of the Board to organize a scheme to meet the requirements of their district for feeding children deemed "necessitous" under Section 6 during the period that the children are under obligation to attend school.

The Holiday Problem.—It is, therefore, only within the power of the Board to supply food upon school days. In this connexion mention should be made of the kindness of the Poor Children's Dinner Table Society of Glasgow, which paid the whole expense of feeding the children during the Easter Holidays of 1912, when the coal strike was at its worst.

KITCHEN EQUIPMENT AND SERVICE.—In carrying out their scheme for the feeding of "necessitous" children and the preparation of food for physical defectives, the School Board of Glasgow built a Cooking Depot at Dovehill School near the centre of the city. That Depot was opened in August, 1911. It is fitted with the most modern machinery for the expeditious cleansing and preparation of food. As examples of the apparatus in use, there may be mentioned a dish-washing machine, a potato-peeling machine, a vegetable-cutting machine, a batter-mixing machine, and a machine for slicing bread. Special galvanized-iron vessels have been constructed for carrying the food from the Cooking Depot to the schools or halls at which the meals are served. These vessels are double-jacketed with a non-conducting substance between the two jackets. There are also boxes in which slices of bread are packed, and others which contain spoons or plates. Distribution is effected at present by horse-drawn vehicles. Later in the day the empties are collected and brought back to the Depot to be washed and got ready for the following day.

PLACE.—The physically defective children already referred to are fed in the dining-room of the special school which they are attending. In the case of the "necessitous" children, the meals are usually served in a large room at a convenient school, but sometimes a church hall is made use of for this purpose.

SELECTION OF CHILDREN.—Practically all the children in the centres for physical defectives are fed at the schools. They are certified as suitable for those special classes by the Board's Medical Officers. As pointed out earlier, the children deemed "necessitous" under Section 6 are discovered by the school doctors, nurses, attendance officers, or teachers, and are recommended by them to the attendance department for inquiry, urgent cases being so indicated in order that immediate provision may be made for them.

Children attending the Day Industrial Schools in this city are provided with breakfast, dinner and tea at the school, a nominal charge being made to the parent or guardian. These children are not selected because they are delicate, as are the children for the Schools for Physical Defectives and the Open-Air School. The parents or guardians are out all day at work,

and it is therefore necessary that the children should be provided with meals at school. During part of the day these pupils are engaged in industrial work.

At the Open-Air Residential School, Prestwick, forty children are maintained at the cost of the Board, powers for this purpose being given by Section 3, sub-section 4, of the Education Act of 1908. These pupils, of course, receive all their meals at the school.

QUALITY, QUANTITY AND COST OF FOOD.—The subjoined menus will probably illustrate this part of the subject:

(a) *Physically Defective, or Delicate Children.*

DINNER, 12 NOON.

MONDAY.—Lentil Soup, Bread, Baked Rice Pudding.
TUESDAY.—Cottage Pie, Green Peas, Bread, Stewed Fruit, small quantity of Boiled Milk Pudding.
WEDNESDAY.—Minced Beef and Mashed Potatoes, Bread, Baked Tapioca Pudding.
THURSDAY.—Shepherds' Pie, Haricot Beans, Bread, Boiled Rice, with Small Sultanas.
FRIDAY.—Split Pea Soup, Bread, Blancmange and Fruit.
At 10.30 a.m. lunch is provided consisting of Milk and a Biscuit.

(b) *"Necessitous" Children attending ordinary schools.*

DINNER, 12.40 p.m.

MONDAY.—Lentil Soup, Bread, Boiled Rice Pudding.
TUESDAY.—Stew, Bread.
WEDNESDAY.—Mince and Potatoes, Bread.
THURSDAY.—Meat Soup, Bread.
FRIDAY.—Pea Soup, Bread, Boiled Semolina Pudding.

(c) *Children at the Day Industrial Schools.*

BREAKFAST.

MONDAY to SATURDAY.—Porridge and Milk (1 pint per child). A small (½) slice of Bread and Margarine (2 to 3 ozs. Bread per child, and 3 lbs. Margarine per 100 children).

DINNERS.

MONDAY.—Soup (Lentil, Pea or Potato), Milk Pudding (Semolina or Sago).
TUESDAY.—Mince and Potatoes, Cornflour or Rice shape, with Treacle, Jam or Fruit, Bread (white or brown).
WEDNESDAY.—Scotch Broth, Bread, Suet Pudding (Jam Roly-poly, or Dumplings with Raisins and Currants, or with fresh stewed fruit, e.g., Apples, or Treacle).

THURSDAY.—Stewed Steak or Fish Stew or Tripe or Rabbits (according to season), Haricot Beans or green Vegetable, Bread, Milk Pudding.

FRIDAY.—Fish and Potatoes, sometimes made into pies; when Eggs are cheap, Egg and Potato Pie, Bread, Stewed Fruit and Curds or Cornflour.

SATURDAY.—Soup, Bread and Cheese (¾ oz. per child) or a pudding of Bread, Raisins and Milk.

TEA.

Cocoa (with Milk and Sugar), ¾ pint per child. Bread and Margarine in winter Bread and Jam or Stewed Fruit in summer.

(d) *Children at the Residential Open-air School; Biggart Hospital Home, Prestwick.*

BREAKFAST, 8 A.M.

Porridge and Milk, Bread and Butter, one of the following: Fish, Boiled Egg, Scrambled Egg, Ham for big boys and girls, or Sausages.

DINNER, 12.30 P.M.

SUNDAY.—Lentil Soup, Mince and Potatoes, whole Rice Pudding, Steamed Pudding, Beef Tea for special cases.

MONDAY.—Barley Soup and Beef, Semolina Pudding, Beef Tea for special cases.

TUESDAY.—Green Pea Soup, Stewed Beef and Beans, Tapioca Pudding, Beef Tea for special cases.

WEDNESDAY.—Whole Rice Soup, Vegetable Pie, Steamed Pudding, Ground Rice Pudding, Beef Tea for special cases.

THURSDAY.—Haricot Bean Soup, Stewed Beef and Green Peas, whole Rice Pudding; Beef Tea or Chicken Broth for special cases.

FRIDAY.—Lentil Soup, Mince and Potatoes, Semolina Pudding, Beef Tea or Chicken Broth for special cases.

SATURDAY.—Barley Soup, Steamed Pudding, Beef Tea for special cases.

TEA, 5.30 P.M.

Cocoa and Milk, Bread and Butter, Hovis Bread, Cakes, Syrup or Jam; Fish for sick ward and big boys and girls.

Milk for special cases at 11 o'clock fore-noon, and Hot Milk or Chicken Broth for special cases during the night.

COST.—This will vary considerably with the number of children to be fed. Excluding administrative charges, the cost of feeding "necessitous" children has been as low as nine-tenths of a penny per dinner per child. The cost at the schools for physically defective children is about 1½*d.* per dinner.

PHYSICAL, MENTAL AND MORAL RESULTS.—In October, 1901, the School Board commenced to provide dinners and light lunch for the children attending Schools for Physical Defectives. The children were also given cod-liver oil and chemical food twice daily. The results have throughout proved to be very satisfactory, the physical and mental condition of the children

showing definite and continuous improvement. As was to be expected, the moral effect upon the children of partaking of their meals in a suitable manner and environment has been beneficial. These remarks apply *cæteris paribus* to all the children receiving meals at school.

A Useful Section.—Section 6 of the 1908 (Scotland) Act, already referred to, not only gives power to feed the "necessitous" child, but also to deal with pupils who are found in a filthy or verminous condition. This section has, from the first, proved to be very useful, especially since the commencement of medical inspection in the autumn of 1909, when a systematic examination of school children was instituted.

Home Diet—A Recent Investigation.—Whilst it is always satisfactory to record the benefits derived from the provision of a dietary suited to the age and health of the children concerned, there is equal need for inquiring into and recording the nature, quality, quantity and cost of the food provided by parents and guardians for their children. Such an investigation has been made recently in Glasgow by Miss Lindsay, B.Sc. The conclusions arrived at have definitely confirmed the opinions already held by most medical men, and should prove valuable in emphasizing the necessity for improving the quality, and sometimes the quantity, of the food supplied at home. Under the School Board of Glasgow the older girls are taught cookery and housewifery, but it is obvious that the necessity also exists for instructing parents in those important subjects. As a step towards that, and to assist the medical officers in their work of medical inspection and supervision, the writer of this paper drew up the appended card containing recommendations for the feeding and care of school children.

Its Conclusions.—The results of Miss Lindsay's investigations are thus summarized:

1. "The average daily energy value of all the diets studied is 3,163 calories per man.
2. The average composition of all the diets is 110 grams protein, 83 grams fat, and 473 grams carbohydrates.
3. Of the protein about two-thirds is vegetable protein.

4. The average cost per man per day is 7·07*d.*; of groups C, D, E, F, and G, 6·07*d.*
5. The principal food stuffs used are bread, potato, milk, sugar, beef, vegetables.
6. Such valuable vegetable foods as oatmeal and peas are used in relatively small amounts.
7. Of the families whose weekly income is over 20*s.*, 28·5 per cent have a diet the energy value of which is less than 3,000 calories.
8. Of the families whose weekly income is under 20*s.*, or irregular, 62·5 per cent have a diet the energy value of which is less than 3,000 calories.
9. Not one of the families in which the wage is regular and below 20*s.* has a diet the energy value of which reaches the minimum of 3,000 calories.
10. Taking the average intake of energy and of protein in the various groups the results are as follows:

Group.	Energy.	Protein.	
A (excluding 1 family)	3,184	113·8	Income above 20*s.* a week regular.
B	3,316	111·7	
C	3,467	118·0	
D	3,456	117·7	
E	2,690	97·8	Income under 20*s.* a week or irregular (over 20*s.* in F.)
F	2,994	108·0	
or (excluding 1 family)	2,784	101·4	
G	2,797	96·6	
H	3,155	103·9	
or (excluding 1 family)	2,921	95·6	

These figures show conclusively that while the labouring classes with a regular income of over 20*s.* a week generally manage to secure a diet approaching the proper standard for active life, *those with a smaller income, and those with an irregular income, entirely fail to get a supply of food sufficient for the proper development and growth of the body or for the maintenance of a capacity for active work.*"

Rickets and Its Causes.—This disease is very prevalent in Glasgow, and constitutes a grave menace to the health and efficiency of the working classes. There are probably several causes at work in its production, but improper feeding is the

most important and constant factor present.* The diet is usually deficient in fat;† there is often too little protein, and sometimes an excess of starch. These points reappeared during the recent dietary investigations, as the following quotations will show:

"The fat content of the diets of the families in which there is rickets is, on the whole, lower than that of the others. The average for the fourteen rickety families is 72·8 grams; for all the others 86·0 grams. The highest fat content in any of these fourteen is 88·5 grams, and in six of them it is under 70·0 grams.

The protein content of the diets of rickety and non-rickety families shows no very marked difference, although again the diets of the latter show a more liberal supply."

Where Children's Diet is Defective.—I should like, in conclusion, to call attention to the importance of supplying school children with a relatively large amount of protein, because proteins are the chief tissue builders, as well as being necessary for the maintaining of health and efficiency; and of fat, because fats (like proteins) are usually deficient in quantity in the home dietary, their place being taken by treacle, jam, jelly, or other carbohydrates.

Bread, which figures so largely in the diet of most children, should be properly treated in all the stages of its preparation. In particular, the flour used should not have been bleached‡

* Cp., *Food and Dietetics*, Hutchison, 3rd ed., p. 522.—Ed.

† It is, of course, well known that of the various essential constituents of an ordinary mixed diet, fat must be present in a certain fixed proportion to the other body-building elements—starches and proteins—and further that the fat must exist in a readily digestible form. Some children—particularly those with a definite family history of tuberculosis—habitually refuse fatty food. In the case of those living under adverse conditions, the supply of fat available in the diet is apt to be reduced for economic reasons, or through ignorance on the part of the parents. For these reasons it is sometimes desirable to provide the substance in a medicinal form—usually cod liver oil or cod liver oil and malt extract.—Dr H. W. Sinclair, School Medical Officer, Essex, Annual Report, 1911.

Cp. also *Food and Dietetics*, Hutchison, 3rd ed., pp. 475-7.—Ed.

‡ In his presidential address at the Annual General Meeting of the National Association of British and Irish Millers on June 17 last, Mr W. A. Vernon declared himself very much against bleaching at all, for the reason that it did not add anything to the food value of the flour, or remove anything detrimental which it might contain. It went further. It took away what he considered to be the finest

by the passage of nitrogen peroxide fumes, sometimes spoken of as "electrified air"; nor should any of the so-called "improvers" have been added to the flour, as both the bleaching of the flour and the addition of "flour improvers" are most undesirable, and are likely to result in a marked depreciation in the value of this most widely used of all foods. Bread containing the germ has much to commend it, and is in use at the Prestwick School for Invalid Children, referred to previously.

Faulty Marketing.—The recent study of the diet of the labouring classes in Glasgow showed that the amount of protein from vegetable sources was from one and a half to two times as much as that from animal sources. In one or two cases it was nearly three times as much, and in those diets the energy value was very high for the money expended. On the other hand, in some diets the amount of animal protein was greater than the vegetable, but the energy value was low and the cost was high.*

Some Neglected Foods.—Cheese,† which is so rich in protein and fat, and yet comparatively cheap, should be eaten more frequently than at present by older children and adults;

property of flour—rich, yellow bloom. On the question of adulteration, he trusted that if Parliament saw fit to prohibit altogether the admixtures of any improvers into flour, by millers, they would be so fair-minded as to prohibit the importation of any kind of flour from abroad, which had been chemically treated. There were few, if any, men, who would either bleach or adulterate their flour, if for one moment they thought the health of any single individual would be injured thereby.—Ed.

* For results of a similar investigation by Mr Seebohm Rowntree of York, see pp. 310-11.—Ed.

† The second instance I would give of mistaken ideas is cheese. At present this is a food mainly eaten by the men of the family and regarded as indigestible for children. Very careful investigations have recently been conducted by the State Board of Agriculture of the United States, which show that cheese, if not highly flavoured, is one of the most digestible, the most nourishing and the cheapest foods. It has, moreover, another virtue in that it tends to clean the teeth of adhering particles.—Dr Mary Williams, Assistant School Medical Officer, Worcestershire.

For a full account of its chemical composition, digestibility and suggestions regarding its use, see *Food and Dietetics*, Hutchison, 3rd ed., pp. 146-9.

Cp. also *Our Children's Health at Home and at School*, pp. 39, footnote, 40, 50, 51, 73, 264.—Ed.

and the vegetable foods which are rich in protein, such as oatmeal, lentils, peas and beans* should be more freely used, especially by the poorer classes.†

SCHOOL BOARD OF GLASGOW.

MEDICAL INSPECTION OF CHILDREN.

Recommendations for the Feeding and Care of School Children.

SWEET MILK is the best drink for children; it should be taken warm; or it may be mixed with an equal quantity of water, some COCOA added, and then boiled.

Tea and coffee are not suitable for children under 14 years of age, especially those who are delicate. If given at all, tea should be made with boiling water, and ought not to remain on the leaves longer than five minutes; the tea-pot should be rinsed out with boiling water before use.

SOUP, whether made from meat, bones, or vegetables, or all of these, should also contain LENTILS (Egyptian), PEAS, or HARICOT BEANS.

BREAD should be eaten with the soup, as well as with other foods.

Food which contains fat is important; for example—CREAM, BUTTER, DRIPPING, EGGS, BACON, and SUET-PUDDING (a lighter pudding can be made by using bread crumbs instead of flour), also MILK PUDDINGS, such as RICE and SEMOLINA. A nourishing pudding can be made by adding a tablespoonful or two of finely-chopped suet to a teacupful of rice, mixing well with milk and water, and cooking slowly and thoroughly.

POTATOES are recommended, especially for those who do not take milk puddings.

GREEN PEAS are good; also CARROTS, PARSNIPS, and CAULIFLOWER.

OATMEAL should be taken as porridge for breakfast, or as oatmeal gruel—made with milk and water—at bedtime. If oatmeal disagrees, BOILED BREAD AND MILK should be given, adding a little sugar if preferred, or PEASE-MEAL brose may be tried.

CHEESE is very nourishing; it digests better if cut into thin pieces, or grated

* These belong to the group of foods known as pulses. For a detailed account of their chemical composition, with tables and suggestions regarding their use, see *Food and Dietetics*, Hutchison, 3rd ed., pp. 231-6.

Cp. also *Our Children's Health at Home and at School*, pp. 35, footnote, 38, 52, 187-8.—Ed.

† The protein rich animal foods, flesh, fish, eggs, etc., are all too expensive for the labouring classes, and any increase in their amount in the diet is impracticable. But cheese and the cheap protein rich vegetable foods, oatmeal, peas, beans, etc., should be more freely used. The chief drawback of the latter, and to the average housewife a very great one, is in the labour entailed in preparing and cooking them. But if the diet of the labouring classes is to be improved, without increasing the cost, time and labour must be expended on properly cooking these more nutritive vegetable foods.—*Report upon a Study of the Diet of the Labouring Classes in the City of Glasgow*, Lindsay.—Ed.

into a milk pudding, and is specially recommended for those who cannot get butcher meat.

Fish is generally easy of digestion and wholesome.

The best Fruits are bananas, apples, oranges, raisins, and figs.

Sugar is a good food for children, and is much better than "sweets"; a little scattered over porridge will often encourage children to take it.

Pork Pies, Sausages, Tinned Foods and Pastry are not suitable.

Children should be taught to chew their food thoroughly, and to swallow it without drinking; as it is best to take a drink only when the mouth is empty.

They should brush their teeth every night, after their last meal, using warm water and a little clean soap or tooth-powder on the tooth-brush, and afterwards rinse out the mouth with warm water. The teeth should be cleaned in the same way every morning before breakfast.

Sufficient Sleep in a quiet, well-ventilated room is most important: young children should be in bed at 8 o'clock, or earlier if tired; older ones may stay up a little longer, but not later than 9 p.m.

An abstract of the paper by Dr Ernest T. Roberts, who was unable to be present, was then read by the Secretary.

Speaker's Position Defined.—Miss A. I. M. Elliot (Hon. Secretary, Southwark Health Society, Chairman, West Square and St Jude's, Southwark, Care Committees), in opening the discussion: I begin to speak with some diffidence because I feel that I am here to a certain extent on false pretences. It is partly your Secretary's fault, because I told him that I was not going to talk at all about food, but about feeding. Secondly, I feel I am in opposition to a great deal in the papers that have been read, and to the feeling of the meeting, and therefore I have to apologize to you for occupying your time.

Home and State.—The arguments which I want to lay before this meeting are, to a certain extent, directed to people who are partly on my own side. Those who consider that the children are more the property of the State than the property of their homes, that the home ought not to be a large influence in the children's lives, and that the home is not a better way of bringing them up, will feel what I say has no point. A great many people believe that the question is decided, and that the State is the best parent; but I feel that I must put another side before you. Dr Haden Guest's speech was a clever appeal, and perhaps he is right in claiming that his scheme is humane. Yet there may be a right and a more far-seeing humanity in people who say that parents should realize their

own responsibilities. There may perhaps be something in the fact that the life, the real life of the spirit and the soul of a person, is more important even than the body, and the best results for the spirit and the soul may not be obtained by reducing the influence of the home.

Views Based upon Experience.—I am not speaking without some experience. I see a great deal of poor people's homes, because I have the management and the looking after of a family of a thousand babies. Secondly, I have been on Care Committees, both on the Committees of Children's Schools and also, which was more instructive, on the Care Committee of a couple of Mental Deficiency Schools in one of the poorest centres. I have had years of experience of free feeding in those schools. The latter contained together about 140 children; and 48 children were for considerable periods of time, varying from half to the whole of the year, on the free feeding list.

A Classification of Families.—In the Mentally Deficient Schools we tried to visit every home, and knew the families of those children well. At the end of the year we made a summary of what we had done, dividing the families into five classes. First, there were the homes in which help was only needed because the man or the bread-winner was temporarily out of work, homes which, as a rule, would have been self-supporting. We made a second class of people where the breadwinner was for some reason, mentally or physically, not morally, unsuited to be the full breadwinner for the family, and who was not able to do a great deal and wanted the permanent support of the school dinners. In the first class we had only two cases, in the second we had three. The remaining homes were divided again into three classes: the families in which they were very much like the rank and file of casual labourers' homes—a little drink and a good deal of selfishness, where the poverty was partly their own fault and partly not—I mean partly the fault of character and partly not. In that class we had about nine families. In the remaining thirty-four families the poverty was practically entirely the fault of character, or the fault of drunkenness, laziness, or various deficiencies of character. We divided these again into two classes because in about half there was some attempt at decency

and in the other cases the whole family lived more like animals than human beings.

A Criticism of School Feeding.—What I want to ask is, was the help we could give adequate or suitable? My contention is that school feeding is a bad palliative. It is not that I am against the children being fed, but I want the method to take hold of the whole family. In a great many of those cases in which the families were living like pigs, the children would have been infinitely better off in the Poor Law Schools, and the families must, had it not been for the help we gave, have applied for Poor Law relief. I think we did harm to the children and harm to the whole families. I believe this system of feeding in the schools is mainly bad because it is so inadequate. Consider the condition of a normal home. You have a father and mother, perhaps one or two children at work, three or four at school, and two under school age. What do you do by this system? Where people are out of work you enable them just to avoid seeking Poor Law assistance, you enable the children and the woman at home to starve. I have seen a mother and the two youngest children, because they managed to get five dinners and breakfasts a week, starve the rest of the time. Anything which takes a certain proportion of the family out of it is a cruel thing to the community at large, and not even good for the children. If we feed the children at school, let us feed them on Saturdays and holidays as well.

"More Haste, Less Speed."—Let us, however, consider very carefully whether by going a little slower it would not be possible to make a better plan even if a few people suffer at present. Nobody who has worked among the poor intimately thinks the present Poor Law suitable. The Royal Commission on the Poor Laws published two reports some years ago, and no steps have been taken.* Can we not frame some scheme that shall be remediable and take families as a whole? The present idea seems to be to do the thing quickly. What would you think of a general in an enemy's country who said, "I will not go that way, which is best in the end, but I will go this way, because I shall sacrifice fewer men?"

* The President of the Local Government Board has, however, given effect to a number of the recommendations by administrative measures.—Ed.

Alternative Methods Suggested.—The best thing in the long run is to make the homes better. I can think of a fair number of ways of doing so. One way, for example, would be for teachers and medical officers of health to co-operate, the teacher reporting any case to the Health Authority, and the school doctor examining and seeing if the child wanted help. Let that be reported to the Poor Law Authority, and let the latter see that the family circumstances are examined into, and something done for the family. I am certain from experience that this method would have good results in all the worst cases—the chronic cases. I have little objection to feeding cases which are not chronic, in which the bread-winners are temporarily out of work, and people who, as a rule, are able to keep their family. By feeding the chronic cases, however—cases where one parent or the other, or both, are drunken, or where the man is a general slacker—we do nothing but harm to the children, because we give them inadequate help. This is an age where we expect one person to do one work, but the last work the Education Authority does is education. Supposing we set up another Authority that knows something about social matters. I deny the suggestion of Dr Guest that we people who consider this is not the right way of acting are inhumane; I consider that we have a more far-seeing humanity. If the present method of feeding in schools is not the best way, ought it to be followed because it is the quickest? Do let us rather make the help we give of permanent value.

Would General Feeding Involve Free Feeding?—People have said of free feeding that if we had general meals the parents who could pay would pay, and others would not. Parents are supposed to do so now, but how much of that money would be got in? If Mary Jones has free dinners, would not Eliza Smith's mother say, "Mrs Jones' husband has not more children to keep than I have, and I do not see why my child should have to pay." If there are general meals they will be general free meals.

The Thin End of the Wedge.—It was said this morning that clothing is not necessary. Is it much less necessary for a delicate child to be clothed than fed? I have seen a child come to school in a cotton frock with no underclothing. Was she

better off even if she had better food? What comes afterwards? Providing for adequate places to sleep in. It is the State taking over the child. It is the thin end of the wedge, and I think we ought to consider what it really means.

Further Particulars Wanted.—Mr George Rainey (Hon. Sec. Children's Care Committee, Hamond Square School, Shoreditch): It would be interesting if Miss Cuff would give us the comparative weights* of the forty children who were fed under Dr Crowley's experiment, and those who were not.

An Article and Its Sequel.—I rather hesitate to express my views a second time on the question of feeding. Some time ago I wrote an article in *School Hygiene*† comparing French and English methods of feeding and clothing necessitous children, and at the London County Council election last March it was my fate to have isolated passages extracted from it, and issued in a manifesto by one party for the purpose of attacking the other. The manifesto was headed "How Paris Puts London to Shame." I do hope anything I may say to-day will not be taken as intended to belittle the London County Council.

Magnitude of the Task in London.—The Council has instituted a thousand Care Committees to look after the welfare of three-quarters of a million children, and in the working of such a vast organization there is bound to be much that is open to criticism. One can also find much that is deserving of praise. The Council's milk scheme, for instance, to my mind is admirable. It is an immense boon to Care Committees to be empowered to give half a pint of free milk every morning during the play interval to delicate children, whose parents cannot buy it. Without it we should often be powerless to carry out the school doctor's recommendation concerning the child.

What is Lacking?—Turning to the question of feeding—what I say does not necessarily represent the views of my

* See pp. 66-7.
Cp., however, p. 212.—Ed.
† November 1912, reprinted here, see p. 410.—Ed.

Care Committee—in London this requires a larger expenditure of thought and trouble, not necessarily money. I always find there is a sufficiency of substantial food, providing, no doubt, everything that is necessary for the growing child if it only can assimilate it. My observations in the small corner in which I work, however, suggest that the children often do not profit by the meals as they ought.

Children's Tastes.—My experience is that they appreciate something which requires masticating. They seem to have an aversion to food which is neither liquid nor solid, such as thick soup or rice pudding. I was at my Feeding Centre one day early in the month. The menu consisted of buttered currant bread and rice pudding. The cake was practically all eaten, but nineteen boys out of forty did not touch the rice pudding, and five more left half of it. The proportion among the girls and infants was very similar.

Defects and Remedies.—Figures like these are very serious. Money is wasted, and the children are not properly fed. Home feeding is doubtless partly to blame, but the fault is partly inherent in the system. As soon as you take 150 children away from the family dinner table and feed them in the bulk, difficulties begin. Many of the infants, for instance, want teaching to eat; they ought to have individual attention; in other words, they require a mother's care at meals, which is out of the question at a Feeding Centre. At the same time, just as pains are taken to put their lessons before the children in such a shape that the dullest may assimilate them, so every effort should be made to meet their reasonable likes and dislikes as regards food. I just hear that an experiment is to be made at Hamond Square to-day; the cake is to be kept back until efforts have been made to induce the children to eat the rice pudding. So long as it is not carried to the point of trying to starve the children into eating what they do not appear to like, the experiment seems legitimate.

London and Paris: A Contrast.—I have seen the necessitous children fed in Paris. The food there is not so heavy. Three courses are given, of which one is a vegetable or perhaps maccaroni. If you want to teach table manners, maccaroni affords a splendid opportunity. Left to their own devices

children are apt to ignore the laws of gravitation and trust to luck. In Paris I have never seen two children share a glass. In London I have seen fourteen mugs placed on a side table for 160 children to scramble for at the conclusion of the meal. I have watched nine children drink from one unwashed mug. This is worse than pig-feeding, both as regards manners and hygiene; the up-to-date pig trough has a separate compartment for each pig.

THEORY AND PRACTICE.—Yet the County Council is not destitute of ideals. All these may be found in the Care Committee's handbook:

(1) A separate mug should be provided for each child fed, in view of the risk of infection caused by more than one child drinking from the same mug.

(2) Clean plates should be used for each course. Head teachers should encourage the necessitous children to wash before going to the dining centre.

(4) As far as possible the food should be served in such proportions and in such a manner as to suit the ages and requirements of the children.

(5) Supervisors of dining centres should endeavour to secure that the children partake of meals with due regard to table manners.

(6) The food should not, as a rule, be served before the children enter the centre, etc., etc.

A SUGGESTED EXPLANATION.—These ideals unfortunately do not descend sufficiently into the regions of practice. The reason is that it is difficult for our rulers to rise much above public opinion and there is a spirit too much abroad in London that anything will do for the poor. One hears it said, the children are "hardened" or "used to it." Let me give an instance of what I mean. Some time ago, when paying a home visit, where the father was getting very little work, I found the children just about to dine off dry bread and weak tea. I mentioned the matter to a member of their Care Committee, and she said it would not do them any harm for a few days. So far as I know, those children lived on very little else but bread and tea for three weeks until the father obtained regular employment again.

"Getting Used to It."—The attitude of mind in such a case is partly mediaeval and partly West End; it wants getting rid of. It reminds one of the man who thought sawdust ought to do just as well for a horse as bran, and he said the ungrateful beast died just as it was getting used to it. Statistics show that the children of East London die just, I suppose, as they are "getting used" to the fearful conditions under which they live. It is very lamentable that ten per cent of the parents are unable to feed their own children, but what is worth doing is worth doing properly. The question deserves more thought and care than it appears to have received in London. I hope to-day's Conference will assist in educating the public.

A Two-fold Qualification.—Mrs Chester (London Teachers' Association): I must confess that I was one of those persons who came here to learn, and that I have sat, up to the present moment, on the fence. It is not that I know nothing about the subject; I do, both as a mother and as a teacher, but I have been unable up to now to make up my mind whether or not it is wise to feed children in a wholesale way.

The Country Problem.—In order to illustrate what I mean, I will say a few words about my experience in the country. In the country the problem presses, too, in some degree, and I have no hesitation in saying that the greatest enemy is the crass ignorance of the people. My interest in the matter was first aroused by investigating the case of a mother whose children habitually died before the age of four—one child had struggled on to the age of ten or eleven. Yet the father was in good work, they lived in a healthy country cottage, and there seemed no reason why the children should be unhealthy. I went to see the mother, and my wonder disappeared. The baby had died the night before; she had given the child cold, undiluted milk in the night when it was desperately ill.

Who Attend Lectures?—There were some lectures arranged to tell the mothers what to do. The mothers who came were those who were intelligent enough to know that they needed information. The others made various excuses: they were far too busy to come; they had too many children, or too

much work to do; they could not attend lectures. They were the ones who ought to have come; they did not know what to give their children.

Penny Dinners.—The mother of another family who came within my notice gave her children a penny each all round to buy their dinners. That was her notion of providing a meal. I do not know if any orders were given as to what should be bought with the penny, but I know, as a fact, that it was spent on biscuits. I tried them with a big rice pudding, but they would not touch it. That was doubtless due to the fact that they were never taught to like things that were good for them.

Facing the Facts.—There I am in agreement with the speaker who said we must begin with the home. If we could get at the home, we should do permanent good. Failing that, must we stand still? Must we let the children die? That is the alternative which makes us see the other side.

Classification of Necessitous Children.—In London, in the school of which I am in charge, we divide necessitous children into two classes: one the kind that would not beg for anything, and whose parents would not let it be known that there was any need, and the other the blatant beggars, those who prefer to be fed by any Authority that is ready to do it, rather than take trouble at home.

The Deserving Poor.—There were several painful cases of children who would not beg. The way I discovered them was this: I had some boots to give away, which had been supplied by a kind person. I did not see any of the habitual children in need, and one of the teachers called my attention to a child who was so tidy that I should not ordinarily have dreamt of offering her boots. I found, however, she was practically on the floor. That is the class my sympathies go out to; the people who will do their level best, and will not complain at all. One of the hardest tasks we have is to unearth those cases. There are plenty of people who could feed their children well if they tried hard, but because they do not, I suppose we must have charity or public feeding. I was very hard once upon a woman who had eight children, but when I came to investigate, I found she had no stamina at all, and therefore

no initiative. Through incessant nursing she was quite worn out.

Some Unsolved Questions.—Then, again, there are things quite as much needed as food in the winter. What about the child who has only a top to her boot? There is the child who is constantly sent to the cleansing station to be cleansed. That child goes home and is just as bad in a week's time because the home is dirty. Possibly it is beyond the power of the mother to clean the home. I heard of a case last week where the house was so dirty that nothing short of burning it down would be any good.

A Mother's Heroism.—I will mention one other case. The father had deserted the family entirely. The mother had to set to work to learn a trade, which she bravely did, and kept herself and one child on 9s. a week for a long time, in fact her wages only twice amounted to 10s.; 3s. a week went for rent, so she had 7s. to clothe and feed herself and her child. Well, in such a case as that it is not the children who suffer, it is the mother; the children get the best of everything the mother can provide, and the poor mother looks as if a breath of wind would blow her away. You see why I am on the fence. Sometimes the mothers need more help than the children.

A St Pancras Experiment.—I have been trying the experiment of giving milk to the children. I determined to provide hot milk for the poor little ones who need it. Some time afterwards the County Council came to the rescue. Many children in the haste and excitement of getting off to school, leave home without breakfast, and whether they could have had breakfast or not, it is obvious they need something before dinner time. With regard to the dinners, the great thing is to find out who are the really necessitous children and who can be helped by such feeding as we are able to give.

The Views of a Care Committee Worker.—Dr Jessie White (Teachers' Guild): In what I have to say I do not claim to represent the views of the Society whose delegate I am, but I have strong opinions on the subject from my experience on one of the London Care Committees. The only way is to try and get at the homes. We have been told that the last

thing the Education Authority does is to see about education and I think the remedy for this is an educational one. I hope it will lead to the reform of our Infant Schools.

A Plea for Infant School Reform.—Our Infant Schools are formed on the plan of the workhouse, and the Royal Commission attacked these large workhouses in which hundreds of people are clubbed together. Well, so are the children in the schools; hundreds of children are crowded together, and we know how dangerous this is from the point of view of infection. If we did our duty by the infants in the schools, most of the problems as regards the older children would have disappeared.

A Result of Montessori Methods.—We were told by Dr Haden Guest how helpless these children are—how they do not know how to eat. Yet I have just returned from Italy where, in a school under the Montessori method, I have seen children of three years old who are able to wait on themselves. The remedy is to get rid of these large infant schools. The number of infant schools should be multiplied, and there should be more head teachers directly in touch with the mothers.

Relation Between Teachers and Mothers.—It is beautiful in Rome to see the intimate relations between the teachers and the mothers; the teachers are exercising a tremendous influence on the mothers—they do not take away the responsibility from the mothers, but they teach them how to give expression to their love for the children, in a way that is good for themselves and for the children.

Main Lines of Reform.—It would be the simplest thing possible to make our infant schools smaller, to put them nearer to the homes of the children, and to give the feeding into the charge of the infant school teachers. The children would lay the tables and wait on the older children who come at a later hour. This seems, from my experience, to be the only permanent way of making school feeding of any real use to the home.

Teaching of Cookery: A Suggestion.—One other thought I have had lately, namely, that in the teaching of cookery

to our older girls, it would be possible to extend invitations to the mothers to come and watch. At the Froebel Institute teachers gather together to see the work that is being done, and there would be no difficulty in allowing the mothers to watch the teaching in the domestic subjects given to the older children.

How to Help the Home.—I also think that if the teachers of the infant schools got into closer touch with the homes, they would know more about the younger children, and in that way we should have such an intimate knowledge of the home that the latter could be helped in an efficient manner.

Miss Hogan (Peckham Rye Infants' School, London Teachers' Association): I am the head mistress of a London school, and on behalf of the infant teachers, I should like to say that we do get in touch with the mothers. We have open days, when the parents can come and see the work, and we know the parents and the homes of the children. I can help my Care Committee as much as anyone by telling them about my children.

Faulty Feeding of Infants.—I do not think infants should go to feeding centres where elder children are fed, because the food is often not suitable. They are given pies and heavy stuff, and in the afternoon we are continually having children ill because the food was indigestible.

The Better Way.—In my own school the children of the cookery centre cook for those who have dinner in school. We feed about thirty, and a woman is paid to see to them. The elder children act as monitors, there are flowers on the table, and they are taught to hold their spoons and forks properly. The food given them in this way does them good, and the elder boys and girls ask for the kind of food that is given to the infants.

Care of Delicate Children.—Then again, in the middle of the morning, we always give the delicate children hot milk during the winter, and the children who can afford it bring a halfpenny. Some fifty or sixty have hot milk. In various ways we do all we can to make the children behave nicely and properly.

Where the Trouble Originates.—Mrs Denne Denne: My belief is that infants ought to be taught to eat in the infants' school, but the mistake begins before they come to school. They are taught to like wrong things from the moment they are weaned. It all comes back to the ignorance of the mother.

A Mother's Confession.—I can speak from personal experience, although I do not suppose any mother ever took more care of her children than I did. I have had a good nurse for twenty-three years, and we now look back and see that we made endless mistakes. It was not because we did not try, but because we had not been taught. Unless the doctors teach us we shall not know any better. I have done District Nursing, and here am I talking about mistakes.

Some Common Errors and the Remedies.—I am certain that the mistakes in feeding mainly occur from the ages of nine to eighteen months. That is what one needs to be taught about, because if you begin by giving a baby wrong food—too sweet bottles, or too hot bottles, if they happen to have bottles, you create germs in their bodies which require to be fed. The teachers are right in saying the infants must be taught, but it is the parents who first have to be taught, and until we have lectures to the parents about teaching their children to eat properly and naturally, added to the primary teaching, we shall not make much progress in these subjects.

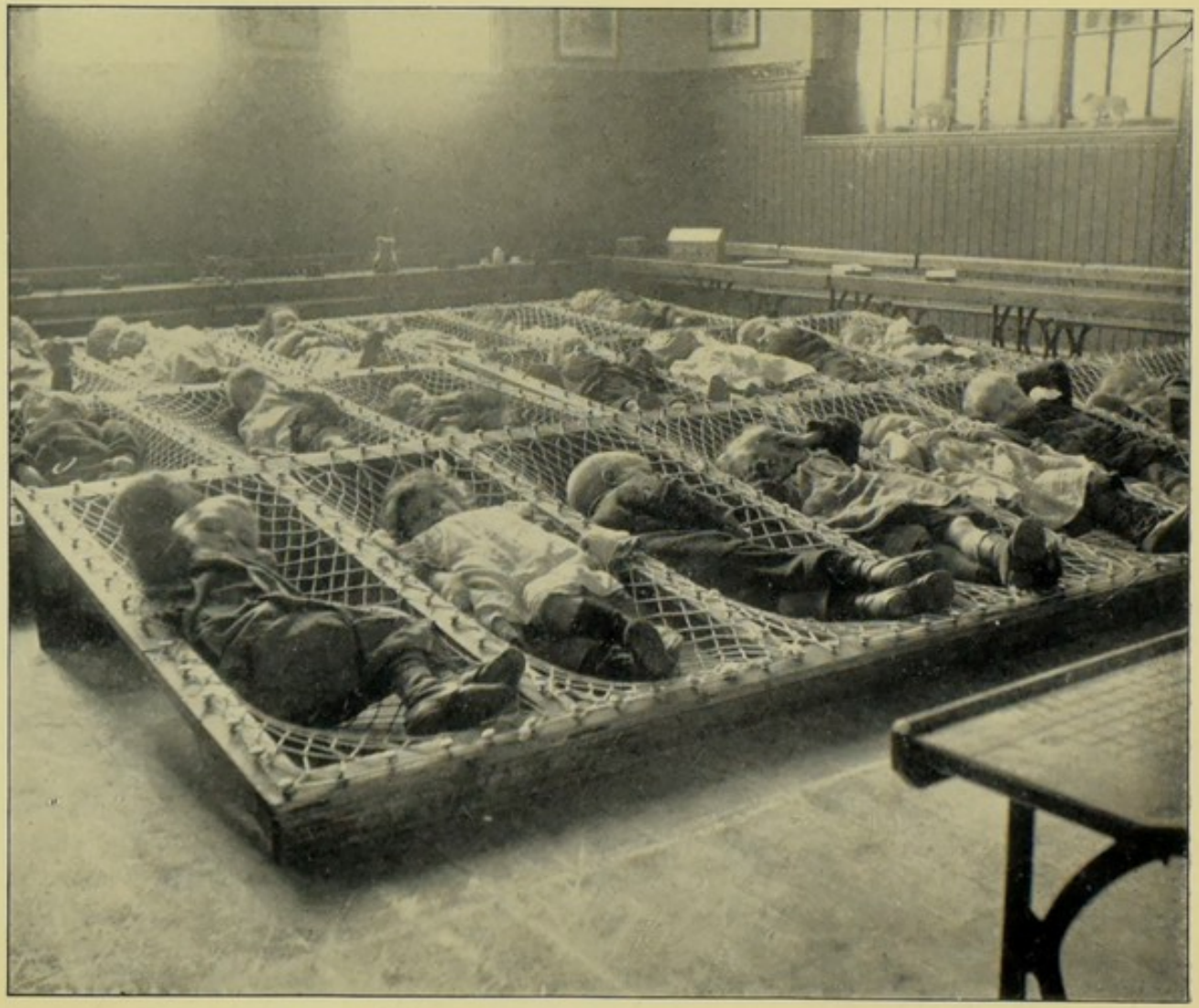
The Two Alternatives Re-stated.—Lady Meyer (St Pancras School for Mothers): I agree with Dr Haden Guest, and I also agree with the lady who spoke about enforcing the responsibility of parents and commencing with the home. I do not, however, see how you are going to enforce responsibility on parents in homes where the wage is entirely inadequate for providing food for the children. Until that problem has been tackled in some way, which is not our business, the alternative is to feed the children, let them profit by the education that is offered to them, help them to become strong parents, more able to rely upon themselves, more able to do good work, and let them be the founders of good homes. The other alternative is to let those children starve, and again become the inadequate parents of the next generation.

How Help Begets Help.—I feel therefore that we cannot insist upon parental responsibility. I agree with Dr Guest that when you feed children, when the parents, from want of stamina and means and knowledge, have let their children deteriorate, when they see how important other people in the State—the teachers, the Care Committees, everybody who is looking after them—consider those children are, the eyes of slack and ignorant and half baked parents are opened, and they make an effort to become responsible. That was shown in the case quoted of the child who was verminous and who was entirely changed by good food.

Experience at St Pancras.—What I am qualified to speak upon is the question of the children who come to the infant schools and are unable to take the food provided, because their whole ways of life are not screwed up to normal conditions. We at St Pancras found when we gave lessons to the mothers in hygiene, our babies were in splendid condition, as the mothers gave them breast food or were helped to get milk. Afterwards, when they were no longer infants and went to school, they deteriorated because the mothers did not know on what to feed them, and if they had known, had not an adequate wage to spend on this food.

"A Dinner for Toddlers."—So we have instituted what we call "a dinner for toddlers," at which we try to approximate the conditions under which these children live to those of our own nurseries. In a few weeks they respond to the treatment. In the first week they cry for their mothers, but after a fortnight they eat the food themselves without making a mess; then the weight goes up and the general condition improves. There is a very great return in a short time for the money and energy expended.

Case for the School Mid-day Meal.—I cannot agree with the people who say that children should always go back to feed in their homes; we oblige them to go to school, and we cannot get compulsory attendance unless they are fed. I cannot see why feeding the children at school in the case of the poor involves breaking up the home any more than it does with regard to the rich. Our boys and girls, if they live a long way from school, are fed there, and we do not suggest



INFANTS IN COMPOSITE HAMMOCKS

Summer Lane Council School, Birmingham.

To face p. 61

that the influence of the home is therefore taken away. It is better that the child should have a meal nicely served and properly looked after than that it should hurry home and back again; it cannot be good for the child to have this hurried meal, and the hurried walk home and back to school.* Thus, on all grounds, the feeding of school children is a necessary thing.

An Appeal for Standardization of Children's Diet.—We are here, however, rather to discuss the nature of the food the children should have than whether children ought to be fed or not. We look to this Association to give us the lead, as we are ignorant of the kind of food suitable for boys and girls. That is one of the reasons I, and a great many people, come to a Conference called by this Association. We should like to hear what is the standard of food that a child requires. That would be a help to us working on these lines in schools and institutions.

Its Scope and Character.—A standard should be set up, perhaps an alternative one, since there are differences of opinion. Some people are against meat, and want a non-flesh diet, and some recommend a mixed diet. Let us have an alternative standard, not only for the mid-day meals, but for the morning and evening meals, as well as for children of different ages, from 5 to 7, 7 to 10, and 10 to 14. We shall

* A medical man of wide experience attaches so much importance to the midday rest that his children remain for the school dinner, though their home is within easy reach. Such rest, it will be seen, is enforced at the London County Council Open Air Schools, and at the Halifax Residential Open Air School. It has also been introduced into the Infant Schools at Birmingham. See illustration of composite hammocks.

A still more simple expedient has been carried out in Bloomsbury Infants Department. Here after the usual lessons from 2.55, the babies run in the playground till 3.10, then have a kindergarten game, tripping and singing. At 3.30 each takes a sheet of newspaper, spreads it upon the floor, resting his head on a small pillow of American cloth, tightly sewn and packed with sawdust. These are easily washable and do not offer a harbour for vermin. A careful record has been kept for me by the headmistress, Miss A. K. Shrewsbury, of the number of children who sleep under what would appear at first sight somewhat unfavourable conditions. The results belie this *a priori* opinion and show that the majority of the children do actually sleep, while for those who do not sleep the relaxation of the muscles, the quiet and orderliness are very beneficial. —Dr Auden, School Medical Officer, Birmingham, Annual Report, 1911.—Ed.

then not only be able to base our mid-day meal on the standard, but advise parents about the two other meals that take place at home.

Lightening the Housewife's Labours.—With regard to these I venture to make a suggestion. If the mid-day meal is given at a place where you can get a great deal of cooking done, let us try and establish a diet by which, at the other two meals, the mothers shall be relieved of a certain amount of cooking. In a standard set of meals covering twenty-four hours, the mid-day meal might be cooked, and the others, breakfast and tea, might consist of things that did not require so much cooking, so that the mother can know she is giving the right amount of protein food* without having so much firing, and expending so much energy in cooking. That is a suggestion I should like to throw out as one of the outcomes of this Conference.

A Word for Palliatives.—Mr W. A. Nicholls (National Union of Teachers): Like the previous speaker, I feel that both Dr Guest and Miss Elliot are right, but I do think we ought not to disparage palliatives. A palliative, if I may say so in the presence of medical men, is better than nothing at all when there is a severe disease, and sometimes you can keep things going with palliatives until the true remedy is found.

Who is to Blame?—We are not doing all we ought to do in regard to the feeding of school children, and it is not the fault of the teachers. Perhaps it is not the fault of the Care Committees, and I hesitate to say it is the fault of the Education Authority. Still more should I hesitate to say it is the fault of the Government for not giving the Education Authority sufficient funds to carry on the work. There is, however, no doubt that we do not do this feeding half well enough.

A Head Teacher's Experience.—I was the head teacher of a slum school, and it was frequently said to me as a matter of reproach that I had a higher percentage of children on the feeding list than any other school in the district. What did that mean? It meant, "keep down your list, do not make it

* And fat, in which children's diet is so often found to be deficient.—Ed.

the first consideration whether a child wants feeding, but keep down the list." As long as we do that, as long as we are not anxious to feed every child that requires feeding, we shall not do much good at all. I quite agree we ought to feed the children on Saturdays and Sundays and in the holidays.

Chronic Cases and their Difficulty.—Chronic cases present a difficulty. We have children remaining on the list week in, week out, from the beginning of the year to the end of the year. Those chronic cases do not seem to derive the benefit from the school feeding that they ought, because you cannot consider feeding by itself. Healthy conditions, sleeping accommodation, cleanliness, proper clothing, are as essential to the well-being of the children as good food, and it will pay the State—I am sure there is no teacher who will differ from me—it will pay the State to do all for the children that ought to be done.

Should Children's Tastes be Considered?—There are many ideals about the food that we cannot realize. One is that we ought to give the child the food that it really likes. I detest rice pudding myself and I never eat it. It is a specialized sort of cruelty to compel a child to eat that which is distasteful and it is uneducational, because, according to the Montessori method, you are not to make the child do anything that is distasteful to it. I question—of course I am speaking in the presence of medical men, and I may be wrong—but I question if you get much good out of what you do against your will.*

True Nature of the Problem.—If you look at the children you will see that what these children of the slum schools want is educating; their appetites are vitiated, and you have to help them by slow gradations to eat what they ought. We want, therefore, small feeding centres in order that the individual needs of the children may be cared for. We cannot pay too much attention to this question, and if we are to have a

* This important point received much consideration at last year's Guildhall Conference. Cp. *Our Children's Health at Home and at School*, index under Appetite, Children's Likes and Dislikes and Pupils' Point of View.

The view taken by the speaker has the support of Dr Dukes and other authorities.—Ed.

sound and healthy race, we have to look at it regardless of cost, and regardless of economic results that may possibly flow from the work that we are doing.

THE SELECTION OF CHILDREN.—DR VICTOR J. BLAKE, in reply: When I was asked to contribute a paper, the principal subject that was mentioned to me was the selection of children and the organization of cooking centres. The selection of children appears to me to be one of the most important items in carrying out what every one desires. A lady said that we must find out who are the necessitous children, and I contend that if we are providing free meals for children, and want them to get the full benefit from them—I have had five years' service in Portsmouth, where we have 36,000 children on the register and feed 800 to 900 a week—the children should not be selected only on the poverty test. It is no good selecting children solely because their parents have not the money to feed them. There are others who equally need to be put upon the school feeding list.

SOME SUGGESTED REFORMS.—The only way to get at the solution of the difficulty is for the Education Authorities to give more authority to School Medical Officers. At the present moment the school feeding in most places is carried on without the School Medical Officers being consulted. As a first step the child should be examined by the School Medical Officer. Who else is to tell whether that child is or is not fit for school feeding? Having done that, the School Medical Officer will be able to find out physical defects, which should at once be dealt with. Defective sight or adenoids should be put in proper order. Children who suffer from malnutrition are often in a dire condition—dirty, verminous, with sores on their bodies, and they are sent away from school. What happens? Immediately they are struck off the free meal list. The next duty, which I consider most important of all, is that the child, after having been examined by the School Medical Officer, should be placed under skilled medical attendance. What is the use of giving good food unless you put the child's body into good order? There should be no difficulty about this. As I have said in my paper, these are matters which, in the near future, will have to be remedied, but at the present moment there is a lack of co-ordination.

The Local Education Authority does not see what a power for good the teachers and the School Medical Officers, acting in combination, would be. I am in favour of school feeding for children, and I know the good it does.

Solving the Holiday Problem.—In Portsmouth, although we are not allowed to feed children out of the rates during holidays, we make a grant for providing food for the children in holiday time, so that all the year round our children are fed, whether they are at school or during the holidays.

A Three Weeks' Dietary.—The definite proportioning of menus is, in my judgment, a most important point. At Portsmouth we have had for years menus prepared for three consecutive weeks in winter,* so that there is no repetition, and no tendency for children to get tired. During the summer months we have a dietary for two weeks.

Organization of Meals.—We try to provide decent food prepared under the guidance of Medical Officers and co-opted ladies who are members of a voluntary association. These meals are prepared and cooked in our own cooking centres, whence they are carried to ten different feeding centres. The food arrives in a hot and appetizing condition and in that way, by having the meals decently cooked and supervised, we get the best we can out of the educational side as well as out of the food. We have no trouble with the children at all.

£ s. d. of the Problem.—The question of school feeding is a question of improving the condition of the children. It is not right that they should be left to starve or want food. If parents can only earn 15s. a week why should you leave the children to starve, so that when they become fathers they will only be able to earn 12s.? Put them in such a condition that they will be able to earn 24s. and so relieve future ratepayers from the burden in the coming years.

A Last Word.—In conclusion, what has been said confirms me in my view that to have satisfactory results you must bring in your School Medical Officers, who should examine the children. There may be difficulties, but we who do the work

* See p. 274.—Ed.

do not mind working hard. We have little leisure, and most of us are underpaid, but we do offer good work, and we want to see the best we can for our money. All this discussion will tend to the production of better schemes among Education Authorities and so enhance the future welfare of the children.

Children Who Pay.—Miss Cuff, in reply: I will take the points mentioned by the different speakers in rotation. I should like to say, first of all, that the meals served in Bradford are not all free meals. We can divide the children into three classes: first, those who are necessitous; secondly, those who are partly paying; and thirdly, those who are paying altogether for the food provided. In Bradford we are faced with the lamentable fact that nearly all the married women are working in the mills, and a great many have neither the knowledge nor the money required for providing adequate hot meals for the children at home. We have therefore this other class of meal—at least it is the same meal, but for another class of children who pay fully for the food they receive, its cost, and that of administration. At present this amounts to 2¼d.; when we had more children on the list, it was, instead of 2¼d., 2d., which rather more than covered the total cost.

Feeding in Holidays.—Again we feed the children, and have fed them from the first, throughout the holidays. The Bradford Committee recognized the importance of this, and the experiment made during the Whitsuntide holidays showed such a drop in weight in the children who were not fed that we felt it must be done if we were to get the full benefit from the feeding. I have a chart here which shows exactly the gain in weight during that experiment of eleven weeks in 1907, and the loss in weight during the holidays. We do not feed at the week-ends, because we think if there is any money in the house it will be at that time.

Further Details of the Bradford Experiment.—Mr Rainey asked me to state what was the gain in weight of the children who were fed compared with the children who were not fed. I see in that short time the children who were fed gained 49 oz. in weight; those not fed only gained 21 oz. That experiment was interesting, and a good many of you will perhaps

have read the report we issued.* The result, especially in the first week, was surprising. The greatest gain in weight of one child was over 3 lb. after three days' feeding. We gave them porridge for breakfast with treacle and hot milk. Most people consider porridge a good food, but we found that at first the children did not care for it, though after one or two days they came for a second helping.

Dietary at Open Air School.—With regard to a dietary for the twenty-four hours, at Thackley Open Air School for delicate children, we feed the children all day. They come from 8.30 to 6.30, and have breakfast, dinner and tea. Breakfast consists of half a pint of hot milk, porridge served with treacle, as much as they can eat, and afterwards bread, brown and white, baked at the Central Cookery Depôt. The children have free choice which they take, and they have a growing liking for the brown bread. We give practically the same dinners as for the free meals.

Scientific Basis for Dinners.—These dinners were thought out on the basis of the children's actual requirements: that is, that the children should get the right amount of proteid and fat. We knew that if we secured those two things, the other requisite materials would be there in ample quantity. The various dinners under this scheme are all worked out on the grains of proteid and fat contained in them, and the average is 400 grains of proteid and 20 grains of fat. We made the average higher than most people would consider necessary, because we know that at home the children do not get adequate breakfasts and teas. In many cases, owing to being so much in the open air, the delicate children are able to eat more, and probably they get a little more than medical men would consider necessary. Where they have the dinner only, it is just about right. Then, every day at the Open Air School, we give them for tea half a pint of hot milk, and either bread and jam, or currant loaf, or whole meal cake. They avail themselves fully of the meals we give them, which are taken on the veranda.

The Dining Centres.—Coming to the dining centres, which are for the most part at the schools, the best are on these

* Reprinted here, see p. 366.—Ed.

lines: plenty of fresh air, the windows down and open according to the direction of the wind and sun, the tables nicely set, with cloths, and, in most cases, flowers and plants.

How Chronic Cases are Dealt With.—Miss Elliot referred to the feeding of chronic cases. We need here larger powers than are given at present to deal with the parents who are lazy and will not work, so that they may be compelled to work, and the money they earn sent to the wives and children. This is done in Germany, and it will find its way over here. At first the Committee dealt with these difficult cases themselves, fed the children, and summoned the parents, but this was discontinued because, directly the notice was sent to the parents, the child was withdrawn from the feeding centre. These cases are now treated through the National Society for the Prevention of Cruelty to Children. That does check slacking a little. Where the child needs feeding, it is fed by us.

Selection of Children.—Reports on children where feeding is necessary may be sent by the Medical Officer, the teacher, the parents, the workers of the Bradford City Guild of Help, or by any person sufficiently interested. The fact that the report is sent by the Medical Officers and teachers ensures that the children, whose parents would never complain of their poverty, get fed.

Advantages of a Varied Dietary.—We have heard a great deal about rice pudding, which evidently is not a favourite in London. With us it is the pudding that the children like better than any other. We give them a variety: rice, sago, ground rice, and various other kinds in turn. Our idea in so doing is two-fold. One or other of the puddings is sure to be disliked by some of the children at first, but they get to like them all after a little experience; the other reason is that we think that the appetite is thus better stimulated than with a monotonous diet.

Dinner Regulations.—There is no compulsion to eat rice pudding—there is no compulsion to eat anything. There is, however, one rule, viz., when the children first come to the dining rooms, they must try to eat the first course, and if they are not willing to try, they go away without any dinner.

That happened once in the case of two children. If they try, we are confident of the result; they eat a good bit that time, and the next time they enjoy it thoroughly. They need not touch the second course, but I have never heard of any children refusing it; they all like it too well.

CHILDREN'S TASTES.—I do not think the more solid food is preferred to the rice pudding* because it is solid; it is because they are so used to it, and some of them are not able at first to digest the lighter food. There was a sad case in the Open Air School where a child could not take anything but bread, everything else made it sick, but it soon improved in health and was glad to eat anything.

THE FEEDING OF INFANTS.—I do not know whether I agree that infants need a different dietary, that is, if the dietary is sufficiently varied and well thought out. Our infants are all seated at low tables suited to their height, and throughout, whether infants or others, every twelve children have a monitress. The monitresses looking after the infants' tables usually have to coax the little ones. In the first place they are given small serves. The monitresses ask for what they want, and if

* Rice is the poorest of all cereals in protein, fat and mineral matter. On the other hand it has fully 76 per cent of starch. The starch has the further advantage of being present in small and easily digested grains. When boiled, rice swells up and absorbs nearly five times its weight of water, while some of its mineral constituents are lost by solution. It is preferable, therefore, to cook it by steaming. . . . The nutritive value of rice is much impaired by its poverty in protein and fat. Hence it is not adapted to be an exclusive diet, but should be eaten along with other substances rich in these two elements, such as eggs, cheese or milk. It is interesting to note that in countries in which rice is largely used as a daily food, this is actually done, as in the Italian *Risotto*, the Turkish *Pilaff*, and the Spanish *Pollo con Riz.*—*Food and Dietetics*, Hutchison, 3rd ed., pp. 228-9.

For further details *re* chemical composition, digestibility, etc., cf. *ibid.* See also note on p. 173.

Maize is not so largely used as human food in Great Britain as it should be, but throughout America it forms a staple article of diet, while in Mexico and Natal, maize is literally the "staff of life" (Letheby). It was introduced into Ireland at the time of the potato famine in 1848, and has since established a place for itself in the dietary of the people, so that Ireland now imports more of it for food purposes than any other European country.—*Food and Dietetics*, Hutchison, 3rd ed., p. 223.

For full particulars of its chemical composition, great economic and high nutritive value, cp. *ibid.*, pp. 224-226.—Ed.

they come from the infants' tables, they say "a small serve, please." A small serve is given, and in some cases with small children, the monitresses partly feed them. We think it is good for the monitresses as well as for the infants to have that work to do, because it teaches them a little of the joy of service, and arouses the motherly feelings in those girls.

Drinking at Meals.—One mug is allowed for every child, but water is only given on request. We do not encourage the children to drink cold water with their food.*

Co-operation Between School and Home.—One lady said we must alter the homes. A little recipe book the Committee has circulated has done a great deal of good in the homes. Again, in all the domestic economy centres there are open days when the parents come and see the children at work. We find this way of keeping in touch with the parents very beneficial. One mother said, "I want to thank you for what you have taught my girl and made her here." If we could get a little more of that spirit among the parents, it would do good in the homes.

*It was the custom at one institution to place glasses on the table at meal times, but inverted, by way of a delicate hint that their use was undesirable.

Cf. also *Aids to Fitness*, p. 303.

This practice came in for severe condemnation in a paper by Dr H. F. Winslow at the recent Brighton meeting of the British Medical Association, July 26, 1913. Speaking before the section of Dietetics, he suggested that mankind would enjoy much better health if they would only recognize the fact that it is wrong to drink at meal times. All drinks should be taken between meals. He was not talking about alcohol; in fact, he entirely dissociated his present contention from any discussion of temperance. What he wanted people to do was to eat without any sipping at all.

When we consider the whole animal world we find none that take occasional drinks while they are making a meal. The liquids of the alimentary tract are in themselves quite sufficient to carry out digestion. The same may be said of domestic animals with the exception of the pig, which was usually fed on wash, and thus, in common with man, had its digestive fluids overweighted and its attempts at digestion handicapped by this additional liquid. The result was obvious. The domestic sow ran to fat, and could not in any way compare with her ancestor, the healthy, energetic wild pig. Men and women used the same methods as the pig; they mixed many solids and liquids into a "horrifying mash." He believed that many ills, including the whole of those grouped under the name of neurasthenia, were to some extent due to errors in diet, and he believed that this taking of liquids with meals was our chief dietetic error.—Ed.

PROPOSED EXTENSION OF DINNER HOUR—AN UNATTAINED IDEAL.—There is an ideal to which we have not yet attained, viz., that the supervision of the dinner hour be extended, and that a teacher should be there to look after the children when the meal is stopped.* Great difficulties arise, because if the teacher is engaged for that, she would need to have free time before or afterwards. It would be, however, wholly good, since the children are likely to get into mischief if they do not return home before school time in the afternoon. They might be told stories, and kept amused. If we could do this, we should have reached high-water mark, but we are not there yet.

A FRIEND AND NEIGHBOUR.—DR HADEN GUEST, in reply: During the discussion references have been made to my paper, the chief one by Miss Elliot, whom I have the pleasure of knowing very well. She works within twenty-five yards of me, and it is interesting to find diverse practice in the same district.

RELATION OF PARENT AND STATE.—Miss Elliot raised the question as to whether the State was the best parent. I did not wish to raise that question, because I was not thinking of the State in that sense exactly, but of the State as helping the parents to discharge their responsibilities. If I may say so my own ideal in the matter is simply that we should like to see every family with a regular income with which the mother and father could look after their children in the way we should like to look after our own children. Under these conditions meals at school would only be required in the way in which I wish my children to have meals at school. I want to get the levelling up of the community to a position in which the conditions of life prevailing in good middle-class homes are fairly imitated in all homes, but we complicate the question unduly if we try to solve all these problems at the same time. There is no one solution; you need to have not one thing, but a large number of things. The parent has a duty and the State has a duty, and we recognize there are these different duties. If we cut up the subject into sections we can handle it more easily.

BODY BUILDING AND CHARACTER BUILDING.—It is, for instance, necessary for us clearly to put out of our minds the

* Cf. pp. 18 and 463.—Ed.

idea that we are in antagonism in the free feeding of children. Miss Elliot used the word inhumane as if I had any intention of classing people who differed from myself as inhumane. Nothing was further from my mind. I do not think Miss Elliot's view and my own are in opposition. They are complementary to one another; you have to do two things, you have to help people, as Miss Cuff says they do in Bradford, by giving them assistance in their homes and teaching them to cook in their homes, and those of you who know the work in which Miss Elliot is engaged must realize that beyond the feeding in practice there must also be help given to individuals in trying to build up character. That is an immensely important matter. It is the spirit and soul we want to get at, but unless the body is well fed, the spirit cannot express itself. We must keep these things distinct and separate if the work of building up character and that of dealing with the children from the educational standpoint is to go on.

A Grave Problem.—We have a large number of under-nourished children. When you have the children undressed for medical inspection you often realize how terribly under-nourished they are, though they frequently have rosy faces. I have this constantly said to me: " I did not realize that child was like that."

Its Solution.—We are not faced with the problem of dealing with the ideal; we have a practical problem, and we are proposing to get a better meal than at present. We cannot find better authorities on this subject than Bradford and Portsmouth. In London we have not yet found the right lines, though in the long run we shall get them here.

A Via Media.—When these two views seem to be opposed to one another it would be easy to reconcile them if the people who want to build up the character in the family confine themselves to that and the ones who want to deal with the subject from the standpoint of the children in school keep to that and let them meet on the common ideal of helping people to become better citizens with better clothed bodies. The family is the unit, but you do not help the family to become an efficient unit by allowing the child to be without food.

How to Help the Mothers.—Some suggestions which have been made are of great importance: I refer particularly to one made by Lady Meyer, that one of the outcomes of the Conference might be the publication of a leaflet giving a proper diet for the day for children. It might be distributed in the homes, explained to the people by workers who interest themselves in social conditions. A leaflet of that description would do an immense deal to help mothers in their homes who do not know what to do.

Conclusion.—Finally, from the educational standpoint—we cannot do anything else than take the educational standpoint—we must deal with the child as we have him in the school, and feed him if it is necessary, simply from the educational point of view. I associate myself with Dr Blake who said it should be a matter for the school doctors to decide who are the children who require feeding. School feeding is not to be thought of as a relief, as a charity; it is to be thought of as part of the educational function of the Authority, and in that way only.

I emphasize that point strongly, and on that sit down.

In Defence of Rice Pudding.—The Chairman: This has been a very harmonious session. The only thing that has been seriously attacked has been my old friend the rice pudding, a very old friend indeed. As I gather from Miss Cuff, the rice pudding in Bradford is quite different to the London County Council rice pudding.* I wonder how many London County Council rice puddings are cooked for three hours. Then rice puddings depend on the amount of eggs you put into them, and the amount of sugar you put into them, and the amount of

* Can it be that Bradford has discovered the superior merits of unpolished rice, while the London County Council makes use of the polished article? On this subject a correspondent writes on June 11, 1913:—Might I call your attention to the matter of the great difference in nourishment of polished or unpolished rice. Are the children of workhouses and of Council Schools given the *unpolished or coolie* rice? I have seen the scientific reports on the subject. The *unpolished* rice having the thin husk left on, can support life. The experiment was tried with fowls—and those given the *polished* rice *died*—those that had the other kind, *lived*. I believe the natives abroad use the *unpolished* rice. I have tried this kind in our own house, and it cooks far better. Coolie or unpolished rice can always be got at the West Indian Produce Association,

nutmeg. It seemed to me the London County Council rice pudding was of an economical character.

Lessons from the Discussion.—The two things that are borne in upon me by what has been said are these: first of all that we are only on the threshold of our knowledge of how to feed children, that we have a great deal yet to learn, and I hope this Conference will add very largely to our knowledge. Second, that the administration of the Provision of Meals Act is in many cases very inefficient. There is no doubt that if you feed children at all, you should feed them cleanly and properly. There is no doubt that you should make them sit properly at table, and that you should reckon the school dinner an actual part of their education in manners, in the method of feeding themselves and so forth. I trust this Conference will do a great deal in the way of enabling the Local Authorities to administer the Provision of Meals Act on a more proper and reasonable basis.

I have had the greatest possible pleasure in presiding here this morning, and I thank you for the very harmonious way in which you have attacked the discussion.

The proceedings of the Morning Session then terminated.

14 Creechurch Lane, E.C. I think it is a matter not to be neglected in the feeding of children.

Such rice is increasingly in demand and is now procurable at many leading shops and stores.

Cp. also *Our Children's Health at Home and at School*, page 185 and footnote.

Rice, which has for centuries been the food of the majority of mankind, is now unfortunately so altered by polishing and coating, that it is no longer the wholesome, easily digestible and highly valuable food that it was wont to be. Polished and coated rice, when partaken of extensively as a food, is apt in fact so to derange the matabolism of the nervous system, that the sale of this cereal, thus altered, should be prohibited. Dr James Oliver in the *British Medical Journal*, July 26, 1913.—Ed.

MONDAY, JUNE 30

AFTERNOON SESSION

II. FEEDING OF PUBLIC ELEMENTARY SCHOOL CHILDREN

Chairman: Sir JAMES H. YOXALL, M.A., M.P., General Secretary National Union of Teachers and Editor of *The Schoolmaster*.

INTRODUCTORY REMARKS.—A wise Chairman lets other people speak. I have suffered many things at the hands of Chairmen, and I suppose you have also. I do not therefore propose to inflict myself upon you this afternoon. We have a long programme, admirable names upon the list of speakers, people of authority and influence, several papers to be read, and then I hope we shall get useful discussions. I am glad this Conference has been called. I am pleased to hear that you opened so well this morning, and I hope we shall have a good time this afternoon. I will now call upon Mr W. A. Nicholls, former President of the National Union of Teachers, to give us a summary of his paper.

1. HOW FAR AN EDUCATIONAL FUNCTION?

FEEDING OF PUBLIC ELEMENTARY SCHOOL CHILDREN—HOW FAR AN EDUCATIONAL FUNCTION? *By* W. A. NICHOLLS (*former President of the National Union of Teachers*).

WHAT BROUGHT THE SUBJECT TO THE FRONT.—It is curious to observe that public attention was first called to this question of the feeding of public elementary school children as the result of memoranda issued by the Director-General of the Army Medical Service and the Inspector-General of Recruiting. An inquiry was instituted into the causes which led to the rejection of so many recruits for the army on the ground of physical disability, and the possible measures by which this state of things might be remedied. In the course of this inquiry, which was carried out by the Inter-Departmental Committee on Physical Deterioration* (1903), the aspect of the question as

* Cd. 2175, 1s. 2d.—Ed.

it affects the young during the three periods of infancy, school age and adolescence was discussed.

Evidence before the Committee of 1903.—Dr Eichholz, in his evidence, said: "With regard to physical degeneracy, the children frequenting the poorer schools of London and the large towns betray a most serious condition of affairs, calling for ameliorative and arrestive measures, the most impressive features being the apathy of parents as regards the school, the lack of parental care of children, the poor physique, powers of endurance, and educational attainments of the children attending school." In a similar vein, Dr. R. J. Collie, one of the medical staff of the late London School Board, says: "Physical infirmity is practically confined to the poorest and lowest strata of the population, whose children are improperly and insufficiently fed and inadequately housed, and whose parents are improvident, idle and intemperate."

Extent and Nature of Problem.—When we deal, therefore, with the question of the feeding of public elementary school children, it is mainly, if not exclusively, in respect of those whose home conditions are the most unfavourable to the development of the physical and intellectual powers. As Dr Eichholz said: "There is an upper class, well-to-do and well cared for, to whom our methods afford every chance of mental and physical improvement. They come out well, and furnish a population probably not excelled by any in this country or in any other."

The Committee heard a considerable amount of evidence to show that the feeding of infants and of children of school age was wrong in time, in kind, and proportion. There was first, the want of food, secondly, the irregularity with which children get their meals, and thirdly, the unsuitable character of the food when they got it.

The Committee's Recommendation and its Significance.—The Committee was therefore driven to the conclusion that in dealing with the question of physical degeneracy the further question of the feeding of elementary school children must be included. This decision was of great importance, because such provision lay outside any direct obligation that had hitherto been recognized.

In London, Manchester, Glasgow, Birmingham and elsewhere the evil of underfeeding and malnutrition had long been recognized by school authorities and teachers, and various voluntary agencies, mainly acting in concert with the school managers, existed. It was, however, the subject of general agreement among the members of the Committee that as a rule "no purely voluntary association could successfully cope with the full extent of the evil."

Inadequacy of Voluntary Efforts.—It was felt and acknowledged that the evils arising from underfeeding were so widespread, and in certain localities so pressing, that some authoritative intervention was called for at the earliest possible moment "*to secure that the education of the children who are obliged to attend school shall not be hampered and retarded by the physical conditions thereby engendered.*" With scarcely an exception, there was a general consensus of opinion that the time had come when the State should realize the necessity of ensuring adequate nourishment to children in attendance at school; it was said to be the height of cruelty to subject half-starved children to the processes of education, besides being a short-sighted policy, in that the progress of such children is inadequate and disappointing.

The difficulty presenting itself to the minds of some was, how to do this without impairing parental responsibility. One witness went so far as to say: "We have got to the point where we must face the question whether the logical culmination of free education is not free meals in some form or other, it being cruelty to force a child to go and learn what it has not strength to learn." If this view be accepted—and surely there can be no hesitation in doing so—it is clear that the provision of meals for necessitous children is a distinct educational function. From this point of view, then, the feeding of necessitous school children began to be regarded as an educational function, although the evidence of different witnesses displayed wide divergencies in their estimates of the number of underfed children.

Powers Conferred under the Act.—Wisely, therefore, the Legislature conferred upon Local Education Authorities by the Act of 1906 the power to do three things:

(1) To associate themselves with any committee, on which the authority is represented, who will undertake to provide food for those children;

(2) To aid the committee by furnishing such land, buildings, apparatus and such officers and servants as may be necessary for the organization, preparation and service of such meals; and

(3) To expend the product of a halfpenny in the pound rate on the purchase of food.

A Compromise Criticized.—The committee* hesitated, however, to lay the whole burden of meeting the wants of necessitous children upon the Local Education Authority, and suggested a "differentiation of function on these terms: the School Authority to supply and organize the machinery, the benevolent to furnish the material," and the Act of 1906 to some extent reflects this view. Presumably the idea is that by this "working adjustment between the privileges of charity and the obligations of the community," the "community may be protected from the consequences of the somewhat dangerous doctrine that free meals are the necessary concomitant of free education." It is difficult to see that the sense of parental responsibility is liable to be weakened to any greater extent by the provision of meals entirely and solely at the cost of the community than it is by dividing the expense between the Education Authority and benevolent private persons.

A Consequence of Compulsory Education.—Education is a need which the average parent is unable to provide for his child. The State must therefore make public provision, although this is a doctrine only recognized in quite recent times. With regard to the parental liability to provide adequate and suitable food, it is only too true that a proportion of parents are always to be found who are unable, owing either to unemployment or to the small wages earned, to meet the necessities of their children. There are others who, through ignorance, idleness, or vice, fail to make the necessary provision for their offspring. The education law makes no distinction between children of these two classes of parents and of those who are both able and willing to supply their children with suitable food. Yet it is evident that to force underfed and

* Inter-Departmental Committee on Medical Inspection and Feeding of Children attending Public Elementary Schools, 1905. Cd. 2779, 1s. 3d.—Ed.

ill-nourished children into school is to defeat in part the very aim of education.

Choice of Agency.—Some agency must, then, be employed to perform the duties which in our present social system naturally fall upon the parents. There can be little doubt that the proper body to undertake this work is the Local Education Authority, as the law provides. It would be extremely undesirable, as the Poor Laws are at present administered, to entrust it to the Poor Law Authorities. The Education Authority possesses all the machinery for making the requisite investigations, although much of this part of the work is in the hands of voluntary workers, such as canteen and care committees, in close association with the schools.

Two Administrative Difficulties.—The two apparent defects in the administration of the Act are:

(*a*) The occasional overlapping of the action of the Poor Law and of the Educational Authority;

(*b*) The difficulty and expense of recovering the cost of the meals from neglectful parents who cannot plead poverty.

A Larger Question.—Hitherto the case of the necessitous child only has been dealt with. It is a matter worthy of consideration whether the provision of meals should not be extended to the children of all those parents who desire to avail themselves of it, and who are willing to pay. There are many children of parents who could not be described as being in necessitous circumstances who would yet be glad to avail themselves of the opportunity of partaking of a nourishing meal at a moderate cost.

How Paris Solves It.—The system adopted in Paris seems to meet this demand. The cantines are installed in each non-sectarian (public) school and are intended to furnish poor children with hot and nourishing food. In one of the rooms of the school there is a refectory where the meal takes place. At five minutes to eleven the children get out of their classes. They go into the courtyard, where, under the vigilant care of one of the schoolmasters, they wash their hands at the wash-stands. Then at eleven o'clock they place themselves in regular order and walk into the refectory. Each child, before entering this room, gives a check to the master. This check is given to

the poorer children in an unobserved manner and without charge, and is sold at 15 centimes (3 cents) to the scholars whose parents are more able to pay. Thus the children's pride is not hurt, there being no difference between the one who pays and the one who does not.

What Germany is Doing.—As in France, so in Germany, the whole movement of free meals is not inspired by charitable motives, but is prompted by pedagogical motives, since giving instruction to hungry children is about as useless as it is to sick children.

The following table will show in the briefest form what is being done in 201 German cities out of the total of 525 of over 10,000 inhabitants:

Cities of	Total number of pupils.	Number of pupils given meals.	
			per cent
10,000 to 20,000 inhabitants . .	155,186	9,372	6·0
20,000 to 30,000 inhabitants . .	78,257	6,262	8·0
30,000 to 50,000 inhabitants . .	134,549	8,034	6·0
50,000 to 100,000 inhabitants . .	251,977	17,760	7·0
Over 100,000 inhabitants . .	1,109,680	53,442	4·7

Educational Value of Meal.—There is a direct educational value in the provision of a suitable meal, served under suitable conditions, in a suitable hall, and supervised by suitable persons. Too frequently food has been served out in such a manner as to destroy all opportunity of making the meal a means of education. This is greatly to be deplored. To make the provision of a meal effective as a means not only of satisfying the bodily needs of the child, but also as a means of culture, it is necessary that a suitable room should be provided, that the table appointments, though simple, should be exquisitely clean, and that the food should be temptingly served. One would always desire to see a fair white cloth and some attempt at table decoration. It is true that, at first, the children might be unappreciative, but refined and æsthetic influences would gradually have their effect.

A Golden Opportunity.—The dinner table also affords an excellent opportunity for practising some of the courtesies and amenities of life, and particularly of developing the spirit of comradeship and mutual consideration. In these matters we should be educating the future parents.

Inter-Dependence of the Several Sides of our Nature.—In the expanded ideal of education we have learned to recognize that physical, mental, moral and spiritual education are no longer separate and almost disconnected branches, but they are parts of one whole. All that concerns the physical welfare is therefore intimately bound up with the mental and moral development. On this ground alone one could claim that the feeding of school children is an educational function. If the physical condition is below the normal, it is impossible to develop the mental powers, and sociologists would in all probability agree that, as a general rule, the moral nature suffers under conditions of destitution. Wonderful isolated examples, it is true, have been recorded of the spiritual nature remaining unaffected by an environment of dire poverty. Yet, on the whole, we may hope for a higher *morale* if the material condition of our boys and girls is improved.

Meals in Holidays.—The fact that the duty of feeding school children in our public elementary schools was handed over by the Act of 1906 to the Education Authority had one unfortunate result, in that the Act has been construed in such a way that it is only possible legally to provide meals during the days in which the schools are actually in session. For some weeks in the year during holidays and on all Saturdays and Sundays the law does not permit the Authority to provide meals. The effect upon the physical development of the children is most marked. Mr Jowett stated in the House of Commons that in observations which had been made upon fifty school children their average gain of weight during the four weeks before Whitsuntide, when they were receiving school meals, was 1 lb. 12 oz. During the Whitsuntide holidays, when for eleven days there were no school meals, the average loss of weight was 1 lb. 1½ oz. In the longer holidays the children suffer more. Rest from school studies is, of course, desirable and beneficial, but in the case of growing children cessation of feeding is palpably absurd.

The Act should therefore be amended so as to permit of the continuance of school meals during the holidays.

The Problem Re-stated.—The number of the physically unfit is a serious matter for the nation. Physical unfitness frequently leads to idleness and unemployment in after-life. The utmost care must be taken that no child is rendered incapable from want of suitable food of benefiting from the public education which is provided at such great cost. What we need is a generation physically fit, mentally active, and morally strong—in fact, educated in the true sense of the word to carry on the nation's work.

Mr W. A. Nicholls read an abstract of his paper, and added the following remarks: There are three matters in connexion with my paper which demand attention.

What Compulsory Education Involves.—The first is the intimate connexion that there is between compulsory education and the physical condition of the child. The inquiry by the Inter-Departmental Committee of 1903 into the alleged physical deterioration of the English race took place as a result of the report made by the head of the recruiting department of the Army. Originally it bore no relation whatever to the question of school life, but it was forced upon the Committee as an inevitable conclusion that this must be dealt with. You will all agree to three propositions. The first is that you cannot successfully teach starving children; the second is that it is a species of cruelty to insist upon education and force all the routine of school life upon children who are physically unfit; and the third is that it is wasteful expenditure on the part of the Government and the Local Education Authorities, to endeavour to educate children who are incapable of benefiting by the teaching that you are endeavouring to give.

Extent and Nature of Problem.—The second point is the vast number of under-fed or improperly fed children. It is only too well established that there are, both in rural and urban areas, vast numbers of school children who are improperly or insufficiently fed. That arises partly from neglect on the part of the parents, and partly from indifference and ignorance. This was so clear to many people before anything

like State intervention or Municipal intervention took place, that the teachers in Bradford, Leeds, and other large cities and rural areas discovered that their time was being wasted upon children who were so ill-fed that in consequence of their physical condition they failed to benefit by the teaching given to them.

THREE POSSIBLE SOLUTIONS.—Now it is plain that if there are such large numbers of inadequately nourished children, there are three courses open. The first is to trust to voluntary effort, and it has been demonstrated that voluntary effort is inadequate. For one thing it is too intermittent. For one session there is abundance of funds, the next session you may be almost deprived of funds. The second course is to hand over to the Poor Law Authorities the obligation of feeding the children. The chief objection to this is that we have no right, at that early stage of the child's life, to put the stigma of pauperism upon it; the Poor Law Authorities have not the requisite machinery and are not established for the express purpose of looking after school children. The third course, and that which commends itself to most people, is that the responsibility of caring for the physical needs of school children who are compulsorily at school should rest with the Local Education Authorities. They have all the requisite machinery: they have a large number of School Attendance Officers,* most of them are men of judgment and sympathy, who get to know not only the routine duties of their office, but a great deal about the parents and the homes from which the children come. Their work is superior to any voluntary agency. Sympathetic men and women with a knowledge of social conditions are often only too glad to associate themselves with the machinery that is established by the Local Authorities.

AN INCIDENTAL DIFFICULTY.—Out of the fact that the responsibility rests with the Local Education Authorities

* In Gloucestershire a School Nurse has been appointed to act also as School Attendance Officer, while Dr Barwise in Derbyshire has carried out a successful experiment on the same lines. His report is quoted by Sir George Newman (Annual Report, 1911, pp. 99-104), where the subject is discussed in the light of the important change, which the introduction of Medical Inspection has made in the work of the School Attendance Officer.—Ed.

arises the difficulty that it is only during school sessions that the children may be fed. That, of course, we all acknowledge is an absurd state of things.

Far-reaching Possibilities.—Finally, feeding the children is not only a duty, but has a direct educational value. In the homes of dire poverty from which some children come, with vicious parents, there is no proper standard of living. As was said this morning, if you set up a proper standard in the feeding centres, you educate the present homes of the people, and you educate to a large extent the future homes.

A View of the Report of 1903.—The Chairman: I remember quite well the sensation which the report of the Committee to which Mr Nicholls has referred created in the country. We had a great outcry to the effect that terrible degeneration was going on. I regarded that as unphilosophic and unproved. I do not believe there is any degeneration or decadence in human nature in the country or in the nation. What the Committee discovered was this: that, examined more closely than hitherto, a larger number of defects in the average person, particularly in the younger person, existed than we had hitherto been aware of.* That in itself is a good thing. To discover these defects ought to mean turning our attention to methods of doing away with them. On that account, and to that extent, I welcomed the report.

Some of Its Fruits.—The scaring effect of that Committee has largely passed away, and the really valuable effect has remained. It caused us to pay more attention to the state of the young people of the country. In this way it has given us several results of great import and value; for example, the system of Medical Inspection of Schools, the provision of School Nurses, and so forth. These are all in their infancy, but they are going to manifest beneficial results before many years are

* The conditions in this country were no worse than those in other countries, but they still exhibited a great deal of neglect. Figures showed what a serious amount of illness and trouble there was among children when they entered school. Here were some of the statistics—10 per cent had their eyesight impaired, 5 per cent had defective hearing, 3 per cent ear disease, 5 per cent adenoids, 50 per cent serious decay of the teeth, 2 per cent heart disease, and 10 per cent suffered from malnutrition.—Annual Statement of President, Board of Education, House of Commons, April 10, 1913.—Ed.

over. Another consequence was the quickening given to the method of educational aid which we are now discussing.

Inadequacy of Voluntary Effort.—Mr Nicholls has pointed out that before the year 1903, and before it was legal to spend public money upon school meals, many voluntary efforts had been made, in various parts of the country, by the teachers, and by philanthropic people; he also pointed out that these voluntary agencies were insufficient to cope with the great work that had to be done.

Where Existing Arrangements Fail.—Anybody who has been present at school meals will have felt that they are excellent from the dietetic point of view, that they do present almost a model in the way of wholesome food, prepared and supplied at the minimum cost, but he will also have felt with Mr Nicholls that the serving of the meals, the tables, the napery, the crockery, and all the surroundings did leave something to be desired.

How Children Educate their Parents.—I am glad he has pointed out that, in addition to feeding the child who requires feeding, the school meal may be made a method of cultivation and refinement, and from the school meal table, if properly arranged, children may go to their own home tables with suggestions and open or tacit criticism of what may go on in the home. In the elementary school world teachers know very well that not many parents have educated the children, but that it is now frequently the case that the children educate the parents, and this is one way in which that can be done.

Two Glaring Anomalies.—Mr Nicholls referred to the holiday period. It is not legal to spend public money upon this. There are, however, other cases even more absurd. Take a London County Council school, where regularly during school sessions for the year 300 children are fed. At the end of the fifth, sixth or seventh year that school must be cleaned and re-painted, and it is closed for three weeks. The children in that particular school cannot be fed during that time. I do not know why that qualification was made except from a desire to attach the school meal to the work of the school. The children ought to be allowed to attend the

feeding centre of a neighbouring school. There is a Bill to remedy this state of things, but there seems little likelihood at present of its passing.

THE FEAR OF PAUPERIZATION.—I hope this afternoon we shall do something to insist so far as we can that when you compel a child to come to school to learn, you should endeavour to put him in a position that will allow of his learning, by not causing him to sit with excessive hunger at the desks where you offer him an indigestible meal in the mental way. The risk and danger of pauperization of which so much used to be made has not materialized so far. I should think experience has shown quite the contrary, and parents who need this help are very grateful as a rule and do not abuse it.

RELATION OF MALNUTRITION TO POVERTY.—DR SPENCER BADGER (School Medical Officer, Wolverhampton Education Committee): I am somewhat reluctant to start by saying that I am bound, for the sake of science, to disagree with a good deal I have heard in this paper. It has been suggested that free meals are a necessary concomitant of compulsory education. I deny that *in toto*. The association between malnutrition and poverty has been grossly exaggerated.* I have found malnutrition in children in numbers of cases, and in a very large proportion poverty *per se* had nothing whatever to do with malnutrition. It is a popular error to suppose that malnutrition is always caused by poverty. There are cases, it is true, where it is associated with poverty, and in these it is found very largely that that poverty is connected with downright neglect.

A SHORT-SIGHTED POLICY.—I say this with a sympathetic heart, because I appreciate to the full the difficulties under which poor people labour. One is, however, bound to admit that the net result of our philanthropic efforts for many years has been to cultivate the "rotter," because we adopt a policy which is scrappy, which is not based on a solid foundation, and which holds out no hope of social regeneration. We take, in short, the easiest course, which is also a short-

* Dr Badger has carried out a valuable inquiry into this subject, which is summarized by Sir George Newman (Annual Report, 1911, pp. 24-5). The conclusions arrived at will be found on p. 350.—Ed.

sighted policy. I will admit there are certain cases where malnutrition is found to depend upon poverty *per se*, but I ask what attention do we pay to the causes of this poverty? While we provide palliatives, we do nothing to get rid of the trouble. Those who have worked in the schools know perfectly well that one of the commonest causes of destitution amongst school children is that the father is out of work. If only we spent on finding employment for these people one-tenth of the cost of bolstering up wrong methods, the result would be that we should hold out a better chance of regenerating this country.

Feeding: A Temporary Expedient.—Vice Admiral Johnstone: I admit the need of feeding in the schools, but it should be considered a temporary measure, because I cannot divest my mind of the idea that it is deteriorating to the people who enjoy the benefit of it. Our present system is one of administering relief, and that relief should be given by the Poor Law, and in no other way. The Education Authorities should not have to carry out a subordinate system of Poor Law Relief. I cannot agree with a previous speaker as to the disgrace attaching to the Poor Law. This has been very much reformed in the course of its administration, and I look forward to a much more complete reform of the Poor Law in consequence of the report of the Royal Commission. It is a great disaster that no effect has been given to the Report. At present we are waiting, and therefore the system of feeding school children is a necessary evil until there is some further improvement in the Poor Law, so that all relief can come from that quarter.

A School for Manners.—The ethical effect of dinners administered to school children is excellent. It is certainly a way of raising the lower classes, and to that extent it is very much to be recommended, but that is a good result which is no part of the object. It is an extension of the word education to say it is to apply not only to the learning given in the elementary schools, but also to manners in every sense of the word. I do not look lightly upon the benefit of good manners, and the standard is increasing immensely. I wish it were in the upper classes.

Improper Feeding as a Factor in Ill-health.—I cannot but regret that in none of the papers has anything been said particularly about the nature of the food and its relation to health. Teeth have been spoken of, and the fact that health is benefited by the teeth being attended to, but that is putting the cart before the horse. The teeth are bad because the health is bad. What ought to be improved is the health, and the teeth will improve of themselves. I have little doubt that the ill health and the great degeneration that is found in the nation at the present time is due to improper modes of feeding and improper times of feeding.

Lives and Health of the Well-to-do.—It would be wrong that this Conference should dissolve before taking into consideration these questions. If one looks around, one cannot but be struck with the gross imprudences committed by the well-to-do classes—the number of times of eating and the things eaten which are inconsistent with one another. Take the girls of the well-to-do classes and notice how feeble they are. You see anæmic girls,* with no reason why they should not be strong. Why is this not found out? These are things which should be investigated. Attention should be directed to the children. In many cases the existing generation is hopeless, but if we bring up the children properly we shall have good future generations. I hope this question of food will receive more consideration in the future.

A Controversial Question.—Dr Jessie White (Teachers' Guild): I should like to ask a question arising out of what was said by the writer of the paper and the Chairman with regard to table cloths in town centres. Do they realize what these mean? First it greatly increases the expense; second, if any child upsets things, that table cloth will remain unsightly for the rest of the week. They would also seem to advocate the use of table cloths in the homes of the people. Do they not think that a deal table, well cleaned and scrubbed, is a very sightly thing, and are they not satisfied with that? If they do not think that sufficient, I would advocate a piece of American cloth that could be cleaned every day.

The Chairman: If there is one thing I abhor, it is American cloth.

* Cp. *Our Children's Health at Home and at School*, p. 39 and footnote.—Ed.

THE TABLE CLOTH AS EDUCATOR.—MR W. A. NICHOLLS in reply: Like the Chairman, I detest oil-cloth, whether it is on the table or on the floor. I do not think the difference in cost between fresh clean linen table cloths and scrubbing down and polishing deal tables every day would be material. I quite agree that a thoroughly clean deal table is a sightly object, and personally I should have no objection to taking my food at it, but it would cost just as much as providing clean cloths on those occasions when the children happened by accident to spill on the cloth any of the food that they were consuming. Further, you would lose some of the educational advantages if you made it a slight thing to have an accident of that nature. You would inculcate care if you put on a spotless cloth.

INFLUENCE OF ENVIRONMENT.—I myself once took a couple of ragged children to one of the best Lyons' Restaurants, and the look of awe with which they gazed upon their surroundings was an education to me in itself. They were most careful in their behaviour in that restaurant. The only lapse was that one boy filled his pockets with sugar from the basin and when I remonstrated he took the sugar out of his pockets and replaced it in the basin.

THE ROOT OF THE MATTER.—I agree with Dr Badger that we do not get to the root of the matter. Everybody agrees that we do not. I do not, however, think I should be in order in discussing in this Conference the land question, for instance, as one of the causes of poverty. I must leave the real economic root to another occasion when we meet under other auspices.

THE NEED FOR POOR LAW REFORM.—I do not quite agree with Vice Admiral Johnstone that there is no stigma in receiving food through the medium of the Poor Law. With him, I wish that the Minority Report or the Majority Report of the Poor Law Commission had been carried into effect, that the Poor Laws had been reformed and all stigma removed. Under the circumstances outlined by the four persons who signed the Minority Report you would, of course, have a great deal more placed under the control of the suggested Committees of Public Assistance, than is now under the control of the Poor Law Guardians.

2. RELATION OF SCHOOL AND HOME

RELATION OF SCHOOL AND HOME. *By* M. Cecile Matheson (*Warden of Birmingham Women's Settlement*).

Present Day Uneasiness.—One of the marked characteristics of the present day is a kind of social uneasiness that pervades all classes of society. In some quarters it manifests itself by persistent clamour for a better chance in life, in others by a constant production of schemes to give this chance. Our consciences are disturbed by a sense that all is not well, and a great many people find relief, not in constructive work, but in a condemnation of some branch of the social order. These criticisms are often ignorant, yet they do a certain amount of harm in that they are apt to depress those who are striving to better existing conditions by the slow method of evolution.

Is our Education System at Fault?—Perhaps no condemnation of this kind is more common than the often-expressed opinion that our education system is a failure. Certainly its most ardent admirer would admit that it is abundantly capable of reformation. Many people, however, feel a justifiable resentment at the optimism of critics who expect a system of education to accomplish in less than fifty years what has been wrought by centuries of effort in, for example, Scotland or Switzerland.

At the same time, however unjust a criticism, it is well to inquire whether there is a foundation of justification for this view. All educationists must feel some disappointment that rags and dirt are still a disgrace to our large cities, that medical inspection reveals an enormous percentage of unclean heads, or that thousands of the population live in conditions of dirt and squalor that defy all the hygienic efforts of municipal authorities and social workers.

Poverty or Ignorance?—One class of reformers maintain that all these troubles are due to poverty. Poverty does account for many rags, some dirt and much malnutrition, but it does not account for the hermetically sealed bedroom with the chimney stopped with paper, for the incessant choking with orange-peel and other refuse of lavatory pipes in yards and factories,

for the slops that are emptied at the back door until all the soil of the court is poisoned, for the infants of two who cry for strong tea and pickles, for the children who "can" only eat new bread. Poverty has something to do with these and a hundred other abuses that are damaging the health of the people, but the direct cause is surely ignorance, and not poverty.

A Disquieting Feature.—It is this ignorance that is disquieting. For forty-three years elementary education has been compulsory and universal, and in London, at any rate, this education has always included the principles of personal and civic hygiene. Such teaching is rapidly becoming general. We also teach the girls to cook and wash, to clean and sew. How is it that we have still slums in a worse degree than can be accounted for by bad housing and poverty?

The Missing Link.—This is a complex question, and cannot be met by a simple answer. There are, however, one or two considerations that may guide us in considering it. In the first place, we have in some way evidently missed the connecting link between education and "life in the world." For some reason, school teaching is not becoming a part of the life experience of the children in the same way as do the traditions of the parents with regard, say, to food or to slops, and the result is a disappointing reversion as soon as independence is attained.*

* Injudicious feeding is mostly due to parental carelessness and ignorance of food values. As a rule, the children get sufficient quantity, but injudicious quality. We believe that more effort should be, and could be, made to reach the mothers of the girls taking cookery instruction. They might quite well be invited to attend the classes along with their daughters. Until the mothers are convinced of the increased benefit to health by a better knowledge of dietetics, and a proper utilization of the various foodstuffs, and of the economic importance of this, much of the teaching at present given will be lost. School instruction in preparing meals is apt to be overshadowed by the maternal methods in vogue at home, and the lessons the child learns from the cookery instructress have largely evaporated ere she has charge of food preparation herself. The same remarks apply to the lessons in housewifery, inaugurated under the supervision of Miss Hitching. Vigorous efforts should be made to enlist the sympathy of the mother by evening lectures on the same lines as those given by the school nurses recently. Continuation courses on home management ought also to be organized.—Dr Lewis Thompson, Senior Assistant School Medical Officer, Derbyshire, 1911.—Ed.

A Suggested Solution.—Many people have supposed that the missing link would be supplied if education were made more practical. Teach the girls to cook and the boys to use tools, and they will see that the school is a useful place and connected with daily life. Yet it is precisely in these practical departments that the results are most disappointing. The reason of this is not far to seek.

Theoretical and Practical Education Contrasted.—Theoretical instruction, for the most part, fills a void in the minds of the children. It is difficult enough to instil any sense of the pleasure of learning, but at least there is no tangible opposition, beyond a rather intensified form of the opposition to instruction common, at some period of their development, to most healthy children in all classes of society.

With practical instruction the case is different; the teacher has to run the gauntlet of the accumulated tradition of the neighbourhood, a fact which perhaps has not been taken sufficiently into account in our hygienic teaching.

Instances of Ignorance and Superstition.—One is reminded of the child with discharging ears who was taken for the advice of a busy specialist at the hospital. He gave his directions, but the child was ultimately declared to have been cured by an infusion of roasted worms; or of the little girl who was to swallow a live mouse because she was too difficult a case for the hospital to cure.

Every district nurse and social worker can give instances of this kind, and yet the mothers of the young children of the present day have all been to school. They have been taught the laws of health, they have cooked with utensils copied from those of their own homes, and much conscious effort has been expended on bringing the practical teaching within the field of their mental vision.

Evidence is forthcoming on all sides that these efforts have succeeded to a large degree, and yet—how very far they have not succeeded. It seems to many social workers that much more might be achieved.

Qualifications and Limitations of the Teacher.—In the first place, the teachers know what they want to impart, but do they know sufficiently what they must first bid to depart?

Do they personally know the difficulties in the way of cleanly living that tempt the weary mother to take the shortest cut to the completion of her work and to inefficiency? Do they know the curious traditions that linger on in their districts, undoing so much of the work of the health visitor and the district nurse? Above all, do they understand the English language as spoken by the parents of their pupils, the local importance given to different words, the local meanings attached to various phrases that to the local mind "weight" praise or blame to an extent often undreamed of by the uninitiated? It is where knowledge of this kind is wanting that the connexion between school and home is incomplete, and this knowledge is hard to gain without long friendship with a district.

The "Water-Tight" Compartment Mind.—The training of teachers is already so long and expensive that it would be hopeless to expect them to add a period of social training. Is it, however, too much to ask that teachers should recognize this limitation and should try to supply the deficiency by closer union and co-operation with the social workers, and that these, for their part, should enter more heartily into the difficulties of the school life? England suffers terribly from the "water-tight" compartment mind. Work of all kinds is so pigeon-holed, and there are ordinarily no windows between pigeon-holes. A kind of nervous distrust and fear of interference leads to the multiplication of social agencies, so that one of the greatest problems of the day is how to save good effort by co-ordination and a sense of interdependence through all our social forces.

Breaking Down the Barrier.—The last ten years have shown a great advance, and the recent growth of Care Committees is doing much to break down the barrier between school and home, which is the more dangerous because so many schools are not aware of its existence. The local social workers may be able to supply a missing link, especially if they may occasionally attend lessons given to the children in the school.

An Illustration with a Moral.—Mention was made a little way back of the evidence that comparatively little has been

achieved in the way of instilling notions of health into the minds of elementary school scholars.

An instance of this may lead us to the discovery of another of the missing links between school and home. The present writer was recently visiting a factory, and remarked on the over-heated atmosphere in certain large and otherwise well-arranged rooms. The reply was that when the girls worked alone there was an increasing demand for open windows, but the men would not have them. Here is expressed a difficulty that does not seem to have occurred to our inspectors and Education Committees.

Results of our One-Sided System.—Our domestic and hygienic teaching is too much confined to one sex. What is the use of teaching principles of nutrition and economic distribution of income to a girl, when all her male relations are convinced that a man's strength can only be kept up by chops and steaks? He probably flourishes on his chosen diet, but underfeeding or malnutrition is the fate of his children and their mother if his food, which comes first when he is in work, swallows up a disproportionate share of the family income.

It is too often the case that what the girls learn from their teachers they unlearn from their brothers and their sweethearts. This difficulty can only be met by extending domestic teaching in some measure to boys' schools.*

What Extension Might Achieve.—Such an extension might also have a valuable effect in promoting home happiness. The working people do not keep servants, and there are many contingencies when it is a great help to a man to be able to cook. Help is not always obtainable if a woman is ill. Many men do learn to do what is necessary in the evenings and on Sundays. Then, too, there are many cases when the husband is delicate or out of work and the wife is the main support of the family. This condition of affairs far too often entails a double burden on the woman, who has to clean and cook after and before work hours while her husband is perishing from inaction.

It is also, perhaps, not quite idle to hope that a better knowledge of the wife's work would lead many a husband to

* Cf. p. 268.—Ed.

be more considerate of his wife, many a lad to be more forbearing to his mother.

AN ENCOURAGING EXPERIMENT.—Recent experience of teaching boys to patch and mend makes one hope that the prejudice against doing "women's work" is not ineradicable, and that more general training might lead to a much more intelligent co-operation between husband and wife than is often found at present.

Probably many other links will suggest themselves, and it is certain that the means of improvement will vary in different localities in accordance with local traditions and local diction.

SUMMARY.—In conclusion, while every one admits that our schools have done much to promote healthy living, we must all sorrowfully allow that much more remains to be done, and we must recognize that at present there is a great, unexplained leakage of knowledge. It is possible that much of this waste is due to a lack of connexion between school and home, a lack of common knowledge and common imagination that prejudices concord and understanding between teacher and parent.

I urge, first, that this difficulty could be lessened by better co-operation between teachers and those students of local psychology—the more expert of the social workers. Secondly, that masculine prejudice is undermining much of the healthy influence of our domestic teaching, and that this teaching should therefore be given to both sexes.

A summary of the paper by MISS M. CECILE MATHESON was read in her absence by the Secretary.

PARENTAL IGNORANCE ILLUSTRATED.—MR GERALD C. MABERLY, M.A., LL.B. (Secretary Kilburn Lane School Care Committee), in opening the discussion: I have not any criticism which I can make with anything but great humility in view of the eminence of the writer of the paper. I entirely agree that the injury to the health of the child is largely due to ignorance as well as to poverty by itself. I remember one of the first parents I had to interview as Secretary of the Care Committee was the mother of a child that was defective in everything it was possible to be defective in, and when I pointed out how shockingly this child had been neglected, she said, "it is a twin, and as it cannot grow up, what is the use of spending money

on it?" I had quite a difficulty in convincing her that the fact that the child was a twin need not prevent its growing to maturity.

CHERCHEZ L'HOMME.—I also agree with Miss Matheson as to the desirability of instructing the boys as well as the girls in the hygiene of the home. I have found mothers quite anxious to have open windows, who have said, "it is no use trying, because when the father is at home, he won't have it." I have never found the reverse, so there is a good deal to be said for instructing boys as well as girls in the elements of hygiene.

WHY CHILDREN FORGET.—I do not quite agree with Miss Matheson's account of the "great unexplained leakage of knowledge." She seems to think that the fact that so many children lose in after life all grasp of the facts of hygiene they are taught at school is due to lack of connexion between school and home. I think it is susceptible of a simpler explanation. The majority of us have forgotten facts we learnt at school. When we remember that these children mostly come from slum districts, that they are probably suffering from malnutrition, are very likely sleepy and listless owing to the bad air in which they live, and late hours, or are suffering from anæmia through lack of food,* we shall realize how hard it is for them to fix their attention upon the teaching and to grasp and remember what they are taught. Bearing all these things in mind, it is not a matter for surprise that we find the children have forgotten half, or more than half, of what they were taught in their school days.

A VICIOUS CIRCLE.—The remedy for that is the gradual abolition of the poverty which causes these bad conditions. I do not deny that ignorance is a direct cause of injury to health, but I say that the ignorance is caused by poverty—by the ill-health that poverty produces. You then get back to poverty as the root cause of this ill-health.

A DEFENCE OF PRACTICAL EDUCATION.—I do not altogether follow Miss Matheson when she says that the practical teaching in schools has been more of a failure than the theoretical.

* Or improper feeding—see p. 352.—Ed.

When you go to the homes, you see they have lost the practical teaching in hygiene, but you cannot prove so easily whether they have lost the theory they then learnt. I do not know what justification she has for saying that theoretical knowledge is more generally retained than practical. Children will assimilate knowledge better when it is connected with the practical affairs of life. Children enjoy playing at sweeping and cooking. I have helped in the foundation of a school,* an object of which is to connect every subject with its utility in after life. We have made awful subjects like geometry and trigonometry, which used to be instruments of torture in my school days, attractive, by showing the children how to use them, and showing them to be really practical and serviceable things. The more practical we make education, the better it will be.

That is all I have to say about this excellent paper, with most of which I cordially agree.

Where and Why Elementary Education Fails.—The Chairman: Perhaps I may be allowed to make a remark. Miss Matheson asks: "How is it that we have still slums in worse condition than can be accounted for by bad housing and poverty?" She answers, "For some reason school teaching is not becoming a part of the life experience of the children." I think there is one simple explanation which is seldom thought of, yet which goes to the root of the matter. We all can remember in our own lives, or we see it in the lives of our children, that not till after fourteen years of age do we recognize much relation between school and life. Nearly all children in the Elementary Schools leave school before that age. Not 5 per cent remain after that critical and all important age. That, I think, is the explanation, simple but adequate, of the difficulty to which Miss Matheson refers.

In the absence of any further debate, we pass to the next subject.

* King Alfred's School, Hampstead.—Ed.

3. THE DIET OF COUNTRY ELEMENTARY SCHOOL CHILDREN

THE DIET OF COUNTRY ELEMENTARY SCHOOL CHILDREN. *By* Mrs Amy Walker Black (*Chester-le-Street, Member of the County Durham Education and Insurance Committees and Chester-le-Street Union Boarding Out Committee*).

Is Children's Home Feeding Adequate?—The necessity for the feeding of elementary school children by the community has gone beyond the region of discussion. The principle has been conceded in the case of necessitous school children, but the advisability of providing a meal for all school children every day must likewise be considered.

Mr Jowett, one of the members for Bradford, has this Session introduced a Bill* to enable authorities to feed children during vacation, as it has been discovered that, owing to the different diet they receive at home, much of the good obtained by the school feeding is undone. The diet of ordinary school children is almost as unsatisfactory as that of necessitous children, and regular school feeding on scientific lines will have to be undertaken for them as well as for the needy.

A Question that Must be Faced.—This is a matter of vital importance not only to the welfare of the children as individuals, but to the interests of the nation as a whole. Most people are familiar with the fact that various inquiries during recent years have proved that as a nation we are degenerating physically to an alarming extent. If this degeneration is to be stopped, and the former physique of the nation regained, it will be necessary to proceed along these lines.

* Education (Provision of Meals) Act Amendment Bill. This allows Local Authorities to provide meals on days on which the schools are not open. The Bill has been before the House of Commons during the last three Sessions, but though, as was stated by Sir George Newman (Report, 1912), it is a matter of common knowledge that this Bill received the sympathetic support of the Government, it has not been placed upon the Statute Book.

The President of the Board of Education, however, stated in the House of Commons on July 22, that next year's Government measure would enable Local Authorities to provide meals on Sundays and holidays.—Ed.

LIMITED SCOPE OF PAPER.—In this paper, however, it is purposed to deal with the question only from the point of view of a semi-urban mining district such as the county of Durham.

THE ACT OF 1906 IN DURHAM.—The county of Durham, which has pioneered in various directions, was one of the first counties* to put into operation the Education (Provision of Meals) Act. This was adopted in 1907 for the parish of Southwick, and was rendered necessary by a very acute depression of trade in the neighbouring borough of Sunderland.

FINANCIAL SIDE OF THE EXPERIMENT.—The ½d. rate allowed by the Act only produced in the area £83 14s. 8d., and this formed part of a fund which was administered by a Committee that also collected private subscriptions. The County Council gave grants between the dates December 2, 1907, and March 31, 1910, the total being £261 6s. 8d., which included £21 5s. 2d. for apparatus in addition to the ½d. rate for food. The total fund of the Committee during that time amounted to £1,683 11s., of which £232 18s. 7d. was spent on the purchase of boots, and there was a credit balance at the end of the period of £101 1s. 7d. This left £1,349 10s. 10d. available for the provision of food.

NUMBER AND COST OF MEALS.—The number of meals provided was 197,578, so that the cash cost was practically 1⅔ of a penny. It must be mentioned, however, that large quantities of food were given by the miners in the villages in the neighbourhood, who had not been affected by the depression, so that the actual cost would be much more. There were several epidemics of infectious disease during the time, and in the case of needy children who were attacked meals were regularly sent to them in their homes.

DIETARY.—The menus provided were as follows:

BREAKFAST.—Cocoa and Bread with Jam occasionally, or Currant Bread.

DINNERS.—(*a*) Soup and Bread; (*b*) Rice Pudding, Milk and Sandwiches; (*c*) Sandwiches and Cocoa.

The sandwiches were made from the ham that had been boiled for the soup the previous day.

* Only a handful of counties have taken advantage of the Act. Those which have provided meals on a comparatively large scale are: Cheshire, Lancashire, London and Worcestershire, and in Wales, Carnarvon and Glamorganshire.—Ed.

Some Incidental Difficulties.—The Committee deserve the highest praise for the valuable services they rendered at a difficult time. It must be recognized, however, that they were severely handicapped by the fact that the necessity for feeding was only regarded as temporary, while as the fund was largely voluntary it made the income precarious. In addition, the contributions received in kind consisted largely of bread and vegetables, and this somewhat restricted the diet. The result could not be satisfactory, either physically or educationally. Moreover, owing to the small contribution to the total cost, the Education Authority was unable to exercise much control over the arrangements.

Extent and Causes of Malnutrition.—Hitherto, as in the case referred to above, school feeding has usually been adopted in consequence of temporary trade depressions or chronic low wages. Medical inspection all over the country, however, has shown that malnutrition exists at all times, and not only amongst the very poor. This is the result very often, not of under-feeding, but of wrong feeding. The county of Durham may be taken as a quite typical illustration.

"A Large and Increasing Number."—The greater portion of the people are engaged in the coal-mining industry, wages are relatively high and employment fairly regular. We find, however, in a report for 1911 of one of the school medical officers, that "about 50 per cent of the children are well nourished, but a *large and increasing number* can only be classed as moderately well fed, while a small percentage, about 2·5, are distinctly suffering from malnutrition. We cannot help associating the fact with the excessive use of bread and jam, tea, tinned and other preserved food."

The Main Factor.—In a report for 1910 another School Medical Officer for the county states that "dental caries is more responsible* for malnutrition than all other causes combined. . . . The greater prevalence of caries amongst better-class children indicates dietetic errors. . . ."

Durham Diet in the "Good Old Days."—The lowering of

* At the Cambridge meeting of the British Dental Association, August 5, 1913, Mr W. H. Jones, of Downing College, and borough dentist, declared that everything went to show that dental caries was a contagious disease.—Ed.

the Army physical standard time after time during recent years appears to suggest that this malnutrition is of comparatively recent growth. In view of this fact, it is interesting to consider the diet of the people of the mining villages of Durham about sixty years ago. Butcher meat was only obtainable once a week. Practically every household had a kitchen garden, and many miners kept pigs. The bread was made from country-ground "seconds" flour, and a good supply of old and butter milk was generally obtainable at a low price. The home-fed bacon, the produce of the garden, and the coarse though flesh-forming flour was the staple diet of the people. The food was varied by the addition of cheese, whilst raw onions also occupied no mean place in the dietary. Though simple and rough, this fare provided the essentials for a good standard of physique. It was not adopted by choice, but of necessity, in consequence of the conditions that then prevailed.

A Miner's Family Budget To-Day.—A change in the conditions of life has taken place in the colliery villages since that time. The old colliery house, provided by the colliery company, with its garden attached, is giving way to the rented house in streets without gardens. The Co-operative Societies have arisen, and are able to supply the villages with all the latest products of civilization. The miner's wife, unlike the woman of the South, still bakes her own bread, but the flour must be the best Hungarian Whites.* She still uses large quantities of bacon, but it is not home-fed. Butcher's meat is eaten every day, but the farm milk has been replaced by tinned milk, often skimmed. Tinned meats, jam and soft, sweet biscuits form a considerable part of the food of the miner and his family. Fruit is in fairly common use as an article of food, but is usually eaten between meals. Low-grade sweets and biscuits are eaten in considerable quantities by the children between meals.

* White bread did not contain "vitamines" and this did not perhaps matter so much in middle-class diet where there were other articles available, but the fact was all important to the working man and his family, where they were down to the bedrock of bread and tea and jam. Here they had semi-starvation. . . . Wholemeal black bread should be substituted. Professor Leonard Hill, British Association, September 15, 1913.—Ed.

Havoc Wrought by Sweets.—This, of course, is detrimental to the digestion in various ways, and is particularly injurious to the teeth. These are generally dirty, and caries results. "When it is remembered," states one of the School Medical Officers, "that defective teeth cut at the root of efficient mastication and nutrition, and that oral sepsis is a well-recognized cause of anæmia, debility and a train of other ills, is, in fact, one of the commonest causes of ill-health among the married women of the race (who have the double and most important duty of producing the children and of conducting the home life and providing for its comfort), it must be quite clear that neglect of the children's teeth is fraught with most disastrous consequences."

Some Grave Statistics.—How serious this question is is shown by the following figures for the county of Durham reported for 1910. The dentition of something like 33 per cent of the children is classified as bad, and 39 per cent as good. "Good" even does not ask a great deal—less than three and less than four decayed teeth for 13's and infants respectively. It is noted that the teeth of Poor Law children were cleaner and sounder than those of other children examined at the same schools, and their nutrition was also better. This is probably accounted for by the fact that they were accustomed to a better balanced dietary than the other children.

The Comparative Test.—So far as the children of the county of Durham are concerned, they are below the normal standard, the figures for the county being very unsatisfactory as compared with those obtained for the British Medical Association by Galton.* No doubt, however, it will be found that a similar state of affairs exists in mining districts in other parts of the country.

The Overburdened Housewife.—The majority of the mining women nowadays are not as strong as were the women of former days, while life is more strenuous than it was then. An illustration of the greater stress of life for the mining housewife may be given. As a result of the passing of the Miners' Eight Hours Act, the number of shifts worked at the collieries

* Cf., however, p. 337 where doubt is thrown on the value of existing standards.—Ed.

has been increased, so that in the case of a woman with a husband and a family of sons working in the mines, she may have to be afoot at all hours of the day and night to see after their well-being, and to provide dinner at four different times of the day on their return. If, in addition, she has children attending school, as is often the case, it is perhaps not to be wondered at if she often resorts to ready-cooked food.*

Inadequacy of Remedial Measures.—Local authorities in the county are alive to the unsatisfactory conditions of affairs. By means of improved housing and sanitation they are attempting to deal with one side of the question. The County Education Committee, by including the teaching of cookery and hygiene in the school curriculum, has for some time past been grappling with the problem, and it is now proposed to establish dental clinics in various parts of the county. The clinics will only to a certain extent repair defects, and the cookery teaching as carried on, though excellent in its way, being similar to that taught in other parts of the country, and complying with the requirements of the Board of Education, does not tend towards reform. It merely seeks to carry out more efficiently the present practice.

The Crux of the Matter.—Even, however, if the tuition were all that could be desired from a reform point of view, the results would, on the whole, be far from satisfactory. The children of the next generation would still suffer in the matter of diet, for the simple reason that the ordinary working woman, whether she live in town or country, is always over-burdened with work. She may possess the knowledge of the

* A medical man and social worker, in asking for particulars of the Conference, writes: " I am a worker in a destitute area of London and specially interested in the reform of the dietary of the children (and incidentally and necessarily of the adults) of the poorest classes. I would like to try and start a co-operative kitchen as an experiment and for this need approved dietaries, instructions to mothers and to cooks. I see the fundamental need of a total re-education of the housewife in the choice, economy and preparation of food. I should be much obliged if you could give me some ' first aid.' "

Such a scheme, with an extension of the range of dishes supplied in the cookshops and cheap restaurants, would seem to hold out the most hopeful prospect of meeting the needs of the housewife of the older generation.

Cp. also *Food for the Million, a Plan for Starting Public Kitchens*, Captain M. P. Wolff, with a Preface by the late Rev. H. R. Haweis, 1884.—Ed.

most suitable diet for her family, but when the ordinary duties of the house somewhat overwhelm her, or sickness in some shape or form appears, she will endeavour to lighten her load by providing food which requires little or no cooking, irrespective of its value. As a rule, she has no other alternative, since she cannot afford assistance for her household work.

Dietetic Ignorance no Class Monopoly.—The present-day working woman has had practically no opportunity of studying food values, and when one looks at some of the menus provided for necessitous school children by people who have had much more experience in such matters, she cannot be blamed greatly for going somewhat astray. When, however, so little attention can be given to the general food of the family, what hope is there that those requiring special diet through illness will have their needs supplied?

Its Effect on the Children.—As has been previously stated, the question of diet for children is a very important one. The individual who has suffered from malnutrition in childhood is severely handicapped in after life, and the State cannot expect to receive good service from such an one.

The Remedy.—It would appear that the best way to settle the problem is for Education Authorities to provide meals for all school children, for which the parents would pay, except in necessitous cases. It is obvious that such a course would ensure consideration for the question of children's diet such as it has never been able to get before.

The Example of Bradford.—The splendid lead of Bradford could be followed by the authorities instructing the School Medical Officer, together with a fully qualified, up-to-date specialist, to prepare a scheme of meals. This, while being thoroughly sound from a dietetic standpoint, would be sufficiently cheap to enable the parents to pay for the meals. The general supervision would, of course, rest with the Education Authority, who could, however, delegate much of its duties to Care Committees, whose members would see that the meals were made educational.

The Problem in County Areas.—It is undoubtedly a fact that it would be much more difficult to carry into operation

the feeding of all school children in a large county area than in a borough, which is often fairly compact, and, as in the case of Bradford, has a service of municipal cars at its command. On the other hand, in rural districts there is already a large number of children attending school who have to take dinner with them, owing to their homes being so far away.

Rearing an Imperial Race.—As a rule, the meal consists of bread and jam, biscuits and cake. No special room is provided, so the food is partaken of in the class-room, which, by the time the afternoon session arrives, is badly in need of the services of the caretaker. There are, indeed, bright exceptions to this, but in the majority of cases such a condition of affairs cannot at present be avoided. It would seem, therefore, that although difficult, it is not a subject that county authorities can ignore.

An Economical Proposition.—No one will question the fact that it is more economical and more satisfactory from every point of view to cater for a large number under skilled supervision, than it is for an overworked and comparatively unskilled woman to feed her individual family of a few persons.

Choice of Methods.—The question how best to put into operation a scheme for country schools scarcely comes within the province of this paper. Local conditions differ so widely that it would be impossible to dogmatize. It is safe to assume, however, that the difficulty can be overcome either by making each village its own centre or by making one of the larger towns a centre and distributing the food by motor to the outlying points.

An Appeal for Prompt Action.—From statistics and facts presented to us from many sources, it is quite beyond dispute that degeneration is widespread among the people of this country. That this fact is of the most serious concern to the nation cannot be gainsaid. The Government has recognized the truth of both these statements and has endeavoured to prevent the degeneracy by bringing into force a Health Insurance Act. While there is no doubt this is of great benefit to thousands of sick persons, it has the disadvantages attaching to other reforms, such as housing, sanitation, cookery, etc.; it does not go to the root of the matter. The pioneers of all move-

ments have realized that their success would depend largely on their getting hold of the children. The truth of the old saying that "the child of to-day is the man of to-morrow" is in no case better exemplified than in the physique of our present-day young man and young womanhood, in whom the errors of diet as children are plainly showing, while unfortunately the children of the present day appear to be in an even worse plight than were those of a decade ago.

Conclusion.—It is evident that if we are to check the present degeneracy, it is to the children we must turn. Mere object-lessons have failed, and always must fail. Actual feeding at school, to ensure adequate and appropriate diet, is the real remedy, and in the interests of the national health and prosperity is inevitable.

A summary of the paper by Mrs Walker Black was read in her absence by the Secretary.

THE DIET OF ELEMENTARY SCHOOL CHILDREN IN COUNTRY DISTRICTS. *By* George Finch,* m.r.c.s., l.r.c.p., d.p.h., Oxon. (*late Assistant School Medical Officer, East Sussex County Council*).

Malnutrition in an Ideal Environment.—The English country-side may be said to be an ideal environment for children. Routine medical inspection of elementary school children, however, reveals the fact that in many cases their physical well-being falls far short of what might reasonably be expected. There are several factors of a more or less preventible nature at work to produce this result, but much of the existing malnutrition is, in my opinion, due to the unsuitable feeding which these children receive.

The School Journey.—Compulsory attendance commences at five years of age. I think I may say that nowadays regular attendance is the rule, and that parents raise little opposition to it, especially as regards the smaller children. But we might pause a moment to consider what domestic consequences "regular attendance" entails. It is not in the nature of a child, not, at any rate, of a healthy and happy child, to walk

* Dr Finch has just been appointed Assistant Medical Officer of Health to the East Suffolk County Council.—Ed.

directly to wherever it is going, and though it may not creep "like snail unwillingly to school," its progress will not be like that of the postman. Hence, to cover a distance which may be as much as three miles before 9 o'clock, an early start must be made by these diminutive people, and it is not easy for even a careful mother to see that they have had a proper meal before leaving home. After the long walk and three hours' schooling comes the interval from 12 to 1.30, during which time the principal meal of the day should be taken; but in a country school, even on fine days, half to three-quarters of the children bring their "dinners" with them.

Contents of the Children's Baskets.—These "dinners" I find consist generally of such meals as the following:

1. Bread and butter (or margarine).
2. Bread (without butter) and cheese.
3. Bread (without butter) and jam.
4. Cake.
5. Bread only.

Meat is not common, and if given at all it is to the older children. Milk and eggs are rare, and home-made bread is quite exceptional.

Teachers' Testimony.—Several teachers in country schools have been good enough to supply particulars of such meals as are brought by the children, together with their ages and the distances from which they come to school:

Age.	*Distance.*	*Midday Meal.*
5 years	2 miles	Bread and butter.
5 ,,	2 ,,	Cake.
6 ,,	1 mile	2 slices of bread and butter or margarine.
		1 slice of bread, a very small piece of cheese and a very small plain cake.
6 ,,	1¼ miles	1 slice of plain cake and 2 slices of bread and butter.
7 ,,	2 ,,	Bread and butter.
7 ,,	2½ ,,	Bread alone.
7 ,,	3½ ,,	Ditto.
8 ,,	3½ ,,	Cake.
8 ,,	2 ,,	Bread and cheese, or cake.
9 ,,	2 ,,	2 slices of bread and butter, or a slice of bread and a small piece of cheese and an apple.
13 ,,	3½ ,,	Cake.

How Sussex Children are Reared.—One teacher tells me that " most of the children bring white bread with butter or jam." Another writes: " The dinners consist of bread with butter or cheese, or spread with jam (mostly home-made from fruit grown in their gardens), a slice of plain home-made cake, or a jam or apple turnover. The bigger children often have a slice of meat between bread, or a meat pie. The slices are cut across the bottom of a baker's loaf, and vary in thickness from half-an-inch to a ' door-step ' for the older children. Two of the sturdiest families always have home-made bread, but nearly all the others have baker's; twenty-five years ago it was the reverse. As there is a difficulty in getting milk in the village, the children, with few exceptions, have little in their diet. In the spring and summer a good many hard-boiled eggs and cold potatoes are brought. Bottles of cold tea (weak and sweet, but seldom with milk) or cocoa are brought for drink. The children who bring no meat very often have a hot meal of vegetables, pudding, and bacon, or cheap fish, such as herrings or bloaters, for their tea-supper at about 5.30 o'clock. If some means could be provided whereby the children were enabled to have some hot cocoa with their midday dinner in the winter, I think it would be a great boon to them. There are no very poor children in this school, the fathers being in steady work all the year round except when they have to stand off for wet weather."

Unsuitable Character of the Diet.—The above particulars bring out several points which are worth considering. We are not faced with the problem of poverty and " necessitous school children " as it occurs in the large towns. We have rather to consider whether the best is being done with the means available. The diets, generally speaking, err on the side of being too bulky and stodgy; or, in scientific language, the protein, and often the fat, is deficient, while the starchy or carbo-hydrate element is excessive. It happens, I believe, in few cases that the child's allowance is scanty, though " there is seldom any food left in their baskets by the afternoon." What is at fault is the mother's selection of food and her want of knowledge of how to obtain the maximum of nourishment for her small expenditure. The dinners as outlined above are not suitable or adequate for a growing child walking a

distance to and from a school where it is taught for five hours a day.*

Conditions under which the Dinner is Partaken.—In fine weather the children generally eat this meal out of doors; in bad weather it is taken in the school or cloak-room in what are often very unhygienic surroundings.† I have only once seen any supervision of the meal on the part of the teachers. The authority which requires the child to spend its day away from home might not unreasonably be expected by the parents to make some provision that its midday meal might be taken under not unfavourable conditions. The parent, however conscientious, cannot adequately deal with the problem and the provision of suitable cold food is not an easy matter, even in the more well-to-do family.

The Consequences.—It is, of course, easy in the face of these facts to take up a pseudo-scientific attitude, and to talk of the survival of the fittest and the fine results of a Spartan up-bringing. But the result is *not* the elimination of the unfit; probably in a whole school no single child will be "eliminated" by such means; and, in my opinion, none of them, not even the sturdiest, will be any the better in after-life for having gone through such an ordeal in their childhood.

The School Curriculum—A Criticism.—Much of the teaching at present given to elementary school children is lost soon after they leave school; theoretical knowledge and ideas

* If any person deliberately arranged to take children away from home, regularly, in the early morning and to send them back late in the afternoon, without making any arrangements for providing them with a midday meal, he would be unanimously considered very thoughtless. Of course, no one ever did deliberately make such an arrangement; it grew. Every one has become accustomed to it; custom paralyses thought, and now a practice which is in itself patently absurd and indefensible has come to be looked on as natural, inevitable, and even right. Members of the Inspection Staff have long been puzzled by the fact that country schools are far more liable to epidemics than town schools. Part of the explanation may possibly be that in many country schools during several hours of the day most of the children are hungry.—General Report for the year 1912, Southern Division, Scotland, F. R. Jamieson, p. 12.—Ed.

† In connexion with a school at Snape, the East Suffolk County Council are erecting an open-air shelter, which will serve the double purpose of an open-air class room and a dining room for those who remain to the midday meal. —Ed.

which have no association with their actual life are unreal to them, and consequently quickly forgotten. I would venture to suggest that teaching other than that of elementary reading, writing and arithmetic should as far as possible be of a practical nature, with a bearing on the requirements of the children in after-life. For as soon as the child becomes a wage-earner its energies are wholly absorbed in its narrow routine of daily labour, and further instruction is hard to come by. Professor Freud, of Vienna, whose work is beginning to attract attention in this country, teaches that a fact may be forgotten owing to its unpleasant associations. Much elementary school instruction is acquired with painful effort; there is no doubt that much is speedily forgotten.

A Suggested Solution.—Few subjects are more attractive to a child than food; efficient instruction in cooking would be of undoubted value in after-life. In the case of the girls it should be combined with housekeeping and mother-craft; such lessons would work in with and add reality to arithmetic and composition.

If these subjects were part of the school curriculum, this problem of the midday meal would be at once solved. The older children would be taught how to prepare simple dishes which would be available for a hot meal, the proper eating of which would also be a matter of instruction.

"Such a system of teaching the older girls how to cook a wholesome meal from the food available for their class would seem," as Dr Alexander Foulerton, County Medical Officer and School Medical Officer for East Sussex, suggests, "to be one of the first necessities of education in the elementary schools; it is to be regretted that under existing conditions of national education, in which the teaching of the essential things is not always the first consideration, such training is not compulsory. It is, relatively, unimportant that the girl who ordinarily would become the mother of children who will grow up to be manual workers should have a first-class knowledge of history or grammar, but it is essential that she should be taught how best to maintain the health of her future family."

A Possible Objection.—It may be urged against this that domestic instruction is best given in the home and that it is

the mother's duty so to do. Unfortunately, this is contradicted by the facts; the mothers are only too often not able to give such instruction; their "education" has been the same as their children's, wherein domestic craft has, until the last few years, found little or no place.

A Teacher's Proposal.—One woman teacher writes me that, "with the head teacher's permission, I propose that four of the bigger girls prepare and cook the following dishes and share them with the dinner children:

"1. Plain sultana pudding.

"2. Haricot beans (buttered). If I could get the milk, I should like to try them another day thickened with flour, milk and butter, as many children like them prepared this way, but refuse them simply buttered.

"3. Plain suet pudding with treacle.

"4. Boiled dried peas (buttered)."

The Twofold Advantage.—The advantages of such a scheme are twofold. The children are provided with something hot, and the older ones learn to cook. Instead of the children waiting until perhaps 5.30 p.m. for their "tea-supper"—the first hot meal which they can take without haste, at a time when they may be too tired for it to do them much good, and when it is far too near what should be their bed-time—they would obtain such a meal when they most require it and would most benefit by it.

Anyone with a knowledge of simple housekeeping and cookery could easily enlarge the above list; suitable nourishment at a small cost could be obtained in the form of soups, pies and other dishes from such articles as the following as a basis: Lentils, cheese, peas, dripping, suet, or the cheaper portions of butcher's meat—such as neck or shin of beef, ox-cheek, neck or breast of mutton.

Is it Practical?—The difficulties of carrying out such a scheme are not necessarily serious. As regards capital outlay, this should be as low as possible; for if the lesson is to be of value, it should be taught with such appliances as are to be found in the poorest cottage. The materials would, I believe, be supplied by the parents in kind or by payment. The present evil is due in great part to ignorance of the parents as to what

is a suitable diet for a child and how best to provide it out of the funds at their disposal.

NOTE.—Portions of this paper appeared in a special report submitted in 1911 to Dr Alexander Foulerton, County and School Medical Officer for East Sussex, now reproduced here by his permission.—Ed.

DR FINCH read a summary of his paper.

THE DIET OF COUNTRY ELEMENTARY SCHOOL CHILDREN. *By* GORDON A. LANG, M.B., C.M. (*School Medical Officer, Inverness County Education Committee*).

THREE PRELIMINARY CONSIDERATIONS.—In discussing a subject like this, several questions which at first sight seem only remotely connected with it have to be considered. We must do more than go into food values and general suitability of diet. We must first settle into what groups we are to divide the country school children, for all have not the same command of food. Then we have to ask, How are the children equipped to-day with the necessary apparatus for dealing with the food they get? And, thirdly, are there any other factors that may neutralize all our recommendations and render all our efforts to improve the physique of the children null and void?

TOWN AND COUNTRY CHILDREN CONTRASTED.—It may be said at once that there is the greatest difference between town and country children: and this difference is steadily increasing as the years go on. The town child seems to be giving up the exercise and playing of games that have always been looked upon as necessary for proper growth. This is not yet the case with the children in elementary schools in the country. They still are forced by the necessity of distance from school to walk a certain number of miles every day, and still seem to play the games of childhood: climbing trees, jumping burns and ditches, and the numberless small adventures of the country have still their attractions. Consequently the need for food is greater and the sauce of a good appetite is still there, as it should be. This marks a very considerable difference between the two. A country child will easily take and assimilate food at which a town child will turn up its nose.

A TEMPORARY OBSTACLE.—Passing by the first of our divisions for the moment, let us consider whether children to-day can

take food as easily as formerly. All authorities seem agreed that they cannot; not because they are weakened by disease, but simply owing to the mechanical deficiency of bad teeth. We may, however, take it, I think, that in the course of the next five years this defect will be largely remedied by the increased interest taken in teeth by parents and by the provision of dental clinics by Educational Authorities. In that happy time, one reason for different diets will have disappeared. Boys and girls will then be able to chew crusts, nuts, tough food, oat-cakes, etc., with all the ability and delight of young savages. It is a matter of very great interest to me to compare the marked improvement in such matters as brushing the teeth, stopping carious teeth and having tender stumps removed that is already yearly shown. The whole nation seems to have wakened up with a bound to the urgency of this matter.

Where Malnutrition is Absent.—For the third consideration we now have ample material to guide us. The principal cause of malnutrition is undoubtedly the want of fresh air and exercise, possibly combined with deficient sleep. Upon this all School Medical Inspectors are agreed. In a district such as Inverness-shire, where the air blows always free and charged with ozone, such a condition is conspicuous by its absence. It is not that the children have good teeth, for they have not: no less than 60 per cent have more than two bad teeth. It is not that the standard of living is high, for it is not. It is simply that there is a sufficiency of plain and simple food, combined with abundant fresh air and exercise. That many of us eat too much has long been a truism.

Parental Ignorance *v.* Nature.—Let us, then, take it as proved that the human machine can work and thrive on very little, provided that that little is of the right kind. It is here that we may do good by laying down a few simple laws and making a few simple recommendations as to the relative values of various foods. One danger that I continually encounter in my inquiries is that parents do not seem to understand the need for variety and a judicious mingling of the different classes of food. Another matter on which dense ignorance is shown is the necessity for having part of the food hard. Nature meant us to use our teeth. By exercise the jaw is

lengthened and strengthened,* the teeth are kept clean and well bedded in their sockets and their relative proportions and places in the mouth are assigned to them. The flow of gastric juice is promoted, the food is broken up so that the juice may act on it, while the ferment that is secreted in the saliva, and which is necessary for digestion, is increased in quantity and thoroughly well mixed with the food.

There is no need to elaborate this point further. I think that we may take it for granted that all these considerations are at least as important in discussing the diet of children as the question of the diet itself.

Selection of Food.—Let us go on, then, to consider the actual food which we should recommend to parents for their children. This preliminary inquiry has been of great value in showing us that it is not so much a scientific question as one of practical advice. There is no need to enter into a highly technical description of the different constituents of food: of proteins, carbo-hydrates and hydrocarbons: of calories and how many should be shovelled into the growing child, as if it were a furnace, the stoking of which was a purely mechanical job. It is a matter of the deepest interest to know that the molecule of protein only measures 1-250,000th of an inch, but it will not help us much.

Some Vital Considerations.—The diet of school children in the country never can be so varied as that of town children. Parents have to lay in stores that will keep and are compelled to take what they can get. Then we are faced with the question of the wages earned by the father. It is difficult to realize that large families are brought up in the country on a wage of 15s. to £1 a week. Obviously what we recommend for a family at

* The late Professor D. J. Cunningham in his evidence before the Inter-departmental Committee on Physical Deterioration, stated that in the white races of Europe the jaws are undergoing a slow process of shortening. The stunted character of the wisdom or the backmost teeth, the small amount of space allotted to them, their variability, their late appearance and indeed their frequent failure to appear at all bespeaks this change in the jaws. Through it the teeth are reduced in size, more crowded together and therefore more liable to disease. Indirectly it may tend to favour the early degeneration of the teeth, which is so marked a feature of the present age, but I take it the real cause of this degeneration is the striking change that is taking place in the character of the food. —Ed.

15s. a week must be simpler than that which is within the means of those "passing rich" on several hundred pounds a year. If we begin by considering the simplest foods, we can go on to those that are more expensive.

RANGE OF FOODSTUFFS AVAILABLE.—In the cupboard of the country housewife will be found only a comparatively small number of articles. There will be bread, flour, rice, sago, oatmeal, eggs, sugar, salt, pepper, currants, butter or margarine, jam, marmalade; there will be tea, possibly cocoa; there may be bacon, salt fish, herrings in some form, cheese. In the garden there may be cabbages, greens, turnips, beetroot, and some fruits. This is not much to ring the changes on. It will be supplemented occasionally by a little meat or perhaps a rabbit or a fowl from the run, if such are kept. With these materials, however, much may be done.

BREAKFAST.—Taking the meals in order, we have breakfast for our first consideration. This is still in the country districts of Scotland a matter of porridge and little else. In the Highlands, not only is porridge the principal breakfast dish, but it is the same for supper. In the South of Scotland it is also largely used, but in England is little in evidence. There can be small doubt that it is an ideal food for a child. It requires the addition of milk, with which it is usually taken, to bring it up to the standard of a perfect food. It can be varied by some of the preparations of oats. Its one obvious drawback is that it is too often served in such a form as to require no chewing,* and it is to this that I ascribe the bad teeth of the children brought up on it. A cup of cocoa with a large slice of bread and butter or jam may be added. Then, where means allow, eggs in any shape or form with bacon or ham are excellent. Fish makes a good breakfast dish, and can be prepared in many ways. In the country kippered herrings and finnan-haddocks are easily got. In Scotland the haddocks known as "smokies" are very nutritious. Bread may be toasted: this gives the teeth some-

* Where porridge, as too often on both sides of the Border, is thus served, the remedy, as indicated by the writer below, is to eat toasted bread or crust. For the best method of preparing the former, see N.F.R.A. Booklet No. 2, note 4.

At Birmingham many of the children come early, in order to obtain the latter. At the Newport (Essex) Health Centre mastication is secured by the provision of cabin biscuits.—Ed.

thing to do, and, eaten with porridge, encourages mastication. Jam and marmalade are also valuable.

Solving the Dinner Problem.—In the towns dinner may consist of anything, and is eaten at home, but in the country it is usually partaken of in school, except when the home is near enough for the children to have it there. Almost all the schools provide some sort of hot liquid. Four of them have regular cook-houses where hot soup is prepared, either by the teacher's wife or an outside assistant, with the aid of some of the girls. This is an excellent arrangement, and worthy of imitation. The cook-house stands apart from the school, and contains boiler and the other apparatus for teaching cookery. It is self-contained, and no odours from the savoury concoctions made there can find their way into the school. It may be big enough to let the children take their meals there as well. A very fine example of what can be done by a small community may be seen at Drumnadrochit (Glen-Urquhart H.G. School), where a large cook-house and refectory, combined with a science room under the same roof, has been erected by the people of the Glen themselves, and free of debt. Other examples of cook-houses used for this purpose may be found at Gergask and Croy. In other schools the cook-house has not been used for this purpose, though much appreciated for teaching alone. In other places, with no cook-house, hot meals are prepared by the teacher's wife at her own fireside. Still more common is it to find that hot cocoa is the liquid provided. In one or two schools it was regretfully noticed that the children had to bring their drink in bottles or cans and heat them for themselves before the school fires. This hot fluid, whichever it is, is provided by a sort of levy on the district. Many people give something: some money, some potatoes, some turnips, others cocoa, milk, and so on. There is usually a ladies' committee to raise funds, or else the teacher himself raises the money by asking, and getting up entertainments, which are much looked forward to in the winter months. In fact, it is difficult to imagine any form of assistance which is more a case of self-help, and which, at the same time, gives so much innocent amusement to all the neighbourhood. It must also be stated that visitors and shooting tenants contribute largely also to the funds. Whatever form the hot

drink takes, the children bring their own " piece " of scone, bread, or oat cake.

A Suggestion.—The methods above referred to were thus described in my report for 1910-1911, which was published in the annual report of Dr John Macdonald, County Medical Officer for Inverness-shire. It has been suggested to me that, in view of the interest they excited, their reproduction here would serve a useful purpose. The scheme is one that works easily and well in practice. The only improvement that might be made is that, as it seems to depend too much on the individual initiative of the teachers, the assistance of some local ladies might be of value. This already works very well in some parishes.

The Value of Soup.*—Soup is not enough used in this country. It can be made out of so little and such inexpensive things that it merits more attention. It can be made from the cheaper parts of meat, from bones, and from various vegetables. Certain vegetable soups are very nutritious, and are always great favourites with children. In the soup kitchens attached to schools the children prefer potato soup to any other; in fact, they will refuse thick mutton broth and take a vegetable soup made from potato, turnip or lentils. These soups are easily made with a little milk and a small piece of butter, margarine or dripping. Not so often seen are those made from peas, beans and rice. Soups can also be made from fresh vegetables, such as cabbage, artichokes, beans, etc. Potatoes by themselves are not nutritious enough; they need the addition of butter or margarine, milk, cheese or eggs to bring them up to the standard. Fish is an excellent food for children; when

* While soup is undoubtedly invaluable occasionally and particularly if served in such varied and appetizing forms as the writer describes, it has to be admitted that there is considerable force in the following remarks of the chairman of a London Care Committee, even though the first portion be no longer applicable. The diet, which provides soup every day, is really bad. The soup becomes monotonous. Moreover some children, however hungry, cannot be induced to eat soup at all. And besides this, whereas the meals might be of real educational value to the children, especially to the girls, they lose all this character, if there is nothing but soup every day. *The Times*, December 17, 1908.

Soup, moreover, as a rule, fails to provide the teeth and jaws with adequate exercise.—Ed.

dried or salted it can easily be made into very palatable dishes with potatoes or rice, such as fish-pâtés, fish-pie. Fresh fish and meat, of course, are good.

PUDDINGS.—Not enough use is made of suet in this country. It can be obtained easily and cheaply nowadays in made-up preparations. Many dishes, such as suet puddings, flavoured with ginger, treacle, marmalade, etc., can be given; again, it may be served in the form of meat pudding dumplings, or simply in pieces or balls with meat or sauce. With fruit it can be used in endless variety, such as apple dumplings, roly-poly. One of the great stand-bys of a children's meal should be the pudding. Nothing yet discovered has ever surpassed the ordinary rice pudding made with milk or eggs. To this currants form a valuable addition. Some school kitchens set aside certain days for puddings and jam; this seems a good idea.

THE EVENING MEAL.—Tea may consist of bread and butter, toast, buttered or plain, accompanied by jam or marmalade. If the dinner has been small, something may be added, as an egg or piece of bacon. The liquid should rather be cocoa than tea. I am firmly under the impression that tea should not be given to children under the age of nine or ten.* Fruit and green vegetables are not enough used, and too little is thought of garden stuff.

BREAD.—After all is said, however, bread remains the staff of life. It is a pity the baker's van has replaced the baking-board in so many country homes. Modern bread is too fine, and children should be given a coarser flour, containing more of the outer shells and germ. Nor should the crust be made too small and soft; if not here, where will the teeth get any real work to do?

SUMMARY.—To sum up, let us see that country children have:

1. Abundant fresh air;
2. Plenty of exercise;

* Tea and coffee are also harmful to the susceptible nervous system of the child, but cocoa, made with plenty of milk, may be allowed, though it should be regarded, like milk, as a food rather than a beverage properly so-called. Dr Ferguson, the factory inspector, concluded from careful continuous measurements of factory children, that between 13 and 16 years of age they grew nearly four times as fast on milk for breakfast and supper as on tea and coffee.—*Food and Dietetics*, Hutchison, 3rd ed., p. 477 and footnote.—Ed.

3. Teeth fit for their work;

4. A plain, simple, well-varied and balanced diet, containing a good breakfast dish, such as porridge; a dinner composed of a nourishing soup and pudding, with or without cheese, meat or fish, and a tea with bread and butter or jam, the bread made of one of the coarser flours, supplemented if necessary with an egg or other light dish. The liquid should be cocoa or milk.

Children fed on these simple principles cannot fail to grow up into healthy men and women.

Scottish Law and Practice.—Dr Gordon A. Lang: As far as I know, I am the only representative from Scotland. It is a great pleasure to me to come here, although it is a long way. What has struck me in the Conference is that everybody has spoken as if there were one law for the whole country. In many ways there is quite a different law in Scotland.* There is no rate, and the Education Authorities cannot give food except to necessitous or defective children. Therefore in Scotland voluntary effort has taken the place of the more regular efforts made by the Educational Authorities in England.

Dr Gordon Lang then read an abstract of his paper.

Why Teeth Decay.—In addition he said: In illustrating a few of these points, I would say that it is no good giving children food unless we look to their teeth. The cause of the badness of teeth is want of proper food. We are given teeth to use, not as ornaments of our mouths or for use in speaking, and the really important thing is that the children are not getting the proper food.

Facts and Figures from the Highlands.—In my own district, where every condition pleases and only the teeth are vile, 60 per cent of the children suffer from bad teeth. You cannot put it down to sweets. I go to places in the mountainous districts, to glens up a thousand feet, where the children may be ten miles from a shop, and such things as cakes and sweets never enter their mouths, and I find the teeth just as bad as elsewhere. I went to see a small school at the top of a hill 800 feet up, and I found children with fairly good teeth. Six months afterwards I found a child who had lost every

* See pp. 37 and 390.—Ed.

front tooth in the upper jaw. The only explanation I could give was that the teeth were too close together, and the food had gathered between the teeth. The cause of bad teeth is that the food collects between the teeth; when the germs get in, the tooth dies.

Precept and a Deputation.—It has been my custom to illustrate my advice by what Nature would recommend. What Nature would recommend is good hard food. All animals use their teeth on hard food. Take, for example, a dog. A dog will always, if possible, eat bones, and it breaks them up into small bits. This cleanses the teeth, while the crushing of the bones strengthens the jaw. That is what we want with the children. We want to give them food that will give work for the teeth and jaws to do. The first school I went to, I recommended hard food, but six months afterwards when I went again, I was met by a deputation of the parents, who asked why I had recommended bones and sticks for the children to eat.*

Country Distances and Difficulties.—So much for the food. As for the distance from school; in the country that is a serious factor. Country people have to take what food they can get. I was at a school not long ago giving a lecture on the

* Since first we started Medical Inspection, I have repeatedly been asked to advise children to use the tooth brush. By all means let us tell them to brush their teeth if the teeth are decayed. If a child is a cripple, let us advise a crutch. But certain children have succeeded in reaching the age of 12 years with almost perfect teeth, as a result of having regularly eaten suitable food. To advise such children to brush their teeth seems to me utterly wrong. The proper way to keep the teeth clean is by eating such food as will cleanse the interstices and cause them to masticate so completely that an adequate flow of saliva is ensured at the end to wash away any remaining particles.—Dr Mary Williams, Assistant School Medical Officer, Worcestershire.

Writing in his annual report on the same subject, Dr Thomas Orr, School Medical Officer, Shrewsbury, says:—Prevention consists in the use of tough and hard food requiring the use of the teeth, the limited consumption of sweets, and not between meal times, and the restricted use of tea and then only at the end of mastication. Tea should not be taken to assist or replace the use of the teeth as is often evident in the " bite and sip " method of eating among children. Were a tough and hard food general and were proper mastication the rule, efficient cleansing of the teeth would result. But so long as a complete reformation of the diet is not possible, one must depend for cleansing on artificial means, namely, the tooth brush.

Cf. also p. 293.—Ed.

hygienic values of food, and just as I was finishing the lecture, the teacher came and said, "You will have to stop the lecture because the baker will not wait any longer." The children were waiting with their pennies to buy their bread.

How Inverness-shire Works.—We have a system in Inverness-shire by which every parish raises its own funds, or rather every school raises its own funds. The money is got by concerts or theatrical entertainments, and there will not be a soul in the district who will not contribute something. This is given to the teacher, and in most of the schools we have a cook-house with utensils put up by the Education Department. The children can cook the food themselves and eat it in the cook-house. Some of them are handsome houses, like garages made of corrugated iron with proper tools and appliances, and this system, I can assure you, works very well indeed.

Why Meals for Country School Children are Required.—Lady Meyer: I have been asked to open this discussion in order to give you a description and the results of an experiment in a rural district in the feeding of Elementary School Children. The reasons why such children should be fed have been put before you by the speakers and writers of papers: the distance from home, the difficulty of getting back in time to get food, quite apart from the question of whether the children were necessitous or not. These various reasons, coupled with a knowledge of the ignorance of the mothers as to the food they should give to the children, and their inability to cook a hot meal in the middle of the day, determined us to make this experiment.

An Essex Experiment.—We hired a house which, of course, is not always necessary, for sometimes a mission or other room can be had, and began to provide dinners for the children who came long distances. We have a school of 150 children, and out of those children we have had, for the last two or three years, a number ranging from forty to sixty every school day, sometimes even a higher number. On washing days we mostly get a higher number. The procedure is that we tell the schoolmaster to ask what children want the dinner, and he gives each child a ticket and sends to the farm house to say how many are coming.

Nature and Cost of Food.—The food we provide is similar to that in some of the London County Council Schools and other institutions which provide dinners. We give a number of non-flesh meals, because we are not able to provide many meat meals. You will see outside a chart hung up headed "Newport Health Centre,"* which will give you a sample of the menus we use and the cost. The latter usually works out at about 1d. per head; that allows for two dishes, either soup and bread and some kind of pudding, or macaroni or lentil stew. Sometimes we get meat, if the butcher happens to have a job lot of bones or meat.

Scope of the "Penny Dinners."—The dinners are popularly known under the name of the "Penny Dinners." The dinners are not only for necessitous children, but those who are necessitous profit by them and are paid for partly by people interested in the families and partly from the sick and needy funds.

Some Results.—We kept the weights of those children; perhaps you will like me to tell you how these weights came out. We were told that observations on 14,744 children in the different schools of St Louis established an average gain of weight in the ages from five to fourteen years of 5½ lb. The average increase in thirty-nine children from January 4, 1911, to December, 1911, was 6¾ lb. We kept the weights for that period, and are now going to issue a new report. The weights have gone up all the time, which is considered very satisfactory by the doctors in the neighbourhood. In addition, all the desiderata alluded to by the doctors and others speaking of such dinners have really been secured; the manners have improved and the children have carried the knowledge they have gained back to their homes. The mothers have informed us that those children who were fanciful with their meals have told them what excellent meals they have had, while the mothers have come to the Health Centre to get instruction in those dishes, and thus knowledge is spread.

Teeth and the Nation's Health.—In addition we found, as has been said this afternoon, that the question of the teeth was an important one. Having therefore started one organiza-

* See p. 273.



PENNY DINNER CHILDREN

Martin's Farm, Newport, Essex, Health Centre.

To face p. 122

tion to reach people's intelligence through their stomachs, we thought we might carry the experiment further and set up a dental clinic. It is generally agreed by every one interested in the health of the whole community that teeth are going to play a more and more important part. I do not agree with Admiral Johnstone that if people are healthy, they will have healthy teeth. You see people who are quite healthy with bad teeth, and for some reason, whether it is bad feeding or whatever it is, the teeth get bad in healthy people. People try to make out that this is a modern defect, but if we read old books we find that people of the upper classes, and at a early age, had quite bad teeth, so we see it really is not a modern invention.

Why a Dental Clinic was Started.—We set aside one of our rooms and secured a local dentist, for the moderate fee of 12s. 6d., to come over once a week to the dental clinic. We have succeeded in getting all the children whose teeth required stopping to come to this clinic. People say if you have a hospital it is not necessary to have a dental clinic. It is true that at a local hospital you have a surgeon who will take out teeth, but there is no constructive dentistry in most local hospitals, there is no regular attention given to saving the teeth, and this is the reason for a great many illnesses. You constantly have young people suffering from ulcerated stomachs and all sorts of diseases which come from bad teeth. If you start a clinic, you save the first teeth, you get the parents into the way of sending the children to have their teeth looked at, and you save an enormous amount for the nation, because a high percentage of the recruits who go up to be examined have been proved to be defective on account of bad teeth.*

Its Success.—Seven† other villages have come in. They write to us to ask if they may send their children; they pay a small fee to have their teeth stopped, and thus a network of dental treatment for the whole neighbourhood is formed. That shows how you can carry out an experiment of this sort,

* Thus the annual Army Report for 1909 observed: From almost every part of the country—rural and industrial—it is reported that defective teeth cause the rejection of a growing proportion of those who offer themselves.—Ed.

† Writing on September 1, Lady Meyer states that this number has been increased to twelve.—Ed.

and what can be done by private enterprise. I think very soon the Local Authorities will take up this matter, because it will save an enormous amount of illness in time to come.

A Milk Famine.—I want to throw out two more suggestions for this Association to consider in connexion with the feeding of Elementary School Children. I want to know whether doctors think milk is a good thing for children. I ask the question in good faith, because I have always heard it was a good thing from the age of one till the child is ten or twelve years of age. If milk is a good food for the children, we have to face the fact that we are not able to get milk. It is difficult enough to do so in London, but in the rural districts, in our beautiful English country with its splendid fields, it is almost impossible for our children to get milk at all. It is a fact which any Food Reform Association ought to face, and it ought to try to push legislation so that we not only get pure milk, but milk at all, at a reasonable price. In an ordinary country village, children cannot get any milk because the farmer sends it to a big town or to London. You have to pay 4d. a quart, and very often you cannot get it at all. That is one suggestion this Association ought to act upon.

Why Fruit and Vegetables are Dear.—Again, we always hear how excellent fruit and vegetables are. In the country where they have gardens they can get vegetables. In very few gardens, however, are there apple trees, and apples are a good thing for the teeth, because they supply the right kind of acid. In London, if you are trying to market for a Cookery Centre or a philanthropic institution, and you want to obtain a reasonably mixed diet with stewed fruit, you cannot get it. The rates and the freight are so high, or the arrangements between the various people who buy and sell these valuable articles of diet are such that they would rather throw them away than let the poor people have them at a reasonable price.

An Appeal to the National Food Reform Association.—These are two things the National Food Reform Association ought to deal with, because of their important bearing on the health of the nation.

Where Dental Clinics Fail.—Dr J. Sim Wallace (British Dental Association): It appears that the teeth question is

looming fairly large in this Conference, so that perhaps I might be permitted to say a few words on the subject. Lady Meyer has just mentioned that there has been a modern invention for the prevention of bad teeth. This is correct, but the treatment of school children's teeth at the school clinic is not preventive. To show how very far from being preventive it is, I may tell you that when children have had their teeth put right in some of the best school clinics in one year, 80 per cent required to be re-treated in the following year, so there has not been very much good done. The septic condition of the mouth is almost as great when the teeth have been dealt with as before. From the point of view, therefore, of general nutrition there has been very little good done by the dental treatment.

Milk and the Teeth.—I might refer incidentally to milk, because it is not generally recognized that while milk is a specially useful food for children without teeth, after they have a full set of teeth, it must be regarded as a more or less unhygienic food stuff to take into the mouth, at least with other foods which will permit of it reaching and fermenting in the crevices of the teeth or between the teeth. We dentists know that a milk regime on which people are put on account of some troubles is disastrous to the teeth.

Dental Caries and Dietetic Errors.—In Mrs Black's paper there are several matters referred to of extreme importance. She quotes a statement from one of the School Medical Officers, who says: "It must be quite clear that neglect of the children's teeth is fraught with most disastrous consequences." Another report for 1910 from a School Medical Officer states that "dental caries is more responsible for malnutrition than all other causes combined. The greater prevalence of caries amongst better-class children indicates dietetic errors." It is all perfectly true. We know in the upper classes, although they have had abundance of food, there is as much, if not more, dental caries than among the poor.

A Word About Sugar.—Let us now look into some of the points brought forward to-day. We are told sugar is a good food for children, and a little scattered over porridge will

encourage children to take it. Now, one of the reasons why school children's teeth are bad is because they swallow porridge. The only way to make it worse than before is to scatter sugar over it, because sugar is a starchy substance, which experiment shows tends to make food lodge about the teeth and gives rise to acid fermentation, which is disastrous to the enamel of the teeth, and later on to the teeth themselves.

What is Hard Food?—Then we have Dr Gordon Lang referring to the importance of this subject, but not keeping quite to the teaching of the dental profession. He has referred to hard food, which is, perhaps, all right, if you know what you mean by hard food, but if people mean toffee, sweet biscuits or loaf sugar they will find they are not doing any good by giving children such food. Hard food means food of a fibrous nature, because animal food cannot give rise to dental caries, and fibrous vegetable food is almost invariably associated with acids, which stimulate the flow of alkaline saliva and help to cleanse the mouth. Generally it is to be recommended that a meal should be ended with fresh fruit.*

How Doctors—and Dentists—Differ.—Dr Lang says the evening meal may consist of tea and bread and butter, accompanied by jam or marmalade. If you accompany tea with jam or marmalade you make this evening meal such that the food will lodge about the teeth from the evening meal till the child goes to bed, or until the morning, that is to say, for some twelve hours.†

* For alternative terminations see pp. 301-2.

A paper by Dr Sim Wallace on this subject was given at last year's Guildhall Conference, see *Our Children's Health at Home and at School*, pp. 88-96.—Ed.

† Another cause of decayed teeth may be the quantity of sugar in the form of sweets or jam that is now used. There is no doubt that sugar is an excellent food, and it has the advantage of being cheap. When taken only at meals it will probably do no harm. Sugar is an excellent food for minute organisms as well as for larger animals, and if it is constantly present in the mouth, and especially if fragments of other kinds of food have lodged between the teeth, it may increase the growth of those organisms which produce the acid which erodes the teeth. I believe that in the West Indies, where sugar cane is sometimes chewed the whole day long by negroes, their teeth are exceedingly good, but chewing sugar cane will have the same effect as constant brushing, and the result will be very different from that produced by little shreds of butcher meat impregnated with sugar and sticking between the teeth for hours together. During the day the movements of the tongue and lips tend to keep the teeth clean, but during the

Sweets and Jam.—It should be distinctly realized that it is quite wrong to advocate sweets and jam,* especially for poor children. The reason is that the poor must live very largely on bread and potatoes, which are cheap foods, and so get a large proportion of albuminous matter in the cheapest form obtainable. The result is that they are taking in an excess of starch, which is, physiologically, an equivalent of sugar; consequently, if you put jam on to that bread, you are only sending coals to Newcastle. Foods such as bread and potato should be supplemented by fruit and fat, as well as proteid, otherwise you are incurring unnecessary expense, and at the same time causing destruction to the teeth.

Attacking the Milk Problem.—Mr Charles E. Hecht (Secretary National Food Reform Association): I will just keep the pot boiling by saying a few words on one or two points raised by Lady Meyer. The Association has had the Milk Question before it all along. It figured prominently in the series of questions addressed to Parliamentary Candidates at the last two General Elections, and has been emphasized at many of our public meetings in various parts of the country. Moreover, unofficially connected with the Association, a Parliamentary Committee on Food Reform has been formed, which has made representations as to the urgent need for legislation and the favourable conditions prevailing, to the President of the Local Government Board. We are also co-operating with the special Committee appointed by the National League for Physical Education and Improvement.

The Scarcity of Milk.—Regarding the difficulty of obtaining milk, it may interest you to know that Lady Meyer has here the support of one of the first authorities in the country on this subject, Dr James Niven, Medical Officer of Health for Manchester. Writing to me some ten years ago, he used

night any food that is lying between the teeth has ample time to undergo decomposition, and this should be taught to the children at school.

Sir Lauder Brunton before the Inter-Departmental Committee on Physical Deterioration, 1903.—Ed.

* So great is the importance of fat in the diet of childhood, and so few the forms in which it can be given, when compared with the abundant choice of different varieties of carbohydrate, that one must on no account allow jam to replace butter or even dripping as the habitual accompaniment of the child's bread.—*Food and Dietetics*, Hutchison, 3rd ed., p. 477.—Ed.

these words: "There is, undoubtedly, great dissatisfaction as to the conditions under which milk is produced, conveyed and stored, both in shops and at home. There is, however, even more ground for dissatisfaction in reference to the small amount used by poor people." Manchester, under his guidance, has obtained from Parliament special powers to control the sources of its milk supply. In this connexion it is on record that a Derbyshire farmer, when asked what he did with the tuberculous milk rejected by Manchester, replied, "I send it to London."

Fruit and Freight.—The question of freight* in the case of fruit and vegetables has likewise not been overlooked by the Association. Indeed, at a recent Committee, I was instructed to send a copy of a letter of complaint received to Mr George Monro, the Chairman of a Special Conference of the Wholesale Fruit Trade held at Manchester on January 28 last, as well as to the Presidents of the Board of Trade and Agriculture.

"The Pudding Lady."—There is one lady here, who has special qualifications for continuing this discussion. I am sure I am voicing the views of every one present in saying that we should be glad to hear a few words from Miss Petty, alias "The Pudding Lady."†

Influence of Suggestion.—Miss Petty (Newport, Essex, Health Centre): I am afraid I am more of a practical worker than a speaker. I think suggestion plays a very important part in the feeding of children. Children hear their parents say, "I was not able to eat such and such a thing," and the child thinks it must play up and be like its parents. We had a

* The Lord Mayor of Birmingham, Councillor E. Martineau, in welcoming the members of the National Federation of Fruit and Potato Trades' Associations on April 23 of this year, said there was one matter, which was of deep concern to large towns, to which market produce was not grown near enough to be brought in by motor cars—that was the relation of the trade with the railway companies. Certain facilities, which they possessed some time ago, unfortunately were not available to the same extent to-day. It was a serious matter, not only for the trade, which incurred considerable loss through the perishing of the vegetables and fruit brought into the market; but it was also a very serious danger to the public, who, instead of getting vegetables fresh cut in the early morning, did not get them until the next day.—Ed.

† This name was bestowed upon Miss Petty, when visiting the homes of the workers in St. Pancras and teaching the women how to make puddings of various kinds. See *The Pudding Lady, a New Departure in Social Work*, 6d.—Ed.

case like this. The child said, " I cannot eat this." I asked why. He answered, " Because I do not like it." I looked and saw that his spoon was quite clean, and I said, " Have you tasted it? " " No." I said, " Nobody says they dislike anything here, everybody likes it a little. Nobody is allowed to leave their food; you must start and eat some of it." He heard that the other children finished by liking it, and he started, and we have had very little difficulty since. He is a child who is given into by his grandparents in every way.* It is the same with other children. They are not taught to eat, nor how to eat at home, and that is the chief difficulty we have to contend with.

Children, from the time that they are quite tiny babies, are taught to eat wrong food; they are given too sweet food to begin with, and that creates a bad appetite.

The Feeding of Young Children.—In Dr Gordon Lang's paper he said they have a difficulty with young children—teaching them to eat. We found just the same. You have to be patient with the small ones, they get tired of food quickly. I have had to feed children of five or six years of age myself —to show them how to chew their food. If you start with small numbers, you can give them individual attention. I have never found it a lengthy business to get the children fond of the much abused rice pudding.

Encouraging Experiences.—Another speaker said they tried to get the children to eat the first course, and they were allowed to leave the second. In the meals we give them, they do not get sufficient nourishment unless a proportion of each course is eaten, so I insist that the children eat something of everything. When once they get into the habit, it is easy to go on with it. When once we get them accustomed to like simple foods, they are bound to make wiser parents in the future than their own parents have been.

Milk—Wanted an Authoritative Pronouncement.—Lady Meyer: I should like the doctors to tell us at what age children should leave off having milk. What is the use of trying to teach children to drink milk if it is not a good food? In any case

* Cf. Froebel's Counsel to Parents and Teachers, quoted at the commencement of *Our Children's Health at Home and at School*, which is equally applicable to the older generation.—Ed.

I do not think we should stop pressing for a Pure Milk Bill, because many children are not fed at the breast. We should like, however, to know if doctors really think milk is not a good food for older people, at what age it should be left off. We should like to know really if it is not necessary.

THE CHAIRMAN: I do not know if Dr Lang will agree with the distinguished representative of the Dental Association who criticizes him. I notice doctors and dentists sometimes disagree.* From the three speakers we may get some authoritative answer to this important question as to milk.

SOME ILL-BALANCED MEALS.—DR GEORGE FINCH, in reply: The selection of food is, I think, a matter of common sense. I have tabulated in my paper particulars obtained from teachers as to that brought by children to school in country districts. In one case a child of five comes to school two miles, and brings bread and butter, another of the same age, coming the same distance, cake. In another case a child of six, coming one mile, brings two slices of bread and butter or margarine,†

* Speaking at the International Medical Congress, Mr Warwick James said that for generations the doctor had looked at the tongue, but he should have looked further and examined the teeth. There was no doubt that much harm resulted from an unclean mouth in early childhood. . . . It was commonly thought by parents that disease of the first teeth did not matter. This was quite wrong; many conditions such as enlarged glands in the neck, discharges from the ear and deafness were due to neglect of the first set of teeth.—*The Times*, August 12, 1913.—Ed.

† If the nutrition of our children is to be improved, instruction is much needed in the subjects of the value of the different kinds of foods. Of the importance of mistaken ideas I will give two instances. Most mothers are shocked and indignant when I suggest that if they cannot afford to buy enough butter, they should replace the butter by margarine. Yet the food value of margarine is the same as butter, for half the money. Moreover, if there were a larger demand for margarine, it would soon be produced so as to be as palatable as butter. The best margarine bears no distinguishing taste. I am using it in my own household and find that it makes excellent pastry. The stigma that attaches to margarine is doing great harm to our poor.—Dr Mary Williams, Assistant School Medical Officer, Worcestershire.

The Todmorden Board of Guardians recently passed by a substantial majority a resolution of protest against the use of margarine for the patients and staffs at the West Riding Asylums, one speaker describing it as a retrograde step.

For origin, chemical composition, etc., see *Food and Dietetics*, Hutchison, 3rd ed., pp. 135-8.—Ed.

and another of seven, coming three and a half miles, brings only bread, another coming three miles, aged thirteen, brings cake, and so forth. Anyone knows that a child cannot be well on that sort of thing.* It requires a considerable amount of meat,† nearly as much as a grown-up person—more, proportionately, because it is growing. It requires a varied diet, with other things, such as vegetables, etc., in proportion.

Milk.—On the question of milk—there again it is a matter of common sense—I will stake my reputation on saying that milk is a good diet, not only for young children, but afterwards. We all know grown-up people do well on milk.

As regards details of meals, I would leave them. A good housekeeper does not call in a medical man to say what is a good dinner.

Dr Gordon Lang, in reply: I must congratulate Lady Meyer on the interesting experiment we have heard about, which is especially interesting to me.

How Nature Teaches.—As to milk I quite agree with Dr Finch that Nature tells us what is the proper thing to do. You get a child without any teeth, and therefore with no means of eating anything, and thus only fluid is needed for sucking. Gradually, as the months go on, the teeth begin to appear, but even then the teeth are not suitable for chewing. Next, more teeth come, and the appetite for milk decreases. There is a change in the stomach: the young mammal has a special ferment for digesting milk, and nothing but milk—it has no means of digesting biscuits or starch or potatoes or all the stuff that parents give young children. The food passes through the stomach and is not digested. As time goes on there is a further change in the digestive power of the intestines, and they become capable of digesting starch and sugar. You can see it is a matter of common sense; as the years go on the child loses the necessity of taking milk. It has been asked whether

* The adult worker can obtain his energy equally from carbo-hydrates and fats, whereas an excess of protein is absolutely necessary in the case of children to provide the material for their proper development and growth.—*Textbook of Physiology*, Starling, p. 735.

† Dr Finch writes that he includes in the term "meat" butcher's meat, bird flesh, fish, eggs and, to a less extent, milk. For various uses of this and other terms, cp. *Our Children's Health at Home and at School*, p. 25.—Ed.

milk is a good food for adults. Consider what an adult requires. I have met adults who take little or nothing but milk, and they are generally fat and flabby.

A Dangerous Habit.—There is another evil habit against which I would like to lift up my voice, and that is the habit of carrying milk in thermos flasks. Next door to me on my journey from Scotland was a young child, and every few miles of the journey the mother fed the child with the morning milk. When that milk went into the thermos flask it contained a rare lot of germs; the temperature and the conditions were the very things for making those germs increase—the heat of the milk and the absence of air. They started from Edinburgh with perhaps 100 germs in that flask, but before they reached London there were 100,000,000, and that unfortunate child was getting fed with them all the way down.

Porridge.—I do not know why Dr Sim Wallace should have rended me as he did on the subject of porridge. My intentions were good when I wrote my paper. The fact is that porridge, though a perfect food, is not good for the child. Porridge and milk go down without chewing, and the child never uses its teeth at all.*

Hard Food.—Dr Sim Wallace was sarcastic on the subject of hard food. Of course I did not mean hard toffee—what I meant was hard bread, crusty bread, hard meat, the more gristle the better.

A Defence of Jam.—He was also sarcastic about tea and the use of jam. We can get nothing else. It is not always easy to get butter. We have heard from Lady Meyer about the difficulty of getting milk, but with us butter is harder to obtain, and I cannot see the objection to good jam. The objection is to bad jam, for some of the jams are made with spoilt fruit.†

Conflicting Ideals.—The Chairman: Apparently the great thing with regard to diet is not so much a pleasant and nutritious meal, as the maintenance of a perfect set of teeth. You may at last die of inanition, but if you have maintained a

* Cf., however, p. 115, and note.—Ed.

† Cf. also *The Adulteration of Jams*, Ernest Marriage, Journal of the Royal Society of Arts, February 21, 1913.—Ed.

perfect set of teeth, the object of life has been accomplished. I do not suppose Dr Sim Wallace would respect my definition at all; teeth are very important things in their place, but not the only consideration. I hope you are satisfied with what you have heard. I will make a confession about milk. I think you said, Dr Lang, that people who take a lot of milk were big and flabby. I do not know whether I am big and flabby, but I have for a long time taken a pint and a half a day, and I propose to do it to the end of my days. I am able to do a good day's work, and I put it down very largely to the fact that I have shown my practical interest in a milk diet.

I now declare this Session at an end.

TUESDAY, JULY 1

MORNING SESSION

III. THE TEACHING IN PUBLIC ELEMENTARY SCHOOLS OF PERSONAL HYGIENE, FOOD VALUES, DOMESTIC CATERING AND COOKERY.

Chairman: Miss Ella Pycroft, Chairman of the Association of Teachers of Domestic Subjects.

At the outset the Chair was occupied by Sheriff Sir Alfred Bower, who attended at the request of the Lord Mayor (Sir David Burnett) formally to welcome the members on behalf of the Corporation of the City of London.

Cause of the Lord Mayor's Absence.—Sir Alfred Bower: I wish to apologize for the Lord Mayor not being able to attend here to-day at this Conference. He wishes me to convey to you his deep regret. He is engaged, I venture to say, on a subject which is only one degree less important than food, and that is endeavouring to save the Crystal Palace, and I hope he will succeed. That is of the utmost importance for the people, and especially the poor people surrounding, as you know, the Crystal Palace—not to-day so much, but imagine what in fifty or sixty years' time will be the conditions of life in that district. Even now a few miles from the Crystal Palace

it is very serious indeed. That is the reason why the Lord Mayor is not here. He is making an appeal through the Press —*The Times* has taken the matter up on his behalf, and he will have extra work to do to-day.

Our National Extravagance.—I fully recognize that the subjects to be considered this morning at this Conference are of the utmost public importance. We know—every day it is said by foreigners—that the food which is wasted in an ordinary house would keep a French family. From my experience in Oporto, I say that the food which is wasted in any gentleman's house would keep a good-sized family in Oporto for a week. The photographs and dishes I have seen show, I understand, how food can be cooked and set before children in its very best condition.

Diet of Athletes.—Going back some twenty-five or twenty-six years, I remember athletes used to go in for much the same food as I see you have there. You would never see on the table of an athlete white bread, always brown, a couple of days old; you would not, of course, find puddings, and with the exception of meat, there was the same kind of food that I see on the tables outside.*

The Lord Mayor's Message.—On behalf of the Lord Mayor I will only further say that he wishes to welcome you here, and hopes that you find everything comfortable. He deeply regrets his inability to be present, and trusts that much good to the nation may result from your deliberations.

A Word to the Public.—One other matter I should like to bring before you. This useful work cannot, of course, be carried on without the assistance of the public. The expenses in all Conferences of this kind must be very heavy, and I am very sorry to say there was a deficit on last year's School Conference representing something like £30. I am told it will amount to not less than £50 or £60 this year, so we hope the Press will note this, and seeing what splendid and useful work this Association is doing, they will be good enough to make it known to the public that there will be a deficit† of

* Both puddings and meat dishes figured in the menus exhibited, though for obvious reasons they were omitted from the display.—Ed.

† See page 249.—Ed.

nearly £100 on the two years. Any subscriptions, however small, will be thankfully received by the Secretary.

I will now ask Miss Pycroft to take the chair; I am sorry I have to leave, to go back to the Central Criminal Court.

The chair was then taken by Miss Ella Pycroft, Chairman of the Association of Teachers of Domestic Subjects.

A Veteran's Survey.—The Chairman: I have to begin by expressing regret that I am here in the Chair to-day in the place of Miss Margaret Ashton, who, as you know, has been in the forefront of this movement for some years. It was with great regret that she had to give up the Chairmanship, and then the Committee called upon me. Many of you know that for the last eight or nine years I have been out of the teaching of domestic economy; I have therefore come to learn what is going on. It is with great pleasure that I find the work has been progressing, and has got very much wider during the time that I have had hardly any knowledge of what was being done.

Work in Water-tight Compartments.—Professor Mackenzie reminded us that the work of teachers was not confined to water-tight compartments, but I think the compartments are much less water-tight than they were when I left. The technical teachers and the general teachers have been brought more together, and we shall soon get very close indeed. The domestic teachers, who started some years ago with simply a utilitarian object, have learnt that they can do a great deal to teach children to use their minds, and the general teachers have also found how useful practical work is in the development of the children. They have found it out in regard to manual subjects, and now in the case of domestic economy subjects, so that we are growing together, and I hope the water-tight system will not last much longer.

Value of Indirect Teaching of Hygiene.—You will notice in Dr Badger's paper how he teaches the great importance of inculcating good habits. He does not say, begin by teaching the children the science of hygiene. He says: teach the little children to be clean, and to have clean hands because it is nice; always give them the reasons. I think that is sound teaching, and it is a great advance on what was going on eight or nine years ago.

A General Advance.—I am very glad to come back and see this progress. The influence of the women inspectors who have been appointed under the Board of Education is wholly for good, and their reports are helpful to our teachers. Altogether there has been a great movement forward, and I think the papers we have for discussion to-day show this too. We started our meeting late, so you will excuse my making a long speech. I will now call upon Dr Spencer Badger.

1. PERSONAL HYGIENE—THEORETICAL AND PRACTICAL.

THE TEACHING OF PERSONAL HYGIENE—THEORETICAL AND PRACTICAL—TO TOWN CHILDREN IN PUBLIC ELEMENTARY SCHOOLS. *By* W. Spencer Badger, m.b., d.p.h. (*School Medical Officer, Wolverhampton*).

Theory and Practice—A Frequent Cause of Failure.—Many schemes that provide for the teaching of personal hygiene are admirably adapted for that purpose in theory, but the practical application of the lessons often causes difficulty, and sometimes failure. The reason for this is obvious. Teaching of the elementary laws of health is properly included in nearly every school curriculum; the practical observance of these laws is a matter of domestic training and discipline. Speaking generally, in a large number of elementary school households there is little domestic training and no domestic discipline. The result is that sound principles, carefully inculcated by teachers in theory, are ignored by scholars in practice.

Where Fundamental Principles are Defied.—Although neglect of personal hygiene in its wider sense is more or less common to most elementary school children, complete defiance of the fundamental principles of personal hygiene is most marked in large towns. No one who has read the Introductory page to the Code of Regulations for English elementary schools, and is also familiar with the interior of the schools in a large town, can fail to have been impressed with the almost pitiable contrast between the noble sentiments contained in the former and the actual condition of many of the children. As the Board of Education points out, "living a wholesome physical life is a question of good habits much more than of

intellectual convictions, and it cannot be expected that mere teaching in Temperance and Hygiene will be an adequate substitute for the training from infancy upwards which is found in every good home."*

The School *in loco parentis*.—In the absence of such training, "the school is practically the only available agency for discharging the neglected duty of the home in this matter. It is, therefore, forced, in the interest of the scholars, to assume the task of securing that they know these rules, and are encouraged to practise them."

Scope of Paper.—In Institutions, where ordered regularity, discipline and effective supervision replace the haphazard methods of many homes, a high standard of personal hygiene is easily secured. The following remarks apply mainly, therefore, to the elementary schools of large towns, where difficulties are greatest and where the beneficial effects of domestic training are least in evidence.

The Methods of a Pioneer.—Long before Medical Inspection was instituted, many teachers were individually striving to raise the standards of thrift and cleanliness. So far-reaching is such work in its effects that I may be permitted to quote from a report kindly supplied to me by one of the Wolverhampton Head Teachers, which illustrates the praiseworthy efforts frequently made by individual teachers in this direction. This school was a poor one in a busy industrial locality, and the scholars were, at the outset, in a very dirty and neglected condition. The teacher set to work, and instituted, under his own immediate supervision, an inspection of every scholar twice daily. The first inspection was a minute one, and was made in the morning, immediately after opening school; faces, necks, ears and hands were examined. In the afternoon a more rapid inspection was made—generally of hands only. Any boys found wanting in cleanliness in any of these respects were promptly sent to the lavatory to wash. At first these amounted to fifty a day, but this number was gradually reduced to half-a-dozen. The teacher also visited classes in turn, paying attention to the general condition of tidiness and smartness.

* Board of Education. "Suggestions for the consideration of Teachers," 1912, p. 118.

The absence of collars was commented upon, and request made for the omission to be rectified. Unbrushed hair, dirty or even improperly laced boots came in for criticism. If buttons were lacking, or clothes required mending, suitable messages were forwarded to the parents requesting their attention to the matter. In short, the boys were encouraged in every possible way to aim at ideals of cleanliness and thrift, the inspiration of which was lacking in their home surroundings. The result of these praiseworthy efforts was, of course, most gratifying, the appearance of the scholars finally undergoing quite a transformation, which may be gauged by the increase in the number of boys wearing white collars from 5 per cent originally to 80 per cent at the time of the report.*

THE TEACHER'S OPPORTUNITY.—It should be understood that the above account has been quoted merely as an example of enlightened action that is followed by many teachers. Medical Inspection and the arrival of School Nurses have strengthened the hands of the teacher in his efforts to improve personal hygiene; but his influence must necessarily remain supreme. Teachers should ever bear in mind the close association that exists between dirt and disease. The advantages of clean mouths and clean bodies, of breathing clean air and eating clean food, do not rest merely upon sentiment, still less upon fads, but upon scientific facts the force and accuracy of which have been proved up to the hilt. The standard of personal hygiene observed by scholars can be largely influenced by teachers; hence the need for enlightened views on the part of the latter.

A WORD OF WARNING.—Moreover, a proper sense of proportion is needful in education. For example, a girl about to leave school, who had executed a very good drawing, was singled out to receive special praise for her artistic success. The praise was well deserved, but the girl was at the time in a grossly verminous condition. In such cases is there not lacking a sense of proportion? It is absolutely useless to talk about art and to

* It was of the work of this teacher that Sir George Newman gave an extended account (Annual Report, 1910) and remarked: It seems to me to be of a wholly admirable character, illustrating the best possible way of *teaching practical hygiene*. I am glad to believe it is typical of the work of many others.—Ed.

preach the duty and advantages of cleanliness to boys and girls who are obviously filthy dirty and are passively allowed to remain so. The following suggestions may prove helpful to some who are striving to effect practical reforms in poor-class schools:

CLEANLINESS AND THRIFT.—The head teacher should set a high standard of cleanliness and thrift. In their own interests teachers should wear overalls. Whilst exercising supervision over the whole school, the head teacher should make assistant teachers responsible for their own classes. A daily period for inspection of personal hygiene is essential. The precise method of carrying it out is a matter for individual preference, and need not occupy more than a few minutes. The condition of faces, ears, hands, hair, finger nails, clothes and boots should rapidly come under review. In some schools the award of marks based upon such inspection has proved useful. In girls' schools the hair should always be tied back and, by preference, plaited in two plaits; but, in the latter case, instructions may be necessary to ensure that the hair is unplaited and combed at bed-time. A good plan is to recommend two plaits during the day and one plait after combing at night. Washing the head once a week and the frequent use of the finest procurable toothed comb should be insisted upon. The problem of the verminous scholar is too large to be dealt with fully here, but it may be said that every scholar in an actively verminous condition should be immediately excluded from school and reported to the School Medical Officer. Girl scholars should wear clean pinafores; in the upper standards they should be taught to mend their own garments and particularly their stockings. The latter might be brought to school weekly to be mended at needlework. A weekly stocking drill, when all footgear is removed for the discovery of holes, might usefully be associated with the foregoing. The pinning together of torn clothes should be absolutely forbidden; mending, and the provision of tapes and buttons, should be insisted upon. All scholars should be provided with handkerchiefs; in the poorest families a clean rag is permissible, and in the case of infants this may be attached to the frock by a safety-pin. Boys should wear their hair closely cropped. In their case a second daily inspection of hands is particularly advisable.

Footgear and its Repair.—Boots are such a perennial source of difficulty in elementary schools that I may perhaps be allowed to refer to them in some detail. Working men frequently cannot afford the money to keep their children's boots in repair; for with small wages and a large family the bill for repairs in the ordinary way is ruinously expensive. The only way of successfully dealing with the requirements of the family in this respect is for the father to mend the boots himself. This is frequently, but not frequently enough, undertaken by poor parents, who can, with a little experience, effect good and economical repairs. Teachers should be in a position to recommend this method. The following details may be useful:

A portable cast-iron triple "last" can be obtained in Wolverhampton for one shilling. This will accommodate any size of boot. Scraps of leather can be obtained, according to size and thickness, from 1d. upwards. Sufficient leather to sole a pair of child's shoes or boots costs from 4d. to 6d. Nails (sprigs) are sold in 1d. packets either of one size or in four assorted sizes—to sole one pair of boots takes about half a packet. The length of the nails to be used is important. The proper length required should be ascertained when the boot is pressed down firmly upon the last and the leather is in position, by hammering in a trial nail first and then noting the check to the hammer and the change of sound that indicate the moment the nail reaches the last. The sprigs, when hammered down flush with the leather, should just touch the last and no more. If too long, they will cause trouble by projecting inside the boot; if too short, they will not hold.

Dental Hygiene.—Whatever differences of opinion still exist as to the precise mechanism of dental caries, we are all practically agreed that the immediate causes of decay are in the mouth. A national awakening to the importance of a clean and healthy mouth is very desirable. It may not yet be practicable to effect alterations in the dietetic habits which are at the root of the matter; but daily cleansing, and the avoidance of sweets and biscuits between meals, can be inculcated with advantage. Toothbrush "drill" may be adopted in school, and the interest of scholars may be usefully stimulated by allowing one half of a class occasionally to inspect the teeth of the other half.

BREATHING.—A large proportion of school children breathe badly. The usual faults are mouth breathing and shallow, deficient respiration. The former may depend upon respiratory obstruction, but frequently exists without it; the latter is common in debilitated children. Respiration "drill"—or something akin to it—should be practised in every school. In reference to this, Dr Leslie Mackenzie says:* "Respiration Drill . . . has two aims—to discover and eliminate the mouth breather, to secure the proper development of the chest. . . . In season and out of season, in school and out of school, he (the teacher) should insist on breathing through the nose. He should therefore ascertain whether the respirations are full and deep, whether the chest expands properly, whether the effort of nasal breathing is too great." Cases coming under this latter category should, of course, be referred to the School Medical Officer. Scholars should be appointed ventilation monitors in turns; their duties should include the immediate opening of every available window on each occasion when the class-room is vacated.

ATTITUDE AND POSTURE.—In many schools greater vigilance is required in these matters. Particularly is there need for improvement in the standing and sitting attitudes of girls.

In town schools, round backs and flat chests are sometimes the rule rather than the exception. Persistent stooping or raising of one shoulder (spinal curvature), should cause inquiries to be made into three likely causes: (*a*) Insufficiency of sleep, (*b*) Overwork outside school hours, (*c*) Defect of sight or hearing. Defective sight is still manufactured in elementary schools by the failure to secure a proper working distance for the eyes in reading and writing; this point requires greatly increased vigilance. The correct attitude in writing—a happy hunting ground for Inspectors—involves the provision of suitable desks and adequate floor space. Granted such provision, most difficulties disappear. The official rules for writing —with the left arm along but not on the desk, the left hand on the paper, and the paper squarely on the desk†—are, in my opinion, absolutely bad. Practically, you have to choose

* The Medical Inspection of School Children (Mackenzie, p. 274).

† Board of Education "Suggestions" for the consideration of Teachers, 1912, p. 52.

between straight paper with a crooked back and crooked paper with a straight back. The wise teacher will choose the latter alternative.

Sleep.—Insufficiency of sleep is the rule with elementary school children. The late hours kept even by young children reflect the total absence of domestic discipline that too often prevails.

School Premises.—It is unfortunate for the advocates of personal hygiene that the schools themselves are frequently dirty. The system of paying caretakers an inclusive wage, out of which they have to provide cleansing materials, seems to be radically bad and to constitute a premium upon inefficiency.

Summary.—The practice of personal hygiene is a matter of domestic training and discipline. The teacher has largely to supply the deficiencies of parents in these matters. Dirt and disease are closely associated. The advantages of cleanliness in person and environment are matters of scientific fact. The head teacher should set a high standard of personal hygiene in school, and, through the class teachers, should make every scholar strive to attain it. Poor parents can only provide decent boots for the family if they mend them at home. Dental hygiene and proper breathing should be encouraged. A proper working distance for the eyes in reading and writing is frequently neglected with serious results. Desks should be suitable in size and construction; copies must be slanting if scholars' backs are to be straight. The duty of opening school windows should be entrusted to every scholar in turn.

An Organized Campaign Wanted.—Dr Spencer Badger in his opening remarks: If there is one need more obvious than another that emerges from medical inspection in town Elementary Schools, it is that for an organized campaign against dirt, thriftlessness and neglect. This neglect is shown by the filthy and disreputable condition in which a considerable number of children are still permitted to attend town schools.

Policy of Authorities and its Results.—For many years extraordinary weakness has been shown by the Authorities in dealing with this problem. The desire to get children into school has, in fact, been out of all proportion to the desire to take any active proceedings against parents for persistently

sending them to school dirty.* This weakness of attitude has of necessity been reflected by teachers, and the results are only too evident to-day. There is urgent and widespread need for raising the standards of thrift and of personal hygiene in the Elementary Schools.

On What Personal Hygiene Depends.—Personal hygiene is in practice a matter of domestic training and discipline. Both of the latter are unfortunately conspicuous by their absence in Elementary School households. Teachers, therefore, have generally to supply the deficiencies of parents in these respects. Allowance must, of course, always be made for poverty, but there is no need now for Education Authorities to tolerate obvious neglect.

Town Mothers of the Next Generation.—In girls' schools particularly is reform called for, since here are the future mothers. In what condition do the elder girls, about to leave school, approach their new responsibilities? It is no exaggeration to say that many of them are habitually dirty and untidy, a large number are also verminous. Many wear hopeless boots; their clothes are frequently pinned on, and they make no attempt to mend either their clothes or their stockings. They have no notion of thrift, and their knowledge of cookery is largely limited to the preparation of dishes that are unlikely to be useful. I am talking of town schools and urban districts. I work in an urban district myself, and I speak of the conditions I find there. It is of great importance for us to realize that the evidences of thriftlessness just quoted are results of ignorance and neglect, and are *not* due primarily to poverty.

* The importance of this matter should be realized by Local Education Authorities and so long as children remain in schools with verminous heads it should be remembered, as in the case of lack of cleanliness of the body generally, that the child has failed to learn, or rather, one must say, to have been taught, that important elementary lesson of self respect. The continued presence, moreover, of this source of irritation leads to disease, and the sore heads and enlarged glands of the neck not infrequently associated with it cannot but exert a lowering influence on the general health of the child.—First Annual Report, Chief Medical Officer, Board of Education, 1908, p. 51.

The London County Council has adopted a scheme for the cleansing of such children, and has authorized the establishment of 24 stations, 21 of which are working, and during the twelve months ended December 31, 1912, 26,913 cleansings were made. Extract from letter from Dr W. H. Hamer, School Medical Officer, September 12, 1913.—Ed.

Four Much-Needed Reforms.—Among other desirable reforms, I will just mention four that seriously affect personal hygiene.

1. *Insufficiency of Sleep.* This widespread evil is generally admitted, and it need only be added that it is a potent source of malnutrition.

2. *Correct Breathing.* The two chief defects are mouth breathing, and a shallow imperfect method of respiration. Both of these are of great significance. Mouth breathing operates harmfully by facilitating the entry to the lungs of dust and organisms in summer, and of cold, devitalizing air in winter. Shallow, imperfect respiration is of significance because it is inconsistent with full bodily vigour and health: it is frequently associated with debility in badly nourished children.

3. *Posture.* In spite of all that has been said by Government Inspectors and others, defective sight is still widely manufactured by the general failure to secure a proper working distance from the eyes in reading and writing.

4. *Dental Hygiene.* This is primarily a question of Dietetics, for one must recognize that the immediate causes of the decay of teeth are in the mouth, and result from decomposing food. The tooth brush is a useful indication of the amount of care bestowed upon the teeth, but its value must be regarded as quite subordinate to that of well regulated habits that favour oral hygiene. To this end the curtailment of the excessive and indiscriminate use of biscuits and sweets, together with the careful regulation of food leaving sticky deposits upon the teeth, should be persistently advocated. Milk is an invaluable food for infants, but not good for the teeth.

The Basis of National Prosperity.—Finally, in inviting discussion upon personal hygiene, I would remind you that it is much easier to give help to badly clothed, poor, and necessitous cases, than it is to enable such cases to help themselves. In these days, moreover, it is particularly necessary for us to remember that national prosperity depends upon the integrity of the domestic unit, i.e., upon the character of each of the households, that together constitute the population.

Conditions of Success.—As I tried to indicate yesterday, no scheme of public assistance that concerns itself exclusively

with palliating the results of destitution, and ignores the various causes thereof, can be said either to rest upon a scientific foundation or to hold out any hope whatever of social regeneration.

A Plea for Indulgence.—Miss Florence Storr, B.Sc. (Senior Science Mistress, Central Foundation Girls' School, Spital Square, Stepney): May I say that I was asked to open this discussion almost at the last moment, so that if my remarks are not very connected, perhaps you will consider the short time I had to put anything together.

Nature of Experience.—Let me indicate first my own connexion with the subject under discussion. I have come into contact with a very large number of Elementary School children who are passed on to us in the Secondary Schools, and I have also been brought into close touch with children in a poor district of South London. I therefore approach the subject from two points of view.

Spheres of the School and the Home.—Dr Badger mentioned the responsibility that the school was taking on itself instead of the parents keeping it. The argument against the school taking this work is dead, at least it is dead to those people who know anything of the real conditions. Parents will not, or cannot, exercise the influence on the children that they ought to do, so the school is bound to give this teaching in hygiene. What we ought, I imagine, to do is to discuss whether the teaching in the schools is effective and whether it can be made still more so.

Why Teaching Fails.—Dr Badger has suggested that the main cause of failure is that though the teaching in the school may be admirable, it is not supported in the home. That, of course, is very true, and from our experience of the children when they come to us in the Secondary School, we have noticed this fact: the children have learnt the lessons they have been taught, but have learnt them as lessons for the benefit of the teacher or inspector. Further than this they have not gone: there is no personal application at all.

An Illustration.—A class, for instance, is asked what they should do to keep their mouths in good condition, and the

class answers: "The teeth should be brushed after every meal." For the Elementary School child that is, of course, out of the question. If you ask "How many girls remembered to brush their teeth this morning?" the small proportion of hands held up proves that the real application has not been grasped. The things are regarded as lessons to be reproduced, but somehow they do not get home to the children.

"Boys of the Old Brigade."—We have also to remember in teaching these subjects that personal influence and the atmosphere of the school counts for as much, even more, than the actual facts that are taught. I can illustrate this point from something outside school life. I am familiar with the working of a Boys' Brigade in South London, where the recruits come in a very ragged, dirty and dilapidated condition, with no care for their appearance. Cleanliness and decency of appearance is, however, part of the Brigade boys' religion. It becomes a disgrace to appear at Bible Class, on parade, or on a Club evening in an untidy condition. The boys know they are dishonouring their Company, and that becomes so much a part of their life that after they have been through the Brigade, there is in this particular institute a set of young men whom everybody is proud to meet. They never appear at any function except properly brushed, clothed and clean, and they behave as gentlemen. Now, that spirit has been put into those children by developing their self respect, and that is the thing we should aim at in our teaching.

How Girls were Taught Self Respect.—I have known the same thing happen with a class of girls. These girls began in a drill class. They came with their stockings in holes, but they were told that they would have to mend their stockings, and the consequence was in a few months no girl ever appeared in a ragged condition at her class. That is what I meant by putting into the children a spirit to develop self respect, and something of the same might be brought about in the schools.

Teaching the Unattainable.—There is one other point with regard to the actual teaching. I think sometimes it is possible for the teacher to aim too high. There is no good to be gained by teaching the obviously impossible. It is of no

use to tell a child in an Elementary School that it is good for the teeth to be cleaned every day, when perhaps the only washing accommodation is a general bowl, a pint of water and a rag for a towel. It would be very much better if the teacher would give more details and suggest the possibility of doing things in bits, as it were, under the conditions in which the children live because, although Dr Badger deprecated thriftlessness among the poor, how is there to be the cleanliness we should like to see where there is a growing and grown-up family living in one, two or three rooms? Many of us who visit town slums know how desperate some of the conditions are. There is no possibility of decent accommodation for those girls to keep themselves as if they were living under better conditions.

A Gradual Reformation.—I am sure the lessons in school are beginning to tell. I have been working with these girls seven or eight years, and I have had it remarked to me by many teachers that they have noticed a considerable difference in the appearance of the children: they do not come in such a ragged condition and there is a general improvement in tidiness. We often see the same decided improvement when the girls go to work. The lessons have been more absorbed than we are inclined to think, and begin to bear fruit later, when the girl goes to work and gets among people who are perhaps in a little better position than herself. They have begun to realize their self respect. So we may feel that some good is being done even if things are not quite as they should be.

The Housing Difficulty.—Again we have to remember that all the hygiene teaching we are giving in the schools is in a sense only a palliative. The question, to my mind, is chiefly dependent upon the housing and the hours the girls work. The conditions in Lambeth are improving in many cases. Many of those old places are being cleared out, but they are beginning to put up buildings which are too expensive for the really poor people. There is no accommodation for the decency in a growing family that there ought to be.

Effect of Long Hours.—Think, too, of the hours that the girls work. What can you expect from the child of fourteen,

who, remember, is ill nourished, who starts for work at 7.30 in the morning and does not reach home till 7.30, 8 or 8.30 at night. There is not much inducement to keep themselves as they should under the extremely bad conditions at home and the long hours they have to work.

Some Disquieting Statistics.—The remarks of Dr Badger about sleep and posture I can quite support. The lack of sleep is just the same among the Elementary School children in London. We cannot get them to go to bed. The same difficulties may possibly exist with regard to posture. For nine years we have had a system of remedial and medical treatment in the school for correcting definite spinal curvature. Of the whole number of children coming to the school, one in three were found to have a tendency not to be perfectly straight; they have not really got curvature—while one in seven actually have some definite curvature.

Teaching of Sex Hygiene.—There is one additional matter I should like to mention, because I feel keenly about it. It has not occurred in any of the papers, but it has to be kept in mind, although this may not be the place to discuss it, and I am not perhaps in order in mentioning it. At the same time the consideration of the teaching of hygiene in the Elementary Schools is, in my judgment, incomplete unless we regard it from the biological standpoint. The question of that teaching has to be faced, and it has to be faced by the Elementary School teachers.* Even a small experience in school teaching brings that home. The children of the Elementary Schools where the homes are bad are the children who specially need the teaching. I contend that some simple biology should be taught in the schools; it could easily be worked in with the teaching of hygiene, and would thus eventually lead to the knowledge of this subject which the children need so much.

Dr Jessie White (Teachers' Guild): We have had a most interesting paper on this subject, and also a most excellent opening to the discussion by Miss Storr.

* This subject was dealt with in Dr Alice Burn's paper at last year's Guildhall Conference and by speakers in the discussion, as well as in several of the monographs by Dr Cecil Reddie. See *Our Children's Health at Home and at School*, pp. 118-125, 148-160 and 220-237.—Ed.

How Uncleanliness Should be Dealt With.—I have marked with two large lines the sentence in Dr Badger's paper: "The problem of the verminous scholar is too large to be dealt with fully here, but it may be said that every scholar in an actively verminous condition should be immediately excluded from school and reported to the School Medical Officer." Taking into consideration that the majority of the children are verminous, this is one of the most important matters we can discuss. I disagree with that method. If a scholar comes to the school in a verminous condition, it is the business of the school to take measures to produce cleanliness in that child. I have known children away for weeks because their heads were dirty. I should have liked to have taken those children in hand, and with an hour or two every day they could have been cleaned.

The Need for Greater Co-operation.—One point has to be considered in connexion with these dirty children: head teachers like the children in school to be well dressed, and we find, therefore, on Care Committees that when neglected children come into the neighbourhood, it is difficult to get them in, because the teachers do not like the standard of cleanliness in their school lowered. There ought to be more means of co-operation between the teachers and sanitary officers, and the public in general ought to assist the teachers by putting their heads together to devise some way in which this cleanliness can be obtained. I am certain it can be done. We expect help of this kind from members of this Association.

Where School Hours Should be Lengthened.—In the slum schools the hours should be longer, the teachers being paid more for the work, so that these good habits might be inculcated. This can only be done incidentally, and not by giving lessons of which the children fail to see the application.

Factory Workers and Hygiene.—Miss Storr does not seem to know that factories are under inspection; there are stringent laws about the sanitary arrangements, and most manufacturers would, I am sure, prefer the girls to be particular about cleanliness. The fact that they get up early and spend a long time in a clean factory is no reason why the girls should neglect personal hygiene.

Sleep.—The necessity for sleep can only be impressed on children by conversation between the children and the teachers, so that the personal influence of the teacher can be directly brought to bear on the children individually.

Some Statements Challenged.—Mr W. A. Nicholls (National Union of Teachers): I am reluctant to interfere so often in this Conference, but one or two things have been said this morning upon which I feel bound to make some remarks.

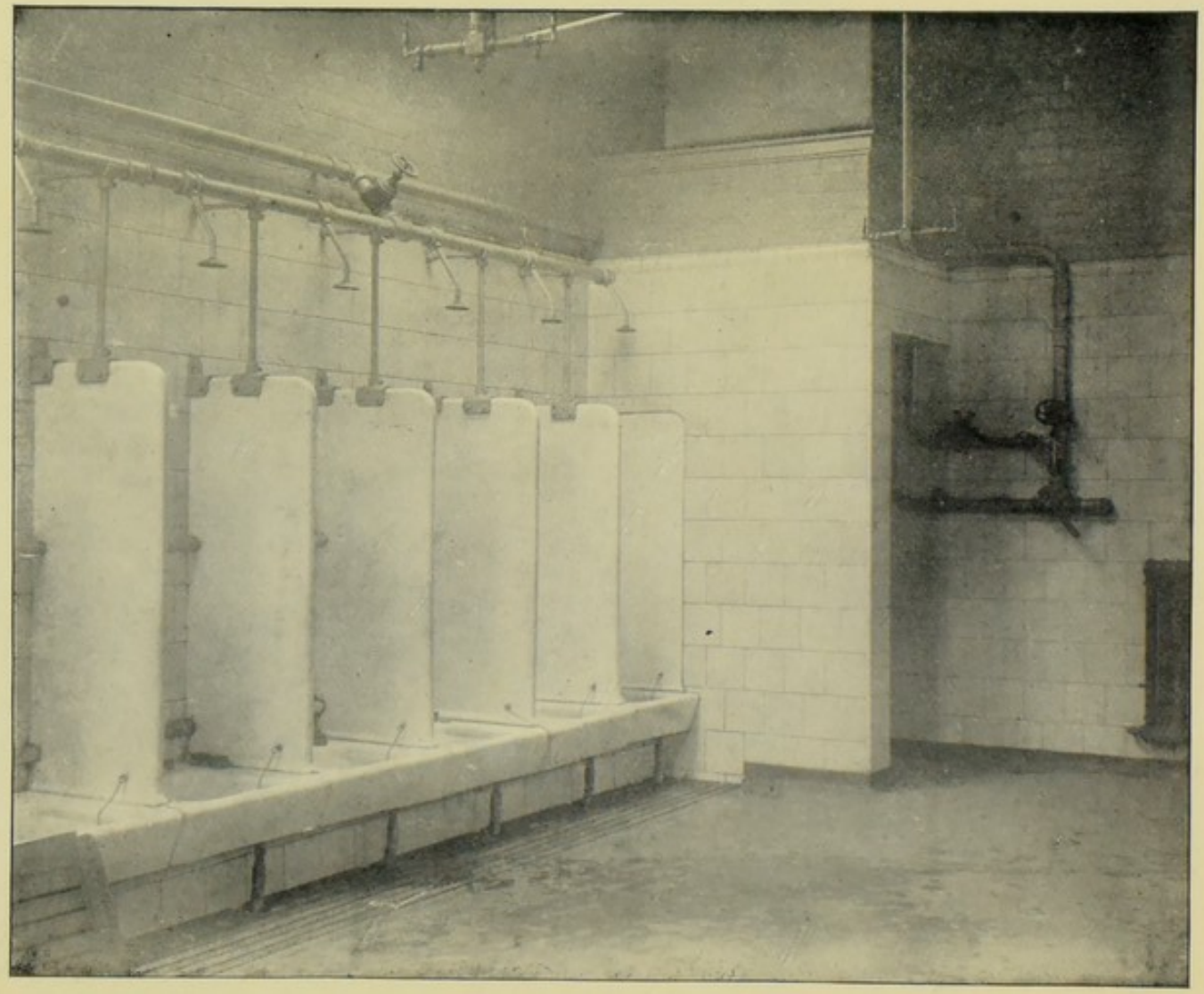
Condition of the Children.—I submit that Dr Badger's assertions in regard to the condition of the Elementary Schools and school children are far too sweeping. What he said applies to a certain section of the schools and a certain section of the children, but by no means to all.

I refer to the assertion that nearly all the children are verminous.

Dr Badger: The majority of elder girls.

Mr W. A. Nicholls: The majority may mean nearly all. In the slum districts that may be so, yet I have known a nurse go carefully through a school in a slum district, and find only five per cent of the children verminous, five per cent whose heads are unclean or whose bodies give evidence of vermin having been on them. That, too, after a most careful examination such as a teacher could not perform.

Remedies Available.—Supposing, however, that statement is correct. The remedy is to be found in the child being reported as verminous to the school nurse. This method is applied in some boroughs. What follows then? The child is told to go to the cleansing station, it is cleansed at public expense, the clothes are baked, the child is scrubbed with carbolic soap, and goes back as happy as you can possibly imagine. Yet the child, of course, goes back to a dirty home and comes back as bad as ever. The home is at the bottom of it all. Then the child is sent again to the cleansing station, and after being sent for a third time, what happens? The Childrens Act is put into force; the proper officer summons the parent for neglect, and the latter is liable to be fined by the magistrate. Further, under this Act and under the



SHOWER BATH INSTALLATION

Floodgate Street Council School, Birmingham.

To face p. 151

powers given to the Metropolitan Authority, the bedding can be taken into the street and destroyed, and that has been done. Thus the remedy becomes pretty effective.

THE DAILY BATH.—Some one made a remark that it was absurd to talk of girls and boys in Elementary Schools having a daily bath. I am glad to say that the nearly six million Elementary School Children do not all come from such homes as would be described in that category, and it is a good thing they do not. In the neighbourhood I have worked in for fifty years the great majority have an opportunity of getting a morning bath, and of getting it under such conditions as I do myself. Nearly every working-man's home in the industrial districts has a small bath room, at all events in certain neighbourhoods.

WHERE IT IS LACKING.—What has been said applies only to the slum districts, and does not apply generally to the great towns. It may apply to the rural areas; you do not find bath rooms in an agricultural labourer's cottage. Supposing, however, it is true, what is the remedy? The remedy is to provide a bath in the school. I am sorry to say that the London County Council refused to entertain the suggestion that they should provide school baths for the children who need the baths, and cannot get them at home.*

THE HOUSING PROBLEM.—I am glad to find such prominence given to the housing of the people, and hope an indirect effect of this Conference will be that more attention will be

* The Medical Officer of the London County Council found in Germany, that 95 per cent of the scholars take bathing as part of the educational curriculum. Liverpool has plunge baths at 22 schools and washes children at the rate of 8,000 a day. Bradford has douches as well as swimming baths. Aberdeen cleanses 1,000 children per week, and Glasgow is introducing the same methods on a large scale. South Shields has had douche baths for many years. In a number of towns new schools are being provided with baths. These include Birmingham, Edinburgh, Brighton, Leicester, Salford, Halifax, Nottingham, Sheffield and Oldham.

At some Glasgow schools there is an apparatus for destroying lice and their eggs on the clothes of the children; in 10 or 15 minutes this is accomplished, the steam is then turned off, and the heat arising from the boiling water in the lower part of the machine dries the clothes in about a quarter of an hour. During this time the child receives a *warm* bath, and if the bathing is completed before the clothes are dry, a warm cloak is in readiness to prevent the child taking a cold.—Ed.

paid to this subject. I was pleased, too, to hear Miss Storr refer to posture so far as reading and writing is concerned. There the remedy is to have the right kind of desks as well as the right kind of books.

Teaching of Sex Hygiene.—I was glad also to hear reference made to the teaching of sex hygiene, for I believe the time is approaching when we shall have to face that question in Elementary and Secondary Schools and Colleges, but we must have public opinion behind us. It is our business to educate public opinion, and then it will be safe for the teacher in any class to deal with this subject.

I ought to say how delighted we are with the speech of Dr Badger, and with the admirable opening of the debate.

Inadequacy of Results.—Mrs Chester (London Teachers' Association): I want to take one particular point, and that is the diversity which undoubtedly exists between the lessons given and the results obtained therefrom. We are inclined to blame the school or the teacher for that. It does not seem to me that is quite right.

Is the Teaching at Fault?—I will only speak of one school known to me in which lessons have for some years been made as practical as possible. For instance, when the lesson has been given on the cleansing of a particular thing, it has been varied by the girls doing it themselves. Cookery centres are held and we have lessons in teaching the girls how to buy their own clothing. They should be familiar at the end of the course with the prices of the materials used in their own clothing, and how much is used to make various garments. They are also taught how to prepare dinners, and then they prepare them.

Safeguarding the Children's Future.—The subject of girls' wages has been tackled by me for some years. A girl leaving school is told never to take work in a blind alley, and is encouraged to take less pay in order that she may climb. A packing factory in the neighbourhood pays 6s. a week to begin with, but the girls get no further, and I tell them to take 2s. or 2s. 6d. in order that they may learn a trade, so that experience may lead to a better final result.

THE USE OF EARNINGS.—The question arises how are they to use this money that they earn, and lessons have been given in arithmetic time in such questions as what use to make of 2s. 6d. a week. It can only be done by living at home. A further sum is taken. I claim that it is practical, and if it does not go home to the girl's mind this must be put down to mental environment. Nothing much more practical can be done.

PREPARATION OF MEALS.—The second means of producing a practical result is that certain girls are taken on one side and set to prepare the teachers' lunch. They are paid for that, and are taught to prepare meals and lay them and get everything ready. Occasionally the head teachers in the neighbourhood come to discuss matters and have tea at the school. Certain children are taught waiting.

A SEWING GUILD.—The third way is that we have a Sewing Guild. This did not work very well at first. The rule was that if a girl came to school untidy, she should be seen to at once, and her clothes mended then and there, but the parents did not appreciate that. There is no one who resents more the picking out of a girl in this way than the poorest parents—they resent it more than the better class. I was struck by what they said about a girl with holes in her stockings being made to stand aside. I daresay the parents of Secondary School girls would be pleased with this, but I tremble to think what some of the parents, not a majority, but some of the poorer and less satisfactory parents, would say.

CONDITION OF THE CHILDREN.—I agree with what the doctor said about a certain proportion of the children being in a terrible condition. There is only a small proportion in my own school. Nine years ago there were three families, then the number rose, because the neighbourhood is going down, to ten or twelve. There are, however, girls in the school who have lovely hair, and to whom it would be an insult to tell them to plait their hair to keep it out of the way. If their hair is pretty why should they not wear it like any other home girl?

A RAID AND ITS SEQUEL.—There is one more thing I should like to say. When the children do not know

how to wash their hands I should be inclined to put it down to neglect of the mothers. Once when I made a raid on dirty hands I sent out a number of children to wash. To my horror when I went outside, I found ink and dirt on the towel, while the water was quite clean. They seem to have dipped their hands into the water and rubbed off the dirt on to the towel. That was followed by a lesson on the washing of hands. It had to be done on the class room table because we have not sufficient lavatory accommodation.

A Born Optimist's Views.—Miss Petty (Newport, Essex, Health Centre): I was a little disappointed to hear Dr Badger speak so strongly about the unclean ways of the people. Most people tell me I am a born optimist, but I have never found conditions so hopeless as those described by Dr Badger, and I have had a good deal of experience for many years in both town and country homes.

How the Workers Live.—In many of the homes I have visited, I have been practically the only person they saw from the outside world. It is wonderful what lives some of these people live. We are all human, and if we get a little praise now and then, it encourages us to go on to do better things. If you go on in a humdrum way every day of your life, feeling there is no one to speak to you or take an interest in you, you are bound to get slack. If you can go amongst the people having had a little experience of hard work, and knowing what it was to do without things, you can encourage them and sympathize with them more. I myself have lived in one room, and know how difficult it is to keep tidy. One can imagine how difficult it must be with two or three children about. Very often what looks like a dirty place is not really dirty, it is only top dirt. Sometimes you will find children who look very dirty, but if you examine them they are clean underneath, it is only on the surface.

Evidence of Progress.—If you look back, as I can look back, to many years of work, you feel really encouraged to see how the lessons are sinking in. Often and often women and girls make remarks which show that this is so. Sometimes I have been quite overcome to think that indirect lessons have taken root so deeply.

PERSONAL CLEANLINESS UNDER DIFFICULTIES.—With regard to personal cleanliness in the country, you cannot possibly, as Miss Storr said, enforce daily baths. In the village where I am working, there is no water except what can be got from the pump, and most people have to go a good way to fetch the water. The only other water supply is rain, and they have not many buckets, so they have to depend on carrying the buckets a long distance for all the water they need.

In the country districts there is not a great deal of money, and the woman has not sufficient food. If her vitality is lowered, she has not the same strength to think out the details of what she is going to do with the water.

A BRAVE WOMAN.—One woman who has eight children, gives the eight a weekly scrub. Imagine what it means to get the water for the baths of these eight children. She combs their hair every day. Imagine going through all those heads. I think she is plucky, and you cannot wonder if the house does not look as clean as we should like it. If we go to work with more patience and sympathy, and do not expect immediate results, the good will show itself in time.

LIFE IN A TOP FLOOR FLAT.—MISS BENNETT (St Pancras Mothers' and Infants' Society): I want to put in a plea for the mother of the verminous child. We have been told this morning that if the child is sent three times to the cleansing station, the parent is then fined. I would not be too hard on the parent until I had sought the cause of the child being verminous. If you go into that home, and you find that the family live on the third floor, and there is no water on that floor, every drop having to be carried to the top, you must excuse the parent for the child being dirty. I have tried it for myself. I was nursing, and lived on the top floor, and had to carry every drop of water to the top and down again. After a little while I should have been almost as dirty as the children.

A STATUTORY MINIMUM.—Until we alter these conditions we cannot expect the children to come to school clean. Many mothers in St Pancras live on top floors, and they tell me they would sooner do a day's scrubbing than the Saturday night's baths, it is such hard work. We ought to urge upon the public the necessity for water being laid on on every floor in every house.

A Welcome Interruption.—At this stage of the proceedings the sitting was suspended to allow of the inspection of the Council Chamber by a party of French Naval Officers who received a cordial welcome from the members of the Conference. The Chairman added a few words of greeting in their native tongue, and explained the nature of the meeting. The Senior Officer briefly acknowledged the welcome and the party shortly afterwards left the Chamber amid renewed applause.

Irrelevancy of Certain Criticisms.—Dr Spencer Badger, in reply: The title of my paper is " The Teaching of Personal Hygiene—Theoretical and Practical—to Town Children in Public Elementary Schools." Some of the remarks that have been made were therefore possibly a little irrelevant. My paper concerns town districts only.

Crux of the Matter.—The opener of the discussion admits that the difficulty of teaching hygiene is its practical application. That is the crux of the matter. Personal hygiene on paper is worth nothing at all if it is not carried out practically by the children. My contention is that we might do more than we are doing to cause these principles to be acted on. The teachers might sometimes set a higher standard, and the authorities ought to support the teachers more vigorously in their efforts to secure improvements. It is, of course, no use to preach impossibilities, and I admit it is an impossibility to teach children in poor districts to have a bath every day, but they can come to school in a clean condition. I deny that it is necessary for them to come dirty, and the sooner we dispel that idea from our heads the better it will be for the country.

The Sphere of the Home.—One speaker suggested that if a child comes to school verminous it is the duty of the school to cleanse that child at once. Why? I think it is the duty of the parent to cleanse the child. Certainly it is more difficult for a poor person to keep a child clean than for one who is well-to-do, and therefore we should have sympathy, but it is not the duty of the State, as a regular thing, to free a child from vermin. We have to recognize that the only hope of putting these things on a proper basis is to make the home the centre, and to induce the parents to keep their own children clean.

A Reply to Mr Nicholls.—Mr Nicholls thought my remarks too sweeping, and said that they only applied to a certain section of schools. I said so myself. I have examined a good few children—about 15,000—and I can unhesitatingly repeat that as regards the evidence of vermin in the head, the majority of elder girls in town schools are verminous, that is, if you regard the eggs of vermin as evidence of vermin. I do; and in that sense, as regards nits or eggs, the majority of elder girls in town schools are verminous.

The Housing Problem.—It has been said that if there were better houses, there would be better people. That is true, to a certain extent, but the converse holds good also. If there were better people there would be better houses.

A Statement of Fact.—Miss Petty sympathizes with the people. Nobody sympathizes with the people more than I do, and nobody pitches into them more when they want it. She said that if you examined the children, you would find that there was only top dirt. Well I have seen 15,000 children undressed, and I cannot endorse her remarks—I should like to —but, like George Washington, I cannot do so without stretching my conscience.

"Rien est Impossible."—Another speaker said that until we alter certain conditions we cannot expect children to come to school clean. I dissent from that altogether. We can, and ought, to do so, and if we only set our minds in this direction, you will find that they will do so.

Summing up the Debate.—The Chairman: Dr Badger has answered the questions and has closed the debate. It has been hopeful, because the speakers have told us of the progress that has been made. I sympathize with the proposal to have school baths. These children will be growing up while the parents are learning, and we want to help those who are young, while they are young, and improve the conditions before the next generation.

2. FOOD VALUES, DOMESTIC CATERING AND COOKERY.

(A) *TOWN.*

FOOD VALUES, CATERING AND COOKERY: AN ACCOUNT OF THE TEACHING OF THESE IN CONNEXION WITH THE OTHER DOMESTIC SUBJECTS IN PRIMARY SCHOOLS UNDER THE LONDON COUNTY COUNCIL. *By* Miss Catherine R. Gordon (*Divisional Superintendent of Domestic Economy*).

Why These Subjects are Taught.—Every girl attending the London elementary schools receives lessons in *Cookery*, *Food Values and Catering*, not only that the Londoner's home may be more comfortable in future, nor that, in obedience to the immortal advice of Mr Punch, the Brute may be fed, although both motives do contribute to the joy of nations without doubt, but also for more subtle reasons.

A Frequently Overlooked Analogy.—Now that flying machines, telephones and motor-cars are in common use, it is plain to the meanest intelligence that such things are more or less useless unless in fit condition and under proper control. Yet it is not always equally plain that the analogy applies to human beings, although in many different words and ways we have been reminded of "the law of the Jungle as old and as true as the sky," that "the strength of the pack is the wolf, and the strength of the wolf is the pack." Even now insufficient use is being made of the knowledge, but most persons agree that physical health is of prime importance to individual and social condition. This teaching makes for efficiency of physique, social condition and controlling power.

The Educational Significance of Sense-Training is very marked to the student of child development. A modern writer on handwork as an educative medium says: "Man is not a thinking animal that happens to feel and act, but essentially a behaving animal that happens to think and feel."

"Activity in the motor sense accompanies activity in all the other senses"—in other words, psychologists realize the value of learning by doing: it is found that wisdom does not become

"moral tissue" unless it has been filtered through personal experience.

THE RELATION OF WORDS TO DEEDS.—Purely intellectual convictions rarely affect human practice; the meaning for which words stand (and which is their only life) is only assimilated in character building (as food in body building) when sought intuitively to meet some need for action.

Such intuitions touched by inspiration transfigure conduct, and so the sense sublime, the spirit that impels all thinking things, awakes and grows, and controlling power becomes stronger. Words without corresponding deeds are ineffectual for character building.

THE USE OF DOMESTIC SUBJECTS IN THE CURRICULUM.—The domestic subjects are useful parts of school curriculum *because they are specially near to common life*, to health and daily habit.

These occupations have a natural quickening influence and bring a valuable quality of "realness" into the school atmosphere when wisely treated. Self-adjustment, an active habit and self-restraint may be encouraged, and the vital importance of a well-balanced sense of proportion in the control of any organization can be constantly demonstrated. Resourcefulness in dealing with unexpected circumstances and varying conditions is a valuable and inseparable factor in the training; precision of thought, accuracy of observation and commentation concerning the details of commonplace life, and the control and manipulation of common processes are encouraged, and a scientific habit of mind may be engendered.

THE MAIN VALUE, however, of the work, and one that can hardly be over-estimated, in my opinion, is that it cultivates a saner sense of value and a greater reverence for vital human work, as well as a finer appreciation of quality and a love for craftsmanship, all of first importance to future civilization.

A USEFUL FUNCTION.—It would be ridiculous, of course, to claim phenomenal educative power for the domestic occupations, but there is little doubt that school experience has been too bookish and ill-balanced in some ways, and also that the nervous condition of many persons should be healthier and less dependent upon stimulation and excitement—in fact,

under better control. The power of taking quiet pleasure in the commonplace may be a great help in conquering this difficulty.

L.C.C. Policy.—The London County Council has always been in general agreement on the importance to the community of manual instruction for children, and has held that the handicrafts of the home should form part of the curriculum of girls' schools.

Difficulties in the way of Execution.—The size of London (with 937 elementary day schools, "provided and non-provided," about 75,000 girls of age to receive training in the domestic subjects during a year, and the great variety and difference between districts lying side by side) is most difficult to realize, even for those who have worked there for many years.

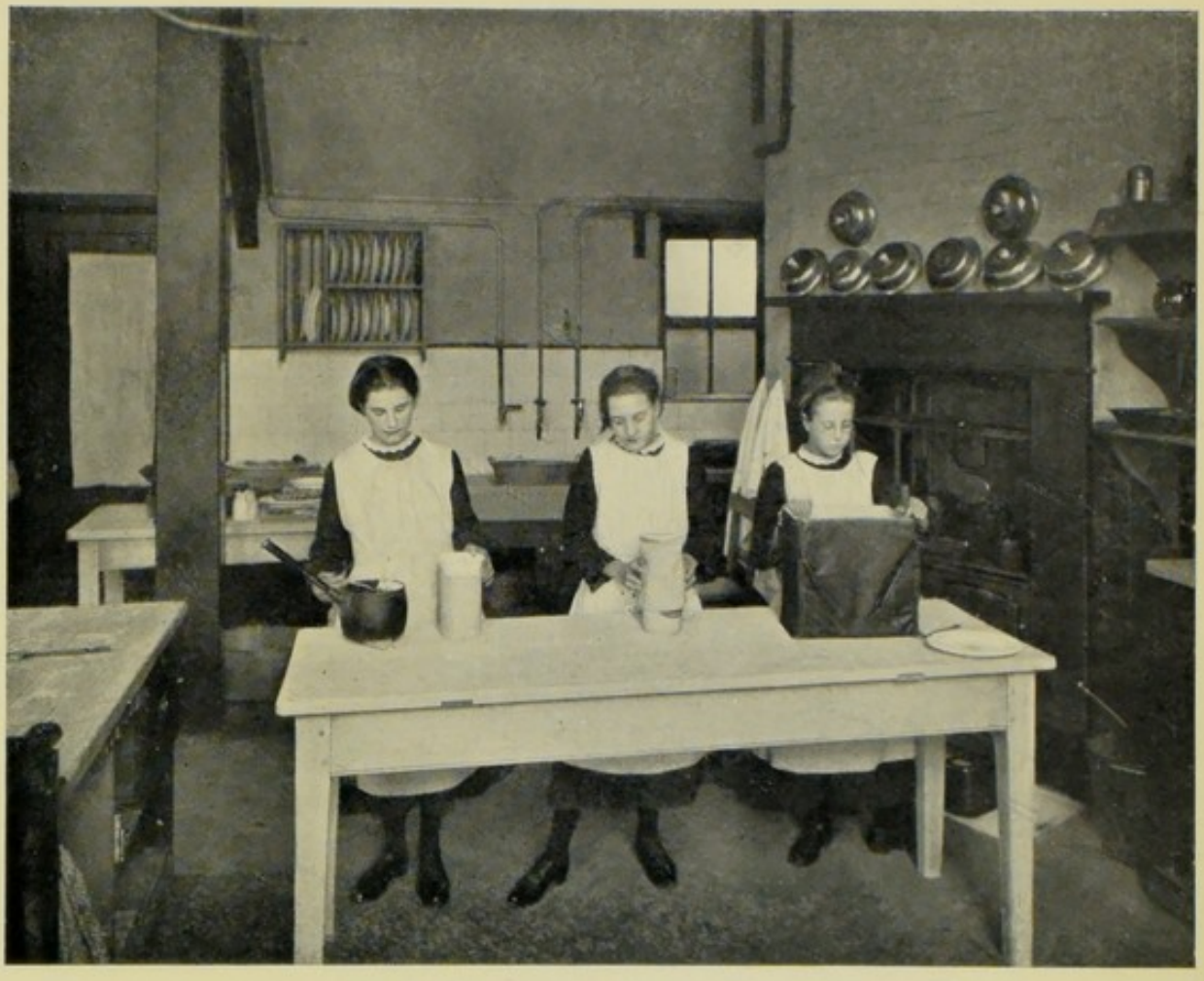
These local differences, as shown by the race, social habits, and temperament of the inhabitants, and the industries and housing accommodation of the neighbourhoods, have to be studied. Again, the schools and their accommodation, the main roads with their traffic and many other details have to be considered before arrangements can be made.

These circumstances, coupled with the fact that accommodation for suitable training is expensive (about double in comparison with the cost per place for ordinary school work), have combined to make the task of organization for those who decide the policy for the London schools a most complicated and difficult one.

Classification of Subjects.—In London, domestic economy was formerly taken to have *three sub-divisions*, *Cookery*, *Laundrywork and Housewifery*, which means Housework and Home Organization. *Needlework* is now included in the classification.

Accommodation.—For cookery a classroom for about 15 pupils is provided; for laundrywork another classroom of similar size for the same number; for housewifery, however, a set of at least three rooms (parlour, bedroom and kitchen) is necessary.

At present in London there are some 195 cookery centres, 64 laundry centres, 70 housewifery centres and 107 combined cookery and laundry centres, which may be used for either



PACKING PORTABLE DINNERS

Shoreditch L.C.C. Technical Institute, Domestic Economy School.

To face p. 161

purpose; there are no combined cookery, laundry and housewifery centres. More centres are added each year.

Teaching Arrangements.—There is one teacher in charge of each centre, and girls attend from surrounding schools upon one half-day each week during two years of their school life, preferably the last two. The London system of grouping the centres is not ideal, but for the time being no simpler alternative method is possible under all the circumstances.

Details of the lessons given in each division of the three-fold course may be seen in the Council's approved syllabus. Needlework is taught in accordance with a syllabus drawn up by each headmistress concerned.

Typical Budgets as a Basis.—The three-fold-course syllabus was approved on May 29, 1906, and is revised annually if necessary. It is arranged to meet cases where the family incomes are approximately £2 10s., £1 18s., or £1 8s. (London prices and conditions) per week. In each case "a family" is assumed to mean four to six persons.

Special lessons are given on dealing with "depleted income"—£1 per week, for example, and other amounts.

Combination of Precept and Practice.—At first, simple pieces of typical work are given, and the necessary principles and processes are dealt with. Later on more difficult work and home organization are included.

At each lesson every girl is required to do a definite amount of practical work.

Economy is held to mean the wise control of health, time and money, wise spending as well as wise saving.

Catering, Food Values and Cookery.—Much careful thought is given to catering, which is taken to include the planning of meals. In this connexion, regard is paid to the food value of the materials purchased and the reasons for the processes employed when they are prepared for the table.

The teaching given is very simple and practical in character, the foods being those in common use. Useful typical dishes are dealt with. Later on, during after-school or evening school classes, a greater variety of dishes of each type will be introduced. Where necessary, Jewish customs are considered. Calculations are always made as to quantities and cost per head

and per meal, all this in approximate relation to the condition of the pupils. Trouble is taken to encourage a well-balanced dietary, and more resourcefulness in serving the ordinary foods. Attention is drawn to the cheaper foods rich in proteid, such as cheese, oatmeal, and the pulses and methods of cooking them, but lack of time prevents much work in this direction.

Food for infants, children and invalids also has due consideration.

MARKETING.—Lessons are given in marketing, that is, in choosing food and getting good value from shops and stalls, comparing local prices and goods with standard market prices and goods. Methods of saving unnecessary expenditure are noted. A clear opinion and ideal should be formed by degrees, as to what, under stated circumstances and conditions, are necessaries and what are luxuries.

CORRELATION OF TEACHING.—The class teachers in the day-schools keep in touch with the domestic economy teachers, so that the school lessons may help the practical work as much as possible. These include very simple lessons in physiology and hygiene.

TIME AVAILABLE FOR THESE SUBJECTS.—The course of lessons (exclusive of needlework) extends over two school years; that means about 88 lessons of 3 hours or 2½ hours each, morning lessons being half-an-hour longer than afternoon lessons.

So far as can be arranged, each girl between the ages of 11 and 14, when she leaves school, gives 80 hours to cookery, 40 hours to laundrywork and 40 hours to housewifery *as a minimum time, the average time being* about 130 hours cookery, 60 hours laundrywork, 60 hours housewifery.

EXPERIMENTAL COURSES.—Several experiments are being tried at the present time to discover the effect of giving the same amount of training within a shorter period of time; in some cases the girls attend the centres every day for 2½ days per week; in other cases they attend all day 5 days per week, in each giving the same total number of hours or thereabouts to the work.

These experiments are being watched with great interest from many points of view. Others for making the very best use of the brief amount of time at command and extending it in central, domestic economy, evening and trade schools for lads and girls, are under consideration and trial.

A Difficult Problem.—In the cookery centres the disposal of the output of cooked food has been a great difficulty. It is largely sold for inexpensive meals for necessitous and other children, great care being taken that such use shall serve to give point to the lessons and that the educative intention shall not be hampered by over-much serving. The girls who cook cannot be asked to eat the food cooked as part of the lesson. Both the educational and social value of the meal, so far as partaking is concerned, is, therefore, lost to them (except in the Domestic Economy schools) on account of the cost which would be involved.

Scholarships.—A certain number of Domestic Economy Scholarships are awarded yearly by the Council.

These provide (1) a thorough training for home organization, or (2) a thorough training for Domestic Economy Teachers.

There are also some Trade School Scholarships which afford training for lads and girls who wish to become chefs or domestic servants.

In connexion with the Domestic Economy School at the Shoreditch Technical Institute, an interesting scheme which includes a short period of residence (and therefore especially valuable) is now being worked.

London is short of centre accommodation, but the lack is diminished year by year. Every year improvements are made in the manner of dealing with these subjects, though, as I said before, the organization is at present necessarily intricate and difficult.

"The social states of human kinds
Are made by multitudes of minds,
And after multitudes of years
A little human growth appears
Worth having, even to the soul,
Who sees most plain it's not the whole."

* * * * *

"To get the whole world out of bed
And washed, and dressed, and warmed, and fed,
To work, and back to bed again,
Believe me—costs worlds of pain."

J. M.

Treatment of the Subject.—Miss Catherine Gordon, in her opening remarks: Some explanation is perhaps due to those who have honoured me by reading my paper, for the way in which I dealt with the title. When I sent it to Mr Hecht, I expected to have it back again, and to be told I had not kept to the point. He said nothing of the sort, but you may feel inclined after reading my paper to tell me that. Unlike Miss Storr, I had plenty of time to think of what would be the most helpful thing to say. I remembered that we used to be told at College, "Isolate your difficulties, apply intensive treatment, and they are half cured." Then I went on to recall somebody else who said that "those who only know England can never know England," and wondered how I could steer my way between these difficulties, put down what was in my mind, and in a form which would be helpful. I thought the questions we should ask ourselves were: what do we lack, and what are we doing in the London Schools to meet that lack?

The Meaning of Poverty.—The answer to my own question came to me in the words of Mr Bernard Shaw, who said, "What is the matter with the poor is poverty." That is the whole story: what is the matter with the poor is poverty. You must not, however, think that we are going to be ordinary middle class people who reckon everything by £ s. d. What is the matter with the poor is poverty—poverty of physique, poverty of ideal respecting social conditions, and poverty of controlling power, not only lack of money.

The Need for an All-round View.—When you have that, you have the whole story, and the things we have been saying at this Conference have fitted into that vicious circle. Every one has pointed to this part of it and that part of it, and have said, "There is the reason." Nobody has tackled the whole of the problem. It reminds me that once we had to consider why a subject was badly taught in the Secondary Schools. Somebody said it could not be well taught because it was badly taught in the Elementary Schools. The heads of the Elementary Schools said they could not teach it properly because the teachers could not cope with it. The teachers said it was badly taught in the Training College. When we came to tackle the question all round the circle we got a good

result. The problem before us is much the same. We are each dealing with a little bit of a big whole.

What do we Lack?—Inspectors are always being told *ad nauseam*—nobody is so thoroughly inspected as Inspectors—that if we open our mouths, we must be constructive. In fact, we must never find fault unless we tell people how they can do better than they are doing. Now I have put the need as clearly as I see it, and as plainly as I can put it—I have answered the question, " What do we lack? " I have said we lack efficiency of physique, we lack a good ideal of wholesome social conditions, and we lack controlling power to get our ideals brought to earth. What we want to do in the schools is to help to strengthen all those weaknesses and perhaps with the courage of the specialist, I venture to say that the subjects for which I stand are as good as any, and better than most, for making real to the children those things which I wish to inculcate.

Domestic Subjects for Boys.—At the recent International Conference on the Teaching of Domestic Subjects at Ghent, I was much impressed by the speech of a Dutch lady who strongly urged that Domestic Subjects should be taught to both boys and girls in the Elementary Schools. I rather smiled at the time, but during the discussion, when we heard about the conservative opinions of the Dutch fathers, I hesitated and began to wonder whether there was not something in it. This feeling has been strengthened by reading Miss Matheson's paper. That is a digression. I do think that the training is extremely good for all girls, and it is quite worthy of consideration whether it would not be equally good for all boys at a certain stage.*

* In New York City, boys, as well as girls, learn cookery in the elementary schools. The teaching begins when the children are very young, about nine, because cookery is largely manipulative measuring and handling foods, for which this is considered the psychological moment. The children go marketing for their parents with great success. Cookery is regarded as a group work, i.e. for the family. Sewing, on the other hand, is considered to be better postponed until the teens, when girls are more conscious of personal adornment.

Mr W. H. Prosser, in his paper at the Guildhall last year, told how he taught his boys cookery and food values, in addition to hygiene, see *Our Children's Health at Home and at School*, pp. 75-6.—Ed.

Life's Chief Difficulty.—One other remark I want to make about something Miss Storr said. She was speaking of how difficult it was to make children apply what they learnt to their own lives. That is the whole difficulty of life, is it not? It is so easy to preach and so difficult to practise. The relation of deeds to words, as I said in my paper, is so difficult to realize, and it is one of my points that nowhere is that so brought home to the children as in the lessons of Domestic Economy.

A Tendency of the Time.—The tendency of the time in the schools, and the tendency even of the man in the street, is to realize more and more that we want a finer appreciation of quality. That is one of our great needs. People observe so inaccurately and are so loose in their criticisms. We never truly appreciate quality until we try to do a thing ourselves. We remember Lancelot who thought himself the finest of the knights until he tried. We have met people like that.

Craftsmanship and Character Building.—There is nothing like hand work for helping men and women to find their level; in other words, there is nothing like craftsmanship for character building, and character building is the whole object of school keeping, so I take it. It is important we should have good housing, it is important we should have good schools, but when there were very few good houses, and when there were scarcely any schools, there were some of the finest characters in the world, and character is more important than buildings or even school curriculum.

The Place of Detail.—I do not propose to bother you with many of the details concerning Domestic Subjects work in London. At a Conference like this we need something wider than detail, which may be changed to-morrow—which must be changed to-morrow if it is alive. I shall be happy to answer questions or to show anyone interested some actual work in School. There is an excellent book of photographs in the corridor illustrating sections of our work.*

* Four of these are reproduced here.—Ed.

(B) *COUNTRY.*

THE TEACHING OF FOOD VALUES, DOMESTIC CATERING AND COOKERY IN PUBLIC ELEMENTARY SCHOOLS.

By Miss Gertrude Irons (*Woman Inspector of Domestic Economy, West Riding County Council*).

Scope of Paper.—I have been asked to write a short account of the teaching of these subjects in Public Elementary Schools, particularly those in the country. My experience of county schools is, however, a comparatively short one, so I must plead for indulgence.

Difficulties of the Work.—In the county of my adoption—Yorkshire—the West Riding Education Committee has, in my judgment, great cause to be proud of its work in connexion with the teaching of Domestic Subjects. Although the area is so large and many of the districts are rural, the schools scattered and difficult to reach, domestic work of some kind is taught in many of them. In some cases it is not possible to employ a teacher at one centre during the whole week, and a number of teachers travel to three or four centres.

Where these Subjects are Taught.—Up to the present, less fortunate than London, we have no trade schools and no Polytechnics with day schools of Domestic Economy. Our work, therefore, is chiefly confined to:

(1) Domestic Centres in Elementary Schools;
(2) Lessons in Domestic Subjects in Secondary Schools;
(3) Housecraft Courses in Evening Schools.
(4) Domestic Subjects in Technical Schools.
(5) There is also one Home Making Centre where the girls from the Public Elementary Schools attend every day for the last half-year of their school life.

Instruction at Rural Centres—Its Limitations.—As a general rule, the children in the Elementary Schools commence to learn cookery at the age of eleven years. The teaching of food values and catering, except on very simple lines, is a difficult matter with children of that age. They attend usually for one half-day each week. Sometimes even this is impossible, as during the winter months the weather is frequently too bad

for young children to walk such long distances. In the rural districts there are no motor-buses or other means of conveyance, and the children frequently have to walk two miles or more to the Cookery Centre. The children in the country towns are, of course, not so handicapped.

Extent of Training.—Starting, therefore, at the age of eleven, the girls have a course of lessons in cookery or laundry work extending over twenty weeks. At the end of that period the subjects may be changed, or they may have a second course in the same subject, so that at the age of twelve years they may have been fortunate enough to have attended two courses in cookery. They then go on to laundry work or housewifery.

Teaching of Cookery in Rural Districts—Its Peculiar Problems.—In drawing up schemes of work, several difficulties arise, some of which do not trouble the London teacher.

(1) Age of the children. Only very simple methods of cookery can be taught to children of eleven, with unskilled fingers. Yet, so far as my experience goes, the country-bred children compare very favourably with those who are brought up in towns. They may not be so quick at grasping new ideas, but what they succeed in grasping they retain.

(2) Restrictions in the accommodation. This is a very important matter, for while, on the one hand, we do not want to teach the children to use utensils that are not found in their own homes, and very little is found there, yet, on the other hand, it is very necessary that the work shall not suffer for lack of equipment.

There is also the difficulty of the water supply. In some of these districts there is no supply other than wells. Even then, the well may be some yards from the school, and the drawing of the water too heavy for the children.

The stove accommodation is also a frequent source of embarrassment. In hired premises, such as disused chapels, reading-rooms, etc., the stove accommodation is limited. The use of gas stoves for cooking is not general in the cottages.

(3) Limits of the market. This is a serious consideration, and one that a dweller in towns is never quite capable of realizing. It seems difficult to conceive that there are still places—*not* in

the West Riding—where the butcher sometimes calls once a week. A teacher in a district such as this will probably be working four or five schools, travelling about from one to the other. It is quite impossible to time her arrival and the meeting of the class to coincide with the movements of the weekly butcher. Moreover, when he does arrive, his stock is small, choice is limited and prices relatively high. The supply of fish, too, is often very scarce. The teachers meet this difficulty in many cases by carrying the food with them to the schools. They are usually stationed in the nearest town for the convenience of travelling, and the trouble of buying and carrying quantities of food is undertaken very cheerfully; nevertheless, it is often a severe tax upon the energies of the teacher.

(4) Family income. This varies; first, with the occupation, and secondly, with the number of wage earners in the family. In mining districts the men's wages may be above £2 per week, if they work a full week. In the industrial districts it may only be 30s. to 35s., but this is augmented by the earnings of the women, as, unfortunately, a large number of the married women work in the mills. In the agricultural districts the labourer earns 15s. to 20s. He may have a cottage with a small piece of ground rent free, or, if not, the rent is small, 1s. 6d. or 2s. 6d. weekly. The piece of ground is seldom large enough to do more than provide the necessary amount of potatoes. There may be a supply of milk from the farm—unhappily, it is often skimmed milk—and the total meat diet of the family is that consumed subsequent to the death of the pig. While it is often asserted that living in the country is cheap, it must be borne in mind that the supply of some foods is more limited and the prices are relatively higher.

The Half-Timer.—There is another problem of organization in the West Riding. I mean that presented by the half-timer. During the year 1912 there were 5,890 half-timers in our schools, an increase of 633 on the number for 1911. This system, apart from the evil effects upon the children's growth and physique—of that there can be no doubt—means an immense amount of labour in arranging time-tables and schemes of work, since the girls frequently go to work during the mornings of one week and the afternoons of the next.

First Year's Course.—The scheme of work, therefore, during the first year is restricted to very elementary cookery. The preparation and cooking of vegetables, and simple puddings, such as milk puddings, batters, etc., form a large part of the work. Stock and soup making is taught, that is, stock made of vegetables and bones and soup made chiefly of the vegetables in season. The meat dishes are confined to those illustrating the method of stewing, so that the girls acquire skill in manipulation, and are led on gradually to more difficult processes of cookery.

Second Year's Course.—The second course follows somewhat on the lines of the first, but the making of pastry and bread is introduced. The bread-making lessons are very much enjoyed by the children. The housewives of Yorkshire pride themselves on their bread-making, and, except when the mother goes out to work, the bread is chiefly home-made. Little brown bread is made; it is mostly white bread and teacakes. Pastry-making is also very popular in the rural districts. The custom of having a weekly baking-day still exists in the cottages, and on these important occasions a supply of pies, etc., sufficient to last a week is prepared. Boiled and baked joints are included in this course, combined with the revision of the cooking of vegetables, and, wherever possible, the cooking of fish is introduced. Next comes the cooking of economical substitutes for meat—pulse foods, etc. Lessons on re-heating cold foods and using up scraps complete the course.

Urban Districts—Combined Domestic Classes.—After two courses of cookery, or, perhaps, one of cookery and one of laundry-work, the girls in an urban district may be drafted on to a Combined Domestic Centre, called in the old days a Housewifery Centre. Here they apply the knowledge gained at the Cookery Centre to the cooking of meals. They take it in turns to cook the dinner for the teacher and some of her colleagues from the neighbouring school. The other members of the class are employed in domestic work of various kinds.

Teaching of Domestic Catering.—It is at the Combined Domestic Subjects Centre and the Home Making School that the best chance is obtained of learning how to provide meals of a homely kind. The girls are taught how to apportion an

income, and, after deducting the sums for rent, clothing, cleaning materials, fuel, insurance, etc., they are taught to plan out the remainder on food. When this has been done, they suggest suitable food for the meals. The teacher's guidance is very necessary here, as they often show a desire for such uneconomical foods as sausages, chops, etc. They are then given the sum agreed upon as proportionate to the income, sent out to do the shopping, bring the food back and then cook and serve it. They all do this in turn throughout the course of twenty weeks, so that it comes to each girl at least twice during the course. In some cases a number of their schoolfellows stay to dinner and sample the meal.

Home Making Centre.—Here there are two resident mistresses, and two of the thirty girls attending the school live in each week. One girl becomes the housekeeper, and is responsible for the shopping, buying in of all food, baking of bread, cooking of meals and replenishing of stores during the entire week. The simple cash account is made up daily and balanced at the end of each week.

Teaching of Food Values.—This part of the work is not taught by any direct methods; that is to say, the children do not, as a rule, have a set time for lessons on the composition and value of foods. They learn these facts incidentally as the work proceeds. For instance, the dietetic as well as the economic value of vegetables as food is demonstrated. They learn that a nourishing and wholesome soup can be prepared without the addition of meat. The lessons on the preparation and cooking of milk puddings include the use of skimmed milk and the addition of fat in the form of either butter or shredded suet, to bring up the food value. The necessity for absolute cleanliness of all utensils, etc., used in the supply of milk can be brought in here. Cheese is used very often in conjunction with vegetables as a substitute for meat, and it is always grated before use as a means of aiding the digestion.

Secondary School Methods Contrasted.—I do not wish to imply that this is the best method of treating this part of the work. Indeed, I cannot help feeling that the subject is dealt with more thoroughly in our Secondary Schools where the science work is often so closely correlated to the domestic

work. The girls in these schools start by finding out the nature of the foodstuffs, they examine foods containing starch during the science lessons, and learn a number of important facts as to the result of dry and moist heat upon these foods. The knowledge so gained is then applied to practical work in the Domestic Subject Room, where they are taught how to make dishes containing these starchy foods. Sugar is taken next, and then fats, proteids coming later as being more complex substances. It is perhaps desirable to mention that these girls have had a two years' course in science before taking up this branch of the work, and that the age is higher than that in the Elementary School. At the present time it does not appear feasible to teach the girls in Elementary Schools the scientific facts regarding foodstuffs. For one thing, the time devoted to the subject does not permit of this; for another, the girls do not possess the necessary groundwork of science knowledge.

Hopes from Promised Legislation.—Perhaps in this and other respects the promised Education Bill will help us. There can be no question as to the importance of the work. If the leaving age is raised from fourteen to sixteen years, the last year of the girl's school life should be devoted to the various subjects comprised in Housecraft, to include the Laws of Health, Physical Exercises and Citizenship. Hopes are held out to us of Technical Day Classes for the boys in order to fit them for the work of life. Why do we not do something of the same kind for our girls to enable them to become better housewives?

Criticism Without Knowledge.—Miss Gertrude Irons, in her opening remarks: After Miss Gordon's very able summary of her paper there is not much left for me to say, but she has mentioned just one or two things which I feel very deeply. We have so much criticism nowadays on the teaching both of Domestic Subjects and Personal Hygiene, but people who criticize are not perhaps in touch with the teachers or the girls. They do not realize the difficulties of the teachers or the girls, and the people in town do not realize the difficulties of the country. In the West Riding of Yorkshire we meet with several difficulties you do not meet with here.

The Difficulty of Distance.—One is the great distance

from the homes of the children to the schools: that is a very serious difficulty. Some of these children start to learn Domestic Subjects at the age of eleven, and sometimes have to walk three miles to school and home again with a lunch of bread and butter or biscuits between whiles. They come to school tired out, with no means of getting on a 'bus, and the train service is invariably bad—I have never met such a bad train service as in the North. The children are bound to walk in all weathers.

The Problem of the Teacher.—The difficulty of the teacher is another handicap. It seemed to me when I first went to Yorkshire rather strange that we could not get teachers in different places, but during the first three weeks of my work I had to allocate sixty-seven teachers to different places, to fit in the teacher with different qualifications and consider her personality, because one teacher will not always fit into a school as well as another. Then I had to fit in trains to get her there and get her home again, and, after all, when we had it all nicely settled, we discovered that the Railway Company had taken off that particular train.

The Half-timer Handicap.—There is another difficulty to be met in the country towns in Yorkshire, the trouble of the half-timer, which I wish to emphasize very strongly. With a new Education Bill in prospect this may be done away with, but when you get a child who is working in a mill from 6.30 until midday and then it goes to afternoon school, the best thing that child can do is to sleep. It has not much inclination to start learning things that other people think it should learn.

A Morning at a Mill.—When I first went to Yorkshire I had a desire to do two things. I wanted to go over a mill because I am interested in Evening Classes, and to see the conditions under which the girls worked. The teacher told me many of them would not go to evening classes, and when they came they were difficult to control.

I went over a mill, and a more deadly occupation I never encountered. In one room, and this was in Bradford, in one large room there were a number of boys and girls between the ages of 12 and 14 filling the bobbins. They started at

6.30, went on for an hour and a half, then had half an hour for breakfast, and recommenced at 8.30 till 12. They were then released and went home, where they probably had an insufficient dinner, because their mothers were also in the mills, and were then sent to afternoon school. The conditions under which these children were working were bad enough to tax the nerves of an adult person. The noise of the mills made my head ache, the room was hot, and the children were tired out before their day was finished. Here were children of 12 and 14 doing the same work, and yet the girls were getting a shilling less than the boys.

How we Educate our Housewives.—Now, if we overcome all these difficulties, we are still faced throughout the country with that of time. There is no doubt that the teaching of domestic subjects is a most important part of a girl's life—indeed, at school, quite the most important. The majority of them, in fact nine-tenths of them, sooner or later have homes of their own, or may be looking after somebody else's home. What does our educational system do? It gives the most fortunate of these girls half a day per week for three years of school life. If you put that together, it comes to a little under three months. The girl leaves school the moment she is fourteen and goes into some other occupation—to office work or into a mill, and for seven or eight years she does nothing practically in the domestic world whatever. At the end of that time she marries or changes her occupation in some way and becomes the mistress of a household.*

A Contrast and the Moral.—I do not think the gentlemen who manage our educational system would dream of putting a boy into a Woodwork Centre for half a day a week for three years, then giving him eight years' holiday and setting him up as a carpenter. If it is not wise to put boys into the carpentering trade with no experience, it is not only not wise, but it is deadly to put girls to manage their own homes or other people's

* Speaking at the English Speaking Conference on Infant Mortality, August 4, 1913, Dr Caroline Hedger of Chicago, contended that the education to which a girl is subjected had very little in it to help her in the tremendous responsibility of carrying forward the race. . . . They must adjust their schools to the maternal possibility of the girl. . . . If education were really the drawing out of the individual it must include the perfecting of reproduction.—Ed.

homes with the amount of knowledge with which we turn them out at present. Not only do we not get enough time, but the interval between is much too long for any teaching which they may have assimilated to remain in their minds.

A Constructive Policy.—As Miss Gordon said, we are supposed to be constructive. The only thing I can suggest is that we go on with our work in the Elementary Schools, that we do as we hope will be done, make the leaving age 16 instead of 14, that we do away with the plague of my existence at present, the half-timer, and that if we let the child leave school at the age of 16, by some means she should be made to go on with her domestic training, until she is at least 18.* We have Trade Schools for boys, but we do nothing, or very little, to fit our girls for the most important part of their lives.

How Sympathy Between Teachers and Pupils may be Developed.—I should like to say a word about the teachers getting into sympathy with their children. The great majority of teachers do. The teacher is at present particularly badly paid, because she has to combine so many things. She has to be a teacher, and she has to be a missionary. You cannot be without the missionary spirit in domestic subjects; you want not only an interest in the children, but love for them. The teacher is also handicapped by want of time. If the teacher had half a day's holiday a week to visit the parents or to visit the works in which the parents are engaged, or the works in which their scholars will be engaged in the future, I am sure they would have, not sympathy, because they have that already, but they would be more in touch with the work and with their scholars.

An Ounce of Personal Experience.—I speak from personal

*The Continuation Class courses have been arranged to cover three years—that is to say, they are meant to be attended by boys and girls of, in general, 15, 16 and 17 years of age. In the case of those who have obtained special qualification, as shown by a certificate gained in a Supplementary Class, attendance at the first year's course would be optional and permission might be given to such a pupil passing immediately into the second year's course. Memorandum as to Course of Instruction in Rural Continuation Classes, prepared by a joint committee of representatives of the Scottish Agricultural Colleges, the Board of Agriculture for Scotland, and the Scotch Education Department and issued by the latter, September 9, 1913.—Ed.

experience. At one time I dreaded the sight of a miner; he seemed to me a disagreeable, drunken sort of body, and I avoided meeting him. Then I went down a coal mine, and ever since I have had more sympathy with the miner, because I know more about him, and no longer look upon him as a hooligan.

Conclusion.—So when you say the teacher ought to give more sympathy to the children, I answer, they want to get more in touch with the social conditions of the locality in which they are working. If, however, we are going to do anything at all, we must have more teachers, more money, and more time.

A Typical Middle-class Mother's Views.—Mrs W. S. Young, in opening the discussion: My claim in asking your attention for a few minutes at this point is that of a typical middle-class English mother. In that capacity I have read Miss Gordon's paper with interest, and find that in the Primary School curriculum the same most important subject is lacking that was lacking in my own school experience. I received the best possible education, but never was I taught anything of the most rudimentary and useful facts about diet for mothers before and after childbirth, and for the baby where the mother cannot feed. I had to wait until I became a mother and then start learning and experimenting as best I could. Having had a good education I did this intelligently, yet, I own, with many blunders, but how much better would it have been if I had learnt these most important facts years before. All the more, then, is it necessary that girls in our Primary Schools who almost invariably become mothers, and even before that are often set to look entirely after their younger brothers and sisters, should be taught these necessary facts concerning diet, including natural food remedies for common ailments. For instance, one of the commonest mistakes in all classes is that the mother should considerably increase the amount of food during pregnancy and breast feeding, and untold harm is done in consequence.

Why Diet and Cookery Reforms are Wanted.—Yesterday we heard a great deal about feeding, but as this Conference is being held under the auspices of the National Food Reform

Association, we have a right to hear more to-day about food. We all recognize the great importance of the care of the body for the sake of the individual, the home and the race, and therefore this question of food is a most important one. True the diets mentioned yesterday are *balanced*, but they are only those upon which the ordinary lower middle class has lived for the last fifty years, and we hardly call that class very healthy. If we feed our children and have to get them used to the food we give, why not feed them on food reform lines. Do away with the pastry and jam, cook the vegetables conservatively,* and end the meal with a crust.

Questions for Consideration.—As a food reformist, some of the questions I feel should be discussed are:

(1) Reasons for and against milk diet for infants, children and adults.
(2) The value of conservative cooking of vegetables.
(3) The proper use and time for drinking.
(4) The use and abuse of sugar and sweet food.
(5) The use of cheese and the pulses where meat is found too expensive or stimulating.

Threefold Co-operation Called for.—Miss Marian E. Cuff (Organizing Superintendent of Domestic Subjects, Bradford City Council): With regard to this whole question of the teaching of matters domestic in the schools, there should be a closer co-operation in three directions than at present.

Health Committee and Education Committee.—In the first place there wants to be combined action by the Health Committee and the Education Committee where these subjects are taught. In many cases the teachers have not the slightest idea of what goes on in the homes. If an arrangement is made by which the teachers are enabled to go round with the Health Visitors and see the actual conditions in the homes, many absurdities in the teaching would be avoided, and the teacher would get a better apprehension and a closer sympathy with the lives of the children. It has been so in my own case. In Bradford they have this co-operation and I was able to go round to the good working class homes, including those of the very poorest.

* Cf. p. 188 note.—Ed.

A Bucket as Cooking Utensil.—In the worst home that I saw the only cooking utensil was the floor bucket. It seems almost incredible, but I saw it myself, and the only cooking possible that day was to boil a few potatoes in this bucket. Unless these difficulties are known, the teachers are liable to fail; in many cases the practical instruction is to teach the children what they can do without.

The School and the Centre.—The second kind of co-operation should be between the school and the Centre where the Domestic Subjects are taught. I hope the day will come when at every school there will be a Centre for the teaching of practical work, and when the Domestic Subjects teacher will be a member of the school staff, when the head mistress and teachers will feel that the work is one, and there will be a closer connexion between them, with great benefit to the scholars. There is at present far too much of the feeling of a water-tight compartment in the Centre, and very little interest is taken in it. Might I suggest that it would be interesting if the head teachers, and, if possible, the class teachers would visit from time to time at the Domestic Subjects Centre, and get to know the teacher—the class teacher should visit with her girls and make the girls feel the Centre is a part of the school life.

The Centre and the Home.—The third kind of co-operation is between the Centre and the home. Now this can be done, and in our case, it has been done most successfully by having open days, as I mentioned yesterday. Every class should have during the term the liberty of inviting mothers and fathers, and elder brothers and sisters to come and see them actually at their work. Where this is encouraged, and where the mothers come, we find there is sympathy between the parents and the teacher. Before we did this, there was misunderstanding, and very often a prejudice against the work of the Centres, but if you get the mothers in sympathy with the teachers, they will help very much indeed. They will let the children practise in the home, and when that is done, there is hope that a lasting impression has been made. After all, the best school cannot compare in effect with the influence of a bad home and a home that does not pull the same way.

The Tactful Teacher.—If the teacher has tact, she will be

constantly saying: "There are many ways of doing this; I will show you my way, and you can judge if it is good, but perhaps mother has another way, and I should like to hear about it." They will bring recipes, and the mothers will come to ask for those of the teachers. When this is done, it is a great point gained. We want common sense and sympathy if we are going forward.

Where Glasgow Leads.—Again, we want to carry on the work in the Evening Continuation Schools. I have been just lately paying a visit to Glasgow, where the conditions for Domestic Subjects are better than anywhere I know of in England. For instance, the girls for the last two years of school life, have four and a half days a week, and they are obliged to pass a qualifying examination in Domestic Subjects. Of these four and a half days, one goes for cookery, another for laundry, another for needlework, and another for dressmaking. Dressmaking is hardly taught in Elementary Schools in England. Then at the end of the two years there is another examination for a certificate, and unless a certain standard is reached, they have compulsory attendance at evening classes. That time, however, is given partly out of working hours,* so there is not the great strain that there is in England on workers attending these classes.

Some Proposed Reforms.—When a girl is working all day in the mill, and then, at 14 years of age, goes three nights a week to night school, attends till 9.30 and does not get home till 10, and then has to be in the mill early in the morning, the strain is too great. In the future, if possible, we should have some evening school work made compulsory in time taken out of the working hours. We want to give this teaching later in

* Under an optional by-law, adopted by the Glasgow School Board about a year ago. Its effect is that, except where an exemption certificate is obtained, all young persons from 14 to 17 must attend a total of four hours per week in the evening classes, which must be deducted from the working hours in the factories, etc. The cotton spinners of that city, in a recent communication to the Chamber of Commerce, contend that since no such by-law exists in England, they are unable to compete successfully with Lancashire.

Per contra, Mr James Graham, Secretary, Leeds Education Committee, urges that it must be made the duty of employers to allow employees the time required for continuing their technical and general education, according to the requirements of the trade or business.

Cf. "Employers who lead the Way," p. 449 and Addenda, p. 492.—Ed.

the girl's life. As Miss Irons said, we do not want eight years' holiday before they come back to learn what will be, in most cases, their life work.

Classes for Adults and Mothers.—Just one more suggestion that I think is relevant to the subject this morning, and that is, it would be well where possible to have classes for adults and mothers in the evening when they can spare time. The mothers will be shy at first, but with a little patience and a great deal of tact, I am sure very much can be done in that way.

Doctors on Food Values.—Lady Meyer (Chairman of St Pancras School for Mothers): We were hoping to hear more about food and food values and catering, because these are difficulties with so many of us. It is astonishing that the moment we come to discuss food values, the doctors present immediately fall foul of one another. Instead of getting the guidance we were hoping for, we have, on the one hand, Dr Sim Wallace telling us that milk is no use, and people fed on milk are big and flabby, while the Chairman, with his elegant figure, rises and informs us that he drinks a pint and a half of milk a day, and the other doctor contradicts Dr Sim Wallace.

Why the School Age Should be Raised.—We come back and find that the solution of all these many problems is to be found in school life. I hope many of us will go away imbued with the idea that it is necessary that our young people, girls and boys, should be allowed to stay longer at school, in order to prepare themselves more thoroughly for their duties in life.

The Case for Day Continuation Schools.—I do agree most strongly that there should be Continuation Schools, but I disapprove of Evening Continuation Schools.* When

*The Manchester Education Committee finds that in the case of a considerable percentage of scholars at evening continuation schools there is an interval of two or three years between their leaving school and joining the classes, with the result that they usually require a preparatory course to improve their general education before they can profit by the technical courses. In the hope of bridging over this gap and to encourage young people to join directly on leaving the day schools, the Education Committee are granting free admission to an evening continuation school during the session 1913-14, to each boy or girl leaving the day schools during the year, who is legally exempt from further attendance at the day school.

Cf. also "Employers who lead the Way," infra p. 450.—Ed.

boys and girls have to work in the day time, they should not have to work again in the evening. It is a man's idea, and men are at the head of the Education Department. Girls want Continuation Schools, and to have their education continued to the age of 16, but they should not be working at trades in the day time as well. If we could get Continuation Classes in the day time, we should be doing good not only to the girls, but to the future citizens of this nation.

Standard of Living.—We ought to encourage people to have a higher standard for other people—a higher standard of wages and of living. The last speaker said rightly we needed more teachers—that means smaller classes and more money for the teachers. I was talking to somebody at the head of one of the Government Departments in this country, and he was indignant that the teachers were always asking for more salaries. This was unjust; they want smaller classes in order to be able to teach better.

Diet of the Working Classes.—To go back to the problem of food—food for the children in the Elementary Schools, food for the families from which these children come. What we are always discussing is how to get the proper constituents for proper growth, and proper value for the money we have to expend. Can we do it?

The Problem to be Faced.—If we cannot do it for the money, and if the working classes cannot get the right sort of food on the money they have, we have to find some means to provide the greater part of this nation with enough food. If a family has 20s. to 25s. a week, that leaves only 1s. a day for the whole family for food, and if food cannot be got for that, we have to feed them. If the National Food Reform Association can show us that it is possible to get cheap food with proper constituents, we shall be grateful. All these foods that we have been discussing—porridge, soups and stews—do not work out at a price at which it is possible for the working man to supply his family with food; instead therefore of discussing how many children ought to be on the necessitous list, we have to face this problem. The children cannot grow up half starved, and we have got to find some method of feeding them.

Impressions from the Debate.—Dr Jessie White (Teachers'

Guild): What struck me in Miss Gordon's paper was the small number of Centres for Domestic Subjects. The number she quotes are 75,000 children and only 64 Laundry Centres, and 195 Cookery Centres. Yet these numbers are given with the idea that the teaching of domestic subjects should be taken at an earlier age than the usual one. This Centre system is unsatisfactory, as was borne out by Miss Irons' paper, which was full of the difficulties it involves. Miss Cuff suggested the lines on which we ought to move, bringing the teaching into the curriculum of the ordinary school. Some of the Training Colleges are desirous of giving training in Domestic Subjects, but the Board of Education does not allow the students, when they have got this training, to give the teaching.

A Probable Outcome of the Conference.—Miss Catherine Gordon, in reply: Lady Meyer and Mrs Young have a real grievance, because I did take the broad, rather than the detailed, view of my subject, which was rightly expected from me. Lady Meyer hit the nail on the head when she said that doctors differ. To talk about diet, helpful as it would be to most of us, is so very difficult, because at present our knowledge is not at all so complete as it will be in the future. One very useful result, in fact, perhaps the most useful result which I expect from this Conference, is that it will make the medical men who were here to-day think more of the subject of dietetics. There is room for a great deal of research work. I again apologize, but the subject was either too big or too small for me to deal with to-day in detail.

The Chief Obstacle to Co-operation.—Miss Cuff spoke about closer co-operation between Health Committees, Health Visitors and Domestic Economy teachers, and said that the latter ought to know more about home conditions, while the people in the home ought to know more of what the teachers are trying to do. In London we try all we can to overcome that deficiency. The great obstacle is lack of time—it is most difficult for the teachers or students to visit the homes of the children. There is also a natural repulsion to playing the part of Mrs Pardiggle—there is a sort of feeling that we do not wish to intrude.

School and Centre.—Regarding the connexion between

School and Centre, I do not know if Miss Cuff knows how progressive we are in London. The Domestic Economy teachers are on the staff in London, they are members of the school staff, and one hopes there is friendship growing up between the School and the Centre. We arrange open days in London as much as we can without interfering with the work. There, again, time is a difficulty.

THE CENTRE SYSTEM.—Dr Jessie White thought the Centre system was unsatisfactory. We never met the person yet who thought it otherwise, but what we claim for it is that it is the best thing we can do at the present time. Anything else is financially impossible at the moment. We are all steering towards better things, and we hope some day to get there.

DOCTORS AND DIET.—MRS DENNE DENNE: I should like to say just one word with reference to the questions raised by Lady Meyer and one or two others about doctors. Probably very few people have read the report of the last Medical Congress in Germany at the end of May. It has been translated into English, and I hope it will be reported in the *Lancet*. The Chairman's address told of the great progress that is soon to be made in the question of diet. A great many doctors will begin to work on fresh lines. Professor Goldman* gave a lecture last year before the Royal Society on cancer, and he has now carried his research work to diet. The doctors are trying to get to some understanding on the subject.

*Little more than a month after these words were spoken, Professor Goldman, who had devoted his life to cancer research, passed away, a victim to that fell disease, in his 51st year. He was a Professor of Surgery at Freiburg University and a Fellow of the Royal Society of Medicine, London, which he frequently addressed on the subject of his researches. *The Times* of August 13 last published a lengthy appreciation of his career by Professor Paul Ehrlich, one of the leading figures at the recent International Congress of Medicine. In it he emphasizes the value of the late Professor's researches into the functions of the living cells, both in normal functions, such as digestion, or in the majority of disease derangements, in which they play an important part. His last important work (he concludes), *Uber die Vitalfarbung am Centralnervensystem*, arrived at important conclusions concerning the nutrition of the central nervous system and the circulation of the cerebro-spinal fluid. He has now been snatched away at the height of his activity by an insidious disease and the scientific world has suffered a great loss. One could not desire anything more than that a laboratory should be established in honour of Goldman, which should be dedicated exclusively to the pursuit of his suddenly interrupted lifework.—Ed.

Afternoon or Evening Schools.—Miss Gertrude Irons, in reply: I am glad to find that most of the members of the Conference are in sympathy with my plea for more teachers, more money and more time. I do not in the least advocate compulsory Evening Schools; I advocate compulsory attendance during the afternoon or before 8 o'clock in the evening, but I do not think anybody who knows about them is in favour of Evening Schools.* If we can get the employers to give the girls a couple of hours per day, then we might do some good, but I agree with somebody who said that tired children were taught by tired teachers, and the result is practically *nil.* I know too much about them.

Position of the Teacher.—In towns it is desirable that teachers of Domestic Subjects should come on the staff, but in the country the teacher generally only gets to a school one day in the week. She visits one school on Monday, another on Wednesday, and so forth. The difficulties of co-operation are greater in the rural districts than in the town districts. That perhaps has not occurred to the ladies who criticized the lack of co-operation.

An Impossible Task.—Lady Meyer asked whether we can give a proper dietary on the wages paid at present. No, we cannot. No one could bring up a family of three or four children and live decently on £1 a week. Something must go. In the majority of cases the man comes best off, and the women and children suffer. The root of the trouble is really the wages and housing. As Miss Gordon said, we all come round to that in time.

Moral of the Discussion.—The Chairman: We have had a very interesting discussion. It is sad in some ways, because it comes back to the fact that the money people get now is

* It may be well to add that while the present syllabus is framed on the supposition that the instruction indicated will be given in evening classes, rural School Boards are earnestly requested to consider the possibility of providing opportunities for giving such instruction by preference in the afternoons, either after the day school closes or, where the numbers and attendance are small, in conjunction with the Supplementary Course of the day school, under the provision of Article 29 III (a) of the Day School Code. Extract from Memorandum as to Courses of Instruction in Rural Continuation Classes, issued by the Scotch Education Department, September 9, 1913.—Ed.

not enough to feed and clothe and house them properly. It is also hopeful, because nobody has said it is no good to try. We had a meeting at the Conference of Educational Associations, and two of the speakers told us how bad things were, and they said: "Your Domestic Teaching is no good." One lady said we should not teach the children to cook what they could not get. Now most of them can only get potatoes and skimmed milk; of course, you cannot give a lesson on that. Would it be wise to assume that the children were never going to get anything better? We have to see that they do, and to stimulate their ideas and make them want better things, to prepare them for better things when they get them. It is no use giving people better wages if they have not learnt how to spend them. I trust that a spirit of hopefulness will be carried back with us to our work, and that we shall feel we have gleaned some good from this Conference to-day.

TUESDAY, JULY 1

AFTERNOON SESSION

IV. DIET, COOKERY AND HYGIENE IN DAY & RESIDENTIAL INSTITUTIONS FOR CHILDREN AND ADOLESCENTS.

Chairman: The Lady Edmund Talbot, President, Association of Teachers of Domestic Subjects, Member, Home Office Committee on Reformatory and Industrial Schools.

A Work of National Importance.—The Chairman: I should like to say what pleasure it affords me to take the Chair at this very interesting Conference. Everybody, of course, is interested, not only in the pathetic side of the welfare of the children, but also in the larger side, for all that is now being done for the social life and the child life of the nation is of national importance, because it is creating and bringing up a younger generation who will be the citizens of this Empire.

Why Parental Co-operation Should be Sought.—There is only one suggestion I shall venture to make, because you

are all experts, and I am here to learn, not to teach.* It is that in all this work for children, it is very important to enlist the hearty co-operation of the parents. That, of course, is not an easy thing to do, but I cannot help feeling that in the work of feeding children and of instructing them in the principles of hygienic living, it is of vast importance to get the parents to co-operate, and to get into close touch with the teachers, and with all philanthropists who are doing this kind of work. After all, it is the homes of the children that we are really attacking, and unless we get the co-operation of the parents, I feel very strongly that a great deal of the effort which is being made will be wasted. We must get the parents to take an interest in looking after their own children.

Poverty and Ignorance.—The poverty question no doubt comes in, and parents plead poverty; but we must not forget that there is not only the poverty question, there is the ignorance question, and a great many of the mothers are entirely ignorant of what is best for their children. That is why I am anxious to get the parents to co-operate with all the work that is being done for the children. I will not take up your time any longer, because I am sure we are all anxious to hear the interesting papers that will be read.

1. PHILANTHROPIC INSTITUTIONS

DIET, COOKERY AND HYGIENE IN PHILANTHROPIC RESIDENTIAL INSTITUTIONS FOR CHILDREN AND ADOLESCENTS. *By* Edith Butler (*Matron, Page Hall Orphanage, Pitsmoor, Sheffield*).

Importance of Diet.—A detailed study of diet, cookery and hygiene is absolutely essential in the care of children and adolescents. In large households, no less than in small, a routine diet must be guarded against, lest the appetite be impaired. The food should be well prepared, partaken of in a thoroughly ven-

* The speaker is well known to many as a social worker in East London, who, in connexion with the St Cecilia House Settlement, has done pioneer work of much value in several directions, notably by the establishment of a domestic centre arranged on the lines of an artisan's cottage and of a school clinic with spray baths attached. For further details see *All About the Children*, obtainable from Lady Edmund Talbot at 1 Buckingham Palace Gardens, S.W.—Ed.

tilated room and in a genial atmosphere. This is fostered if children are allowed to converse during meal times. The diet of our children should, of necessity, be of the most nourishing and digestible character to build up their constitution, physique and vitality.

Breakfast.—Children should be encouraged to make a good breakfast, one course consisting, except in hot weather, of a small quantity of oatmeal porridge, sufficient milk and sugar, or treacle to taste. Real Scotch oatmeal should be used in preference to other prepared foods. To provide change of diet, fish, eggs or meat should be given once a week, as well as fruit, fresh or stewed, and marmalade.

Dinner.—Dinners should vary as much as possible, and might include one of the following: Fish, meat, soups, stews. A moderate amount of meat only is needed, and that not every day. Each day's dinner should have variety of vegetables, such as greens, turnips, carrots, haricot beans, onions and beetroot. The latter should be well boiled and served with a white sauce. Suet puddings of various kind, farinaceous puddings and fruit should be provided, but pastry only very occasionally.

Evening Meal.—When in season, watercress or lettuce should be supplied in place of jam or marmalade, with bread and butter.

Tea for children should be very weak, with a large proportion of milk. If a child is delicate or in any way below the average standard of health, milk should be given in place of tea.

Adolescents' Supper.—Supper is not a necessity for children, but adolescents, whose evenings are usually spent in study, should partake of a light supper, such as bread and butter with hot milk or milk pudding. This meal should be taken quite half-an-hour before retiring to rest.

How to Buy.—The buying of food and the choice of diet are both subjects worthy of much thought. Judicious buying of all foods is essential, for a good article is invariably more nutritious than a poorer or cheaper one, and is thus more economical in the end. Good flour, English meat and fats of all descriptions should be carefully chosen. Vegetables should be as fresh as possible, care being taken that each is used in its proper season.

SCIENCE IN THE KITCHEN.—Preparation of food is a science that every woman should study, more particularly those who have the care of children in the philanthropic institutions of our country. Two households may have the same dietary table, but with different results. On the one hand, the diet is nourishing and exactly what the body requires; on the other hand, it is indigestible and quite unsuitable, having lost all its valuable properties by careless and indifferent cooking.

BREAD.—Bread, as one of the chief articles of diet, should if possible be made in the home. Grist should always be used in the making of brown bread. No bread under two days old should be given to children.

MILK AND TEA.—Milk used as a beverage should be first scalded. Tea should be placed in a muslin bag, so that the leaves may be easily removed after standing for a few minutes.

PREPARATION AND COOKING OF VEGETABLES.—Great care should be taken in the cleansing of vegetables, more particularly greens. These, after very careful washing, should be put in strong salted water to remove and kill any insect life. All dried beans or peas should be placed in cold water with a small piece of soda a day before they are needed for cooking. In the cooking of vegetables it is necessary to have pans large enough to allow them to be boiled in a sufficient quantity of water.*

* The writer does not state and no one at the Conference was curious enough to inquire what becomes of the water. It is to be feared it goes the way of such water in nine out of ten English households, viz.: down the sink, and with it the valuable salts, which, as Dr Clement Dukes, the veteran school reformer, pointed out at the Guildhall last year, are absent in none of the tissues and are essential to health. Such salts are doubly precious, therefore, in the case of children. It is to the neglect of this fundamental principle of "conservative cookery," as it is called, which is familiar to the humblest French woman, that, as Mr W. H. Prosser suggested on the same occasion, the unpopularity of vegetables with children and the small part they play in English as compared with French menus is probably largely attributable.

Cp. also *Food and Dietetics*, Hutchison, 3rd ed., p. 477.

Cp. *Our Children's Health at Home and at School*, under "Vegetables."

Cp. also N.F.R.A. booklet No. 2, notes 5 and 6, and booklet No. 4, notes 4 and 5.

A report on "Green Vegetables and their Uses in the Diet," by Dr C. F. Langworthy, Chief of Nutrition Investigations, Office of Experiment Stations, U.S.A., taken from the Year-book of the Department of Agriculture of the United States, appeared in the *Epicure* for April, May and July, 1913, and will be found full of valuable information.—Ed.



LESSON ON BOILING ROOTS AND TUBERS

Beaufort House L.C.C. School, Fulham.

To face p. 188

JOINTS.—In roasting a joint of meat, care should be taken to retain the juices. After the first quarter of an hour meat should cook gently, being well basted during the process of cooking. Stews made from the leg of beef also make digestible dishes. The beef should be cut into small pieces and placed in a stew jar with sufficient vegetables to flavour. This is best done in a slow oven.

SOUPS.—In order to secure nourishing soups, stocks should be made before the day on which the soup is needed for use. Obtain fresh beef bones and boil for some hours. When cold, remove the fat, and the stock will be a nutritious jelly. To this add lentils and vegetables and boil until the vegetables are cooked. A variety of soups can be made in this way with good results.

PUDDINGS.—All milk puddings require careful and very slow cooking. A rice pudding cooked slowly for three hours is much more digestible and nourishing than one cooked quickly. The same remark applies to the making of porridge, which should always be well cooked the day before it is required. Suet puddings are very wholesome, and, as they can be made in great variety, should be given to children and adolescents two or three times a week. This kind of pudding requires to be well boiled or steamed. Pastry and cakes of all kinds should be made up with only the best fats for shortening. Care should be taken to weigh the exact quantities of the ingredients, in order that the child should receive a sufficiency of fat.

JAMS AND MARMALADE.—In making jams and marmalade, good, sound fruit should always be chosen. This should be thoroughly picked and washed. Even the most delicate fruits may be carefully washed in a cullender by holding it under a running tap.

HYGIENE IN THE HOME.—Good sanitary conditions are absolutely essential to ensure healthy homes. Not only should our rooms be kept clean and free from dust, but the sunlight should be allowed to enter and remain, even at the expense of faded carpets, etc. A current of fresh air in every room is a necessity, most particularly in sleeping apartments.* A window board

* People who live in the forest, in open barns or with open windows, do not catch cold and the disease called "a cold" is generally caused by impure air, lack of exercise or over-eating.—Benjamin Franklin.—Ed.

should be used during inclement weather. Sleeping apartments should be so furnished that the floors can be frequently washed. Beds should receive careful attention, and should be well aired daily before being made. When clean linen is needed, care should be taken to see that each child has two clean sheets, and that the top sheet is not put at the bottom of the bed, as is frequently done. This is a most unhygienic practice. Night attire should also be well aired.

Personal Hygiene is of the utmost importance. The body should be bathed frequently and rubbed down each day with a towel if sponging is not possible.

The hair should be washed at least once a month, and well brushed each day. It is a wise plan for girls to wear their hair in a plait during school hours, daily supervision being given in each case to keep the hair in good condition.

The teeth should also have special attention. Children should be taught to brush them twice a day as well as the necessity for clean finger-nails. No two children should be allowed to use the same toilet requisites; each should be provided with its own, which should be easily distinguishable. Towels, tooth-brushes and loofahs should be so placed that the air can circulate through them when not in use.

Clothing should be warm, but light in weight. For girls the weight should as far as possible depend from the shoulders, and no article of clothing should be tight. All clothing worn by day should be removed at night. Boots and shoes should be of a natural width with low heels.

Eating Between Meals.—It is necessary that all meals should be served at regular times. In most cases it is much better that a child should not eat between meals. Sweetmeats for children should receive very careful supervision. They should be of a wholesome nature and given in moderation only. Children and adolescents require plenty of sleep and outdoor exercise to keep them in good health.

Hygiene in the Kitchen.—Supervision in the kitchen is very essential. All articles used for culinary purposes should be kept scrupulously clean and open to the air. Saucepans should be kept on a shelf with a raised edge to allow the air to get to the pan. No water in which greens have been cooked should be

thrown down an inside sink or drain. The sink should be frequently cleansed by pouring down hot soda water to remove all stale grease.

A cool storage in which to keep food should be provided. Milk, being one of the commonest vehicles of disease germs, should always be boiled from three to four minutes before being set aside.

Conclusion.—A systematic following of these methods through all the details of the daily life of a child is essential if healthy and consequently happy futures are to be assured to the rising generation.

Miss Butler then read a summary of her paper.

Health Records in Children's Homes.—Miss Esther Smith (St Jude's Home for Girls, Waifs and Strays, Selhurst): I should like to ask if anyone has records of health amongst children in Homes. In one of our Homes our Medical Officer was not required to attend during a period of eighteen months except for two cases of scarlet fever and one of measles. During this period four other cases were treated in hospital, one for eyes and three for adenoids. Children admitted and discharged were taken to the doctor. During 1912, we had six cases of German measles and one case of valvular disease of the heart following rheumatism before admission. From January of this year we have had one operation for polypus, two cases needing surgical appliances, and other cases only requiring care and feeding up.

Advantages of a Varied Diet and Adequate Supervision.—This condition of health is partly attributable to the varied diet—this being much the same as that given in the dietary table for thirty-six girls aged from 6 to 16 years.* Many of these children come from the worst of slums, others from homes where neglect is due to poverty and cruelty, and have been rescued by the Society for Waifs and Strays. I have had the opportunity of noting the difference between children fed on a diet of little variety, where table manners were not considered of great importance, and those fed on a varied diet, where method and order were the rules of everyday

* See page 290.—Ed.

life. Physical strength may be accompanied by mental weakness, but we cannot get away from the fact that what appeals to the senses has either a refining influence or otherwise over the mental faculties. Children rescued will compare their new conditions with the neglected homes of the children they see around.

Service of Meals.—American oilcloth has been recommended in place of table linen, but this encourages carelessness. If allowance be made for new arrivals, tablecloths may be kept clean a full week, or even longer. Oilcloth, when worn, looks unsightly and smells unwholesome. If those in charge are determined to have clean and properly laid tables, utensils held and used correctly, food eaten quietly, and conversation carried on without shouting, the children themselves will respond and help in many other ways to keep their home and themselves orderly and clean.

Children's Food Requirements.—I should also like to ask if anyone can tell me of a substitute for milk, of which one speaker did not appear to think much. We depend on milk to build up our weaklings, and for our invalids. Meat I do not consider quite essential for children, but the gravy obtained from it adds to the enjoyment of many a dinner. Boys of 12 and upwards require more meat than girls (but not the same amount as an adult), or some substitute such as suet pudding. Growing children require more food than an adult, and of a varied kind. The quantity should provide not only for existence, but for development.

Light from New England.—Miss Power: I have been asked to say a few words about a suggested new profession for women in Institutional Housekeeping,* as when I was in New England I had an opportunity of seeing a very little of its working there. This subject reminds us of the old proverb that "Providence sent us good food, but in many instances we have to fear that the cooks came from another place."

An Institutional Housekeeper at Work.—In the Institution I visited the food was in no sense limited, and consisted of good plain food, well and appetizingly served. The kitchen department was managed by a lady who was what is called College bred, who had taken a distinction in the subject of

* See Introduction, p. xxxviii.—Ed.

Domestic Economics. The cost per head was, I believe, very economical, and it appeared to me that a woman was able to exercise in this profession her actual initiative and make suggestions to the Committee of Management which would come with far more force than from the ordinary domestic cook. Furthermore, an educated woman studies the problem more all round, and can insist on the advantage of storage, when certain foods are at a low price. In England we tend, in Institutional Cooking, to be too insular, and there are many dishes in France, Germany and Italy that are palatable and might with advantage be grafted on to the dietaries to make them varied.

Result on Staff and Inmates.—Moreover, if their meals are appetizingly and well served and nutritious, the staff are kept in a higher degree of efficiency than if the reverse is the case. One thing that struck me about the staff was that the social tone was exceedingly high. They seemed to get on well together, and that, of course, reacts upon the inmates of the Institution because, if the members of the staff are depressed, they cannot do so much by their own character in building up the characters of the inmates of the Institution. This is of special importance in the case of Industrial Schools and Institutions for feeble-minded persons. I was very much impressed with the harmonious manner in which this particular Institution was worked, and also with the economy practised.

A New Career for Women.—I think that possibly in England and Great Britain generally there would be an opening for women who have had a good Secondary Education supplemented by a University course, which included a little physiology besides practical cooking and, of course, the chemistry of foods.

What the National Food Reform Association is Doing.—Mr C. E. Hecht (Secretary): I hope while I say two or three words by way of support to Miss Power, and inform the representatives of Institutions what the National Food Reform Association is doing on this subject, some others will make up their minds to contribute their quota to the discussion. There are a number of ladies and gentlemen present from Institutions, and it is desirable that they should put their

experience and knowledge into the common melting pot or raise any problems they have been unable to solve.

Findings of Two Conferences.—In 1910 the National Food Reform Association called a Conference of Matrons on the Feeding of Nurses in Hospitals and Similar Institutions, and one of the principal conclusions of the Conference was the necessity for having specially trained women to run Institutions. An appointment of that kind seemed to hold out the chief hope of securing greater variety and better cooked food. The same view was emphasized by the speakers at the first Guildhall School Conference a year ago.

A Joint Committee's Appeal.—The result was that last winter a strong Joint Committee was formed of representatives from the Matrons and Schools Committees with a view to inducing the Universities, University Colleges and Training Schools throughout Great Britain to provide training on what one may, for convenience, term American lines. In the spring a letter was addressed to these bodies and to the Press urging the provision of such training, and quoting from a description by Miss Burstall, Head Mistress of the Manchester High School for Girls, of what she had seen in America. Miss Burstall, who more recently raised the subject at the Annual Meeting of the Association of Head Mistresses and in her own Annual Report, further emphasized the need for such training in England in view of the increasing tendency for people to live in communities.

How Members of the Conference May Help.—I will not waste the valuable time of the Conference by giving extracts from the letter, but I would call the attention of anyone interested to the fact that it has been reprinted from *The Queen*, which in common with other influential journals endorsed the appeal, and may be found at the bookstall. I hope anyone interested will ask for a copy of it.* Further I trust that any who live within the jurisdiction of a University, University College, or Training School will use their influence to press upon such body the necessity of providing such training, the importance of which cannot be estimated too highly.

* Reprinted on p. 458.—Ed.

AN ENCOURAGING THIRST FOR INFORMATION.—MRS DENNE DENNE: How long was the course?

MISS POWER: I have no exact information, but it would not be less than a year's practical work, supplementing the more academic side of the training.

MR C. E. HECHT: I think it is either two or three years; it varies at different Universities.

MRS DENNE DENNE: The Grand Duchess of Baden gives a wonderfully good training in housekeeping in three months.

HOW THE NEEDS OF EXISTING HEADS MAY BE MET.—MR C. E. HECHT: On the Joint Committee there are heads of existing Institutions, and the Committee hope to induce Universities, University Colleges and Training Schools to meet both cases, that is to say, to train women from the start to run Institutions, and also to enable women who are running them to add to their accomplishments by short courses. The University course would, as in Canada and the United States, lead up to a Bachelor's degree, or, where the full course was not taken, to a diploma.

DR JESSIE WHITE: It is a pity Lady Meyer is not here, because she is connected with King's College, and this College has followed the lines of the teaching given in American Colleges.

MRS DENNE DENNE: You cannot do anything there unless you go for two years.

A TRAVELLING INSTITUTIONAL ADVISER.—MR C. E. HECHT: The Committee further hope to provide Travelling Institutional Advisers to assist matrons and heads of schools and other Institutions. They hope to have a lady available to go round for a week or a fortnight and assist existing heads or housekeepers to improve their methods.

KING'S COLLEGE FOR WOMEN.—We have been in consultation with King's College for Women in this matter. I cannot, however, say more at this juncture than that I am hopeful they will be found willing to respond to our appeal as soon as they are installed in their new home. They provide excellent training for ordinary housekeeping, but not for Institutional Housekeeping, and they recognize that they do not.

SAFEGUARDING THE CHILDREN'S HAIR.—MISS BUTLER, in reply: I should just like to say how much I was in sympathy with Dr Badger this morning in his remarks about the children's hair, because I find with my girls, although I have the support of the teachers, it is very much safer always to send them to school with their hair plaited.

2. PUBLIC INSTITUTIONS

(A) *OPEN AIR SCHOOLS.*

DIET, COOKERY AND HYGIENE IN OPEN-AIR SCHOOLS. *By* EDWARD J. MORTON, M.B., CH.B., F.R.C.S. (*Assistant School Doctor, London County Council*).

TWO DISTINCTIVE CHARACTERISTICS.—When we consider the subjects of diet, cookery and hygiene in open-air schools,* we find that the special circumstances in such schools which give these matters a different aspect from that which they have in the ordinary dining-room or school feeding-centre are:

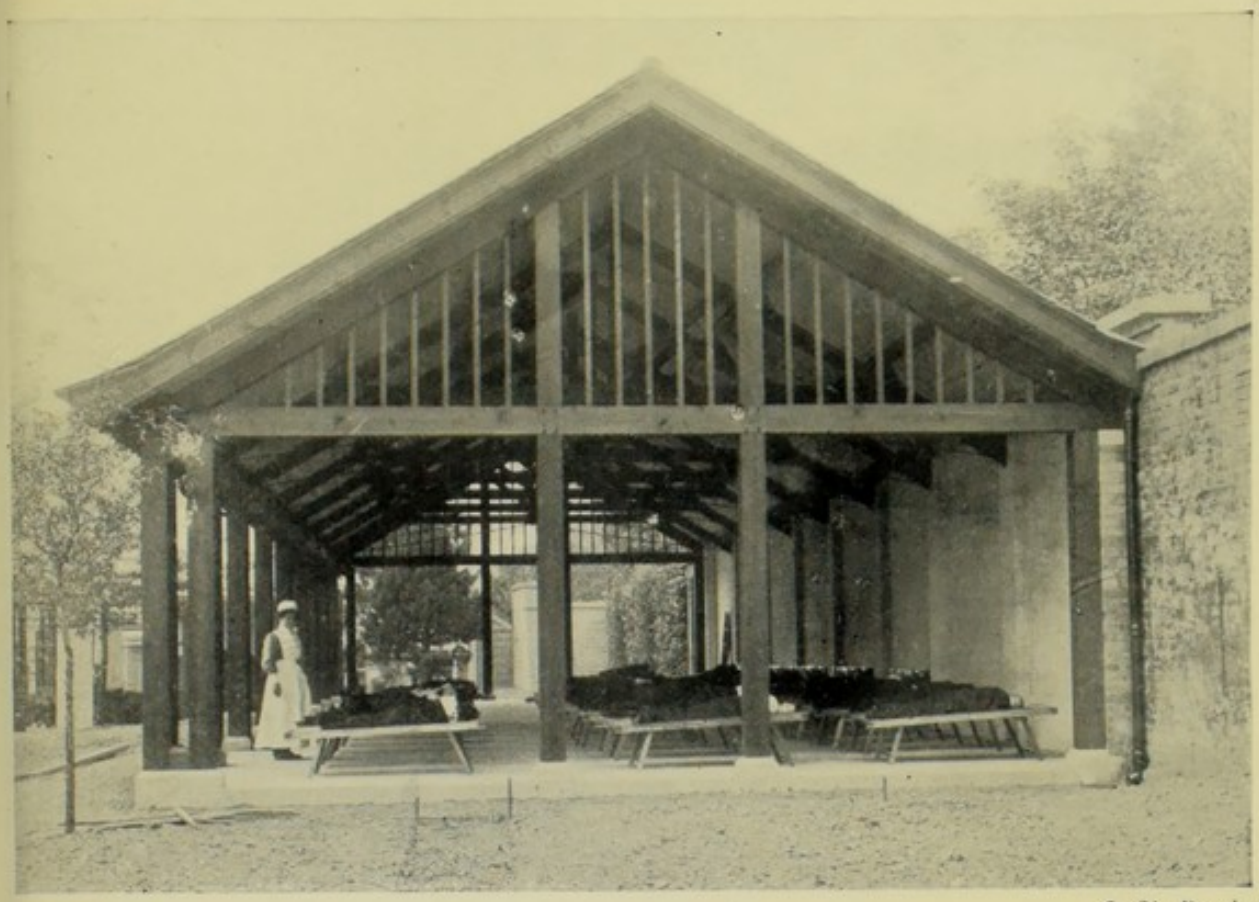
1. The children are living all day an outdoor life, breathing the natural air around them, and playing and working in the open instead of in an artificially warmed and always more or less impure atmosphere.

2. They actually partake of their meals sitting in the open, and no matter what the temperature may be.

PHYSIOLOGICAL DEMAND UPON ORDINARY SCHOOL CHILD.—When a child is sitting for a great part of the day in an artificially warmed atmosphere, especially when care is taken to see that the thermometer is not allowed to change from its regulation level, and when all currents of air in the room are discouraged, then there is no great call on the child's system to produce body heat for itself; most of this is being artificially produced for it, and this means that there is more or less stagnation of tissue metabolism in the child's body.

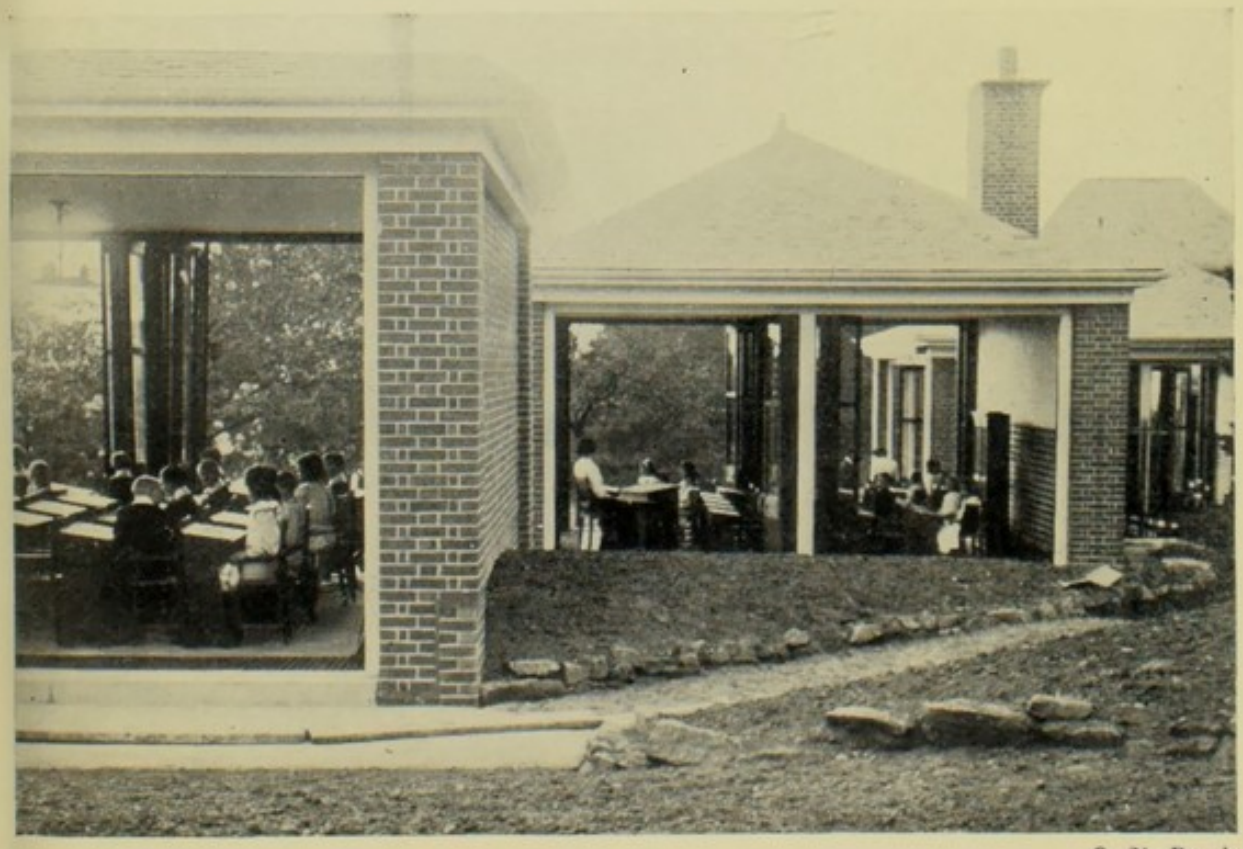
EFFECT OF OPEN-AIR LIFE.—When, however, as is the case in the open-air school, the child's body is being constantly

* For some account of Open Air Schools in Germany where they originated, the first being founded at Charlottenburg in 1904, and similar institutions, see Annual Report of the Chief Medical Officer of the Board of Education, 1911, pp. 88-95. In recent years, the rate of growth has scarcely kept pace with that in this country.—Ed



E. J. Pardoe

RESTING SHED
Uffculme Open Air School, Birmingham.



E. J. Pardoe

GENERAL VIEW OF THE CLASS ROOMS
Uffculme Open Air School, Birmingham.

To face p. 196

exposed to alterations of temperature in the surrounding atmosphere, and that atmosphere, especially in the winter months, is considerably colder than that indoors, and when the child has to bear exposure to winds of varying strengths and of varying temperatures, then its whole system is called upon to exercise those functions, which it naturally possesses, of adapting itself to the existing atmospheric conditions around it.

Consequences—Invigorating and Disconcerting.—The effect of a cold atmosphere of a moderate degree of relative humidity, such as one finds in our open-air schools in the winter months, is to cause a contraction of the blood-vessels of the surface of the body, thus lessening the loss of heat, and to demand an increased rate and depth of respiration, and an increased rate of tissue metabolism. The individual responds to this demand by exercising his body, and our children in the open-air schools are allowed to do this freely in the cold weather. In fact, during some of the very cold spells, the teaching curriculum is sadly upset by frequent resorts to a general " run round " to warm up the scholars. This active tissue metabolism is also produced to some extent by the stimulating effect on the nervous system of winds of varying temperatures and force impinging on the skin surfaces.*

* General exposure to the sun, direct and indirect, of all the skin and body was a fine energizer and tonic, and one of the best therapeutical means we had of renewing the tissues. The reflected rays from a large surface of water, like the sea, combined with the constantly reviving fresh air, must constitute a powerful help in the treatment of diseases, where the morbid secretions were gaining the upper hand. If, as many observers had proved, the refracted rays from sea, snow and sand were equivalent to X-rays of a mild degree, then we had the ideal therapeutical agent for all glandular affections. The results obtained by patient treatment in marine, mountain and desert districts were not to be despised in an age where rapidity was frequently more valued than efficiency. Dr Lennox Wainwright at the International Medical Congress, Therapeutic Section, August 12, 1913. Dr Wainwright also described the remarkable results secured by Dr Rollier at Leysin, near Lake Geneva, in his sanatorium for the treatment of surgical tubercular diseases, commenting, in particular, on the happiness of his patients, " in contrast to the condition of the average miserable patient treated with splints and ointments in a hospital." An illustrated account of Leysin and its methods appeared in *The Child* (July, 1912), entitled " Heliotherapy for Tuberculous Children."

Cp. also *Our Children's Health at Home and at School*, pp. 142 and footnote, 222-3, 232-3, 235-7.—Ed.

Conditions Conspicuous by their Absence.—Such hygienic conditions are conducive to a more vigorous mental attitude. There is no stagnation in the system of food products which have not been properly metabolized. We should not find in the open-air schools those thin little boys, too common in the ordinary school, who have lean arms and chest, but distended abdomens, the result of the ingestion of more food than they can properly digest and metabolize.

How the Process of Digestion is Modified.—Let us consider now how the open-air life modifies the actual process of digestion of the food. When partaking of a meal in the open, the skin surface being cooled, there is a greater supply of blood to the digestive organs, which perform their work better under such circumstances. Then, again, we all know how on a hot day, when the surface of the body is red and perspiring, and all the body's energy is required to effect a regulation of the body heat, we do not feel inclined to eat anything, and when we do digestion is indifferently performed from lack of the needful nervous energy in the digestive organs. In this connexion it has been observed that the effects of a warm summer are not nearly so beneficial to the children at an open-air school as are the effects of a cold winter.

Special Dietetic Requirements.—Thus the hygienist at the open-air school has to take account of the special demand for plenty of food, and food of the proper kind, for example, for fats, more especially in the winter months, but also especially for carbo-hydrates.

Life at "Birley House."—As a typical example of the methods adopted at the open-air schools conducted under the London County Council, let us consider the routine at "Birley House," London Road, Forest Hill, S.E. The children are for the most part suffering from debility, malnutrition and anæmia, the direct outcome of a city slum life. A small section of them are actually suffering from tuberculosis, while a larger section have possibly that disease latent in their systems.

The Children and their Food.—Still, we rarely find a child whose physical defect is such as to require any special invalid dieting or cookery. There are some who have a dislike for plain

food, the result of a habitual indulgence in such savoury dishes as kippers and pickled red cabbage, or the result of too frequent visiting of the fried-fish bar. Fortunately, however, the appetites of such children are soon educated at the school, and they come to take the food set before them as a matter of routine, and just as readily as they comply with any of the other requirements of the open-air life.

Catering and Cooking.—The catering is in the hands of the school nurse, assisted by a cook and a kitchen-maid. The food is purchased from local tradespeople, and all the cooking and baking is done at the school. As regards these latter I propose to say little. There are no special methods adopted, and, except for the bread, all the baking is done at the school.

Mealtimes and Regulations.—The children are brought to school each morning by electric car and are taken home again to sleep at night. Three meals per day are supplied: Breakfast 9 a.m., dinner 1 p.m., tea 5 p.m., with a light lunch between breakfast and dinner as shown in the appended diet sheet. The children are permitted to eat as much as they care for, within reason, of course, for it is believed that living under such hygienic conditions they are not likely to eat more than they are able to assimilate, and their healthy appetites are considered to be a natural indication of how much they require. Let us consider, however, how much they actually do eat, and whether it is a scientifically proper amount.

Weekly Rations—Nature and Quality.—There are 90 children fed daily, and they consume during practically six days the following quantities:

Beef (for boiling, including bone)	per week	24 lbs.
Beef (for minced meat)	„	14 lbs.
Beef (for stewing or Shepherd's Pie)	„	14 lbs.
Mutton (leg for boiling, including bone)	„	22 lbs.
White Fish	„	36 lbs.
Potatoes (2½ sacks)	„	280 lbs.
Flour	„	49 lbs.
Sugar (Demerara)	„	42 lbs.
Butter	per day	2½ lbs.
Milk	„	76 pints.
Oat Meal	„	11 lbs.
Bread (9 quartern loaves)	„	33¾ lbs.

Chocolate	per week	10 oz.
Rice, Sago, or Tapioca	„	10 lbs.
Beans	„	9 lbs.
Green Vegetables (3 bushels)	„	105 lbs.
Carrots and Onions	„	15 lbs.
Suet (for dripping)	„	4 lbs.
Fruit (for stewing)	„	18 lbs.

Is the Amount Adequate?—The dietary is that in use in summer. These foodstuffs give per child per day 27 oz. of "solid" food plus 17 fluid oz. of milk. The latter may be regarded as equivalent to another 4 oz. of "solid" food, making in all 31 oz. of solid food per child per day. Now, if we take 50 oz. as a standard diet for an average man doing moderate work, we see that these children are taking three-fifths of the adult diet, which seems ample in amount. Their ages range from 7 to 13 years, and the average age may be taken as 10½ years.

Then let us compare the constituents in the children's food with those of the standard adult diet.

The following table shows (1) constituents of the adult diet (Parkes); (2) three-fifths of the adult diet; (3) constituents of the children's diet, including milk. All are expressed as in "dried" state:

(1)	Albuminates	4·5 oz.	Carbo-hydrates	14·0 oz.	Fats	3·5 oz.	Salts	1·0 oz.
(2)	„	2·7 oz.	„	8·4 oz.	„	2·1 oz.	„	·6 oz.
(3)	„	2·3 oz.	„	9·3 oz.	„	1·5 oz.	„	.5 oz.

Is the Dietary a Balanced One?—It will thus be seen that the children's diet is deficient in fats, has an excess of carbo-hydrates and is barely sufficient in albuminates. It must, however, be remembered that the cost of the food has to be seriously considered. The children are perforce fed more especially on bread, meal and potatoes, rather than on butter, fat meat and dripping, because the former are cheaper. The price of eggs and cheese makes them prohibitive. If a foodstuff yielding as large a percentage of fat as bread yields of carbo-hydrates could be procured, and as cheaply as bread, it would be easy to rectify this matter.

The Cost.—As regards the cost, it is found that half-a-crown per head per week pays for the food, and the parents are asked to pay this. Of them, however, 50 per cent are necessitous,

that is to say, can pay nothing, and about 6d. only of the half-a-crown is defrayed by the parents.

Seasonal Variations and Problems.—The difference in the amount of food consumed in summer as compared with winter (and the school is open all the year round) is not very great, except in exceptionally hot summers, when appetites are poor and more fresh fruit is supplied. One difficulty to be contended with is the change from hot soup for luncheon in the winter to bread and dripping in the summer. The hot soup has a more warming feeling to the consumer, and is preferred by him in the winter months, though bread and dripping would be more rational for the winter, since it has more heat-producing constituents than the soup. If we could obtain a fatty beverage that could be consumed at the same temperature as hot soup and would be equally palatable, this difficulty would be overcome.

Our "Mess" Described.—I shall now quote the description of the "mess" given by Mr Green, the headmaster: "Our meals are held in a 'feeding-shed' constructed by the elder lads as part of their manual work. The shed is 36 ft. by 21 ft., canvas covered, and having a floor of racks 6 ft. by 3 ft. Monitors are chosen by the children themselves to assist in the serving of the meals and to regulate the table manners and conduct of those under their charge; two of these are placed at each table and are called the "mother" and "father" of that table. By this means the staff, who take their meals with the children, are relieved of the task of keeping order, and supervision is reduced to a minimum."

It will be observed that "Montessorian" ideals are not lacking at Birley House.

The Midday Rest.—There is a custom of lying down for two hours' sleep in the afternoon after dinner. This is in vogue in all the open-air schools under the London County Council, and, though its rationale as a hygienic measure in relation to digestion and assimilation may be open to difference of opinion, there is little doubt that the class of children we have to deal with require more sleep than they get during the night at their own homes, where, from overcrowding and irregular hours kept, there is often much interruption to the child's night rest.

Let us now consider the effect of the dieting and other favourable conditions as expressed by the gain in weight and improvement in the state of nutrition of the children. Here there is no room for doubt as to the results.

The following table is a typical example of the increase in weight during nine months' attendance at such a school, and shows, for comparison, the average figures of all London County Council school children:

	Average weekly gain. All L.C.C. school children.	Birley House. Average weekly gain.
Boys age 8 . .	·03 kilos.	·07 kilos.
„ „ 9 . .	·04 „	·07 „
„ „ 10 . .	·04 „	·07 „
„ „ 11 . .	·05 „	·09 „
„ „ 12 . .	·06 „	·13 „
„ „ 13 . .	·06 „	·10 „

The following table shows a typical improvement in the state of nutrition of the children (expressed in grammes weight per centimetre) during nine months' attendance at the school:

	Nutrition on admission.	Nutrition at end of 9 months.
Boys age 9	193·0	209·8
„ „ 10	203·1	207·6
„ „ 11	203·8	226·1
„ „ 12	209·9	227·1
„ „ 13	221·0	254·9

SUMMARY.—(1) The hygienic conditions of an open-air life are conducive to a rapid tissue metabolism and hence to a healthy appetite and more vigorous mental state. The dieting question is therefore a simpler problem than with children who have not these advantages.

(2) The food supplied at the London County Council open-air schools compares very favourably as regards quantity, quality and variety with that which the children have been accustomed to.

(3) The results of the feeding in these schools are eminently satisfactory as regards gain in weight of the children and improved state of nutrition. This is what one would expect when one considers the deficiency of food of any sort, and of

the proper sort, from which the children have suffered in the past.

(4) The question of expense comes in largely when considering the choice of foodstuffs and for the amount expended the dietary given is in every way excellent. When, however, one compares it with standard tables, it is found to be deficient in albuminates and fats, and to have an excess of carbohydrates. These defects, if defects they be, are due to the impossibility of obtaining cheaply foodstuffs which contain a high percentage of albuminates and fats.*

DIET SHEET AT BIRLEY HOUSE OPEN-AIR SCHOOL.

WINTER MONTHS.

MONDAY.

BREAKFAST.—Porridge, Milk, Sugar.
LUNCH.—Cup of Soup.
DINNER.—Beef, Potatoes, Greens, Milk Pudding (Rice).
TEA.—Tea (almost all Milk), Bread and Butter and Jam.

TUESDAY.

BREAKFAST.—Bread and Milk.
LUNCH.—Cup of Soup.
DINNER.—Minced Beef, Carrots, Onions and Potatoes, Stewed Figs or Prunes with Custard.
TEA.—Chocolate, Currant Bread and Butter and Jam.

WEDNESDAY

BREAKFAST.—Porridge, Milk, Sugar.
LUNCH.—Cup of Soup.
DINNER.—Fish, Parsley Sauce, Bread, Jam Roly Poly Pudding or Ginger Pudding.
TEA.—Tea (almost all Milk), Brown Bread and Butter and Jam.

THURSDAY.

BREAKFAST.—Porridge, Milk, Sugar.
LUNCH.—Cup of Soup.
DINNER.—Beef Pudding (Suet), Potatoes and Gravy, Baked Milk Pudding or Tapioca.
TEA.—Chocolate, Bread and Butter and Cake (Home-Made).

FRIDAY.

BREAKFAST.—Bread and Milk.
LUNCH.—Cup of Soup.
DINNER.—Boiled Mutton, Haricot or Butter Beans, Potatoes, Rice and Rhubarb or Apples.
TEA.—Tea as before, Bread, Butter and Jam.

* See also article on Open Air Schools, with references, by Dr Ralph Williams in *Medical Examination of Schools and Scholars*. Kelynack, pp. 249-263. 10s. 6d.—Ed.

SATURDAY.

BREAKFAST.—Porridge, Milk, Sugar.
DINNER.—Soup, Bread, Suet Pudding with Treacle or Currant Pudding with Bread.
TEA.—(No tea).
Occasionally Dripping is given for tea instead of Butter.

SUMMER MONTHS.

MONDAY.

BREAKFAST.—Same as in winter. Sometimes half-round of Bread and Butter given instead of Porridge.
LUNCH.—Bread and Dripping daily. Half a round of a quartern loaf for each child.
DINNER.—Same as above.
TEA.—As above, with Bananas or Strawberries once or twice a week.

TUESDAY.

BREAKFAST.—Same as in winter. Sometimes half-round of Bread and Butter given instead of Porridge.
LUNCH.—Bread and Dripping daily. Half a round of a quartern loaf for each child.
DINNER.—Minced Beef or Shepherd's Pie, Custard with Stewed Cherries or Pears.
TEA.—As above, with Bananas or Strawberries once or twice a week.

WEDNESDAY.

BREAKFAST.—Same as in winter. Sometimes half-round of Bread and Butter given instead of Porridge.
LUNCH.—Bread and Dripping daily. Half a round of a quartern loaf for each child.
DINNER.—Same as above.
TEA.—As above, with Bananas or Strawberries once or twice a week.

THURSDAY.

BREAKFAST.—Same as in winter. Sometimes half-round of Bread and Butter given instead of Porridge.
LUNCH.—Bread and Dripping daily. Half a round of a quartern loaf for each child.
DINNER.—Stewed Beef or Minced Beef with Vegetables and Potatoes, Pudding as above.
TEA.—As above, with Bananas or Strawberries once or twice a week.

FRIDAY.

BREAKFAST.—Same as in winter. Sometimes half-round of Bread and Butter given instead of Porridge.
LUNCH.—Bread and Dripping daily. Half a round of a quartern loaf for each child.
DINNER.—Boiled Bacon with Cabbage or Beans or Boiled Beef, Carrots and Dumplings and Potatoes, Stewed Prunes or Gooseberries.
TEA.—As above, with Bananas or Strawberries once or twice a week.

SATURDAY.

BREAKFAST.—Same as in winter. Sometimes half-round of Bread and Butter given instead of Porridge.

LUNCH.—Bread and Dripping daily. Half a round of a quartern loaf for each child.

DINNER.—As above, or Soup, Bread, and Rice Pudding with Sultanas.

TEA.—(No tea on Saturday.)

SUGGESTIONS AND CRITICISM INVITED.—DR EDWARD J. MORTON read an abstract of his paper. He added: I have endeavoured in this paper to avoid general statements or pious expressions of opinion; I have tried to give a statement of facts, and to make certain deductions from them. I need hardly say that any remarks, suggestions or criticism will be to the advantage of all concerned, and especially to the children, if such remarks should lead to a better dietary, or to better results from the dietary.

(B) *SPECIAL SCHOOLS, DAY AND RESIDENTIAL, FOR THE MENTALLY DEFICIENT AND PHYSICALLY DEFECTIVE.*

DIET, COOKERY AND HYGIENE IN SPECIAL SCHOOLS (DAY AND RESIDENTIAL) FOR MENTALLY DEFICIENT AND PHYSICALLY DEFECTIVE CHILDREN.

By CHRISTINE M. MURRELL, M.D., B.S. (*Assistant Medical Officer of Health for Special Schools, London County Council*).

TWO GROUPS.—Under the London County Council the Special Schools are divided into two main groups:

(1) Those for the physically defective.
(2) Those for the mentally deficient.

(1) SCHOOLS FOR THE PHYSICALLY DEFECTIVE.—A child is admitted to a Special School for the physically defective on the certification of one of the Medical Officers of the Council that such a child, while being precluded by his or her health from regular attendance at an elementary school, is nevertheless fit to be removed, under suitable conditions, from the home to an invalid school, and will be able to profit by the instruction given there.

Class of Children.—The greater number of these children are suffering from one or other of the following afflictions:

(*a*) Some bony deformity, due to old tuberculous affection;
(*b*) Paralysis, particularly infantile paralysis;
(*c*) Severe forms of heart disease.

The large majority are unable to walk anything but a very short distance. An ambulance is therefore provided for fetching them to the school in the morning and taking them home at the end of the afternoon. They are all required to stay at the school for the interval during the middle of the day, unless their homes are very close and they receive special permission from the visiting Medical Officer to go home, being found fit to walk the requisite distance.

During the morning recreation hour children can purchase either milk or cocoa for a ½d.

Dinner Regulations.—At the midday interval they are all strongly encouraged to have the school dinner, which they can get for 2d. a day. Where children appear to be unable to pay even the 2d. for the dinner, investigation is made by the Care Committee; in some cases 1d. is remitted, and in a few cases the dinners are given free. Attendance at the meal is not, however, enforced. The children may bring their own dinner, and in some of the schools it is possible for them to supplement what is brought from home by pudding for ½d.

Nature of Meal.—Great care is taken in working out the food values of the meal. If the children are given soup, they have some nourishing pudding, generally suet. They have milk puddings several times a week.

Place and Service.—The meals are served in a way to make them attractive, a tablecloth and proper table appointments always being provided. In some schools, where the playground is of sufficient size to admit of it, a certain number of the children are given their food in the open air when the weather is suitable. This necessitates increased work on the part of the staff, but is obviously of very great benefit to the children.

Educational and Social Side.—These school dinners supply very valuable opportunities for teaching manners and cleanli-

ness. Children are not allowed at table without reasonably clean hands and faces, and are made also to acquire the habit of washing after their meals. Owing to the fact that so many of them are in some degree crippled, it is not practicable to teach them much in the way of serving each other at table, but everything that is possible is done to promote a feeling of consideration for others.

Financial Aspect.—The 2d. charged does not cover more than the food value. A few years ago the cost price of the food did not work out at more than 1½d. to 1¾d. per head, but owing to the increased cost of living, the 2d. now barely covers the expenditure. The kitchen staff, gas and coal required in cooking, and other incidental expenses have all to be met out of the general funds for the upkeep of the school.

How Organized and Provided.—These dinners are under the control of the Special Dinners Committee for Cripples.

Those mentioned later for the Mentally Deficient Children are generally supplied by an adjacent "Cookery Centre," and when not paid for by the children themselves are granted by the Council from its fund for necessitous children.

Duties of the School Nurse.—The Council has recognized that, important as hygiene is to the ordinary healthy child, it is of quite exceptional importance in the case of these physically defective children. They therefore provide a Nurse for each P.D. School. She is, under the Headmistress, responsible for supervising the taking of the children from their homes to the school in the morning and back again in the evening. The supervision of the dinners and the personal cleanliness of the children is also more particularly relegated to her care. She has further the extremely responsible task of seeing that the more delicate of the children are kept under physical conditions suitable for their particular illness or deformity. To render this possible, the children in these schools are not confined in the ordinary school desk where it is found irksome for them. Special forms of chair, reclining and otherwise, are also provided for certain cases.

Games.—The amount of exercise allowed in the playground to the individual members of this little community is also a

matter requiring constant care and supervision. Children, for instance, with severe heart disease, must not be allowed to join in the rough-and-tumble games which come natural to children of their age, while those wearing instruments have to be constantly watched, not only that they may not hurt themselves, but also that their instruments may do no harm to their playmates.

Mental and Physical Results.—The result of all this constant care and attention is very obvious in the generally improved physical condition of the children. As to the mental joy afforded, it is not possible to say too much—it must never be forgotten that these are children with normal brains, simply prevented by their deformity from attending the ordinary elementary school. Before the P.D. Schools were started, such children had perforce to stay at home with their brains largely unoccupied and untrained, dependent on the kindness of brothers and sisters or the occasional help of philanthropic folk for any education they might get.

(2) Schools for the Mentally Deficient.—The children admitted to these schools, though not imbecile, are nevertheless sufficiently retarded in their mental development to be unable to profit by the ordinary education given in the elementary schools; they are, however, able to profit by special instruction.

Task of the Teacher.—The work of the teaching staff in these schools is extremely difficult, and really requires both special training and, of more importance still, special aptitude. In a few cases, undoubtedly, the children are merely backward in their academic acquirements, but in the majority there goes with this retardation a much more serious lack of social feeling and correct social behaviour. They are very apt to show moral taints, such as:

(*a*) Spitefulness to their fellows;
(*b*) Cruelty to animals;
(*c*) Pilfering;
(*d*) Lying, etc.

In other words, backwardness in school learning is frequently accompanied by some degree of moral insanity.

Extreme cases, of course, are not retained in M.D. Schools, but have to be sent to residential institutions. The milder cases, however, are allowed to remain in the day schools, and under suitable treatment show a very great improvement in behaviour.

Baths.—No Nurse is attached to these schools, but a superior domestic woman assistant is engaged as bathing attendant, baths being provided for those children who need them, since they are frequently found to come from very depraved and dirty homes. The close connexion between physical and mental cleanliness is fully recognized, and we find that a bath first thing in the morning is a very good beginning for the school day, increasing not only the comfort, but also the good behaviour of the child.

These children also are encouraged to stay to the school dinner. The good food, the cleanliness and the personal supervision give them a new start in life. In a certain proportion it is found that this is all that is necessary, that the child steadily improves and is able to go back to the ordinary elementary school. Unfortunately, this is not always the case. A certain number show permanent retardation in their mental development, and they form a great problem when the school-leaving age is reached.

In addition to these two main groups of special Day Schools, the Council has also Special Schools for:

(3) Those whose hearing is markedly defective;

(4) Those whose vision is markedly defective; as well as

(5) Open-air Schools for anæmic and delicate children.

Residential Schools.—The accommodation in this respect is at present not so ample as that of the day schools, and even what is supplied is not all under one authority. There are a few Residential Schools under the London County Council, but some of the children found not suitable for admission to their day schools find their way into Industrial Schools and others kept under the Poor Law Authority.

The general line of treatment is much the same as in the others, but the scope of this paper does not admit of a detailed description.

SPECIMEN DIETARIES

1. L.C.C. Schools for the Physically Defective.*

(*a*) HOT WEATHER

Monday.—Roast Beef and Greens, Rice and Tapioca Pudding.
Tuesday.—Mince and Potatoes, Stewed Rhubarb and Custard.
Wednesday.—Beef Stew, Onions, Potatoes, Jellies.
Thursday.—Cold Salt Beef and Salad, Milk Puddings.
Friday.—Baked Fish and Potatoes, Baked Bread, Dripping, Currant Puddings.

(*b*) COLD WEATHER

Monday.—Roast Mutton, Potatoes, Milk Puddings.
Tuesday.—Mince and Potatoes, Stewed Prunes and Custard.
Wednesday.—Soup, Peas, Vegetables, Roly Poly Jam Suet Puddings.
Thursday.—Meat Puddings and Potatoes.
Friday.—Boiled Bacon, Haricot Beans, Potatoes, Stewed Prunes and Custard.

2. L.C.C. Schools for the Mentally Deficient.

Irish Stew (from Neck of Mutton), Vegetables, Fruit in Batter.
Lentil Soup, Fried Bread, Roly Poly Pudding.
Fish Soup, Fried Bread, Oatmeal Pudding.
Meat Pie, Vegetables, Apple Snowballs.
Liver and Bacon, Vegetables, Currant Pudding.
(This last series of menus is picked out from the Cookery Scheme Schedule, and is not necessarily given consecutively in one week.)

Classification of Special Schools.—Dr Christine M. Murrell, in her opening remarks: We have just heard from Dr Morton of one of the purposes of Special Schools under a Public Educational Authority—Open Air Schools for our children. I have been asked to bring to your notice two other kinds of Special Schools under the London County Council, namely, schools for the children who are physically defective, and for those who are mentally deficient. You will have gathered from Dr Morton's paper that the Open Air Schools are for children with generally weak physique; the children taken into the Physically Defective Schools are those crippled by a permanent physical disability, which will never probably allow them to work under ordinary conditions.

How Schools for the Physically Defective Originated.—The first town where such a school was started

* Cf., however, p. 283.—Ed.

was not London, but Liverpool,* and I had the privilege of knowing its founder, Miss Eastwick. It was started as a venture by some young women who felt it was not right that children, because they had bad backs, and who yet with care might reach adult life, should have no education. They took these children to school in a donkey cart. It was pathetic to see a girl driving a donkey at its well known rapid pace through the streets of Liverpool with a child in splints in the cart. When the Authorities began to deal with Special Schools, they asked to see this school, and were so struck with what they saw, that they adopted the plan.

Organization and Dietary in London.—We now have ambulances in charge of thoroughly trained nurses, who go and fetch the children and bring them to the school and take them home. It is a difficult business, and therefore cannot be undertaken more than twice in the day—they are brought to school in the morning and taken home in the afternoon. In the middle of the day the children have to stay at school, and it is then that the question of dietary comes in. There is a voluntary Dinner Committee under the presidency of Lady Beatrice Capel which sees to the diet of the children. The dinner is supplied at the school for 2d., but if the Care Committee thinks this should be remitted, it is done. In some of the Cripple Schools they have milk in the middle of the morning. In this way we improve the general health of the children by the diet, and by the constant supervision of the nurses.

Schools for the Mentally Deficient.—In the Mentally Deficient Schools there are two classes of deficiency—the incurable and the preventible—the latter being cases that

* This is not the only instance in which Liverpool has been the starting point of a new movement. Out of the generous heart of a poor labourer's wife, who, possessing a somewhat larger copper and backyard than her neighbours, placed them at their disposal for washing and drying, sprang the movement which led to the passing of the Baths and Washhouses Act. Again Liverpool's well-known citizen and philanthropist, William Rathbone, by sending the nurse who attended his wife in her last illness to work among the slums of the city, equally unconsciously laid the foundations of the great system of district nursing as we know it to-day. On the other hand, the Manchester and Salford Sanitary Association and the Ladies' Public Health Society were the parents of the modern Health Society. Manchester likewise saw the birth of the Public Libraries movement.—Ed.

never ought to have arisen, and generally have so arisen owing to environment, one of the most important factors in which is food. In the Mentally Deficient Schools the Council makes arrangements to have baths under the charge of a bathing attendant, because they realize that cleanliness is a most important part of the general character and development. There is no special Dinner Committee—the children are generally sent to the nearest Cookery Centre. The Cookery Centre prepares the dinners, and the children eat them. Here is the ideal arrangement of linking up two parts of one system. The dinners have to be graded according to the money available in the district; the poorer districts have to have a more meagre dietary, but it is always adequate and carefully planned.

(C) *RESIDENTIAL OPEN AIR RECOVERY SCHOOLS.*

DIET, HYGIENE AND COOKING IN RESIDENTIAL OPEN-AIR SCHOOLS FOR ELEMENTARY SCHOOL CHILDREN. *By* D. M. TAYLOR, M.A., M.D., D.P.H. (*Medical Officer, Halifax Residential Home and School*).

THE FETISH OF THE WEIGHING MACHINE.—Common sense, elaborated by a knowledge of fundamental scientific principles, is essential in dealing with the care and feeding of ailing children drawn from our public elementary schools, and the fetish of the weighing machine must give way to a more rational method of controlling and estimating assimilation and metabolism.

A ONE-SIDED VIEW.—Dietetic faddists, in their search for that ideal "food of the gods" which will exactly meet the specific wants of the human body in all its organic phases, are apt to forget that the mere proportioning of the elements and their compounds is but one part of the problem of nutrition. Scientific dietaries for the most part presume such a condition of the organs as will ensure the extraction and absorption of the exact necessary proportions of proteids, fats and carbohydrates. This, however, is seldom attained, unless due attention is paid to the other much more important factors of assimilation, viz., environment, personal hygiene, sleep, &c.

The Subjects and Conditions of an Experiment.—Striking proof of this was forthcoming when in Halifax we initiated in 1911 the Bermerside Open Air Residential School as an extension of the Open Air Day School. The children (ages 6 to 14 years) in both are weak, anæmic, tuberculously disposed, or otherwise physically defective, selected from the ordinary schools, but the children taken into residence are of poorer physique, and 50 per cent of the cases are actual sufferers from pre-tuberculous and early tuberculous conditions. The day scholars from Monday to Friday come by car in the morning, spend the day and receive their schooling in the open air, and return to their homes in the evening.

Some Remarkable Results.—Our earlier arrangements, extending over several months, included the feeding together on the same diet of both classes of scholars. The marked contrast in the results was early observed. During the first three months the resident children showed an increase of weight three times as great as the day scholars, whilst their improved energy, vitality and firmness as compared with the latter were equally noticeable.

As both classes were on the same diet, this observation seems to indicate that the quantity and quality of nutriment ingested are small matters compared with the other factors of perfect assimilation, and leads to a consideration of the causes of enhanced nutritional results under residential conditions.

How Day Scholars are Handicapped.—The main influences operating against the progress of the day open-air scholar are the fatigue of travelling to and from the school, insufficient or unsuitable clothing and footwear, exposure to damp and wet, home conditions of stuffy rooms and bedrooms, with restricted space and little ventilation, late hours, week-ends spent under unhygienic conditions, and lack of continuity in discipline, treatment and skilled supervision.

Advantages of Residence.—With children under residential conditions all these influences can be obviated. Their clothing and footwear receive attention, they are protected from exposure to climatic inclemencies, whilst fresh air and open air are constant, there is no break of continuity in discipline or supervision by night or at week-ends, and the hours of sleep

under the same open-air conditions as the day time are long and regular.* The last factor is undoubtedly the most important in promoting the assimilation of the food elements which go to supply waste and increase the growth of the young organism.

THE PROMOTION OF ASSIMILATION—LEADING PRINCIPLES.—To increase and stimulate assimilation in the children, we are guided by the following principles:

1. Teeth and oral cleanliness. Oral sepsis not only interferes with digestion, but also causes actual disease. Whilst the toothbrush and rinsing the mouth work wonders, the dentist's care at regular intervals is also essential. The food, both farinaceous and albuminous, should be in such form as to excite the desire of a certain amount of mastication, whilst the influence on the teeth of soft pappy foods must be counteracted by a supply of crusts, toast or fruit, e.g., apples, for cleansing purposes.

2. Hands must be cleaned before meals.

3. The quantity of food must be sufficient, not estimated in pounds or ounces, but regulated by a skilled matron according to the needs of the individual child, whilst all "stuffing" is discouraged. The food should be plain, such as is within the range of the child's parents, varied, well proportioned, prepared, cooked, and properly served.

Much good food is wasted in working-class homes through lack of knowledge how to use and prepare every-day articles of diet. In this respect, poverty is much less a cause of malnutrition than ignorance.

4. Life and exercise in the open air. Direct sunlight has an important influence.

5. Sleep for long hours with wide-open windows and sufficient bedclothing. Helwig's researches have demonstrated the effect of sleep under good or bad conditions on the quality of the blood.

* The Interim Report of the Departmental Committee on Tuberculosis urged the need for a considerable extension of open-air schools, playgrounds, classes and night camps. For some account of the latter, with a brief description of the remarkable night camp and open-air school for boys, established by Miss Margaret McMillan in connexion with the Deptford School Clinic, see Annual Report of the Chief Medical officer to the Board of Education, 1911, p. 83. Cd. 6530, 1s. 5d.—Ed.

6. Attention to the skin by hydrotherapeutics, and suitable clothing.

7. A period of rest before food, and also after meals, although sleep is not insisted upon.

8. The principle of three meals a day is as applicable to children as to adults. The general trend of opinion at the present day is towards spacing the intervals and limiting the number of meals, not only in school children, but also in early childhood and adult life.

9. There should be an hour's interval between rising and breakfasting. Lying too late in bed, with the bolted breakfast and hurried scamper to school or business is productive of much gastric disorder.

10. The regularity of the bowels and other excretory organs is to be ensured by strict supervision, and fixed hours for the lavatory. An occasional aperient is sometimes necessary.

Some Other Features.—Other points which receive attention are: The food is served attractively and punctually, a taste is created for such articles as porridge, milk, bread and butter, etc.; no eating is allowed between meals; there is no haste before, during (half-an-hour) or after meals; the table is laid simply, but with absolute cleanliness and neatness; table manners, the proper use of fork and spoon, and quiet talk are insisted upon. The keynote in the home is discipline, which children soon get to like and appreciate. The meals are served and supervised by the nursing staff.

The Return to Nature.—Under these influences, after removal of any temporary gastric catarrh, our children soon manifest marked improvement mentally, socially and physically. Their likes and dislikes rapidly give way to a healthy liking for simple foods, and the use of the table implements comes as naturally as did their fingers in the home days, whilst the taste for red herrings, periwinkles, tea, pickles, with sometimes a sip of beer, stout or gin, vanishes without regret.

Outline of Dietetic Policy.—Milk is an ideal food for infants under one year, but should not be given in excess to children. Too much creates a feeling of fullness, may lead to indigestion, and interferes with the taking and assimilation of other foods

containing very necessary ingredients not present in milk, e.g., iron, various organic salts, etc. One and a half pints daily is a sufficient allowance.

Fresh fish is important in the child's dietary.

Animal foods (fresh English meat) should be well cooked, and more or less finely divided.

Eggs are given in the form of custard or lightly boiled or poached.

Vegetables should be cooked. Raw vegetables such as radishes, cucumbers, beetroot, etc., are not advisable.

Fat should enter largely into the feeding of children, as it plays an important rôle in the metabolism of phosphorus. It is given as butter, dripping, milk, cheese, etc.

Rice and cheese are too little employed. They may be cooked or served in many varied and attractive forms.

Bread is given *ad lib.*

Fruit in season: apples, oranges, bananas, or dried fruits, such as currants, raisins, figs, dates, must enter into the daily diet.

No liquid is given at the midday meal.

The best quality of foods should alone be used.

Daily Diet Table:

The hours vary with the seasons.

Breakfast (8.30 a.m.).—(1) Porridge with Milk and a little Brown Sugar or treacle.
(2) Bread and Butter or Bread and Jam with Milk.

Dinner (12.45 p.m.).

Evening Meal (5 p.m.).—(1) Scrambled Eggs or Cheese cooked with Milk, salted and seasoned.
(2) Bread and Butter or Jam with Milk.
(3) Tea Cake, and occasionally a piece of Sweet Cake.

A Typical Week's Dinners:

Sunday.—Minced Beef, Gravy, Boiled Potatoes, Green Vegetables, Bread, Boiled Pudding, Custard.

Monday.—Irish Stew, Bread, Steamed Bread Pudding with Jam Sauce.

Tuesday.—Meat and Potato Pie, Gravy, Bread, Milk Pudding.

Wednesday.—Fish Fried or Baked, or Steamed with Fat, Lemon or Parsley Sauce, Boiled Potatoes, Boiled Pudding and Sauce.

Thursday.—Shepherd's Pie, Gravy, Bread, Milk Pudding with Stewed Fruit.

Friday.—Hashed Beef, Gravy, Potatoes, Haricot Beans, Bread, Milk Pudding.

Saturday.—Scotch Barley Broth, Bread, Steamed Pudding and Sauce.

The following recipes may be useful:

MILK PUDDINGS.

Rice, Sago, Tapioca, Semolina, or Ground Rice . .	4 oz.
Milk	1 quart
Sugar	2 oz.

Flavour with Lemon Rind, Nutmeg, Cloves, Bay Leaves, or Essence of Almond or Vanilla.

If Skimmed Milk is used, some Fat to be added, e.g., Grated Suet, Margarine, etc.

BOILED PUDDINGS.

Plain: 1 lb. Flour, ½ lb. Suet, ½ teaspoonful Salt and 1 teaspoonful Baking Powder; Water to mix; serve with Jam Sauce.

Jam Roly, Fig, or Date: Flour, ½ lb.; Fruit, ½ lb.; Bread, ½ lb. Serve with Plain White Sauce.

Ginger: Flour, ½ lb.; Golden Syrup, 1 lb.; 1 teaspoon Ginger. Serve with Plain White Sauce.

CONCLUSION.—There is nothing new nor original in the foregoing. It is a mere restatement of the common rules of a healthy family life. Much work, however, remains to be done amongst elementary school children and their parents to drive home these common truths. A residential school conducted on such lines will not only tend to the betterment of a child's physique, but must have a wide educative influence on the homes of the children old enough to carry away the lessons practically lived and experienced.

A PIONEER OF OPEN AIR SCHOOLS.—MR D. O. HOLME (Organizer of Elementary Education, Norwich), in opening the discussion: I was asked this morning by your Secretary to speak on this subject, but owing to engagements in the City I have not been able to think much about it, nor have I any information available except what is in my own brain.

With regard to the Open Air School movement I think we ought here to acknowledge the pioneer work done by Mr Ernest Gray.* He was, I believe, the founder of Open Air Schools in England, and at any rate Norwich owes its Open Air School to a speech made by him in 1907. Norwich has the distinction of being the only place which could boast of an Open Air School before the flood, and Mr Ernest Gray gave us the inspiration, but my own interest dates from a visit to Germany in 1904.

* Member, Consultative Committee, Board of Education, former President, National Union of Teachers, M.P., West Ham, 1895-1906.—Ed.

How the Norwich School was Started.—Our first Open Air School was started three weeks after Mr Ernest Gray's speech, and by the alacrity with which we brought it about, we surprised everybody, especially the Board of Education, from whom permission was obtained six weeks after the school was closed. When the school was first started we had a site which was eventually to be used for a Secondary School, and we sent the children of a school for mentally defective children to it. The members of the Education Committee, who are always slow to spend money—it is only right they should be so, since the rates are 11s. 2d. in the £—were watching this experiment with interest.

Later Developments.—We proved, however, what an advantage these Open Air Schools were, so that after the first site was no longer available, the Committee were glad to rent a portion of a field contiguous to another school. We had then three acres of ground for the use of the Open Air School and put up wooden buildings, which only cost £500 for 100 children. These buildings comprise dining room open to the air, three class rooms, bath room, a teachers' room, kitchen, and the necessary offices, so I think we may claim that we put them up in an economical way. This experiment was so successful that when two or three years ago a fairly large estate on the outskirts of the city came into the market, inquiries were made, and this estate, consisting of thirteen acres, with a house on it, was purchased for £2,000. Furthermore, during this last year the Board of Education have been generous, having granted half the cost of everything in the way of treatment. The cost of this Open Air School, therefore, is not heavy.

Curriculum.—The curriculum of the Open Air School consists to a large extent of hand work, including gardening. In the garden the boys and girls grow vegetables; we have planted apple trees and pear trees, and we hope they will eat the produce they have cultivated themselves. They have also manual instruction and organized games.

Cost and Nature of Food.—The food costs 1s. 10d. per week for three meals per day for five days. Four days in the week we have a meat diet together with some pudding. One day we have a non-flesh dinner. The amount of meat we allow

is three ounces, including the bones, for each child. The children have porridge and milk for breakfast and the much despised rice pudding comes in for dinner. I may say we make our rice puddings of skimmed milk and suet. Every day they have bread and butter and treacle or bread and dripping, and so forth for tea.

Selection, Examination and Treatment.—The children are chosen in the first place by the head teachers of the schools and by the Invalid Children's Aid Association, of the Committee of which I have the honour to be the Chairman. The children thus selected are, during the year, sent to the Medical Officer, who examines them two or three times. Their teeth are attended to at the dental clinic, while cases of adenoids are treated before they attend the Open Air School.

A Two-fold Classification.—Now that we have two Open Air Schools, it has been possible to keep one solely for children of tuberculous tendencies, because it was found that when we sent such children to the school, the parents of some of the children, who had not this tendency, complained. We have therefore now decided to separate the tuberculous cases from the non-tuberculous ones.

Results—the Need for Statistics.—It may be asked, what effect this open air treatment has upon the children. Well, so far as educational statistics is concerned, we in England are far behind America, though some people say that the statistics we obtain from that country are not so reliable as they should be. Still, they are statistics, and, as such, are far beyond any obtainable here. We are now getting statistics from the teachers and medical officers, which I hope in future years will give us some idea of the benefit of these schools.

What the Teachers Say.—The teachers are of opinion that many of the children, although they cannot pass educational tests as well as children who have been attending ordinary schools, show signs of increased alertness.

Influence upon the Ordinary Schools.—These Open Air Schools are not only satisfactory in themselves, but they are

having a great influence on methods of education in the ordinary schools. It is a regular thing now for teachers in the latter to say, "Have you no old desks to put in the playground, so that we can have an open air class?" As a matter of fact, teachers and children from four schools within a mile radius use Clare House grounds for half the day. They come out of the sweltering heat of the class rooms and the teachers are of opinion that the lessons are just as satisfactorily done in the open.

Lessons from Special Schools.—We learn a great deal from these Special Schools. We have learnt much from schools for mentally deficient children; we have altered some of our methods from the experience gained both in them and in schools for blind and deaf children, and I am sure we shall alter some of our methods from our experience gained in Open Air Schools.

Recipe for a Standard Diet.—I am very sorry indeed not to have obtained any definite information about food values at this Conference. Lady Meyer struck the right note yesterday afternoon, and I have waited to hear something about this subject. We have trusted, of course, a great deal to medical men with regard to diet, but in my opinion a good housewife is almost as good a judge as a medical man. If the housewives and the medical men would put their heads together, we might get a standard diet such as would be useful in these Special Schools, and which would have a distinct educational influence on the parents of the children.

Heckling Mr Holme.—A Member: I should like to ask Mr Holme if 1s. 10d. per week was the cost of the materials alone,* and how many children were in the school?

Mr D. O. Holme: We had an average attendance of 73; the cost is less this year.

Mr W. A. Nicholls: How many months are the schools open in the year?

When the Schools are Open.—Mr D. O. Holme: We started in the middle of April, but the flood at the end of

* Mr Holme explains that the figure represents the cost of the uncooked food only.—Ed.



AN OPEN AIR CLASS

Cocoa Works, York

To face p. 221

August disorganized the work. After the flood we had a bright October and we kept it going till the middle of November. Then we transferred the children to the new Clare House estate, where there is a large house, and we kept the children there—the Committee agreed with me in insisting that the school should be continued only so long as the children could be taught out of doors during half the time. Under those conditions we kept open till the end of January, when we closed the school till the end of February. This year we shall keep the school for non-tuberculous children open to the end of October at least, but the school for tuberculous children will probably be kept open all the year.*

A Suggestion to the L.C.C.—Mr W. A. Nicholls (National Union of Teachers): I submit that the provision of two Open Air Schools for the vast population of London is totally inadequate and that, so far as an expression of opinion from this Conference would go, we should press the London County Council to make more ample provision for Open Air Schools.† I have spent a good deal of time at Birley House and Shooter's Hill, and know the children profit physically and intellectually. At the former Mr Green has done a wonderful work in preparing the children for colonial enterprise.

A Plea for Residential Open Air Schools.—May I also urge the extreme desirability of making these schools residential. The children enjoy splendid opportunities there,

* These results lend support to the view that many children who leave at the end of the summer, though improved in health, are not yet sufficiently cured or resistant to withstand the winter, home life in the slums, and the stress of school routine, and they point definitely to the "whole-year" Open Air School as a necessary further development of the present movement in favour of open-air education.—Annual Report, Chief Medical Officer, Board of Education, 1910, p. 232.—Ed.

† Apart from such schools the London County Council have sanctioned the holding of playground classes during the period from April 14 until the end of October at about 90 schools, and have authorized the supply of additional apparatus and furniture for these classes. They have further suggested that head teachers of other schools should arrange, where convenient, for the holding of occasional classes in the playgrounds or in neighbouring parks and open spaces. Such classes have already been organized in Clissold Park, Finsbury Park, Fulham South Park, Hilly Fields, Lewisham, Maryon Park, Southwark Park and Victoria Park.—Ed.

but after a few hours in the day they go back to slums to sleep. That cannot be considered as a perfect arrangement. We ought to aim at having only Residential Open Air Schools, and to make, for the sake of the country, an increase in the number.*

A Halifax Experiment.—Mr C. E. Hecht: May I mention, on behalf of Dr Taylor, of Halifax, who is unable to be here and has not furnished an abstract of his paper, that in it he gives an interesting account of the results obtained with the children in the Residential School—the only one in this country, though there is one at Glasgow—as compared with the results in the Open Air Day School. I would specially direct the attention of the Members of the Conference to that passage in his paper.

A Leading Principle of Oral Hygiene.—Dr Sim Wallace (British Dental Association): There are some points which appear to me to need an explanation in two of the medical

* It will be seen below that the policy of Education Committees tends increasingly to take the direction advocated by the speaker.

The Sheffield Education Committee are erecting a new open air school at Northfield Road, Crookes, and it is proposed upon its completion to convert their existing open-air school at Whiteley Wood, which is now used only from the beginning of April until the end of October, into a sanatorium school to be used both summer and winter. The Bradford Education Committee have decided to provide a new open-air school with accommodation for 140 day and 40 residential pupils at Daisy Hill and further to provide residential accommodation for 50 children at their existing open-air school at Thackley, one of the earliest schools of this type to be established. The Chairman of the Education Committee reported recently that arrangements have already been made at a cost of about £56 for 20 boys to sleep at the Thackley school from Monday to Friday in each week and that this plan was inaugurated on July 14. The decision to provide residential accommodation at Thackley has been arrived at after consultation with the Board of Guardians and ten beds at this school will be reserved for the use of children sent by the Guardians, on the recommendation of their Medical Officer, the Guardians to pay a proportionate share of the cost. The Burnley Education Committee has decided that in the building of new schools the class rooms shall be so arranged that they can be turned practically into open-air rooms and further that, upon the acquisition of a suitable site, a residential open-air school shall be established. Westmorland proposes to establish an open-air recovery school in the grounds of its Consumption Sanatorium for the institutional treatment of school children suffering from tuberculosis.

The above facts are taken from *The Times' Educational Supplement*, August 5 1913. See also Introduction, p. xxxv.—Ed.

men's papers that we have read or heard. One of the leading principles, according to Dr Taylor, with regard to the problem of assimilation is "teeth and oral cleanliness." You notice he says "teeth and oral cleanliness. Oral sepsis not only interferes with digestion, but also causes actual disease. Whilst the toothbrush and rinsing the mouth work wonders, the dentist's care at regular intervals is also essential. The food, both farinaceous and albuminous, should be in such form as to excite the desire of a certain amount of mastication, whilst the influence on the teeth of soft, pappy foods must be counteracted by a supply of crusts, toast or fruit, e.g., apples, for cleansing purposes."

Where it is Neglected.—When we turn to Dr Morton's paper, we do not see that this principle, which is quite a fundamental one, is carried out. Stated briefly, every meal should be of such a nature or so arranged that the mouth will be left in a hygienic condition at the end of the meal. No medical man objects to this principle, but when we look at the dietaries we see that they do not recognize it in practice. I would call attention particularly to the last meal of the day, because that is the most important, for if food is left to ferment for twelve hours, it is very much more deleterious to the teeth than if it fermented for only four hours. In Birley House Open Air School, we find on Monday, tea (almost all milk), bread and butter and jam; Tuesday, chocolate, currant bread and butter and jam; Wednesday, tea (almost all milk), brown bread and butter and jam; Thursday, chocolate, bread and butter and cake (home made). Well, we need not proceed further. We see clearly that this principle, so clearly stated by Dr Taylor, is totally overlooked by Dr Morton because, as is pretty well known, experiments have been made ten years ago, and more recently, with bread and jam, and it has been found that jam is lodged in the crevices of the teeth and remains there from one meal to another.

Jam and the Teeth.—Recently Dr Wheatley has called special attention to the effect of jam on the teeth. He says that in the ordinary state it is acid. Now if it were an acid that stimulated the saliva and carried it out of the mouth, it would be all right, but it does not.

An Incomplete Statement.—Dr Morton's standard of general health may be satisfactory. He makes out, and I believe he is quite justified in saying, that children are greatly benefited in such institutions, but if he took the standard of the teeth which they have got to go through life with, or without, he might find that it was not so much better among those fed in this way than among the very poor.

A Suggested Experiment.—Is it not possible to try to have the meals, not only in this Open Air School, but in any institution, arranged on the principle that we dentists recognize, viz.: that the mouth should be left physiologically clean at the end of the meal, and that those foodstuffs which we have found to be cleansing to the teeth should be consistently given at least at the last meal of the day for the sake of the teeth? This experiment has been tried in many families, and in all cases with perfect results.

A Personal Reminiscence.—Perhaps I may be allowed to tell you a curious incident. A doctor said that so-and-so had better not try any of these fancy foods on his children, or they would die in six weeks. The child on whom the experiment was tried did not die in six weeks, and has at present a perfect set of teeth, but the curious thing is this, that that man with the fad of bringing up his children with perfect teeth was written to ten years afterwards and asked to approach an Institution to try if they would not carry out this experiment in a big way. The Institution was the Society for the Prevention of Cruelty to Children. It should be recognized that the bringing up of children with decayed teeth is more or less culpable. At least we hope it will be made so in days to come.

Relative Merits of Fruits.—It is quite evident that Dr Morton has no great objection to fruit. He gives bananas and strawberries once a week. I always thought strawberries were expensive. I do not know why apples are not given, which I should have thought would be as cheap as strawberries and bananas, and undoubtedly better, because they stimulate the saliva in the self-cleansing process of the mouth, and further give rise to a certain amount of mastication, which helps to make the mouth clean. A specially cleansing food-

stuff at the end of the meal would be preferable to strawberries and bananas. Bananas and strawberries, however, do very well if you cannot get anything better.

Diet and Health.—Dr Sidney Davies (Medical Officer of Health, Woolwich): I did not expect to be called upon to speak this afternoon, but I am glad to join in the discussion. As Medical Officer of a large Metropolitan Borough, I have found the question of diet to be one of the most important means of influencing the health of the people. The children do not as a whole suffer from insufficiency of diet. Indeed, I am surprised to find what a small amount of food does suffice to keep people in moderate health, and I believe that the so-called deterioration of the nation is not due to want of food, but to other causes.

Influence of a Strike on the Death Rate.—One of the things that has struck me more than anything else has been the discrepancy between the exaggerated statements as to the results of the strike in East London last year, as compared with any effect that was visible on the death rate. I wrote to the Medical Officer of Health to ask if he could discover signs of the ill effects of that strike, which was said to have the result that thousands were starving during that time. I am not going to suggest that the children's health did not suffer in some way.

A One-sided View.—The important matter upon which our health does depend very much is not the quantity of food, but the way in which it is taken. We want our food regularly. We have gone too much to the extreme view that we should only consider diet from the point of view of nutrition, and anything that is nutritious is regarded as food to be put into the stomach. I found a strong young man taking beef tea before he went to bed. Other people are great on giving milk at all times between meals. There is a tremendous tendency to put nutritious substances into the stomach, and this has been encouraged by medical men of the highest standing.

Are Children Over-fed?—We have discovered that man has the advantage over his enemies, by being able to maintain life on concentrated nourishment. Milk is certainly a

valuable food for infants and invalids; chocolate is a valuable article for soldiers in the field who have to carry nourishment in a small compass; but the question is whether the people who are healthy and who are not in these straits should use these articles as they do. That is one question people ought to consider: whether we do not advise too large a diet, and whether we are not too keen on giving children food in a concentrated form.

Diet and the Teeth.—The other question to which I want to call your attention is one to which Dr Sim Wallace has referred, and that is the effect of diet on the teeth. I must say, having paid some attention to the subject, that I am a hearty follower of Dr Sim Wallace in his contention that it is possible to preserve teeth by diet without other means.

Alternative Methods of Teeth Preservation.—There are two ways in which we can preserve our teeth: one is the very expensive way of going to the dentist at least twice a year and having your teeth stopped immediately they begin to decay, and the other way is that of using a self-cleansing diet, from the period of infancy, which will strengthen the jaws and enable the teeth to develop.

A Neglected Subject.—This subject is not receiving the consideration it deserves, though I am glad to say Dr Sim Wallace's light is not now under a bushel, and I have seen several papers in which this cleansing diet is described. Yet if you ask a hundred doctors, you will not obtain from one in ten any support for Dr Sim Wallace,* so that he and those who follow him, have still a great deal of hard work to do to overcome the popular ideas as to food.

Main Principles of a Self-cleansing Diet.—Dr Sim Wallace has put before you the main principles of that diet: a small number of meals; no food between meals; no sugar; if milk is given it should be diluted with water; no sweets to young children. That is very hard teaching for children, or for some adults. If we must get sweets in, put them in the middle of a meal and take a hard diet afterwards. I will not detain you

* This proportion would scarcely apply to the School Medical Service, whose members are compelled by circumstances to devote special attention to the subject of the teeth.—Ed.

any longer, but will ask you to get Dr Sim Wallace's book* and give your personal attention to the diet he recommends.

Dietaries of Foreign and English Artisans Contrasted.—The Chairman: Perhaps I might be allowed to ask a question. Speaking as a laywoman, it is always rather confusing to the lay mind to hear all these different diets recommended. When I was in France and Belgium I tried to find out the ordinary diet of a working man's home where the man earns from 12 to 14 francs a week, and I was told their ordinary diet was *pot au feu*, which was beef left to simmer for some time, at 12 o'clock, and for supper, soup with the meat left in, with plenty of vegetables. In the morning they had a cup of strong coffee with a little milk and a good deal of sugar. I should like to know how that compares with the food in the ordinary working man's home in England? As far as I know, the latter seems to me to consist of so little natural food and so much tinned food.

A Poser from Miss Petty.—Miss Petty (Newport, Essex, Health Committee): I want to know whether you should refuse children two or three helps if the food is good or harmless, and the meal finished in this hygienic way. The children I cater for are keen to have two or three helps, and sometimes four. Their ages are from 5 to 14.

Children's Appetites.—Dr Christine Murrell: In reply to Miss Petty, my natural impulse would be to allow the children to have as many helps as they asked for. I may be saying something heterodox according to the latest dietetic theories. Children are like plants: they grow rapidly, and therefore want increasing nutrition, and with an unperverted appetite, probably Nature is the best guide.

Value of School Meals.—The one thing that occurred to me in my own branch of this discussion was that in having the children in our schools, where we do a certain amount of dietetic work, we are able to train their tastes, which have been perverted from a purely natural and suitable diet. Somebody mentioning a rice pudding drew my attention to that, and I remembered one child who would not look at anything except

* *Prevention of Dental Caries*, 1s. 6d.—Ed.

chocolate blancmange, but who, after a time, took what was provided. That is another side of the work.

Open Air Schools in London.—Dr Edward J. Morton, in reply: I do not consider Norwich can teach us much about Open Air Schools. We have three in London, and are to have another shortly. We are also developing the holding of open air classes to a large extent. Then again we have gone ahead of Norwich to the extent that we open all the year round, and, what is more, we get better results in the winter months than in the summer.

Records of Results.—Regarding the results I would put in a plea for proper statistics. No one distrusts statistics more than I do, but we might get careful statements. At Birley House, in 1911, we kept records, which are to be obtained in the published reports of the London County Council. The children did improve wonderfully, and I think the figures in my paper bear that statement out. The weights improved remarkably.

Norwich and London Compared.—In Norwich, where the cost is 1s. 11d. per child, they give three meals per day. We must congratulate them on the cheap way in which they do it. Ours cost us 2s. 6d., and our diet is very plain. We spend so little, and are not able to elaborate the diet in ways we might do. The amount of meat in Norwich was three ounces, including bone, per child. I take it this was three ounces of uncooked raw meat, which is about equal to what we have in Birley House per child.

An Objection to Open Air Residential Schools.—The question was raised whether the child should live in the school completely. In our schools they go home in the evening. If you make the schools residential, you take the child away from its parents, and we do not want entirely to remove the parental influence. This is not good in some cases, but it is a pity to remove it altogether, and when we can get excellent results from the day school, it seems unnecessary to introduce the residential system.

Oral Hygiene at Birley House.—There is often a difference of opinion between two doctors. One doctor may say you

should brush your teeth after every meal, and another would say you should do so before. I did not mention it in my paper, but I agree oral cleanliness is absolutely important. At the same time I do not attach so much consequence to it as some of the speakers. The children's teeth at Birley House are carefully attended to; we have the dentist, and everything is done to put their teeth in order, but whereas the bulk of these children come with bad teeth, they immediately begin to improve with the better nutrition before they get their teeth in order. The care of the teeth is not everything.

A Defence of the Tooth Brush.—As for keeping them clean by a rough diet, I would ask you, is any sort of diet as good for cleaning the teeth as a tooth brush?* Certain things, like cheese and oatmeal, may help. Our jam is much liked at the school, and we could not dispense with it.* The children get what fruit they can, and I think they have apples occasionally. From the Chair a question was asked, which I must admit I am not competent to deal with.

How Much Should Children Eat?—As to the question of two or three helps, we find in Open Air Schools, where the children are running about, they are able to digest their food and assimilate it. It is exercise that helps them to get rid of their food. We let them have as many helps as they like within reason. The question of how much we should eat applies more to people of sedentary occupations. For a healthy school child, taking plenty of exercise and living in the open air, the question of how much food to give it is not of such great moment, and I should let them eat as much as they can.

* For hints as to its proper use, see Sir George Newman's Annual Reports, 1910, p. 173-5, and 1911, p. 154-5.

A toothbrush is, however, not always within the reach of individual members of poor families. Under such circumstances, Sir Lauder Brunton used to recommend his out-patients to use a piece of soft wood, instancing the reverse end of a burnt match, as suitable.—Ed.

(D) *REFORMATORIES, INDUSTRIAL SCHOOLS, BOARDING AND DAY, AND TRAINING SHIPS.*

DIET, COOKERY AND HYGIENE IN REFORMATORY, RESIDENTIAL AND DAY INDUSTRIAL SCHOOLS, INCLUDING SHIP SCHOOLS. *By* I. Ellis (*Superintendent Hayes Industrial School, Middlesex, and Hon. Secretary, Social Union for Workers Connected with Certified Schools*).

Limits of Paper.—I have been requested to give some account of the important work which is being done in the various types of schools subject to the control of the Home Office—a work which is almost unknown and little appreciated by the community generally. Obviously, in a paper restricted to 2,000 words, it is impossible to cover the ground except in a very general way.

Statistics.—The total number of such schools under inspection on December 31, last year, was 219, viz., 44 Reformatory Schools, including 1 Ship; 145 Industrial Schools, including 13 Special Schools and 6 Ships; 10 Short Term Industrial Schools and 20 Day Industrial Schools.

The total number of juveniles under detention in the three classes of residential schools was 25,522, namely, 20,428 boys and 5,094 girls, and in addition to these there were 3,131 children in Day Industrial Schools.

Scope of the Work.—All the residential schools board, lodge, clothe and educate their inmates.

The Day Industrial schools feed and educate them during five and a half days each week. Their children reside with their parents, mostly in the worst slum areas, and are therefore subject to an evil environment where much of the good work of the school is undone.

A Unique Class of Children.—In no other type of school is there congregated a similar class of children. In order to appreciate the results obtained, and apportion praise or blame, it must be constantly borne in mind that they are the worst children of the lowest type. Apart from their moral obliquity, they are physically a poor lot. On admission they are much below the average size and weight of children who are more

fortunate in their upbringing, frequently emaciated, rickety, scrofulous, or tuberculous. They have been underfed or improperly fed since their birth. As may be expected, their bodies are dirty, their teeth decayed and their general vitality much below par.

There exists no better field in which to test the beneficial results of judicious feeding and hygienic conditions.

Government Inspection of Buildings.—The buildings in which these unfortunate children spend several years of their young lives are generally quite suitable for their purpose. Invariably they are scrupulously clean and well ventilated. Dr Branthwaite, who, on behalf of the Home Office, has inspected a large number of them from a medical point of view, reports: "On the whole, the result of the inquiry into these matters has proved exceedingly satisfactory; indeed, very little fault has been found in the state of the hundred or so schools that have been medically inspected up to the present time." Some of the older buildings, especially those which were established in the industrial centres after the passing of the Reformatory and Industrial Schools Act, are not so happily described. The majority of the schools are now, however, in country districts amidst ideal surroundings.

The Day Industrial Schools, which must, of course, be in the towns, find few to advocate their continuation.

Should Dormitories be Artificially Heated?—The children sleep in large dormitories which, during the winter months, are very cold. Dr Branthwaite and many others advocate that they should be artificially warmed. This may be desirable, but a long experience teaches me that perfectly good health may be maintained under existing conditions. In my own school, the windows occupy most of the wall space, and the bedrooms are constructed with Boyle's patent extractors in the roofs. There are stoves in the dormitories which have never been lighted and windows which are never shut. Yet, during the thirteen years of our existence there has not been a solitary case of bronchitis or pneumonia. We regulate the weight of the bed-clothing, giving a plentiful supply of blankets during the severe weather.

Personal Cleanliness.—Every school pays special attention to bodily cleanliness. The children are regularly bathed and

washed. Many schools possess ideal arrangements for this purpose, although it must be confessed that others are somewhat lacking in this respect. In my own school the French Army System of sprays has been adopted. We have had two cases of favus in the school during four years, some cases of ringworm of the scalp, and a few boys have been admitted with conjunctivitis, without any spreading of these highly contagious diseases.

The town schools make much use of the Municipal swimming baths. Many of the country schools possess their own.

Medical Inspection and Dentistry.—Each school has its Medical Officer and dentist. The amount of medical inspection varies, but it is usually both adequate and thorough. In my own school every child is seen by the doctor weekly, he is stripped before him fortnightly and examined quarterly. The dentist visits monthly, and every boy's mouth is examined by him periodically.

Physical Education.—No schools devote more attention to physical exercise and games. Swedish drill and gymnastics, cricket, football, swimming, rifle shooting and field sports are well organized. There are no less than five district athletic associations.*

Bills of Health.—It is not surprising, therefore, that Dr Branthwaite is able to report that, "Considered as a whole, the health of children in Reformatory and Industrial Schools is generally remarkably good."

It is objected by some that confined life on a training ship is unnatural for young children. No schools are healthier. It must be remembered that only the more robust ones are committed to them.

I have dealt so far, all too inadequately, with the hygienic conditions of the schools, because I hold that feeding is not more essential than healthy surroundings and the creation of healthy habit.

Dietary and Time-table.—The children rise at 6 or 6.30 a.m. and retire at 8 p.m. During this interval they are provided

* The writer's modesty forbade him to add that his school, though by far the smallest institution entering the competition, won the F. O. Smithers' Challenge Shield for Physical Drill at Earl's Court last year.—Ed.

with three meals, breakfast, dinner and supper, at (about) 8 a.m., 1 p.m., and 6 p.m. respectively. We are told, again on the excellent authority of Dr Branthwaite (Report for 1912), that: "In general the feeding arrangements . . . are excellent, the food being good in quality and sufficient in quantity."

Breakfast consists usually of bread, with butter or jam, and cocoa or tea, alternated with porridge made with milk, bread and dripping or treacle.

Dinners vary considerably, comprising meat (stewed, boiled or roasted), with soup and bread or vegetables and bread. Usually pudding is given on Sundays only.

The evening meal comprises cocoa or tea, with bread, jam or butter or cheese.

Fruit and Vegetables.—Many of the schools possess large farms or gardens, which are able to supply a great variety of vegetables or fruit and, during the late spring, summer or early autumn, salad vegetables in plenty. The town schools are generally in close proximity to a cheap market, and are able to purchase their vegetables on very advantageous terms.

The Blessings of Poverty—A Contrast.—Unlike the ordinary boarding schools, the Certified Schools are poor, and have to live within their very limited means. Their poverty has not been an unmixed evil, as it has thrust upon the managers the necessity for evolving a diet which shall be ample, appetizing and hygienic as well as economical. This they have in no small measure succeeded in doing. When reading the proceedings of the last conference,* I was astonished to find nearly every speaker refer to the necessity for tempting children's appetites, coaxing them to eat vegetables, and dissuading parents from supplementing the school's diet. Our children have healthy appetites. They enjoy the fare provided for them. They are not allowed to receive parcels of food from home.

An Experiment and the Moral.—I have received into my school the children of well-to-do people as voluntary cases.

* *Our Children's Health at Home and at School*, being the report of a Conference on Diet and Hygiene in Public Secondary and Private Schools held at the Guildhall, London, May 13, 1912, with dietaries, Press references, correspondence and other additional matter. 5s. net. National Food Reform Association. Cf. p. 481.—Ed.

For the first few weeks they have played with their food, but after a brief spell they have been as hearty as the rest.

Quantity.—It is desirable that growing children should not be limited as to the quantity of food they eat. By far the greater number know when to stop. There are certainly exceptions, but nature has provided a ready means of bringing home to the glutton the consequences of his greed.

Home Office Veto—A Plea for Greater Freedom.—Our dietaries are all subject to the approval of the Home Office, but I would not suggest there is no room for amendment and improvement on that account. While recognizing the necessity for having an officially sanctioned *minimum*, which shall be the minimum for all the schools, the practice of a formal dietary scale, whether for one, two or three weeks, is strongly to be deprecated. This tends to hide-bound routine. It saves the Superintendent some trouble, but I know my colleagues would appreciate freedom and would not mind the extra thought required in drawing up their weekly menu.

A formal scale has certainly this advantage: one knows to a nicety what the food bill will be at the end of a year.

Why Existing Regulations are no Longer Adequate.—There was a time when the Certified Schools were regarded as penal establishments. The stationary diet was on a par with prison regulations and was possibly very necessary. That day is past. They are only incidentally penal now, and more freedom should be allowed the managers. An alternative weekly diet is recommended officially, but this is not sufficient, as it does not admit of that element of surprise which is so much appreciated by the children. They have long memories, and will as readily anticipate the sequence of the meals in the second or even the third week as in the first. I would prefer to see established a scheduled minimum for each season of the year, the managers being allowed to provide as much variety as they possibly can.

In practice, so far as my own experience goes, the Inspectors allow this, but general official sanction is desirable, because most people are reluctant to depart from a prescribed formula without it.

Cooking.—Dr Branthwaite's View.—All meals should be appetizing. I entirely agree with Dr Branthwaite, who writes:

"Something more is necessary than an assurance that the specific diet contains the proper amount of proteids, fats and carbohydrates, or that the energy value in calories per day is sufficient to maintain life; the form these constituents take when presented at table is an important factor in the maintenance of health." It is in cookery rather than in variety that the desideratum is to be sought. Only very plain cooking is attempted, but what is done is generally well done.

An Arduous Task.—Each school employs a cook, but it is the Matron, generally qualified by large experience and often by scientific training, who constantly supervises her work and the culinary department generally. Much, perhaps most, of the credit is hers for the satisfactory results which these schools show. Her task is an onerous one because economy is so necessary. The diet is for obvious reasons more restricted, so far as luxuries are concerned, than in an ordinary boarding establishment. Vegetable foods are largely utilized to supply the essential nitrogenous elements, but unless dried peas, beans and lentils are properly prepared for the table, they are injurious rather than nourishing, while ill-cooked and burnt porridge is nauseating even to the hungry.

The Proof of the Pudding.—Many of the little dainties of the usual home meals are not to be found in the Certified Schools' allowances; potted meats, fruits, fish and even eggs are rareties. Despite such deficiencies, one rarely hears about having to tempt the appetites. At the end of each meal the plates are empty and the stomachs are full. Indigestion is practically unknown.

Results.—An Official Tribute.—The conditions of life in a Certified School, and particularly the effect of the diet, must be judged by the results produced.

The child has been taught the value of personal cleanliness, and he rarely departs from the simple life to which he becomes habituated. The anæmic wastrel becomes healthy and vigorous, the school has "made a new man of him." Dr Branthwaite writes: "When it is realized that a material percentage of committals . . . are the offspring of unhealthy parents, or of parents who have lived sordid lives, or have been addicted to drunkenness, the wonder is that the attainment of robust

health is not the exception rather than the rule. . . . In these circumstances, the fact that the subsequent attainment of robust health is the rule, and that any other condition is the exception, speaks well for the treatment to which such children are subjected after committal to Institution care." This is indeed a glowing tribute to the hygienic conditions and the feeding arrangements which prevail in them.

An Unexplained Phenomenon.—There is one phenomenon upon which it may be interesting for the Conference to dwell. These children recover much of the deficiency in weight with which they started; but the same cannot be said of their height. They remain much below the normal, and for a time after their admission into the school there is distinctly a period of retardation, as is shown by the anthropometric data which are regularly collected. No conclusive or satisfactory explanation has been given for this. That it is not due to dietetic errors, lack of sleep or excessive labour is proved by the fact that it is the older children who do the work and make most headway. The younger children have the same diet, more play and sleep and show more retardation.

What the Schools do for the Children.—In my opinion, this retardation is a healthy condition and is not permanent, as may be seen by the stalwart youths who so frequently return to their old home, and by the rapid growth they make after the period of retardation, which usually coincides with the period of their adolescence, is over. Soon after their arrival at the schools they lose their starved appearance and lack of vitality. Much of their unhealthy tissue has been used up in regular physical exercise and a newer and more vigorous tissue has been built up. They have been remade and reconstituted. Weedy sucklings have become stocky little plants, and although, at the end of their days, they may need shorter coffins, they have been endowed with health and strength and given the faculty for enjoyment and right living where their heritage may have been a miserable existence in squalor, disease and crime.

Summary.—The Certified Schools admit a class of children who are generally much below the normal, physically, mentally and morally. The children are lodged, clothed, fed and carefully instructed in the importance of personal hygiene. They

are medically inspected and treated, and their teeth attended to. The meals provided are plain, wholesome and adequate, but more freedom should be allowed to managers to provide greater variety. As a result of this treatment the children become rejuvenated. They become robust, capable of much strain, and in proportion to their height of a very good average weight. The gain in height, however, is not so great as might be desired. Contrary to what might be expected, the amount of ill-health and the death-rate amongst them is very small.

HAYES INDUSTRIAL SCHOOL.

I.—Scale of Diet.

	Breakfast.	Dinner.	Supper.
SUNDAY.	Porridge. Bread, 4 ozs. Treacle, 1 oz.	Pea Soup. Meat, 4 ozs. Bread, 4 ozs.	Bread, 8 ozs. Butter, ½ oz. Cocoa, ¾ pt.
MONDAY.	Bread, 8 ozs. Butter, ½ oz. Cocoa, ¾ pt.	Meat, 5 ozs. Vegetables, 8 ozs. Bread, 4 ozs.	Bread, 8 ozs. Cheese, 1 oz. Tea, ¾ pt.
TUESDAY.	Same as Sunday.	Stewed Haricot Beans. Meat, 4 ozs. Bread, 4 ozs.	Bread, 8 ozs. Butter, ½ oz. Cocoa, ¾ pt.
WEDNESDAY.	Same as Monday.	Boiled Mutton, 6 ozs. Vegetables, 8 ozs. Bread, 4 ozs.	Bread, 8 ozs. Jam, 1 oz. Milk and Water, ¾ pt.
THURSDAY.	Same as Sunday.	Irish Stew. Meat, 4 ozs. Bread, 4 ozs.	Bread, 8 ozs. Butter, ½ oz. Tea, ¾ pt.
FRIDAY.	Same as Monday.	Fish, 12 ozs. Vegetables and Bread, 4 ozs.	Bread, 8 ozs. Jam, 1 oz. Tea, ¾ pt.

The Boys may be allowed the seasonal products of the Garden.

	Breakfast.	Dinner.	Supper.
SATURDAYS AND FESTIVALS.	Bread, 8 ozs. Butter, ½ oz. Jam, 1 oz. Coffee, ¾ pt.	Roast Beef, 5 ozs. Vegetables, 8 ozs. Bread, 2 ozs. Pudding, 4 ozs.	Bread, 8 ozs. Marmalade, 1 oz. Cocoa, ¾ pt.

The Managers reserve the right to alter any of the above meals, but not to diminish the quantity or quality of the food allowed.

II.—Time Table.

Summer.		Winter.	
a.m.		a.m.	
6.0	Boys Rise, Wash and Dress.	7.0	Boys Rise, Wash and Dress.
6.30	General Employment.	7.20	Prayers.
7.0	Drill.	7.45	Breakfast.
7.20	Prayers.	8.15	Industrial Work.
7.45	Breakfast.	9.0	School and Work.
8.15	Industrial Employment.	12.0	Recreation.
9.0	School and Work.	12.15 to 12.35	Drill and Wash.
12.0	Recreation and Wash.		
p.m.		p.m.	
1.0	Dinner.	1.0	Dinner.
2.0	School and Work.	2.0	School and Work.
5.0	Gymnasium and Recreation.	5.0	Gymnasium and Recreation.
6.30	Tea.	6.0	Tea.
7.30	Wash.	7.0	Wash.
8.0	Prayers and Bed.	7.30	Prayers and Bed.

SATURDAYS AND FESTIVALS.

a.m.		p.m.	
6.30	(Summer) Boys Rise, Wash and Dress.	1.0	Dinner.
7.20	Prayers.	2.0	Wash and Walk.
7.45	Breakfast.	2.0	(Summer) Leisure.
9.30 to 10.30	Service.	6.0	Tea.
11.30 to 12.30	Religious Instruction.		

Half-Holidays on Fridays and Sundays.

Mr I. Ellis was kept away at the last moment owing to his wife's serious illness, but a summary of the paper was read by the Secretary.

(E) *POOR LAW INSTITUTIONS.*

DIET, COOKERY AND HYGIENE IN THE CHILDREN'S DEPARTMENT OF STOBHILL GENERAL HOSPITAL, AND IN THE CHILDREN'S HOME.

Collaborated by James R. Motion (*Inspector and Clerk, Glasgow Parish Council*) *and* John M. Henderson, M.B., CH.B. (*Acting Medical Superintendent, Stobhill General Hospital, Glasgow*).

How Arrivals are Dealt With.—All children admitted to the Children's Department of the Stobhill General Hospital are examined by a medical officer, who notes the condition of their health, nutrition and cleanliness. If they are found to be suffering from any disease of a non-infectious character, or from malnutrition, they are sent to the Children's Hospital Pavilion (Pav. 42A and B), where remedial measures are adopted. If, on the other hand, a favourable report is obtained, they are sent to the Children's Probationary Pavilion (Pav. 38), where they are kept under observation for three weeks, this period being equivalent to quarantine.

The Children's Home.—At the end of the three weeks they are transferred to the Children's Home, ten large pavilions, each lit by a large window space, ventilated by an efficient vacuum system, and heated so that a mean temperature of 65 deg. F. is maintained day and night by radiators through which steam circulates under pressure. The children are allotted to these pavilions on a classification basis of age and sex, and they are kept under observation day and night by a staff of trained nurses and nurse probationers.

Arrangement of Pavilions.—Each pavilion is divided into two flats; in six of the pavilions, where the larger boys and girls are housed, the ages ranging from 6 to 13 years, the lower flat is given over to day-rooms among other offices; the day-rooms are large apartments in which the children can play in the event of wet or cold weather. In the other pavilions, housing children whose ages average from 2 to 5 years, part of the lower flat, like the upper flats in the other pavilions, is given over to dormitories.

Allowance of Floor and Air Space.—Particulars of floor-space and air-space of each dormitory are appended. From these particulars it will be seen that every child in the Institution has an adequate floor-space and air-space. When it is considered that the Glasgow police authorities allow 200 cubic feet of air-space for every child, and that army hospitals allow 600 cubic feet for each sick soldier, it is evident that the air-space allotted to the children here is at least adequate. With the efficient ventilation in force in the pavilions, the air can be changed in a way which supplies the physiological needs of each child without the occurrence of draughts.

Personal Hygiene.—The lavatories are of the wash-down variety. There are three on the low flat of each pavilion, separated by partitions, and one in the upper flat. Each lavatory is provided with an efficient flush of water of three gallons. The lavatories are under the close superintendence of nurses and probationers.

Each pavilion is provided with two baths and a plentiful supply of hot and cold water. Children over five years of age are bathed every week, while those under five are bathed twice, or more often, weekly. Their underclothing is changed weekly. In winter they are warmly clad. In summer the more vigorous boys and girls are allowed to go bare-footed, while all the children are encouraged to do without headgear. They are sent into the open air, and the younger children are taken out on the lawns, where they can sit in the sunshine.

All the children are under the supervision of a dental surgeon. Badly decayed teeth are extracted, while measures are taken to arrest and prevent dental caries.

In school the children are taught, among other work, games and physical exercises, with a view to developing a love for physical fitness.

On another page detailed information is given as to dietary. Here the intake of food is in agreement with the dietetic laws laid down by men like Hutchison and Haig.

DIETARY FOR ADULTS.

Breakfast (9 a.m.).—Porridge, ½ pint; Tea, ½ pint; Milk, ½ pint; Bread and Butter, or Coffee in place of Tea.

Dinner.—Lentil or Pea Soup, 1 pint; Rice Pudding, 4 oz.; Bread.

Stewed Meat, 6 oz.; Vegetables (mixed), 6 oz.; Potatoes, 12 oz.; Bread Pudding, 4 oz.; Bread.

Broth, 1 pint; Meat, 6 oz.; Potatoes, 8 oz.; Bread.
Potato Soup, 1 pint; Meat, 6 oz.; Potatoes, 8 oz.; Bread.
Stewed Meat, 6 oz.; Vegetables (mixed), 6 oz.; Potatoes, 12 oz.; Rice Pudding, 4 oz.; Bread.
Fish, 12 oz.; Potatoes, 8 oz.; Semolina Pudding, 4 oz.; Bread.
Broth, 1 pint; Meat, 6 oz.; Potatoes, 8 oz.; Bread.
SUPPER.—Tea, 1 pint; Bread and Butter; Cheese, 2 oz.; or Tea, 1 pint; with Bread and Marmalade, or Jam.
(Quantities where not specified to be *ad libitum*.)

CHILDREN'S DIETARY.

Children from 5 to 8 years one half of above.
Diet for children between 2 and 5 years:
BREAKFAST.—Porridge, ¼ pint; Milk, ½ pint; Bread and Butter.
DINNER.—Lentil Soup, ½ pint; Rice Pudding, 2 oz.; Bread.
Mince Meat, 2 oz.; Potatoes, 4 oz.; Bread Pudding, 2 oz.
Mashed Potatoes, 4 oz.; Roast Dripping, ½ oz.; Bread.
Broth, ½ pint; Cornflour Pudding, 2 oz.; Bread.
Mince Meat, 2 oz.; Potatoes, 4 oz.; Bread Pudding, 2 oz.
Lentil Soup, ½ pint; Rice Pudding, 2 oz.; Bread.
Mashed Potatoes, 4 oz.; Roast Dripping, ½ oz.; Bread.
SUPPER.—Bread and Milk, or Cocoa, or Tea, with Bread and Butter.
Between meals children may have bread and milk.
Children under 2 years to have 2 pints Sweet Milk and 8 oz. Bread daily, to be made into Sops with Sugar.

DORMITORIES.

No. of Pavilion.	Description of Room.			Floor Space.	Cubic Space.	No. of Beds for which it may be Sanctioned.
				Sq. Ft.	Cubic Ft.	
xxvii.	Children's	Home	1	432	5,184	10
	,,	,,	2	400	4,466	10
	,,	,,	3	400	4,466	10
	,,	,,	4	400	4,466	10
xxviii.	,,	,,	1	432	5,184	10
	,,	,,	2	400	4,466	10
	,,	,,	3	400	4,466	10
	,,	,,	4	400	4,466	10
xxix.	,,	,,	1	280	3,360	9
	,,	,,	2	280	3,360	9
	,,	,,	3	399	4,455	11
	,,	,,	4	399	4,455	11
	,,	,,	5	280	3,126	9
	,,	,,	6	280	3,126	9
	,,	,,	7	77	924	2
	,,	,,	8	77	924	2

DORMITORIES.

No. of Pavilion.	Description of Room.			Floor Space.	Cubic Space.	No. of Beds for which it may be Sanctioned.
				Sq. Ft.	Cubic ft.	
xxix.	Children's	Home	9	77	859	2
	,,	,,	10	77	859	2
	,,	,,	11	77	859	2
xxx.	,,	,,	1	280	3,360	9
	,,	,,	2	280	3,360	9
	,,	,,	3	77	924	2
	,,	,,	4	77	924	2
	,,	,,	5	399	4,455	11
	,,	,,	6	399	4,455	11
	,,	,,	7	280	3,126	9
	,,	,,	8	280	3,126	9
	,,	,,	9	77	859	2
xxxi.	,,	,,	1	680	7,593	15
	,,	,,	2	680	7,593	15
xxxii.	,,	,,	1	432	5,184	10
	,,	,,	2	400	4,466	10
	,,	,,	3	400	4,466	10
	,,	,,	4	400	4,466	10
xxxiv.	,,	,,	1	400	4,466	10
	,,	,,	2	400	4,466	10
	,,	,,	3	400	4,466	10
xxxv.	,,	,,	1	680	7,593	15
	,,	,,	2	680	7,593	15
xxxvi.	,,	,,	1	432	5,184	10
	,,	,,	2	400	4,466	10
	,,	,,	3	400	4,466	10
	,,	,,	4	400	4,466	10
xxxvii.	,,	,,	1	680	7,593	15
	,,	,,	2	680	7,593	15
xxxviii	,,	Probationary	1	949	9,495	16
	,,	,,	2	949	9,495	16
	,,	,,	3	981	9,815	16
	,,	,,	4	981	9,815	16
	,,	,,	5	949	9,495	16
	,,	,,	6	949	9,495	16
	,,	,,	7	949	9,495	16
	,,	,,	8	949	9,495	16
	,,	,,	9	570	5,700	8
	,,	,,	10	570	5,700	8

STATUS OF INDUSTRIAL SCHOOLS.—MR C. OXLEY (Industrial Schools Sub-Committee, Leicester Education Committee): I was not aware that I was to open the discussion, and therefore have not prepared anything specially for the purpose. I ought to thank the Conference for placing us on a level with Philanthropic Institutions and Elementary Schools. Lady Edmund Talbot has had me on the carpet at the Departmental Committee, and therefore she knows the ins and outs of our schools.

A WEAK SPOT IN THE SYSTEM.—There are one or two points in Mr Ellis's paper about which I should like to say a word or two, and one is the class of children. They are a poor lot, and yet we have no open air schools or special schools to which we can discharge those who are unfit for industrial training. That is one feature at present lacking in our system. There are in our schools a good many children unfit for such training, and it remains with the managers of those schools to place these children until they are 16 to 18 years of age.

NEARING THE NORMAL.—Then Mr Ellis speaks of a period of retardation. That is noticed in other schools. The boys in Industrial Schools are on an average four inches below the normal height of elementary school children, but it is satisfactory to know that in recent years the children coming in more nearly approach the standard of height. This has been especially noticeable during the last four years; not so much in weight, but the height is nearer the normal. Whether that is the result of physical training in the Elementary Schools, which is made so much of, or not, I do not know, but if it is so, I am pleased to give this information, hoping that it may be the result of the mental and physical work now being done in the elementary schools. Why this retardation occurs, we cannot say.

VARIETY AND A GRANT.—As Mr Ellis says, we have not the money to give the boys much variety in diet. Variety certainly does contribute to their physical benefit, and we hope now that the Departmental Committee has recommended an additional grant, we shall be able to fall in with the views expressed at this Conference.* You will be pleased to know

*In such efforts, the Schools Committee of the National Food Reform Association will be happy to be of service.—Ed.

that in the Industrial and Reformatory Schools dentists have for several years been engaged, and that is a slight advance on the Elementary Schools of the country.

PHYSICAL, MENTAL, AND MORAL RESULTS.—The physical development of the boys is a special feature in our schools, and there is no doubt that when they leave the Reformatory Schools, they are in advance in health, and I think in character, compared with the type in the schools from which they came. I am not referring to the best of the Elementary Schools, because the majority of our boys come from the poorer quarters of the town, but they are in advance in general character, in physique, and I hope will make better citizens of England.

GROWTH IN RELATION TO ENVIRONMENT.—A MEMBER: Could the gentleman who has just sat down tell us whether he thinks the growth of which he spoke is due to removal from environment, or whether it is a condition of the environment from which they were removed; in other words, whether it is a result of being removed from the schools. I am surprised to hear what has been said, because I should have thought, with the regular habits, their growth would have been advanced.

A COMPARISON WITH THE ELEMENTARY SCHOOLS.—Mr OXLEY: We find retardation occurs after the second year after reaching the schools. Our tables, compared with those of the Elementary Schools, show that our boys are less in weight and height at 9 or 10 years of age than the Elementary School boys, who progress at a greater rate than ours till 13, but at 13 or 14 our boys have reached the normal, and in a great many cases exceed it.

TRIBUTE TO THE SCHOOLS.—THE CHAIRMAN: Mr Oxley said he had been before me on the Departmental Committee, and I think he must be pleased with the recommendations made by that Committee. I own that the Reformatory and Industrial Schools—certainly those I visited—are in advance, in the way of medical inspection and dental treatment, of the ordinary Elementary Schools of this country, because it is only quite lately that we have had Medical Inspection of Children.

Women on Committees—A Valuable Recommendation.—The most important recommendation made by the Departmental Committee, in my judgment, was their advocating most strongly that women should be on the Committees of Industrial Schools for both sexes. In my opinion, that is just the work women are adapted for. Women ought to be on all the Committees where the welfare of the children of this country is concerned, because, after all, women have more leisure, and can very often help the parents to realize their responsibilities to their children. It is, therefore, of great importance that on all these Committees—I do not care what they are for—there should be women, for they can do an immense work upon them. Women engaged in philanthropic work obtain enormous influence over the children and parents, and that is one of the reasons why they should be allowed to serve on these Committees.

Waiting for a Grant.—I quite agree with what Mr Oxley said about the question of diet. Of course, in all these questions we have to realize that what prevents everything being done in a perfect way is simply poverty. Thus, if the Treasury can be persuaded to give better grants than they have done, everything in the Industrial and Reformatory Schools might be brought up to perfection.

Mr W. A. Nicholls (National Union of Teachers): I am sure we shall all agree that we are greatly indebted to the various people who have worked so hard in connexion with this Conference, which has been delightful, and I beg to move:

> That the best thanks of this Conference be accorded to Mr Alderman and Sheriff Cooper and to Mr Sheriff Bower for their presence and addresses; to the City Lands Committee of the Corporation of the City of London for placing the Council Chamber of the Guildhall and the Crypt at the disposal of the Conference; to the Chairmen of the various Sessions; and to the Readers of Papers.

I am unfortunately one of the readers of papers, and so I ought to say little about that, but I am sure we are all to be congratulated on the excellent Chairmen we have had, and

particularly on the excellent Chairwomen. It is an unusual experience for the City to see ladies occupying that Chair, I move that vote of thanks very heartily.

Dr Sidney Davies (Medical Officer of Health, Woolwich): I have very much pleasure in seconding the vote of thanks moved by Mr Nicholls. I am sure we owe a great debt of gratitude to those who have taken part in the arrangement of this Conference, and I hope it will be productive of very much good. We have so many Conferences nowadays, and that may account for the audience not being large,* but I am sure it cannot fail to be influential, and will call the attention of the public to the very great importance of the subjects we have been considering.

The Vote of Thanks was unanimously accorded.

The Chairman: I want to thank you very much indeed, in my own name and in the name of the speakers, for having carried that vote of thanks. It is always a great pleasure to me to do anything I can, and I am deeply interested in the subjects we have been discussing. I have a certain amount to do with them, and it is a pleasure to me to hear other people's views. One is apt to get too stereotyped and narrowminded, thinking always of one's own affairs.

The Conference then terminated.

* The speaker, however, arrived late in the proceedings, when many had left. According to *School Hygiene*, there was a good attendance on both days.—Ed.

IMPRESSIONS OF THE CONFERENCE

It is the looker on, we are told, who sees most of the game, and on this principle the appended letters from, with one exception, individuals who were not present at the Guildhall may not be without interest and value.—Ed.

Boys and "Things Domestic."—"Letters from a House-Master's Wife" figure prominently in *Our Children's Health at Home and at School.*" Their accomplished and clear-sighted author now writes:

I have read through the papers and speeches with interest, and am particularly interested in the note struck by two if not three speakers: the necessity of teaching boys as well as girls the art and science of things domestic. For all sorts of reasons I am sure that these speakers are right, though none of them brought forward the argument that England as a colonizing nation might have considered the needs of her colonists.

A Condition of Ideal Home Life.—From the point of view, however, of ideal home-life, I do not think we shall get things right till men and women, whether husbands and wives or fathers and mothers, absolutely share each others' lives and interests and work together sympathetically all along the line. In the working classes, as it was pointed out, it is quite essential that the husband should be able to help his wife in the home, and among people of our own present way of living, I am certain that it will help to better understanding and greater happiness all round if men understand domestic difficulties, and if the women can be consequently set more free to share the other side and a wider life. It is also, of course, quite true, as one speaker said, that you cannot get real progress while the men are acting as a drag all round. And you can only teach the men (generally speaking) when they are boys!

A False Standard.—It is simply wonderful, to me, how cheaply the catering can be done, and apparently done well, for these growing children, when it is directed by sensible people co-operating. It just appals one to think of the unnecessary luxury of even modest establishments like ours, all brought about by the wrong notions we give our children at

the start of what is desirable in life. We who ought to know better are thus setting up an absolutely wrong standard for the rest of the country to follow.

Better Work and Better Pay.—A large employer of labour writes: I have read with much interest the account in to-day's *Times* of your Conference at the Guildhall yesterday.

I would like to urge the necessity of paying the same attention to the question of the provision of meals in Secondary Schools as to that in those of the Elementary grade* I agree with Miss Cuff that it is essential that the diet shall not only be well-balanced, varied and palatable, but that the meals shall be carefully supervised.

I am quite certain from my own experience that the value supplied in some quarters is by no means commensurate with the cost. This would appear to be due in some respect to the want of oversight on the part of the Managing Committees. who probably do not appreciate the importance of the question.

Speaking as an employer of labour I feel sure that better work, and consequently better remuneration would be obtainable if greater attention were paid to health questions among all classes in the earlier years.

A Lesson from the Conference.—A Domestic Economy Superintendent writes: I was sorry not to see you at the end of the meetings to congratulate you on the success of the gathering. Your Conference made me realize anew how much scope there is for research work in the field of food and dietetics; it will mean more and more to Domestic Economy teachers.

The Woman who Knows.—The series ends appropriately with a letter addressed to the Lord Mayor by a representative of that great section of the community, the lot of whose children it was the chief object of the Conference to ameliorate:

"Seeing in to-day's *Daily Chronicle* that you were to preside to-morrow at the Guildhall Conference of the National

* This subject was fully discussed at last year's Conference. See *Our Children's Health at Home and at School.*

Food Reform Association, I feel I must write to you. I am the mother of five children, therefore I feel deeply interested in their welfare. I think when children go to school at the age of five years it is too late for the study of hygiene, food value, or cookery: the first consideration should be given to the carrying mothers and then comes the first few years of the child's life when the constitution is in its making.* Every *good* mother knows how to feed her children, what to give them, and how to cook it, and all the Reform Associations in the world will not alter the conditions of the homes. Of the children who are given free meals at school, they get that free meal, and the majority of the mothers do not care what the child gets all day; and in a great many cases it goes to bed on pork and pickles or fried fish. If committees were formed to inquire into the home feeding the school feeding would do so much more good than it does at present. I trust you will pardon my troubling you, but I feel deeply interested in the subject of children, and I feel the Association has not yet started its work.

THE BURDEN OF THE CONFERENCE

The following letter appeared in the Press shortly after the Conference, and since its object was not attained, is reprinted here:† Ed.

The Press were not slow to recognize the service to the State, rendered by the National Food Reform Association, in convening the recent remarkably successful Second Guildhall School Conference, at which papers of the utmost importance were contributed by experts on school meals, hygiene and domestic economy, followed by not less valuable discussions, in which medical men, teachers, social workers and heads of institutions of various kinds took part. We now venture to ask your assistance in making known the fact that, owing to a variety of causes, the Conference has involved the Association in a loss amounting to £65. The deficit on the previous Conference amounted to £25, and there must be many among your readers who would be glad to assist the Association in meeting

* See Introduction, p. xliv.

† See also p. 134.

this new liability. Had the society consulted its own interests, it would have postponed the Conference for a season. Since, however, on public grounds delay was not justifiable, we are confident that the cost of this effort to secure the welfare of the children and of the race will not be permitted to remain as a burden on the Association. Contributions should be made payable to "National Food Reform Association," crossed "Messrs Barclay & Co. Ltd." and sent to the Secretary, 178 St. Stephen's House, Westminster.

We are, etc.

Signed, Mary C. Talbot
(Lady Edmund Talbot),
G. W. Kekewich,
J. H. Yoxall,
Chairman of Sessions,
178 St. Stephen's House,
Westminster.

July 21, 1913.

SCHOOLS COMMITTEE OF THE NATIONAL FOOD REFORM ASSOCIATION

Miss Benton (Association of Headmistresses).
*Miss E. B. Hogg (Association of Teachers of Domestic Subjects.)
Miss J. Watson (Association of University Women Teachers.)
*J. Sim Wallace, D.Sc., M.D., L.D.S. (British Dental Association).
*Robert Hutchison, M.D., F.R.C.P. (British Medical Association).
F. B. Malim, M.A. (Headmasters' Conference).
The Rev. A. W. Upcott, D.D. (Incorporated Association of Headmasters.)
*C. Thackray Parsons, M.D. (Infirmary Medical Superintendents' Association, Poor Law Medical Officers' Association.)
Mrs Voysey (King Alfred School Society).
*Mrs Chester, *Miss K. Hogan (London Teachers' Association).
*M. D. Eder, M.D., B.Sc., M.R.C.S. } Medical Officers of
*A. H. Hogarth, M.B., D.P.H. } Schools Association.
*G. D. Bell (National Federation of Class Teachers).
*Miss E. S. Potts, L.L.A. (National Federation of Women Teachers).
*W. A. Nicholls (National Union of Teachers).
Miss Helen Webb, M.B. (Parents' National Education Union).
A. H. Ozzard (Private Schools Association).
*Mrs Jessie White, D.Sc. (Teachers' Guild of Great Britain and Ireland),
*Herbert Cornish (Editor *School Government Chronicle*).
Clement Dukes, M.D., F.R.C.P. (Hon. Consulting Physician, Rugby School).
*George S. Elliston, B.A., Barrister-at-law (Editor, *Medical Officer* and *National Health*).
David Forsyth, M.D., D.Sc., F.R.C.P.
*T. Gautrey, L.C.C. (Editor, *London Teacher*).

Prof. R. A. Gregory (Editor, *School World*, and Assist. Editor, *Nature*).
Mrs Stanley Hazell.
*Ralph Hyams (Editor, *Education*).
*T. N. Kelynack, M.D., M.R.C.P. (Editor, *The Child*).
J. W. Longsdon (Editor, *Educational Times*).
Miss Charlotte Mason (Founder of the Parents' National Education Union, and Editor, *Parents' Review*).
Miss Mullins.
W. E. Mullins, M.A.
A. T. Simmons, B.Sc., A.R.C.Sc. (Editor, *School World*).
*The Rev. J. Hodson Smith (National Children's Home).
Francis Storr, B.A., Off.D'Ac. (Editor *Journal of Education*).
J. Odery Symes, M.D., D.P.H. (Late Medical Officer, Clifton College).
W. L. Thompson (Editor, *Secondary Education*).
*Sir James H. Yoxall, M.A., M.P. (Editor, *Schoolmaster*).

Miss Isabel S. Thorburn, M.A. (*Assistant Secretary*).

Charles E. Hecht, M.A. (*Secretary*).

Those marked by an asterisk acted as the Organizing Committee of the Second Conference, with Mr W. A. Nicholls as chairman.

LIST OF MEMBERS

Mrs Abbott.
Miss Josephine Allen (Cookery Mistress), Norwich Education Committee.
Miss Margaret Ashton, M.A., Manchester City Council; President, Manchester Branch, Association of Teachers of Domestic Subjects.
Miss Florence Baddeley (Organizing Secretary), Gloucester School of Domestic Science.
W. Spencer Badger, M.B., D.P.H. (School Medical Officer), Wolverhampton Education Committee.
Miss E. M. L. Baron (Matron in Charge), Girls' Friendly Society Diocesan Training Home, Hurstpierpoint.
Miss E. M. Bennett, St. Pancras Mothers and Infants' Society.
G. D. Bell, National Federation of Class Teachers.
Miss E. A. Berrill.
Mrs Amy Walker Black, County Durham Education and Insurance Committees and Chester-le-Street Boarding-Out Committee.
Victor J. Blake, M.B., B.S. (School Medical Officer), Portsmouth Education Committee.
Miss M. Bolton (Teacher of Cookery), Bristol Training School.
Mrs A. M. Booth, Gloucestershire School of Domestic Science.
Mrs W. H. Brand.
Miss M. E. Bulkeley, B.Sc. (Secretary), Ratan Tata Foundation, University of London.
Mrs Russell Burdon.
Mrs T. Burrows (Secretary), Sheffield Orphan Homes.
Mrs Butcher.
Miss Edith Butler (Matron), Page Hall Orphanage, Sheffield.
Miss Dora Calladine (Superintendent of Domestic Subjects), East Suffolk Education Committee.
Mrs Guy Campbell (Lady Superintendent), Royal Normal College for the Blind, Upper Norwood.
Mrs Amy Chester, London Teachers' Association.
Mrs Penn Clarke.
Miss A. Clepham.

Herbert Cornish (Editor, *School Government Chronicle*).
Miss Marian E. Cuff (Organizing Superintendent of Domestic Subjects), Bradford City Council.
Sidney Davies, M.D. (Medical Officer of Health), Woolwich.
Miss E. D. Davies, County Secondary School, S. Hackney.
Miss F. Geraldine Delf.
Mrs Denne Denne.
Miss E. Denne.
Miss Rosa Drake, Nursery Training School, Hackney.
Miss M. Dyer.
M. D. Eder, B.Sc., M.R.C.S. (Editor, *School Hygiene*).
Miss Agnes I. M. Elliot (Hon. Sec., Southwark Health Society).
I. Ellis (Superintendent, Hayes Industrial School, Midx.; Hon. Sec., Social Union for Workers Connected with Certified Schools).
George S. Elliston, B.A., Barrister-at-Law (Editor, *The Medical Officer* and *National Health*).
Miss Alpha H. Fenton.
Miss W. Fiennes, Social Welfare Association for London.
George Finch, M.R.C.S., D.P.H. (Assistant Medical Officer of Health, East Suffolk County Council).
Miss E. B. Frederick.
Miss H. Gardner.
William Garnett, M.A., D.C.L. (Educational Adviser, London County Council).
Miss Hilda Garnett.
Mrs H. B. Garrod.
T. Gautrey (Secretary, London Teachers' Association, and Editor, *London Teacher*).
Miss Catherine Gordon (Divisional Superintendent of Domestic Economy, London County Council).
Miss S. Goulding (Superintendent), Girls' Industrial Home, Coventry.
Ronald H. Greig.
L. Haden Guest, M.R.C.S., L.R.C.P. (Assistant School Doctor, London County Council).
George Guttridge, Islington Board of Guardians.
Miss J. Halford (Secretary), National League for Physical Education and Improvement.
Mrs Harbord.

JOHN M. HENDERSON, M.B., Ch.B. (Acting Medical Superintendent), Stobhill General Hospital, Glasgow.
Miss K. HOGAN, London Teachers' Association.
Miss MARIE V. HOGAN.
A. H. HOGARTH, M.B., D.P.H. Medical Officers of Schools' Association.
Miss E. BEATRICE HOGG (Hon. Sec., London Branch), Association of Teachers of Domestic Subjects.
D. O. HOLME (Organizer of Elementary Education), Norwich Education Committee.
Miss E. A. HOLT, Women's University Settlement, Southwark.
Mrs H. H. HOUSE.
ROBERT HUTCHISON, M.D., F.R.C.P., British Medical Association.
RALPH HYAMS (Editor, *Education*).
Miss GERTRUDE IRONS (Inspector of Domestic Subjects), West Riding County Council.
GEORGE JOHNSON (Master), Guardians Schools, Islington Board of Guardians.
Vice-Admiral C. JOHNSTONE.
Miss M. JONES (Divisional Superintendent of Domestic Economy), London County Council.
Mrs MYER KAIZER (Matron), Jews' Orphanage, West Norwood.
Miss FLORENCE KEAST.
Sir GEORGE W. KEKEWICH, K.C.B., D.C.L. (Ex-Secretary, Board of Education).
T. N. KELYNACK, M.D., M.R.C.P. (Editor, *The Child*).
RONALD H. KIDD.
LESLIE KINGSFORD, M.D., C.M., D.P.H. (School Medical Officer), Liverpool Education Committee.
GORDON A. LANG, M.B., C.M. (School Medical Officer), Inverness County Education Committee.
Miss FRANCES LANG.
The Lady JOAN LEGGE.
G. A. LEMMEY.
FRANK E. LEMON (Mayor and Chairman), Reigate Education Committee.
Mrs FRANK E. LEMON (Treasurer), Children's Care Association, Reigate.
The Viscountess LEWISHAM.

Gerald C. Maberly, M.A., LL.B. (Secretary), Kilburn Lane School Care Committee.

Professor Millicent Makenzie, M.A. (Head of Secondary and Elementary Training Departments for Women), University College of South Wales and Monmouthshire.

Miss L. Macnaghten.

H. D. Martin.

Miss M. Cecile Matheson (Warden), Birmingham Women's Settlement.

Alfred Mattersdorfer.

Lady Meyer (Chairman), St. Pancras School for Mothers.

Mrs Constance Meyerstein (Hon. Sec)., Paddington Charity Organization Society.

Miss M. I. M. Michael.

Miss Michaelis, Staffordshire Education Committee.

Robert Milligan.

Mrs Robert Milligan.

C. Conyers Morrell, M.D.

The Rev. R. Conyers Morrell.

Edward J. Morton, M.B., Ch.B., F.R.C.S. (Assistant School Doctor), London County Council.

Miss Morton.

James R. Motion (Inspector and Clerk), Glasgow Parish Council).

Christine M. Murrell, M.D., B.S. (Assistant Medical Officer of Health for Special Schools), London County Council.

Mrs Nagel, Windsor Education Committee.

Miss Edith Neville, South St. Pancras Committee, Charity Organization Society.

W. A. Nicholls (former President), National Union of Teachers.

R. Beattie Nicholson (Clerk to Education Authority), Lowestoft.

C. Oxley (Superintendent), Desford Industrial School, Industrial Schools Sub-Committee, Leicester Education Committee.

Miss M. V. Palmer (Superintendent of Domestic Subjects), Sheffield Education Committee.

Miss J. Parry.

C. Thackray Parsons, M.D., Infirmary Medical Superintendents' Association and Poor Law Medical Officers' Association.

Miss H. M. Peters (Mistress of Method), Bristol Training School.

Miss F. Petty (Health Visitor), Newport (Essex) Health Centre.

Miss E. S. Potts, LL.A., National Federation of Women Teachers.

Miss R. O. Power.

Archibald Prentice.

Miss Ella Pycroft (Chairman), Association of Teachers of Domestic Subjects.

George Rainey (Hon. Sec.), Children's Care Committee, Hamond Square School, Shoreditch.

Raul Ramirez (State Professor), Chilian Government.

Mrs Repington.

Ernest T. Roberts, M.D., D.P.H. (Chief Medical Officer), Glasgow School Board.

Miss Robertson (Head Mistress), Christ's Hospital for Girls, President of the Association of Head Mistresses.

The Hon. Rollo Russell.

Mrs Scott (Cookery Teacher), Glasgow.

Miss Esther Smith (Matron), St Jude's Home, Selhurst.

The Rev. Hodson Smith (Principal), National Children's Home.

Mrs Spielmann.

Miss Mary Stephenson.

Miss F. Storr, B.Sc. (Science Mistress), Central Foundation Girls' School, Stepney.

The Lady Edmund Talbot (President), Association of Teachers of Domestic Subjects.

D. M. Taylor, M.A., M.D., D.P.H. (School Medical Officer), Halifax Education Committee.

Miss E. B. Taylor (District Organizer of Children's Care Work), London County Council.

Mrs Voysey, King Alfred School Society.

J. Sim Wallace, D.Sc., M.D., L.D.S., British Dental Association.

Miss M. West, Central Foundation Girls' School, Stepney.

Mrs Jessie White, D.Sc., Teachers' Guild.

Mrs C. Woodburn.

Miss B. M. Woolley, Girls' Friendly Society Diocesan Training Home, Hurstpierpoint.

Mrs W. S. Young.

Sir James Yoxall, M.A., M.P. (General Secretary), National Union of Teachers; Editor, *The Schoolmaster*.

LETTERS OF APOLOGY

The following letters expressing regret at inability to attend the Conference were received:

The Viscount Haldane of Cloan, P.C., LL.D., writing through his private secretary to Sir James Yoxall, M.P.:

"I am desired by the Lord Chancellor to say that he fears that his public duties will make it quite impossible for him to attend the Conference."

Her Excellency the Countess of Aberdeen, LL.D., President, Women's National Health Association of Ireland:

"I am very sorry that I was not aware that the Guildhall School Conference was proceeding to-day, otherwise I would have endeavoured to look in for a short time, although the day was very full of other engagements. Please let me know what is to be the price of the report. I wish to apply for six copies."

Sir George Newman, writing on behalf of the President of the Board of Education:

"Mr Pease regrets that he cannot add to his engagements in view of the pressure of work upon him in connection with the Education Bill."

W. Leslie Mackenzie, M.A., M.D., LL.D., Medical Member, Local Government Board for Scotland:

"I wish your Conference every success."

J. C. Pearson, acting Chief Inspector, Reformatories Department, Home Office:

"I hope you will have a good number of representatives of our schools, but I am afraid that through other pressing engagements I shall personally be barred from attendance."

Charles E. B. Russell (since appointed Chief Inspector of Reformatories and Industrial Schools, Home Office):

"I am glad Mr Ellis is reading a paper for you and am only sorry I shall be unable to be present at the Conference myself."

Ralph Crowley, M.D., Medical Officer, Board of Education:

"I am sorry I cannot get to the Conference, having to be away next week on official business. Every good wish for the success of the Conference, towards the expenses of which I have much pleasure in sending a subscription."

M. E. Sadler, M.A., LL.D., Vice-Chancellor of the University of Leeds, and Member Consultative Committee, Board of Education:

"I am sorry that engagements here make it impossible for me to attend your Conference. It is the last week of term and I am closely tied here."

Mrs Leslie Mackenzie, Edinburgh School Board:

"I regret very much that it is quite impossible for me to be in London at the time of the Conference. My best wishes for a most successful meeting."

A. W. Dakers, B.A., President, National Union of Teachers:

"I have been trying to see if I could fit my engagements, so as to enable me to attend your meeting. I am sorry, however, to say that it is impossible to arrange for either day. Best wishes for success."

T. N. Kelynack, M.D., M.R.C.P., Editor of *The Child*.

"I sincerely hope that the gathering will be an unqualified success."

Miss Willena Hitching, Organizer and Inspector of Home Management and Needlework in Elementary Schools, Derbyshire Education Committee:

"I regret that extreme pressure of work makes it absolutely impossible for me to be present at your Conference. There is *great* need for such an Association as yours. I wish the Conference every success."

Miss Baron, Matron, Girls' Friendly Society Training Home, Chichester House, Hurstpierpoint, Sussex:

"Those giving their lives to this work are naturally most anxious to take every advantage (such as this Conference gives) to improve their work and Homes."

Apologies were also received, among others, from:

G. W. Alexander, Secretary Scottish Education Department.
Miss Margaret Ashton, M.A., Manchester City Council, President, Manchester Branch Association of Teachers of Domestic Subjects.

George A. Auden, M.A., M.D., D.P.H., School Medical Officer, Birmingham.

Miss Baddeley, Organizing Secretary, Gloucester School of Domestic Science.

Miss Walker Black, Chester-le-Street. Member, County Durham Education and Insurance Committees.

Miss Hilda Bideleux, Lecturer on Hygiene, Battersea Polytechnic.

Mrs L. Birt, Superintendent, Sheltering Home, Liverpool.

Mrs Barrow Cadbury.

Councillor Norman G. Chamberlain, M.A., Chairman, Birmingham Central Care Committee.

A. W. Chapman, J.P., Chairman, Surrey County Council.

Sir William J. Collins, J.P., M.D., M.S., B.Sc. Former Chairman, London County Council.

Sir Arthur Downes, M.D., Senior Medical Inspector for Poor Law, Local Government Board.

Miss Duncan, J.P., Chairman, West Ham Board of Guardians.

A. D. Edwards, M.B., B.S., B.Sc., D.P.H., Medical Officer of Health, Bournemouth.

I. Ellis, Superintendent, Hayes Industrial School, Middlesex, and Hon. Secretary, Social Union for Workers Connected with Certified Schools.

George M. E. Fryer, Secretary, Berkshire Association of Teachers.

Mrs Edwin Gray.

Mrs C. M. Greenstreet, Chairman of the Downham (Cambs) Boarding Out Committee.

Miss E. S. Haldane, LL.D.

Joseph Hall, Hon. Sec., Swansea and South Wales Institute for the Blind.

Ronald T. Herdman, M.D., D.P.H., Deputy County Medical Officer of Health and Assistant School Medical Officer, Bedfordshire County Council.

Mrs M. Holden, Secretary, Burnley School for Mothers.

Miss H. Kaiser, Teacher of Domestic Subjects, Bury St. Edmunds.

E. Lasker, Secretary, York Health and Housing Association.

The Hon. Maude Lawrence, Chief Woman Inspector, Board of Education.

Robert A. Lyster, M.D., B.Sc., D.P.H., County Medical Officer, Hampshire County Council.
J. Ramsay Macdonald, M.P.
Miss F. A. Marchant, Matron, Eastern District Hospital, Glasgow.
Miss A. N. McNair, Organizing Inspectress of Domestic Subjects, Somerset County Council.
G. F. McCleary, B.A., M.D., D.P.H., Chief Medical Officer, National Insurance Commission (England).
Professor Millicent Mackenzie, Principal, Secondary and Elementary Training Departments for Women, University of South Wales, Monmouthshire.
Mrs Peyton Mackeson, Member, Executive, Children's Care Association.
Miss M. Cecile Matheson, Warden, Birmingham Women's Settlement.
Mrs Mayberry, Hon. Secretary, Dinas Home, Brecon.
S. A. Morris, Master, Lambeth Parish School.
S. G. Mostyn, M.A., M.B., B.Ch., D.P.H., Medical Officer of Health, Darlington.
James R. Motion, Inspector and Clerk, Glasgow Parish Council.
W. J. Durrie Mulford, Secretary, Child Study Society.
Miss Elizabeth A. Mullins.
W. E. Mullins, M.A.
T. Hancock Nunn, Hon. Sec., Hampstead Health Society.
C. Thackray Parsons, M.D., Medical Officer, Fulham Infirmary.
Professor Noel Paton, Glasgow University.
Mrs J. A. Pease.
Miss M. C. Pepper, B.Sc., Superintendent, Preston School of Domestic Science.
A. B. Raffle, M.D., School Medical Officer, South Shields.
Mabyn Read, M.D., D.P.H., Medical Officer of Health, Worcester.
T. G. Rees, B.A., Superintendent of Education, Swansea.
Ernest T. Roberts, M.D., D.P.H., Chief Medical Officer, Glasgow School Board.
The Lady St Heliers, Alderman, London County Council.
Sir Amherst Selby-Bigge, Secretary, Board of Education.
Miss Siddon, Chairman, Huddersfield Board of Guardians.
E. Bertram Smith, M.B., B.S., D.P.H., Medical Officer of Health, North Essex United (Sanitary) Districts.

J. E. Smart, F.E.I.S., A.C.P., Bradford Education Committee, President, Bradford Branch National Union of Teachers, and Head Teachers' Association.

Miss Stansfeld, Inspector, Local Government Board.

James Stevens, Edmonton Canteen and Menu Committees; Secretary, Edmonton Teachers' Association.

Miss Barbara Tchaykowsky, M.D., Assistant Medical Officer, L.C.C., Secondary and Special Schools.

C. P. Trevelyan, M.P., Parliamentary Secretary, Board of Education.

Miss Agnes Turnbull, Principal, National Society's Training College, West Hampstead.

Miss Maud R. Taylor.

D. M. Taylor, M.A., M.D., D.P.H., School Medical Officer, Halifax.

S. B. Walsh, B.A., M.D., D.P.H., School Medical Officer, Gillingham, Kent.

Lieutenant-Colonel Warden.

Miss Margaret Wilks, Superintendent, Stirchley School for Mothers.

Ralph P. Williams, M.D., D.P.H., School Medical Officer, Sheffield.

PART II

DIETARIES AND OTHER EXHIBITS

An Acknowledgment.—Some acknowledgment is due to those Education Authorities, School Medical Officers, Heads of Institutions and others, who responded to the invitation of the Schools Committee, which desires here to tender its cordial thanks. It may be some satisfaction to them to know that in thus exposing their work and methods to the public gaze, they have rendered no small service to the community.

Theory and Practice.—Dietaries are so often admirable in theory but work out unsatisfactorily. In a note on last year's display,* the writer ventured to quote Dr Clement Dukes' remark that " it would be interesting to see an accurate daily record of the food supplied at every school throughout a term at several schools. Its publication would create an alteration in the question of monotony of food, which no argument could effect," and proceeded to suggest that a cursory glance at the contributions would suffice to show that the principal count in the indictment brought against the average school diet of to-day had been fully established. Manifest efforts after better things at the same time received cordial recognition. These remarks appear scarcely less applicable to the present collection, though it contains, as did that of last year, some notable exceptions. The neglect of oral hygiene, too, is conspicuous as on the last occasion and supplies ample warrant for the prominent position assigned to it here.

A Hopeful Outlook.—Such defects are, however, after all the well-nigh inevitable results of the existing system, which came in for so much adverse criticism. When these have been remedied a rapid raising of the standard of meals and their accompaniments, alike in schools and institutions, may be confidently predicted. In the task of ameliorating present conditions, the Schools Committee of the National Food Reform Association, which has already been permitted to render some slight services of this nature, will not be appealed to in vain.

N.B.—Dietaries illustrating papers read at the Conference will be found appended to these.†—Ed.

* *Our Children's Health at Home and at School*, pp. 270-1.—Ed.

† For London, see also p. 385.—Ed.

DISPLAY

CONTRIBUTIONS TO THE FOLLOWING ITEMS WERE INVITED

I. PUBLIC ELEMENTARY SCHOOLS.

i. Regulations made under the Education (Provision of Meals) Act, 1906, and the Education (Scotland) Act, 1908.

ii. Dietaries for a week, with indications of any variation:
   (*a*) Seasonal;
   (*b*) For Infants;
   (*c*) For Delicate Children.

iii. Rules for the conduct of the meal, including any to ensure adequate time being taken, and to check hasty eating.

iv. Instructions to caretakers and attendants.

II. INSTITUTIONS FOR CHILDREN AND ADOLESCENTS.

i. A week's specimen dietary, including beverages, with
   (*a*) Number of meals;
   (*b*) Hours of meals;
   (*c*) Time allowed for meals;
   (*d*) Number of inmates;
   (*e*) Range of ages;
   (*f*) Meals in relation to brain and manual work, games and exercises.

ii. Instructions to superintendents, housekeepers and cooks, with special reference to any precautions taken to ensure
   (*a*) Purity, condition and preservation of food;
   (*b*) A physiological or balanced dietary;
   (*c*) The maintenance of a hygienic state of the nose, mouth and teeth.

iii. Regulations involving practical instruction in personal hygiene, table manners and social amenities.

iv. Health records, with any notes and statistics.

III. PUBLIC ELEMENTARY SCHOOLS AND INSTITUTIONS.

Syllabus or outline of lessons in:
   (*a*) Elementary physiology and personal hygiene;
   (*b*) Food values;
   (*c*) Domestic catering;
   (*d*) Cookery.

CONTRIBUTIONS FROM EDUCATION AUTHORITIES AND OTHERS

CITY OF BRADFORD EDUCATION COMMITTEE

Exhibit of Food Cooked at Bradford Central Cooking Depot, as Supplied to the School Dining Rooms (Provision of Meals Act)

White bread, brown bread, currant bread: Supplied for breakfasts (white and brown bread for dinner also).

Plum cake, cocoanut cake, wholemeal cake: For second course of certain dinners (see menus).

Baked jam roll, currant pastry: Second course of dinner.

Cottage pie (meat and potato, with crust): First course of dinner.

Completed Menus

1. *Cottage Pie;* Green Peas; Stewed Fruit.
2. Potato and Onion Soup; *Plum (or Cocoanut) Cake.*
3. Scotch Barley Broth; *Currant Pastry.*
4. Stewed Beef and Gravy, Mashed Potatoes; *Baked Jam Roll.*
5. Potato and Onion Soup; *Wholemeal Cake.*

The dishes exhibited are printed in italics.

CITY OF BRADFORD EDUCATION COMMITTEE REGULATIONS FOR THE MANAGEMENT OF DINING ROOMS

1. A teacher, assisted by monitresses, to be appointed to apportion the food. The remainder of the staff to be as free as possible to supervise the behaviour, etc., of the children. The teacher in charge must remain in the dining-room until the meal is completely over and the tables cleared.

2. One monitress to be appointed to hand the food to every twelve children (but not to assist in apportioning it). The monitresses to be selected in turn from the elder girls attending the dining-room. Each monitress to serve for four weeks, or longer at the discretion of the teacher. The monitresses to have their dinner after the other children have finished.

3. The teachers and the monitresses to be at the dining-room as soon after 12 noon as possible. The monitresses, after putting on the aprons and sleeves provided for them, each to

set her own table for twelve with spoons and forks as required, and place a slice of bread for each child. Water to be given at the close of the meal by request, but on no account must more than one child use the same mug.

4. Each monitress to:
   (*a*) Wait on the children at her own table only.
   (*b*) After each course to scrape the bits from the plates into a pail and pack the plates direct into boxes; to collect the spoons and forks separately, and the mugs, and place all ready for return. (Only one of the food vessels should be used to receive the scrapings from the plates, so that any surplus food in the remaining vessels may be sent back to the depot in a fit condition to be used again.)
   (*c*) To sweep the tablecloths and carefully fold and put away the tablecloths, aprons and sleeves. (Children, other than monitresses, may be called upon, at the discretion of the teacher, to clear away while the monitresses are getting their dinner.)

NOTE.—It is essential that:

1. No food be served before the entry of the children.
2. Infants and small eaters be served at separate tables.
3. Plates be always used for cakes and pastry. Soup plates should be used for stewed fruit.
4. The children eat the first course before being allowed any second course. The first course be cleared away before the second course is served. No dirty plates or spoons be left on the table.
5. The children understand that food asked for as a second helping must be eaten.
6. The children come with clean hands and faces, and keep the tablecloth as clean as possible. Any cases of children coming dirty to the dining-room should be reported to the undersigned.
7. *All* aprons, cloths, sleeves, etc., be returned to the depot each Friday, the clean things, if any, being put at the top of the bag.

THOS. GARBUTT,
Secretary.

Education Office, Town Hall,
November, 1909.

LONDON COUNTY COUNCIL
EDUCATION (PROVISION OF MEALS) ACT, 1906
RULES TO BE OBSERVED IN CONNEXION WITH THE MANAGEMENT OF DINING CENTRES*

1. Boys and girls should be selected, preferably by the head teachers, to act as monitors to assist in the laying of the tables and the serving of the meals, and, if necessary, in the clearing of the tables. They should be appointed in the proportion of one to every twenty children. The monitors should have their meals after the other children have all been served.

2. The food should not, as a rule, be served before the children enter the centre.

3. As far as possible the food should be served in such proportions and in such a manner as to suit the ages and requirements of the children.

4. Grace should be said or sung before and after the meal.

5. Where two courses are allowed, the second should not be supplied until the first has been eaten. Clean plates must be used for each course.

6. Supervisors of dining centres are to refer cases of bad behaviour, etc., to the secretary of the Care Committee of the school at which the child attends, who shall, in the first instance, refer the matter to the head teacher, and in the event of continued misbehaviour, report the whole of the facts to the Children's Care (Central) Sub-Committee. A child should not be punished by being kept without food.

7. Supervisors of dining centres should endeavour to secure that the children partake of the meals with due regard to table manners.

R. Blair,
Education Officer.

Education Offices,
Victoria Embankment, W.C.
January, 1911.

* Other Rules are made by the Care Committees, and may vary in different districts. These local regulations are not printed.—Ed.

DERBYSHIRE EDUCATION COMMITTEE SUGGESTED LESSONS FOR BOYS ON PERSONAL HYGIENE AND HELPFULNESS IN THE HOME

Lessons on PERSONAL HYGIENE may be given to *all* Standards.

Lessons on HELPFULNESS IN THE HOME, Standards IV—VII.

The Lessons are taken from *Home Management*, published at 2s. 6d. by Messrs Chambers, Ltd, London and Edinburgh.

FROM PART I OF THE BOOK:

Cleanliness of body, hair, teeth, nails, boots and clothing.

General neatness; immense difference given to appearance by a clean collar; danger of celluloid ones. Use of a handkerchief.

Good manners in the home, the school, the street (boys allowed to read aloud Christmas in the poor but mannerly home of Bob Cratchit—Dickens' *Christmas Carol*).

Courtesy to women and girls—opening and shutting doors, gates, raising the cap, handing chairs.

Benefits of fresh air—bedroom at night especially.

Need for systematic exercise, good wholesome food, plenty of sleep. The daily lighting of the fire. The daily filling of coal scuttles, boxes, etc., and the chopping of sticks.

Manners of boys at meal-times—no company manners.

Simple lessons on food—wholesome breakfasts, dinners and teas for the working man and his family.

The actual making of porridge (work of scouts camping out, territorials, young men who emigrate and simply *have* to " fend " for themselves).

Preparing a plate of bread and butter (when mother is out or ill).

The making of a basin of bread and milk.

The making of a cup of cocoa.

The making of a cup of tea.

How to boil and poach an egg, and how to cook bacon.

How to cook a chop or steak.

Uses of clothing. Danger of flannelette practically demonstrated.

What to do should a child get on fire.

The proper cleaning of knives (quite commonly done by the schoolboys in working-class homes).

The cleaning of spoons and forks.

How a boy may scrub a floor for an ailing mother.

The care of plants.

The making of one's own bed (scouts, etc., again).

PART II OF THE BOOK:

Lessons on the choice of a house and its simple, artistic furnishing. The refining influence of a well-kept garden and tastefully arranged window boxes—how the latter may be made by boys.

Choice of wallpapers—advantage of distempered walls.

How to paper a room (the actual papering of the inside of a large box or packing-case).

How to make whitewash, and how to apply it.

Choice of floor-covering.

Choice of pictures.

Evils of hire-system.

Furnishing the living-room—how a recess bookcase may be made by clever boys; also the making of pretty brackets, mantel-boards, etc.

Furnishing of bedroom—how to make a packing-case into a dressing-table ready for the women of the home to " drape." The making, similarly, of a home-made wardrobe.

The re-enamelling of a bath.

Refinements of home, and how much this depends on boys.

Need for providing for a " rainy day "; savings banks at school and elsewhere. Marketing for home, especially choice of meat (the weekly joint).

How boys may help to economize in the home (coal, gas, carpets, clothing).

Spring Cleaning:

How boys may legitimately (without losing any manliness) help—carpet-beating and relaying; taking down, examining cords, and replacing pictures; taking apart and putting together bedsteads; whitewashing, papering, or distempering walls and ceilings; cleaning-out cistern (tying up the ball), etc.

Clothing:

Economical clothing for boys—its care; how to remove stains and a " shiny " look; care of boots and shoes; the putting

on of buttons and the darning of socks (a most necessary accomplishment for young men living away from home and womenfolk).

Treatment (all practical) of simple common ailments:

Headache and neuralgia.
Earache.
Toothache (also preventive measures).
Colds, coughs, sore throats.
Cuts and bruises.
Burns and scalds.
Clothing catching fire.
Chilblains.
Chapped hands.
Fainting.
Corns and warts.
Sore eyes.
Sore heads (also preventive measures).

From Part III of the Book (Elder Boys):

How a boy may best "mind" his little brother.

Treatment of measles; wickedness of purposely exposing children to infection so as "to get it over"; immense care necessary in convalescence.

Adenoids—what they are; how caused; how removed.

Treatment of mumps.

Foreign bodies in eyes, ears, nose and throat.

What a Boy may do for an Invalid Mother:

1. Make and serve tea in a dainty way on a bed-table made by himself.
2. Give her medicine (care necessary).

Other Valuable Lessons:

The making of a bread and linseed poultice—how to apply, and when. The use and application of fomentations.

Remedies that should be kept handy, properly labelled, in every home. A home-made first-aid case or medicine chest.

Simple account of Consumption. A preventable and highly infectious disease. "Open-air" treatment—life in a sanatorium; need for *all* schools to be "open-air schools"; the groundless fear of draughts. *How poor people may best fight the disease in their own homes.*

Evils of smoking for boys under 21 years of age.
Evils of gambling (extra lesson, not in the book).
Evils of over-indulgence in alcohol.

Concluding Lessons:

Necessity for employing well the years of adolescence—the glorious opportunities given by evening schools.

The benefits of joining debating societies and singing classes; the extreme folly of wasting evenings in parading the streets, frequenting music halls, sensational cinematograph shows, etc.

The need for *solid* reading; the desirability of joining the children's branch of a Public Library *before* leaving school; guidance in the choice of suitable books. Self-improvement every boy's duty, as are also good citizenship and true patriotism.

The great and crying need for putting one's whole heart into one's work, not everlastingly looking at the clock and putting on one's hat and coat the moment it strikes "leaving time"; the need for independence, for making one's *own* way in the world; for honest and upright dealings with all classes of the community.

WILENA HITCHING,
Organizer and Inspector of Home Management and Needlework in Elementary Schools.

November, 1912.

LONDON COUNTY COUNCIL
SCHEME OF WORK
COOKERY

EXTRACT from memorandum relative to Schools of Domestic Economy for girls over 14 years of age, who are exempt from attendance at Elementary Schools (September, 1908):

The principles and processes of plain cookery taught are to be those concerning:

(1) Stock and plain soups—Thickened soups and broths, and sieved soups.
(2) Rendering fat and clarifying dripping.
(3) Cooking and choosing meat and fish—Roasting, baking, boiling, stewing, frying in deep and shallow fat, steaming, broiling and grilling.
(4) Re-cooking meats, etc.—Potted meats, hashes, minces, croquettes, etc.
(5) Economical dishes and substitutes for meat—Peas, beans, lentils and cheaply made dishes.

(6) Vegetables—Baking, boiling, steaming, crisping and frying potatoes; cooking other tubers, root and green vegetables.

(7) Sauces—Melted butter, white, brown, custard, mint, arrowroot, horse-radish and jam sauces.

(8) Pastry—Short, flaky, suet.

(9) Bread and cake making—White bread, brown or whole-meal bread, teacakes and buns; use of yeast and baking powder; cakes with shortening rubbed in, creamed and beaten.

(10) Puddings—Milk, custard, suet and batter puddings; cake-like and bread puddings; omelettes, pancakes and fritters; cheap sweets, such as junket, blancmange, stewed fruit, etc.

(11) Cookery for invalids and young children—Beef-tea* and broths, egg and milk dishes, simple jellies, cooling drinks, gruel, etc.

(12) Beverages—Tea, coffee, cocoa, lemonade, barley water, etc.

(13) Extras—Baking powder, brown crumbs, caramel, making jam, marmalade and other suitable preparations.

Pupils are taught to plan and prepare inexpensive meals of various kinds at a given cost per head, purchasing the materials themselves in rotation (when possible); they are expected to work independently, and, as far as possible, to use their own judgment in their work, in accordance with a stated weekly income.

The instruction given must include lessons on:

Foods—The regulation of diet, under different typical conditions and modes of life, for adults, invalids and children. The use of fresh, preserved and salted food, with methods of preservation.

The names of the different joints, fish and fowl, with their average prices.

The organization of general routine and scullery work; the destruction of refuse.

Proper proportions for various typical dishes are taught, but the learning or copying of recipes is not to be encouraged.

LONDON COUNTY COUNCIL.

A BOOK of attractively prepared and instructive Photographs illustrating the teaching of Domestic Economy under the London County Council was, by kind permission of the Chairman of the Education Committee and of the Education Officer, also exhibited. Four of the number have, by permission of the Clerk of the County Council, been reproduced here.

* There can be no doubt that mistaken ideas as to the nutritive value of beef-tea are still very prevalent, especially among the laity, in spite of all that has been written on the subject. Fothergill, in language, which is perhaps somewhat exaggerated, says on this subject: All the bloodshed caused by the warlike ambition of Napoleon is as nothing compared to the myriads of persons, who have sunk into their graves from a misplaced confidence in the food value of beef-tea. Jessop calculates that 5·2 tons of beef are used in Metropolitan Charitable Institutions for making beef-tea every week and that of this two-thirds are really wasted. Much of this waste can be prevented by adding to the beef-tea the exhausted fibre of the meat, care being first taken to reduce it to a state of fine division.—*Food and Dietetics*, Hutchison, 3rd ed., p. 106.—Ed.



MARKETING

Shoreditch L.C.C. Technical Institute, Domestic Economy School.

To face p. 273

LONDON COUNTY COUNCIL
SHOREDITCH TECHNICAL INSTITUTE

An interesting group of photographs was lent by Miss Plowwright, Lady Superintendent of the L.C.C. Technical Institute at Shoreditch, showing in a graphic way the intention and method of the work done in the Council's Domestic Economy Schools, not only there, but throughout London.

Several schools of this kind, for girls between 14 and 15 years of age, were founded by the Council in 1894 for the purpose of training such girls, not for domestic service or for any special industry, but as home-makers. The course lasts for about forty weeks, a full school year, " whole time."

The pictures show the girls busy cooking, laundering, cleaning and sewing; one girl is seen taking her turn at bearing the responsibility of being " housekeeper," arranging and organizing the housework, marketing and catering; three girls are returning from marketing, and two others are testing the quantity and quality of their purchases at the kitchen table.

Practical lessons are given in controlling income and expenditure under stated circumstances and conditions, and an effort is made to encourage a desire for beauty, simplicity and fitness in home surroundings and ways. The girls are trained to think definitely about the matter of home-making, to experiment, observe and discuss, and also to improvise to meet untoward circumstances if the need arise, and generally to make the best of things as they are, to find their joy of life in that effort and occupation, and so raise their standard of life and widen its possibilities.

NEWPORT, ESSEX, HEALTH CENTRE

(*President and Founder:* Lady Meyer)

EXAMPLES OF MENUS, WITH DETAILS OF THE COST

Number of children—45.
Cost per head—1d.

WINTER.

First Day.—German Lentil Stew with Dumplings, Standard Bread: Lentils, 1s.; Vegetables, 6d.; Flour, 6d.; Suet, 1s.; Bread, 5½d.; Salt, etc., ½d.; total, 3s. 6d.

Second Day.—Pea Soup, Rice Pudding, Cabin Biscuits: Peas, 8d.; Vegetables, 6d.; Rice, 5d.; Milk, 8d.; Fat, 8d.; Sugar, 2d.; Biscuits, 5d.; total, 3s. 6d.

THIRD DAY.—Bean Pies, Wheatmeal Bread: Beans, 9d.; Tapioca, 4½d.; Onions, 2d.; Flour, 6d.; Fat, 1s. 3d.; Bread, 5½d.; total, 3s. 6d.

FOURTH DAY.—Meat and Barley Soup, Baked Jam Roly: Meat, 1s.; barley, 3d.; Vegetables, 4d.; Flour, 4½d.; Suet, 1s. 1d.; Jam, 6d.; total, 3s. 6½d.

FIFTH DAY.—Baked Potatoes, Dripping on Wheatmeal Bread, Currant Pudding: Potatoes, 1s.; Dripping, 9d.; Flour, 6d.; Currants, 6d.; Sugar, 2½d.; Bread, 5½d.; Baking Powder, 1d.; total, 3s. 6d.

SUMMER.

FIRST DAY.—Lentil and Rice Pies, Standard Bread: Lentils, 10½d.; Rice, 3d.; Onions, 2d.; Flour, 6d.; Fat, 1s. 3d.; Bread, 5½d.; total, 3s. 6d.

SECOND DAY.—Milk Pudding, Stewed Fruit, Wheatmeal Bread with Margarine: Macaroni or Tapioca, 9d.; Skim Milk, 1s.; Fat, 8d.; Bread, 5½d.; Fruit, 8d.; total, 3s. 6½d.

THIRD DAY.—Lettuce, Hard-Boiled Egg, Brown Bread, Jam Roly: Eggs, 10d.; Lettuce, 3d.; Bread, 5½d.; Margarine, 4½d.; Flour, 4½d.; Suet, 1s. 1d.; Jam, 4½d.; total, 3s. 9d.

FOURTH DAY.—Savoury Rice, Cabin Biscuits: Rice, 6d.; Lentils, 8d.; Onions, 2d.; Cheese, 3d.; Dripping, 6d.; Biscuits, 8d.; Milk, 8d.; total, 3s. 5d.

FIFTH DAY.—Cheese and Potato Pie, Stewed or Raw Fruit: Cheese, 1s. 3d.; Potatoes, 6d.; Dripping, 6d.; Bread, 5½d.; Fruit, 9d.; total, 3s. 5½d.

NOTES.

DUMPLINGS AND PASTRY are made with one-third Wheatmeal, two-thirds White Flour.

FAT: Palmine Butter, Margarine, Suet or Dripping.

NONE OF THE BREAD is eaten new.

ALL THE SOUPS ARE THICK.

PORTSMOUTH EDUCATION COMMITTEE (ELEMENTARY EDUCATION) PROVISION OF MEALS

LIST of menus for the summer months, to commence on Monday, June 23, 1913.

FIRST WEEK

MONDAY.—Rice Pudding, Stewed Fruit and Bread and Butter or Wholemeal Cake.

TUESDAY.—Irish Stew.

WEDNESDAY.—Green Peas with Gravy, and Apple Batter.

THURSDAY.—Meat Turnover and Stewed Fruit.

FRIDAY.—Vegetable Soup and Currant Pudding.

SECOND WEEK

MONDAY.—Haricot Beans (with Butter Melted), and Cornflour (or Ground Rice) and Jam.

TUESDAY.—Shepherd's Pie and Gravy.

WEDNESDAY.—Vegetable Soup, Stewed Fruit and Custard.

THURSDAY.—Meat Pie and Gravy.

FRIDAY.—Plain Suet Pudding with Gravy, and Stewed Fruit.

List of menus adopted for the winter months—November 25, 1912.

First Week

Monday.—Pea Soup and Rice Pudding.
Tuesday.—Irish Stew and Dumplings.
Wednesday.—Meat Batter, Potatoes and Gravy.
Thursday.—Vegetable Soup and Treacle Pudding.
Friday.—Shepherd's Pie, Haricot Beans and Gravy.

Second Week

Monday.—Pea Soup and Jam Roll.
Tuesday.—Irish Stew and Dumplings.
Wednesday.—Meat Pudding and Potatoes.
Thursday.—Hashed Beef, Rice Pudding.
Friday.—Haricot Soup and Currant Pudding.

Third Week

Monday.—Pea Soup and Rice Pudding.
Tuesday.—Irish Stew and Dumplings.
Wednesday.—Meat Pie and Potatoes.
Thursday.—Haricot Soup and Fig Roll.
Friday.—Shepherd's Pie with Green Peas and Gravy.
N.B.—Sufficient Bread to be supplied each day.

CITY OF SHEFFIELD EDUCATION COMMITTEE

WHITELEY WOOD OPEN AIR RECOVERY SCHOOL MENU

BREAKFASTS

Daily.—Porridge with Treacle or Sugar and ½ pt Milk (boiled), Rusks.

DINNERS

Monday.—Lentil Soup and Bread, Baked Bread Pudding.
Tuesday.—Suet Dumplings with Gravy, Irish Stew with Vegetables.
Wednesday.—Potato and Cheese Pie, Baked Suet Fruit Puddings (Fresh or Dried Fruit).
Thursday.—Haricot Beans and Brown Gravy, Fruit or Jam Pasties.
Friday.—Boiled Fish and Parsley Sauce, Potatoes in Jackets, Yorkshire Fruit Pudding (Fresh or Dried Fruit).

TEAS

Daily.—Half a pint of Milk (boiled), Bread with Jam, Dripping or Margarine, followed by Rusks. Plain Cake once a week.

This dietary works out at 2s. 6d. per head per week of five days.

SPECIAL SCHOOLS FOR MENTALLY AND PHYSICALLY DEFECTIVE CHILDREN

MENU FOR MIDDAY MEALS

MONDAY.—Bread and Cheese and Lettuce, Bread and Jam.
TUESDAY.—Lentil or Pea Soup, Milk Pudding.
WEDNESDAY.—Egg and Bread with Lettuce, Cornflower Mould and Stewed Rhubarb.
THURSDAY.—Bread and Dripping, Milk Pudding.
FRIDAY.—Potatoes in Skins and Gravy, Bread Pudding.

ALTERNATIVE MENU

MONDAY.—Boiled Rice or Sago with Fruit, Bread and Dripping.
TUESDAY.—Meat and Potato Stew, Bread and Jam.
WEDNESDAY.—Rice Pudding, Potatoes in Jackets with Dripping.
THURSDAY.—Hash or Stew, Bread and Jam.
FRIDAY.—Potato and Cheese Pie, Bread Pudding.

ALTERNATIVE MENU

MONDAY.—Milk Soup, Bread and Jam.
TUESDAY.—Beans and Potatoes, Rice Pudding.
WEDNESDAY.—Irish Stew, Bread Pudding.
THURSDAY.—Fish and Potato Pie, Suet Pudding.
FRIDAY.—Cheese Pie, Bread and Jam.

The above meals cost 1d. per head.

These menus were all drawn up by Miss M. S. V. Palmer, Superintendent of Domestic Subjects.

FREE BREAKFASTS FOR NECESSITOUS CHILDREN

Alternate meals of:

1. Porridge and one-third of a pint of milk (boiled); bread and dripping.
2. Bread and milk (half-pint).

Leaflet given to mothers of children attending the School Clinic:

SUITABLE FOODS FOR SCHOOL CHILDREN

BREAKFAST.—*Porridge (well cooked) and boiled milk;* bread and milk; bacon fat; whole meal bread; butter; beef dripping or margarine; lightly boiled or scrambled eggs; ripe or cooked fruit (stewed rhubarb, figs, apples, bananas).

DINNERS.—Mutton broth or sheep's head broth; lentil, pea, or haricot soup; *steamed* mutton, white fish (whiting, ling

hake, etc.); *stewed* mutton, tripe, or rabbit, with vegetables (peas, beans, lentils, carrots and turnips); mashed potato or peas and beans with red gravy; potato and cheese pudding; fish and potatoes; herrings; Yorkshire pudding; seconds or whole meal bread soaked in bacon fat; milk puddings (rice, tapioca, sago, rolled oats); well-cooked suet puddings.

Drink: Lemonade; cold fresh water.

TEA.—Boiled milk (sweetened); seconds bread with butter, jam, margarine, or treacle; very plain cake or sponge cake; parkin.

N.B.—1. Good milk puddings can be made of *skim* milk if a little chopped suet or some margarine be added.

2. Children should not be allowed to eat between meals.

3. Steamed or stewed food is much more nourishing and digestible than fried or boiled food. Greasy food is very indigestible.

4. Children should always be made to eat slowly and to bite their food well.

UNSUITABLE FOODS FOR SCHOOL CHILDREN

Tea, coffee, beer, spirits, ginger-beer; fried eggs; pastry; unripe or over-ripe fruit; fried fish and chips; shell fish; fried meat; pickles or pickled food; sausages, polonies, etc.; pork, pork pies, or other pies; rich cake; ices.

RALPH P. WILLIAMS,
School Medical Officer.

The following exhibits from the Public Health Museum, Sheffield, were also shown, by kind permission of Dr Ralph Williams, School Medical Officer:

A chart showing average weights on specified dates of forty children at the Open Air Recovery School who had attended throughout the period during which the School was open.

Framed cartoon, prepared by an artist, of suitable and unsuitable foods for children, to illustrate the leaflet given above.

YORK HEALTH AND HOUSING REFORM ASSOCIATION CHARTS

"How to Spend a Shilling on Food to the Best Advantage," 1d.

"How to Feed a Family of Five on 12s. 9d. a week," 1½d.

CONTRIBUTIONS RELATING TO INSTITUTIONS

T.S. "CORNWALL" DIETARY SCALE

Hours of meals: 7, 1, 5, and 8 o'clock.

SUNDAY

BREAKFAST.—Cocoa, Milk and Sugar (1 pt), Bread (7 oz.).
DINNER.—Beef (6 oz.), Suet Pudding (8 oz.), Potatoes (8 oz.), Cabbages (8 oz.), Biscuit (3 oz.).
TEA.—Tea, Milk and Sugar (1 pt), Bread (7 oz.), Margarine (½ oz.).
SUPPER.—4 oz. of Biscuits per boy.

MONDAY

BREAKFAST.—Cocoa, Milk and Sugar (1 pt), Bread (7 oz.).
DINNER.—Irish Stew (1½ pts), Rice (2 oz.), Biscuits (3 oz.).
TEA.—Tea, Milk and Sugar (1 pt), Bread (7 oz.), Margarine (½ oz.).
SUPPER.—Same as Sunday.

TUESDAY

BREAKFAST.—Porridge, Milk and Sugar (1 pt). Bread (7 oz.).
DINNER.—Pea Soup (1 pt.), Fish (8 oz.), Potatoes (8 oz.), Biscuits (3 oz.).
TEA.—Cocoa, Milk and Sugar (1 pt), Bread (7 oz.), Jam (1½ oz.).
SUPPER.—Same as Sunday.

WEDNESDAY

BREAKFAST.—Cocoa, Milk and Sugar (1 pt), Bread (7 oz.).
DINNER.—Fresh Meat (6 oz.), Potatoes (8 oz.), Rice (3 oz.), Biscuits (3 oz.).
TEA.—Tea, Milk and Sugar (1 pt.), Bread (7 oz.), Margarine (½ oz.).
SUPPER.—Same as Sunday.

THURSDAY

BREAKFAST.—Porridge, Milk and Sugar (1 pt). Bread (7 oz.).
DINNER.—Pea Soup (1 pt), Fish (8 oz.), Potatoes (8 oz.), Biscuits (3 oz.).
TEA.—Cocoa, Milk and Sugar (1 pt), Bread (7 oz.), Jam (1½ oz.).
SUPPER.—Same as Sunday.

FRIDAY

BREAKFAST.—Cocoa, Milk and Sugar (1 pt). Bread (7 oz.).
DINNER.—Fresh Meat (6 oz.), Cabbage (8 oz.), Suet Pudding (8 oz.), Biscuits (3 oz.).
TEA.—Tea, Milk and Sugar (1 pt), Bread (7 oz.), Margarine (½ oz.).
SUPPER.—Same as Sunday.

SATURDAY

BREAKFAST.—Porridge, Milk and Sugar (1 pt), Bread (7 oz.).
DINNER.—Irish Stew (1½ pts), Rice (2 oz.), Biscuits (3 oz.).
TEA.—Cocoa, Milk and Sugar (1 pt), Bread (7 oz.), Dripping (½ oz.).
SUPPER.—Same as Sunday.

Pea Soup: 60 lb. peas and 20 lb. Fresh Vegetables.

Irish Stew: 60 lb. flour, 60 lb. Mutton, and 15 lb. Vegetables.

2 lb. Tea and 4 gals. milk and sugar for Tea.

3½ lb. Cocoa and 4 gals. milk and sugar for Cocoa.

French Beans and Vegetable Marrows in addition, when in season, about twice a week.

H. W. STEELE, Captain R.N.,
Superintendent.

COVENTRY GIRLS' INDUSTRIAL SCHOOL

A Remarkable Experiment

The appended letter was addressed by Miss S. Goulding, Superintendent of the Coventry Industrial School and Home for Girls (Certified), to Mr I. Ellis, Hon. Secretary, Social Union of Workers Connected with Certified Schools, and is given here by permission:—Ed.

"I enclose copy of our non-flesh dietary,* which has been in use for over six years.

"As regards tests in weight and growth, I have no opportunity of comparison with other schools, but I know for a fact that since adopting this particular diet our girls as they grow up are much more fit, with greater muscular power, increased vitality and greater powers of resistance than formerly. They have good complexions, and no surplus fat. Colds, coughs and chilblains are rare (we had two chilblains last winter, both cases new children), small ailments generally are almost *nil*, and I find the girls make a good and quick recovery from more serious ailments.

"I may add that the powers that be (Medical Officer and Managers) were all against the adoption of this dietary; but, like Daniel of old, I have triumphed, the results being closely watched by antagonistic eyes for years.

"I have most carefully noted results *re* girls going out to service, who are, of course, obliged to adopt the ordinary servants' diet, and have found no ill-effects.

"The cost averages 2s. 6d. per head weekly, but is decidedly more troublesome to the kitchen deities.

"I hope to be present at the Conference."

The following further letter was sent by Miss Goulding to the Secretary in response to a request for explanations:

"I should like to explain that peanuts form part of every day's dinner.

"The week's dinners given in full are served all the year round, with an occasional alternative dinner by way of change. The great difference in the summer dietary is that the children are provided with plenty of fresh fruit or salad every day.

* For an account of a similar experiment in a boys' school (secondary), see *Our Children's Health at Home and at School*, pp. 261-6.—Ed.

"This particular dietary was compiled by the late Albert Broadbent, of Manchester, and every single item was prepared under his personal supervision and tested by him. I believe ours is the only school under the Home Office adopting a non-flesh diet.

"I had no idea that Mr Ellis intended forwarding my diet sheet for exhibition, or I should have presented it in better form."

Daily Food Allowances Based on Professor Atwater's Analysis and his Standard of Allowance of Calories and Protein Daily

74 (about) grams Protein each person daily.
2,060 (about) grams Calories each person daily.
The mineral constituents are supplied by:
Finely-ground wheatmeal bread.
Unpearled barley.
Lentils.
Beans.
Green stuff.
Fruit.

Brown or "Standard" Bread alone is supplied to the children, and nut butter.*

Hours of meals: 8, 1, and 6 o'clock.

Each girl has a glass of cold water on rising, another at 11, and again at 3.

DIET (NON-FLESH) SHEET

SUNDAY

Breakfast.—Porridge (Oatmeal 3 oz., Milk ½ pt), Bread (4 oz.), Syrup (1 oz.).
Dinner.—Roasted Peanuts (1 oz.), Rice and Minced Eggs (Rice 1 oz., Egg 1), Milk Sauce, Bread (4 oz.).
Alternative Dinner.—Rice and Lentil Savoury, or Rice and Grated Peanuts.
Tea.—Bread (4 oz.), Butter (1 oz.), Salad in season, Raisin Turnover (2 oz.), Coffee and Milk (½ pt.).

* "Nut Butter" and "Nuttoline" contain protein as well as fat, and are therefore to be compared to cream rather than to ordinary butter, *Food and Dietetics*, Hutchison, 3rd ed., p. 260. Regarding some of the various "substitutes for ordinary butter" in the kitchen, the same writer (*ibid.*) says: "There is every reason to believe that these are equal in nutritive value to ordinary butter, whilst they are decidedly more economical." Cf. also N.F.R.A. Booklet No. 2, note 3.—Ed.

MONDAY

BREAKFAST.—Porridge, Bread and Milk (same as Sunday), Dates (2 oz.), Cocoanut (dessicated) (½ oz.).

DINNER.—Roasted Peanuts (1 oz.), Lentil Soup (Lentils 1½ oz. Barley ½ oz., Vegetables), Bread (4 oz.).

ALTERNATIVE DINNER.—Roasted Peanuts, Lentil Savoury, Potatoes, Bread.

TEA.—Bread (6 oz.), Butter (1 oz.), Stewed Figs (2 oz.), Cocoa and Milk (½ pt).

TUESDAY

BREAKFAST.—Same as Sunday.

DINNER.—Roasted Peanuts (1 oz.), Haricot Stew (Haricots 1½ oz., Barley ½ oz., Vegetables), Bread (4 oz.).

ALTERNATIVE DINNER.—Roasted Peanuts, Hot Pot (Potatoes, Onions, Tomatoes and Herbs), Bread, Rice Pudding.

TEA.—Bread (6 oz.), Butter (1 oz.), Ginger Cake (2 oz.), Coffee and Milk (½ pt).

WEDNESDAY

BREAKFAST.—Same as Monday.

DINNER.—Roasted Peanuts (1 oz.), Macaroni Cheese (Macaroni 1⅓ oz., Cheese 1 oz.), Milk Sauce, Bread (4 oz.).

ALTERNATIVE DINNER.—Roasted Peanuts, Pease-pudding, Bread.

TEA.—Bread (4 oz.), Butter (1 oz.), Oatcake (3 oz.), Jam (1 oz.), Cocoa and Milk (½ pt).

THURSDAY

BREAKFAST.—Same as Sunday.

DINNER.—Roasted Peanuts (1 oz.), Vegetable Stew (Peas 1½ oz., Barley ½ oz., Vegetables), Bread (4 oz.).

ALTERNATIVE DINNER.—Roasted Peanuts, Vegetable Pie (Vegetables in season, with Wholemeal Crust), Bread.

TEA.—Bread (4 oz.), Butter (1 oz.), Potted Haricots (1 oz.), Stewed Raisins (2 oz.), Coffee and Milk (½ pt).

FRIDAY

BREAKFAST.—Same as Monday.

DINNER.—Roasted Peanuts (1 oz.), Raisin or Fig Pudding or Jam or Treacle Roly Poly (6 oz.), Bread (2 oz.), Cheese (½ oz.).

ALTERNATIVE DINNER.—Roasted Peanuts, Rice Pudding or Stewed Fruit and Bread and Cheese.

TEA.—Bread (4 oz.), Butter (1 oz.), Cake, Ginger or Cocoanut (2 oz.), Stewed Prunes (2 oz.), Cocoa and Milk (½ pt).

SATURDAY

BREAKFAST.—Same as Sunday.

DINNER.—Roasted Peanuts (1 oz.), Braised Haricots (Haricots 2 oz., Butter ½ oz.), Bread (4 oz.).

ALTERNATIVE DINNER.—Roasted Peanuts, Green Pea Stew, Potatoes, Bread.

TEA.—Bread (4 oz.), Butter (1 oz.), Cheese (½ oz.), Date Cake (2 oz.), Tea and Milk (½ pt).

The children are supplied with abundance of fresh fruit regularly three times a week, and salad in season four times weekly.

Each child is allowed one pint of milk per day (exclusive of puddings and sauce). Delicate children and children under eight years of age one pint extra daily.

Roasted peanuts are served before every dinner.

THE LIVERPOOL SHELTERING HOMES, MYRTLE STREET, LIVERPOOL

Hours of meals: 7.30, 12, and 5 o'clock.

SUNDAY.

BREAKFAST.—Bread and Butter, Cocoa.
DINNER.—Roast Beef, Potatoes, Greens or other Vegetable, Rice Pudding.
TEA.—Bread and Butter, Currant Bread, Tea.

MONDAY.

BREAKFAST.—Bread and Milk.
DINNER.—Pea Soup (elder ones, Cold Meat and Bread), Jam Roll Pudding.
TEA.—Bread and Dripping, Cocoa.

TUESDAY.

BREAKFAST.—Porridge with Milk and Sugar.
DINNER.—Irish Stew or Hot Pot and Bread.
TEA.—Bread and Syrup, Cocoa, Bread Pudding with Currants.

WEDNESDAY.

BREAKFAST.—Bread and Dripping, Cocoa.
DINNER.—Boiled Beef, Pease-Pudding.
TEA.—Bread and Butter, Tea or Cocoa.

THURSDAY.

BREAKFAST.—Bread and Milk.
DINNER.—Soup with Vegetables (elder ones, Meat and Bread).
TEA.—Bread and Jam, Cocoa.

FRIDAY.

BREAKFAST.—Porridge with Milk and Sugar.
DINNER.—Hashed Meat or Minced Beef, Boiled Rice.
TEA.—Bread and Butter or Stewed Fruit, Cocoa.

SATURDAY.

BREAKFAST.—Bread and Syrup, Cocoa.
DINNER.—Beans and Bacon, Rice Pudding.
TEA.—Bread and Dripping, Cocoa.

Children over 13 get meat every day and supper at 8 p.m.: Milk and Bread and Butter or Biscuits.

All children below par get Cod-Liver Oil and Parrish's Food.

Delicate children get Milk at 11 a.m., and in some cases an Egg for tea.

QUANTITY.—No limit; a reasonable helping is given each child, and they may have a second helping if they wish.

Two ladies (boys' and girls' attendants) are present at meal-times to serve the children and watch their manners.

(MRS) L. BIRT.

LONDON COUNTY COUNCIL RESIDENTIAL SCHOOLS

In reply to your question with regard to the dietaries in force at the Council's residential schools, I have to state as follows:

(1) The Council has three residential industrial schools for boys: three for girls, and two for young boys under eight years of age. At these Institutions a Dietary Table approved by the Council and the Home Office has been adopted, a copy of which is attached hereto.

(2) The Council has three places of detention in which children are lodged while under remand from the Juvenile Courts. The above-mentioned dietary table is in use at these institutions.

(3) The Council has one Day Industrial School for boys and girls at which the children partake of three meals a day. A copy of the approved dietary table is appended.

(4) The Council has also six other residential special schools, two of which are for blind children, three for deaf children, and one for mentally defective boys. No fixed dietary scale has been laid down for these institutions, but a dietary table has been approved by the Managing Committee of each school, which is subject to a certain amount of variation at the discretion of the Superintendent.

B. M. Allen,
Deputy Education Officer.

August 1, 1913.

LONDON COUNTY COUNCIL
EDUCATION OFFICER'S DEPARTMENT
RESIDENTIAL INDUSTRIAL SCHOOLS

DIETARY TABLE FOR ELDER CHILDREN (OVER 8)

WEEK A—SUNDAY

One Biscuit.

Breakfast.—Cocoa (¾ pt), Margarine (½ oz.), Bread (7 oz.).

Dinner.—Beef or Mutton (4½ oz.), Stewed Fruit (5 oz.), Potatoes (6 oz.), Bread (3 oz.).

Tea.—Tea or Coffee (½ pt), Margarine or Dripping (¼ oz.), Bread (4 oz.), Cake (4 oz.)

Supper or Lunch.*—Bread (2 oz.), Margarine (⅛ oz.).

MONDAY

One Biscuit.
BREAKFAST.—Bread (4 oz.), Porridge (½ pt), Milk (½ pt).
DINNER.—Beef or Mutton (4½ oz.), Pudding (Jam, etc., Milk, Suet) (4 oz.), Potatoes (4 oz.), Vegetables (6 oz.), Bread (2 oz.).
TEA.—Cocoa (½ pt), Margarine or Dripping (½ oz.), Bread (6 oz.).
SUPPER OR LUNCH.—As on Sunday.

TUESDAY

One Biscuit.
BREAKFAST.—Cocoa (¾ pt), Bread (7 oz.), Jam or Syrup (1½ oz.).
DINNER.—Soup or Irish Stew (1 pt), Bread (3 oz.), Cheese (1 oz.).
TEA.—Tea or Coffee (½ pt), Margarine or Dripping (½ oz.), Bread (6 oz.).
SUPPER OR LUNCH.*—As on Sunday.

WEDNESDAY

One Biscuit.
BREAKFAST.—As on Monday.
DINNER.—As on Monday.
TEA.—As on Monday.
SUPPER OR LUNCH.*—As on Sunday.

THURSDAY

One Biscuit.
BREAKFAST.—As on Sunday.
DINNER.—Cornish Pie (12 oz.), Vegetables (6 oz.), Bread (2 oz.).
TEA.—As on Tuesday.
SUPPER OR LUNCH.*—As on Sunday.

FRIDAY

One Biscuit.
BREAKFAST.—As on Monday.
DINNER.—Fish (8 oz.), Pudding (Jam, etc., Milk, Suet) (4 oz.), Potatoes (6 oz.), Bread (2 oz.).
TEA.—As on Monday.
SUPPER OR LUNCH.*—As on Sunday.*

SATURDAY

One Biscuit.
BREAKFAST.—As on Tuesday.
DINNER.—Cold Meat (4 oz.), Potatoes (6 oz.), Bread (3 oz.), Cheese (1 oz.).
TEA.—As on Tuesday.
SUPPER OR LUNCH.—As on Sunday.

WEEK B—SUNDAY

One Biscuit.
BREAKFAST.—As on Sunday, Week A.
DINNER.—As on Sunday, Week A.
TEA.—As on Sunday, Week A.
SUPPER OR LUNCH.*—As before.

MONDAY

One Biscuit.
Breakfast.—As on Monday, Week A.
Dinner.—As on Monday, Week A.
Tea.—As on Monday, Week A.
Supper or Lunch.*—As before.

TUESDAY

One Biscuit.
Breakfast.—As on Tuesday, Week A.
Dinner.—As on Tuesday, Week A.
Tea.—As on Tuesday, Week A.
Supper or Lunch.*—As before.

WEDNESDAY

One Biscuit.
Breakfast.—As on Wednesday, Week A.
Dinner.—As on Wednesday, Week A.
Tea.—As on Wednesday, Week A.
Supper or Lunch.*—As before.

THURSDAY

One Biscuit.
Breakfast.—As on Thursday, Week A.
Dinner.—Stewed Meat and Rice (8 oz.), Vegetables (6 oz.), Bread (2 oz.).
Tea.—As on Thursday, Week A.
Supper or Lunch.*—As before.

FRIDAY

One Biscuit.
Breakfast.—As on Friday, Week A.
Dinner.—As on Friday, Week A.
Tea.—As on Friday, Week A.
Supper or Lunch.*—As before.

SATURDAY

One Biscuit.
Breakfast.—As on Saturday, Week A.
Dinner.—Corned Beef (4 oz.), Potatoes (6 oz.), Bread (3 oz.), Cheese (1 oz.).
Tea.—As on Saturday, Week A.
Supper or Lunch.*—As before.

WEEK C—SUNDAY

One Biscuit.
Breakfast.—As on Sunday, Week A.
Dinner.—As on Sunday, Week A.
Tea.—As on Sunday, Week A.
Supper or Lunch.*—As before.

MONDAY

One Biscuit.
BREAKFAST.—As on Monday, Week A.
DINNER.—As on Monday, Week A.
TEA.—As on Monday, Week A.
SUPPER OR LUNCH.*—As before.

TUESDAY

One Biscuit.
BREAKFAST.—As on Tuesday, Week A.
DINNER.—As on Tuesday, Week A.
TEA.—As on Tuesday, Week A.
SUPPER OR LUNCH.*—As before.

WEDNESDAY

One Biscuit.
BREAKFAST.—As on Wednesday, Week A.
DINNER.—As on Wednesday, Week A.
TEA.—As on Wednesday, Week A.
SUPPER OR LUNCH.*—As before.

THURSDAY

One Biscuit.
BREAKFAST.—As on Thursday, Week A.
DINNER.—Stewed Meat and Haricots (8 oz.), Vegetables (6 oz.), Bread (2 oz.).
TEA.—As on Thursday, Week A.
SUPPER OR LUNCH.*—As before.

FRIDAY

One Biscuit.
BREAKFAST.—As on Friday, Week A.
DINNER.—As on Friday, Week A.
TEA.—As on Friday, Week A.
SUPPER OR LUNCH.*—As before.

SATURDAY

One Biscuit.
BREAKFAST.—As on Saturday, Week A.
DINNER.—Bacon (4 oz.), Potatoes (6 oz.), Bread (3 oz.), Cheese (1 oz.).
TEA.—As on Saturday, Week A.
SUPPER OR LUNCH.*—As before.

NOTES

Biscuits to be issued on mornings when children have to work, or are in school before breakfast. If given at bed-time, tooth-brush drill compulsory after.
BREAKFAST:
½ oz. cocoa, ½ oz. sugar, ½ pt milk=to each pint of cocoa.
Porridge—2 oz. oatmeal, ⅓ oz. sugar per child.
2 oz. bread may be substituted for porridge if desired.

DINNER:

Meat, fish, potatoes and vegetables, weights uncooked.

Roast and boiled pork to be at times substituted for roast or boiled beef or mutton, etc.

4 oz.† shin beef, 2 oz. split peas, ¼ oz. oatmeal or ½ oz. tapioca, 1 oz. carrots, etc.=to each pint of soup.

4 oz.† shin beef, 1 oz. pearl barley, 1 oz. tapioca or sago, 1 oz. seasoning vegetable to each pint of soup.

1½ oz. mutton, ½ oz. pearl barley, 1½ oz. onions, 1 oz. carrots, 10 oz. potatoes, etc.=to each pint of Irish stew.

Cornish pie—4½ oz. beef, 3 oz. potatoes, ⅛ pt milk, 3 oz. flour, ¾ oz. dripping, etc.

Stewed meat and rice—4½ oz. beef, 1½ oz. rice, 1 oz. onions.

Stewed meat and haricot beans—4½ oz. beef, 1 oz. haricot beans, 1 oz. onions, etc.

2 oz. haricot beans may be substituted for 6 oz. green vegetables on Monday.

½ oz. jam, raisins, dates, figs or syrup, 1¾ oz. flour, ½ oz. suet=4 oz. pudding, if rice, sago or tapioca substituted=1⅛ oz. rice, etc., ½ oz. sugar, 9-16 pt milk.

2 oz. flour, ⅔ oz. suet=4 oz. suet pudding.

Flour, dripping, etc., as necessary, to be used with fish.

4 oz. fruit uncooked, ¾ oz. sugar with water=5 oz. stewed fruit; rhubarb, apples, plums, prunes, etc., to be substituted at times of the year when it can be done with advantage. An apple or orange may at certain seasons be given in place of stewed fruit.

Quantities of condiments which may be required for various dishes are not specified.

N.B.—An additional allowance of 1 oz. of bread per child is to be issued at dinner. Such allowance, however, is not to be served out in the ordinary course, but is to be available only in case children ask for an additional amount of bread, and is to be disposed of at the discretion of the superintendent. The bread, if not used, is to be returned to store.

Where alternatives are stated for dinner, this is not to be understood as meaning that a permanent selection is to be made of one of the alternatives to be used throughout the year. It should also be understood that in exceptional local circumstances the superintendent may vary the order of the days of the week on which daily menus are prescribed or may continue some special article of diet without alternation, provided that this is exceptional and not a regular event. As a case in point, it might be convenient during the continuance of a spell of cold weather to give pea soup each week.

TEA:

$2\frac{3}{5}$ oz. tea or coffee, ¼ pt milk, ¼ oz. sugar=½ pt tea or coffee.

½ oz. sugar, ⅛ oz. peel, $\frac{1}{16}$ oz. carraway seeds, or ¾ oz. currants or sultanas, 2½ oz. flour, ½ oz. dripping=4 oz. cake, 1 egg and 1 teaspoonful of baking powder to be added for each pound of flour.

*SUPPER OR LUNCH:

Supper for older children. Lunch for children who retire at an earlier hour. For children under 10, ¼ pt milk to drink. An apple or salad to be given occasionally, margarine then omitted.

DIETARY TABLE FOR 30 YOUNGER CHILDREN (UNDER 8)

SUNDAY

BREAKFAST.—Cocoa (½ lb.), Bread (8 lb.), Butter (12 oz.), Milk (8 pt.), Sugar (1 lb.).

DINNER.—Meat (6 lb.), Bread (2 lb.), Potatoes (12 lb.), Sugar (1 lb.), Milk (8 pt), Cornflour (1 lb.).

TEA.—Tea (2 oz.), Butter (12 oz.), Milk (8 pt), Sugar (1 lb.), Bread (5 lb.), Cake (small piece).

MONDAY

BREAKFAST.—Milk (15 pt), Butter or Dripping (12 oz.), Sugar (1 lb.), Bread (8 lb.).

DINNER.—Soup, Bread (2 lb.), Raisin Pudding.

TEA.—Milk (15 pt), Sugar (1 lb.), Bread (8 lb.), Butter (12 oz.).

TUESDAY

BREAKFAST.—As on Monday.

DINNER.—Irish Stew, Bread (2 lb.), Rice, Sago or Tapioca (1 lb.), Sugar (1 lb.), Milk (8 pt).

TEA.—As on Monday.

WEDNESDAY

BREAKFAST.—Milk (15 pt), Sugar (1 lb.), Bread (8 lb.), Butter (12 oz.).

DINNER.—Meat (Roast) (6 lb.), Potatoes (12 lb.), Vegetables (6d.), Bread (2 lb.), Rice, Sago or Tapioca (1 lb.), Sugar (1 lb.), Prunes (4 lb.).

TEA.—As on Monday.

THURSDAY

BREAKFAST.—As on Wednesday.

DINNER.—Minced Meat (5 lb.), Potatoes (12 lb.), Bread (2 lb.), Rice (1 lb.) (boiled) with Jam (3 lb. Jam or Rhubarb 6d.).

TEA.—As on Monday.

FRIDAY

BREAKFAST.—As on Monday.

DINNER.—Fish (12 lb.), Potatoes (12 lb.), Bread (2 lb.), Suet Pudding.

TEA.—As for Breakfast.

SATURDAY

BREAKFAST.—As on Wednesday.

DINNER.—Bread (12 lb.), Fruit (2s.), Butter (1 lb.), Eggs (30).

TEA.—As for Breakfast.

INGREDIENTS AND VARIATIONS:

Cake—Flour, 3 lb.; sugar, 1 lb.; lard, 1 lb.; peel, ½ lb.; currants, ¾ lb.; sultanas, ¾ lb. One egg and 1 teaspoonful of baking powder to be added for each pound of flour.

Soup—Meat, 4 lb.; peas or lentils, 1 lb.; vegetables, 6d.

Irish stew—Meat, 6 lb.; potatoes, 12 lb.

Raisin pudding—Flour, 3 lb.; sugar, 1 lb.; raisins, 1 lb.; suet, 1½ lb.

Suet pudding—Suet, 1½ lb.; flour, 3 lb.; treacle, 2 lb.

† Stock, when available, may replace part of meat.

Porridge may be given occasionally for breakfast.

Jam, marmalade or fresh fruit may be substituted occasionally for butter or dripping for tea.

Fruit may occasionally be substituted for puddings at times of the year when it can be done with advantage.

For children under three years of age this dietary may be varied by the provision of further milk and eggs.

All ingredients are uncooked.

Occasionally other recipes or methods of cooking may be employed, provided the general quantities of ingredients are utilized.

Approved by the Special Schools Sub-Committee, June 6, 1913.

(Signed) R. BLAIR,
Education Officer.

Approved R. WELSH BRANTHWAITE, M.D.
Home Office, July 1, 1913.

(Signed) J. C. PEARSON,
H.M. Acting Chief Inspector of Industrial Schools.

NOTE.—This dietary table was approved for use at the Council's places of detention by the Special Schools Sub-Committee on June 6, 1913.

LONDON COUNTY COUNCIL

DRURY LANE DAY INDUSTRIAL SCHOOL, GOLDSMITH STREET, DRURY LANE, W.C.

DIETARY TABLE

MONDAY

BREAKFAST.—Porridge (1 pt), Bread (5 oz.).
DINNER.—Beef (8 oz.*), Potatoes (8 oz.), Bread (2 oz.).
SUPPER.—Tea or Coffee (¾ pt), Bread (5 oz.), Butter (½ oz.).

TUESDAY

BREAKFAST.—Butter (½ oz.), Cocoa (¾ pt), Bread (5 oz.).
DINNER.—Suet Pudding (12 oz.), Bread (2 oz.), Cheese (½ oz.)
SUPPER.—Cocoa (¾ pt), Bread (5 oz.), Treacle (½ oz.).

WEDNESDAY

BREAKFAST.—As on Monday.
DINNER.—Soup (1 pt), Potatoes (8 oz.), Bread (2 oz.).
SUPPER.—As on Monday.

THURSDAY

BREAKFAST.—Treacle (½ oz.), Cocoa (¾ pt), Bread (5 oz.).
DINNER.—Plum Pudding (12 oz.), Bread (2 oz.), Cheese (½ oz.).
SUPPER.—As on Tuesday.

FRIDAY

BREAKFAST.—As on Monday.
DINNER.—Fish (12 oz.*), Potatoes (8 oz.), Bread (2 oz.).
SUPPER.—As on Monday.

SATURDAY

BREAKFAST.—As on Thursday.
DINNER.—Bread (8 oz.), Cheese (2 oz.).
SUPPER.—As on Tuesday.

INGREDIENTS:

Porridge—2 oz. oatmeal, ¼ pt milk, ½ oz. sugar per child.
Cocoa—½ oz. cocoa, ¼ pt milk, ½ oz. sugar per child.
Soup—1 oz. peas or lentils, 1 oz. rice or barley, 3 oz. various vegetables, 2½ oz. gravy beef per child.
Fish—Soup may be substituted when fish is dear or unobtainable.
Suet pudding—5 oz. flour, 2 oz. suet, 2 oz. treacle per child.
Plum pudding—4 oz. flour, 2 oz. suet, 2 oz. plums, 1 oz. sugar per child.
Dripping—½ oz. for each child when obtainable from joints, and when butter or treacle is not specified above.
Tea or coffee—⅛ oz. tea or coffee, ¼ pt milk, ½ oz. sugar per child.
Rhubarb with sugar may be substituted for vegetables, provided no extra cost is incurred.
Green vegetables—When green vegetables can be obtained, they are to be substituted for 4 oz. potatoes, provided no extra weekly cost is incurred.

NOTE.—During the six winter months 9 oz. mutton may be given for dinner instead of the bread and cheese meal on Saturdays, alternately.

Approved by the Managers, June 28, 1898.
Approved, August 1, 1898.

(Signed) JAMES G. LEGGE,
H.M. Chief Inspector of Reformatory and Industrial Schools.

NOTE.—Managing Committee, October 18, 1904: The Committee approved on the recommendation of the Superintendent that porridge be served to the children for breakfast on Tuesdays instead of on Mondays, and that cocoa be served on Mondays for breakfast instead of on Tuesdays.

ST JUDE'S HOME FOR GIRLS (WAIFS AND STRAYS), SELHURST

(*a*) Number of meals, three.
(*b*) Hours of meals: 7.30, 12.30, and 5 o'clock.
(*c*) Time allowed for meals: Breakfast, 25 minutes; Dinner, 30 minutes; Tea, 30 minutes.
(*d*) Number of girls: 36.
(*e*) Range of ages: 6 to 16.

* These weights are uncooked.

DIETARY TABLE, WITH QUANTITY OF MATERIAL USED

SUNDAY

BREAKFAST.—Bread (15 to 16 lb.), Butter (1 lb.), Coffee (4 oz.), Sugar (10 oz.), Milk (2 qt.), Water (8 qt.).

DINNER.—Cold Roast Beef (4 lb.), Potatoes (12 lb.) (or Meat and Potato Pie), Bread (4 lb.), Tart (Flour 3 lb., Dripping 1 lb., Baking Powder 1 oz., Fruit or Jam).

TEA.—Bread (15 to 16 lb.), Butter (1 lb.), Cake if possible, Tea (3 oz.), Sugar (10 oz.), Water (9 qt.), Milk (3 pt.).

MONDAY

BREAKFAST.—Bread (15 to 16 lb.), Dripping (1 lb.), or Syrup (2½ lb.), or Stewed Fruit (6 to 8 lb.); ½ pt milk for all under 14 years, Tea for over 14 years.

DINNER.—Soup (Peas 2½ lb., Stock and Water 10 qt., Beef 2 lb., Onions 3 lb., Carrots and other Vegetables in season, Mint, Pepper and Salt to flavour), Bread (4 lb.), Baked Pudding (Flour 3½ lb., Suet 1 lb., Dates 1¼ lb., Sugar 10 oz., Baking Powder 1 oz.).

TEA.—Bread (15 to 16 lb.), Dripping (1 lb.), or Syrup (2¼ lb.), Milk and Tea as for Breakfast.

TUESDAY

BREAKFAST.—Porridge (Oatmeal 2 lb., Salt 2 oz., Sugar ¾ lb., Water 6½ qt.), Bread (8 lb.), Dripping (½ lb.), Milk and Tea as on Monday.

DINNER.—Roast or Boiled Mutton (5 lb.), Greens, Parsnips or Potatoes (14 to 16 lb.), Bread (4 lb.), Pudding (Rice 1¾ lb., Milk 3 qt., Water 3 qt., Sugar 10 oz.).

TEA.—Bread (15 to 16 lb.), Dripping (1 lb.), Lettuce in summer, Cocoa (3½ oz.), Sugar (10 oz.), Milk (2 qt.), Water (8 qt.).

WEDNESDAY

BREAKFAST.—As on Monday.

DINNER.—Soup (Haricot Beans 4 lb., Mutton 2 lb., Stock and Water 8 qt., Pepper, Salt and Parsley), Bread (4 lb.), Pudding Baked or Boiled (Flour 3½ lb., Suet 1 lb., Baking Powder 1 oz., Syrup 1¼ lb.) If all Pudding is given, three times the quantity of Flour and Suet and Baking Powder, or ⅔ Flour, ⅓ Breadcrumbs, 2 lb. Sugar, 2¼ lb. Currants or Raisins.

TEA.—As on Monday.

THURSDAY

BREAKFAST.—As on Tuesday.

DINNER.—Stew of 4 lb. Fresh Beef, 12 to 14 lb. Vegetables (Onions, Carrots, etc.), Water 8 qt., Salt and Pepper; Milk Pudding as on Tuesday; Bread, 4 lb.

TEA.—As on Tuesday.

FRIDAY

BREAKFAST.—As on Monday.

DINNER.—Fish (12 lb.), Potatoes (12 lb.), Suet Pudding as on Monday, with Currants, Jam or Stewed Fruit, Bread (4 lb.).

TEA.—As on Monday.

SATURDAY

BREAKFAST.—As on Thursday.

DINNER.—Soup (Lentils 2½ lb., Stock and Water 10 qt., Pepper, Salt, Parsley, Onions 3 lb.), Bread (4 lb.), Dumplings as for Plain Suet Pudding, only mixed a little firmer.

TEA.—As on Monday, Jam (3 lb.) in place of Dripping.

NOTES

EQUAL parts of BROWN and WHITE Bread are used for Breakfast and Tea.

FRUIT takes the place of Porridge in summer.

ALTHOUGH the above quantities are the average, the children are allowed what they can eat—unless the appetite be abnormal.

LUNCH is given on laundry days.

HOT MILK is given to any who are out in the evenings in winter, and Bread and Butter in summer.

CLEANLINESS, the proper cooking of each meal, and making of beverages are as important as the choosing of only the best materials, if results are to be satisfactory.

(MISS) ESTHER H. SMITH, *Matron.*

HOW TO SAVE THE TEETH

Dr James Wheatley, County Medical Officer of Health and School Medical Officer to the Shropshire County Council, who has devoted special attention to the prevention of dental caries and read a notable paper, entitled "Dental Caries from a Public Health Standpoint,"* before a joint meeting of the sections on Odontology and State Medicine and Industrial Diseases at the meeting of the British Medical Association in Birmingham in 1911, kindly contributed a set of his papers as under.—Ed.

Salop County Council

Elementary Education Department

Prevention of Decay of Teeth

Food often sticks about the teeth after eating. It then decomposes and acts upon the teeth, causing them to decay. *If food can be prevented from sticking to the teeth there will be no decay.*

It is only the starchy and sugary foods (see below) that cause decay, when they stick to the teeth.

To prevent decay you should observe the following rules:

1. As soon as an infant needs food other than milk (eight to nine months), give it in a solid hard form requiring mastication, such as crusty bread, twice-baked bread, or crisp toast. In this way good teeth are likely to grow and good habits of mastication will be formed. *Never give bread soaked in milk, or flour added to milk, or other soft starchy foods* (such as most patent foods).

2. As the child grows up you should still give most of the food in a hard form, compelling mastication. Food should rarely be taken in a liquid form, or soaked in liquid or minced. Bread should not be eaten new, and it should have plenty of good firm crust.

3. Drinking between each mouthful is very injurious. Liquids should be taken principally at the end of a meal.

4. *Sweets should never be taken between meals, nor the last food in a meal*, but only along with food requiring mastication.

* See *British Medical Journal*, August 26, 1911, pp. 434-436.

5. *A meal should always be finished with a cleansing food* (see below). It is very desirable that fresh fruit should be eaten freely, particularly at the end of a meal. This is most important with regard to the last meal of the day.

6. Mouth breathing in children should always be corrected and if obstinate, medical advice should be obtained.

Examples of Foods.

STARCHY FOODS:

Bread, biscuits, etc.; potatoes*; rice, tapioca, sago, etc.; oatmeal porridge, and similar foods; patent foods.

SUGARY FOODS:

All foods to which sugar is added; sweets of all kinds; honey; milk; jams; marmalades; patent foods.

CLEANSING FOODS:

Fresh fruits (particularly apple), nuts; raw vegetables—celery, radishes, lettuce, onions, carrots, etc.; crusts of bread, crisp toast, twice-baked bread†; meat, fish, bacon.

JAMES WHEATLEY, M.D.,
County Medical Officer of Health and School Medical Officer.

County Buildings,
Shrewsbury, 1913.

COUNTY OF SALOP

A LECTURE TO TEACHERS OF ELEMENTARY SCHOOLS ON THE PREVENTION OF DECAY OF TEETH

By JAMES WHEATLEY, M.D., County Medical Officer of Health, and School Medical Officer.

This Epitome of the Lecture is designed so as to give a fairly full statement of the important facts concerning causation and prevention of decay of teeth.

GENERAL REMARKS ON:

1. Its extreme prevalence and increasing prevalence.
2. Danger to health from this condition.
3. The great importance of subject.

Arrangement of teeth and their form, showing crevices in which food deposits.

* Potatoes are a much better food if cooked and eaten with their skins.

† The coarse whole meal flours are better for this purpose.

CAUSATION OF DECAY.—*Decay of teeth is caused by the action of acid on the hard substance of the tooth; this hard substance is gradually eaten away and a hole formed. The acid is formed from the decomposition of starchy* (*see Appendix*) *and sugary foods, which stick in the crevices of the teeth. When starchy or sugary foods are deposited and remain for some time in the crevices of the teeth, micro-organisms grow and produce an acid fermentation. The acid principally formed is lactic acid.*

This is the way in which dental caries is produced. I can imagine some of you saying, Is it such a simple matter? Are there not other determining factors? Is it not some hereditary quality of the teeth that is at fault? Is it not the absence of lime in our food or water? Or is it not some obscure but necessary accompaniment of civilization that causes all this decay of teeth? Generally speaking, in dealing with causation of disease it is not well to be absolutely dogmatic, but I think we may safely say that the extreme prevalence of decay of teeth is not in any way due to heredity; that it is not due to deficiency of lime in food or drink, and that it is not an essential accompaniment of civilization. I consider it safe also to say that it is not due to the structure—by which in this connexion we mean the softness of the tooth. We may safely go a step further and say that *if no starchy or sugary food is allowed to stick in the crevices of the teeth, or between the teeth, there will be no decay*. Whatever other secondary causes there may be, if there are any, the primary and real cause—the only cause we need trouble about—is the retention of sugary and starchy food about the teeth. This you should get firmly fixed in your minds before we begin to consider how it is that such food does cling and remain in contact with the teeth, and how such a condition can be prevented.

DEMONSTRATIONS SHOWING:

1. The action of strong acids on teeth.
2. The formation of acid from potatoes, bread and milk and sugars when kept for a time at the temperature of the mouth.
3. That no acid is formed from meat when so kept.

What makes starchy and sugary foods stick in the crevices of the teeth? This is the important question to be answered, for

upon its solution depends absolutely the prevention of decay of teeth.

First of all I would like to emphasize the following fact: *that, given a good arrangement of teeth, good habits of mastication and firm food to eat, the ordinary working of the jaws and tongue and the flow of saliva will keep the teeth clean.* The cleaning is done by the friction of food against the teeth, the flow of saliva around and between the teeth, and the actual forcing out of any food deposited in the crevices of the teeth by the great power exerted during mastication. This natural cleansing is seen in animals fed on their natural food and in uncivilized races of mankind. With their natural food, their mouths are clean after each meal, and there is consequently little or no decay. If, on the other hand, a dog, for example, instead of being fed on meat and hard biscuits, is fed on bread and milk and soft biscuits, food does cling to its teeth, and they sooner or later decay. The same facts have been observed amongst savage races brought into contact with civilization.

It must be clearly understood that the clinging of food to the teeth is an unnatural condition. It arises from two causes: (1) irregularity of the teeth; (2) consumption of food in a soft sticky form, requiring little mastication.

1. *Irregularity of the teeth.*—When the teeth are irregular, there are unnatural recesses in which food lodges and from which it can only be removed with difficulty. Such recesses are not cleaned by the ordinary process of masticating one's food. Moreover, with irregularity of the teeth the process of mastication is very imperfectly performed, and, consequently, the cleaning effect of mastication on the teeth generally is to a considerable extent lost.

2. *The consumption of food in a soft sticky form requiring little mastication.*—Such food fills up and adheres to the sides of the crevices about the teeth, and as the cleansing effect of proper mastication is absent, the food is liable to remain indefinitely.

The first step, then, in the prevention of dental caries is to take such measures in infancy and childhood as will procure a regular arrangement of the teeth.

For this purpose we must get a good development of the jaws, so as to allow of sufficient room for the teeth without crowding.

Proper development of the jaws can only take place if they are sufficiently exercised during the period of their growth. Free movement of the jaws in mastication together with the pressure of one jaw against the other tends to broaden the arches of the jaws and provide room for the teeth.

The muscles of mastication, of which the tongue is perhaps the most important, become well developed with the exercise. A well-developed tongue is one of the most important factors in the broadening of the arch of the jaw and in the production of regularity of teeth. The tongue, if well developed, acts by exerting constant outward pressure of a very even character on both jaws, and in this way prevents irregularity. In this connexion it should be mentioned that the tongue cannot exert this influence if the mouth is habitually open. For this reason, and for many others, it is extremely important that mouth-breathers should have special attention.

If a regular and even development of teeth is produced, half the battle in the prevention of decay of teeth is won. It is then possible by attention to certain simple rules to prevent starchy or sugary food being retained in contact with the teeth, and if this is accomplished, there will be no decay.

It is obviously of the greatest importance to thoroughly understand how this regular development of the teeth can be brought about.

An infant for the first eight or nine months should be fed, if possible, entirely upon its mother's milk, and, if this is impossible, on cow's milk slightly modified. The appearance of the teeth through the gums at about the seventh month is an indication that the infant is arriving at a time when the jaws should be given work to do in masticating food. *As soon as food is given in addition to milk, it is extremely important that it should be in a solid firm form, so as to compel mastication.* The food should never be mixed with milk or other liquid. All starchy food should be in a hard form, such as crusts or twice-baked bread. There is a very special reason why starchy food should be retained in the mouth for a considerable time and worked up well with saliva, as in this way it is partly digested by the saliva and properly prepared for the stomach.

The first five or six years of life are the most important in the development of the jaws and teeth, and it is most essential that nearly all the starchy food during this time should be in

a hard form. Special attention should also be paid to seeing that the child breathes through the nose, and if, notwithstanding efforts to get the child to breathe in this way, it continues to breathe through the mouth, a doctor should be consulted.

If these directions are carefully attended to, a regular set of teeth capable of performing satisfactorily the functions of mastication will usually develop.

The next point is, How can such a set of teeth be kept free from decay?

As previously stated, " it is possible (with an even arrangement of teeth), by attention to certain simple rules to prevent starchy or sugary foods being retained in contact with the teeth; and if this is accomplished, there will be no decay."

I have already described to you how the teeth under natural conditions do keep themselves clean. There must always be a sufficient amount of firm cleansing food (see appendix) in the diet. Soft sloppy food should only be taken sparingly. In order that the teeth should be kept clean after each meal, the last food should always be of a cleansing nature, and it is well to finish a meal with a drink of water.

Food should not be taken to any large extent in the form of liquids. Drinking between each mouthful is very harmful as it is apt to result in the swallowing of half-masticated food and imperfect use of the jaws. The liquid should be taken either entirely at the end of a meal or in one or two draughts in the course of the meal, and the remainder at the end. Eating between meals should be avoided, and particularly the most harmful habit of sucking sweets. A person who is continually sucking sweets must necessarily have a very foul mouth. If sweets are eaten at any other times than meals, a cleansing food should be eaten directly afterwards (see appendix for summary of rules for preventing decay of teeth).

There are many good reasons for thinking that it is only by attention to these rules, which are the means adopted by nature, that decay as a general condition can be prevented, but as an auxiliary the use of the tooth-brush should be encouraged whenever opportunity offers.

There can be little doubt that if these precautions are carried out carefully, decay of teeth, instead of being present in almost every individual, and generally to an alarming and disgusting

extent, will become comparatively rare. If these precautions are taken, even to a limited extent only, they will still result in an enormous reduction of dental decay.

We come now to the practical application of this teaching so far as you are concerned.

What can teachers in the Elementary Schools do?

1. *They can teach these facts to the children of a suitable age as opportunity offers.*
2. *They can correct faulty habits of eating sweets between meals whenever these are observed.*
3. *They can, when opportunity offers, spread this knowledge among the parents.*
4. *They can do much to correct the faulty habits of mouth breathing by proper training and exercises, and in obstinate cases by bringing them under the notice of the Medical Inspector.*
5. *They can in their own households see that these simple rules are carried out.*

I have shown you already that decay of teeth, together with its accompanying conditions, and the harmful habits that cause it, are responsible for untold suffering and disease. The harmful effects are far beyond anything that you, without medical knowledge of the subject, can conceive.

I firmly believe that there is no preventable condition affecting the human body that is responsible for one tithe of the harm that is produced by dental decay and by the general unclean or septic condition of the mouth that accompanies it.

If this is so, surely its prevention is worth a great effort.

Appendix

Rules for the Prevention of Decay of Teeth.

1. *Nearly all the starchy food that is given to children in the first three or four years of life should be in a hard or firm form, compelling mastication*, e.g., crusty bread, twice-baked bread, crisp toast, and hard whole meal biscuits. (In this way good and well-arranged teeth, without irregularities, are likely to be developed, and good habits of mastication to be formed.)

2. *Mouth-breathing in children should always be corrected.*

3. *Throughout life much of the starchy food should be in a hard form, compelling mastication.* Food should rarely be taken in a

liquid form, or soaked in liquid or minced. Bread should not be eaten new, and it should have plenty of good firm crust.

4. *Sweets should never be taken between meals, nor the last food in a meal, but only along with food requiring mastication.*

5. *A meal should always be finished with a cleansing food.* It is very desirable that fresh fruit should be eaten freely, particularly at the end of a meal.

Examples of Foods.

STARCHY FOODS:

Bread, biscuits, etc.; potatoes; rice, tapioca, sago, etc.; oatmeal porridge and similar foods.

SUGARY FOODS:

All foods to which sugar is added; sweets of all kinds; honey; milk; jams; marmalades.

CLEANSING FOODS:

Fresh fruits, particularly apple; raw vegetables—celery, radishes, lettuce, onions, etc.; crusts of bread, crisp toast, twice-baked bread*; meat and fish; bacon.

The following reprints of two papers by Dr Wheatley were also exhibited:

"Prevention of Dental Caries." Paper read at a meeting of the Salop and Mid-Wales branch of the British Medical Association, October 4, 1910.

"Dental Caries as a Field for Preventive Medicine." Reprinted from *Public Health*, August, 1912, the journal of the Society of Medical Officers of Health, 1 Upper Montague Street, Russell Square, W.C.

A FAMOUS DENTIST'S RULES

DR SIM WALLACE was for many years in the position of a prophet crying in the wilderness. Now his views on the causes of dental decay find wide acceptance among members of his own and the medical professions, and are quoted with approval by Sir George Newman† and other authorities. A valuable paper on "Main Lines of Reform in Feeding at Public

* The coarse whole meal flours are better for this purpose.

† Annual Report for 1910 of Chief Medical Officer of the Board of Education, p. 172. Cd. 5925, 1s. 3d.—Ed.

Secondary and Private Schools" was contributed by him to last year's Guildhall School Conference.*

The appended rules are given by him to his patients.—Ed.

Important Short Rules for the Prevention of Decay in Teeth and Associated Diseases

1. *During the first two and a half years of life all starchy or sugary food* (except milk) *should be given in a firm or fibrous form*, so as to stimulate mastication and insalivation, and thus to promote the healthy growth of the jaws and the regular arrangement of the teeth. Bread, rusks, or any other farinaceous food should never be added to or soaked in milk. Bread with crust (and butter), toasted bread (and butter), should form a considerable part of the solid part of the meals habitually given to children of this age. As the infant passes from the milk diet to the more solid diet the milk should be more and more diluted with water. During this period also the solid food should be eaten first and the milk and water taken after.

2. *After the age of two and a half years children should always have a considerable amount of the farinaceous food in a form which will stimulate a pleasurable amount of efficient mastication.* The albuminous part of their diet should also be presented in a form which will encourage mastication, *e.g.*, boiled fish, meat, and, later, bacon. Milk or milk substitutes should only be allowed in small amounts.

3. The meals should be *arranged* in such a way that if soft, starchy, or sugary food has been eaten, the mouth and teeth will be cleansed by food of a detergent nature taken immediately after. Thus, therefore, when sweets of any kind, *e.g.*, milk puddings, jam rolls, cake, sweet biscuits, bread and marmalade or jam are eaten, fresh fruit should be eaten afterwards.

4. *Three meals daily are to be preferred to any greater number*, as the longer the interval the more hygienic is the state of the mouth and stomach, and therefore the more perfectly adapted for the reception of a further meal. *Sweets, chocolate, or biscuit and milk should never be eaten between meals or before going to bed.*

* See *Our Children's Health at Home and at School*, p. 88. A few advance proofs of the papers still remain. 1s.—Ed.

When these rules for the prevention of decay in teeth cannot be observed, some attempt should be made with a small toothbrush to clean the crevices of and between the teeth, after every unhygienic meal; but as this is *extremely difficult to do effectually* without injuring the teeth or gums, it is advisable to have children who are brought up in this way taken regularly to the dentist from the age of three onwards every six months, till the teeth become crowded and irregular; thereafter the visits may require at times to be more frequent until all the natural teeth have been replaced by artificial substitutes.

Foodstuffs and Dental Caries.

NOT CLEANSING AND LIABLE TO INDUCE DENTAL CARIES:

Farinaceous and sugary food in general without fibrous element.

Examples: Sweet biscuits and cake; bread and marmalade; bread and jam; new bread without crust; bread soaked in milk; milk puddings; porridge and milk; preserved fruit; chocolate and sweets of all kinds; honey.

Liquids: Cocoa and chocolate.

The above foods should not be eaten except when followed by foods of the cleansing kind.

CLEANSING AND PREVENTIVE OF DENTAL CARIES:

Fibrous foods generally.

Examples: Fish, meat, bacon, poultry, uncooked vegetables, lettuce, cress, radish, celery. Cooked vegetables are, as a rule, cleansing, but in a less degree than uncooked vegetables.

Stale bread with crust; toasted bread of all kinds; twice baked bread; pulled bread and cheese.

Savouries. Fresh fruits, especially those requiring mastication, *e.g.*, apples, fatty foods, *e.g.*, butter and margarine.

Liquids: Tea, coffee, water, also soups and beef tea.

J. SIM WALLACE, M.D., D.Sc., L.D.S.,
Formerly Dental Surgeon and Lecturer on Dental Surgery and Pathology, London Hospital.

OUR CHILDREN'S TEETH

THE appended notices refer to two models of children's teeth exhibited by the National Food Reform Association. These also appeared on the Society's stand at Olympia,* where they attracted much attention, and led to a large demand for *Aids to Fitness:*

As They Are	As They Might Be
Model of the Teeth of a Girl Aged 11	*Model of the Teeth of a Boy Aged* 10
About the average.	"The most perfect child's teeth I have ever seen." (Dr Harry Campbell, at National Food Reform Association Annual Meeting, July 11, 1910.)
"When placed together the upper front teeth are about a quarter of an inch too far forward. The temporary molar that had to be removed on account of being carious, and all the molar teeth remaining, together with two of the upper incisors (permanent), have been filled on account of caries—all the result of erroneous feeding! As a masticating organ, you will notice it is hopeless." (Extract from a letter from Dr Sim Wallace.)	"Primarily the cleanliness of the teeth depends upon the character of the food, which should be of such a nature and eaten in such a manner that the teeth are left clean and free from debris. There can be no doubt that the mouth can be thus kept naturally clean." (Sir George Newman, M.D., Annual Report to Board of Education, 1911.)

For hints on the care of the teeth, see *Aids to Fitness.*

AIDS TO FITNESS.

THE appended sheet, which deals largely with oral hygiene, is issued by the Schools Committee of the National Food Reform Association and has found much favour alike in school and home. Professor Irving Fisher, of Yale, the eminent American Political Economist, President of the Committee of One Hundred on National Health, appointed by the American Association, for the Advancement of Science, and member of President Roosevelt's Conservation of National Resources Commission, writes:

"I was greatly interested to see this and think it ought to do much good."

Her Majesty the Queen has been graciously pleased to accept a copy with "her warm thanks."

* Children's Welfare Exhibition, January, 1913.—Ed.

An order for 100 copies was received from the Hartlepool Education Committee and there were numerous applications from head teachers.—Ed.

AIDS TO FITNESS.

(No. 1.)

A Conference about the health and food of boys and girls at Boarding and Day Schools was held at the Guildhall, on May 13, 1912, the Lord Mayor of London presiding.

The Times, in a leading article (May 15), said of it: "The Conference is evidence of the attention that is now being paid to a subject too long neglected . . . We may hope that a considerable step has been taken towards the development of a rational system of school diet (and it may be added, hygiene), to which all schools will, by degrees, approximate in practice."

It was conclusively shown that increased attention to these matters leads to a higher standard of health and greater physical and mental fitness.

Some of Its Lessons.

1. Remember your teeth require exercise like the rest of your body, and that without it they decay.

2. Your jaws, too, will not develop without exercise. The swallowing of soft foods does not give this.

An Ounce of Fact.—A famous American, Horace Fletcher, found himself, at the age of 40, broken down in health and rejected by the Insurance Companies. By attention solely to mastication, he was able, a few years later, to show greater strength and endurance than any of the athletes at Yale University, though he had had no training. On his 50th birthday, he rode nearly 200 miles on his bicycle without getting either stiff or tired, and 50 next morning before breakfast. At 58 he doubled the world's record for weight lifting.

3. You have neither time nor patience to "Fletcherize" thoroughly, but you can try, as he does, by eating slowly and by careful mastication, to enjoy the taste of your food as long as possible.

4. Lose no opportunity of eating crust or toasted bread, particularly with and after porridge and milk, milk pudding, jam-roll, cake, bread and marmalade or jam, or other soft, starchy or sugary food, and of ending your meals with fruit or cress. This is Nature's way of assisting in the cleaning of the teeth.

5. Drink as little as possible at meals.

   Much of our food contains a high percentage of water. Nature also provides us, in the shape of the saliva and gastric juices, with exactly what we require to prepare our food for digestion.

6. The drinking of water early in the morning, and last thing at night is good.

7. Always give fruit (which contains sugar in its natural state) preference over sugar or sweets.

8. " Large quantities of meat are not essential." (Extract from the *Lancet* summary of the conclusions of the Conference.)

9. Be moderate in the use of condiments (mustard, pepper and vinegar.)

10. Abstain from eating when not hungry, and from " stodging " between meals. Edison, the famous inventor, warns us against " stoking our engines with too much coal."

11. In particular, sweets, chocolate, or biscuits and milk should not be eaten between meals or before going to bed.

12. The " grub-shop " and the " tuck-box " are two of the greatest enemies to all-round fitness.

Several schools represented at the Conference allow neither, while the 40 senior boys of one house themselves almost unanimously voted the abolition of the " tuck-box."

If you will give a little thought to these matters, you will speedily find that colds and other so-called " minor ailments," such as indigestion, toothache, headache, biliousness, will

become *the exception* and good health, with success at work and at games, *the rule.*

A Specimen Copy of the above may be obtained from the Secretary, Schools Committee, National Food Reform Association, 178 St Stephen's House, Westminster Bridge, by sending a stamped addressed envelope. Further copies as follows:—1*d. each,* 8*d. a dozen,* 2*s.* 6*d. for* 50.

PART III

FACING THE FACTS

A Word of Explanation.—The following articles are concerned more or less intimately with the subjects that came under consideration at the Second Guildhall School Conference, or arise out of them. They are, in many cases, of such first-rate importance and so indispensable to a complete understanding of the several problems involved, that the writer is confident that his action in regarding them as coming within the scope of this volume will be generally endorsed. [Ed.

LIFE AT THE HEART OF THE EMPIRE

A Leading Medical Journal's View.—In the first of two editorials on "Food and Feeding" *The British Medical Journal* observed*:

"It is unfortunate that the abundance of cheap and varied food has not given us a healthier and better-nourished population, for the wage-earning classes of the present day are notoriously less robust, physically, than they were a hundred years ago; this is true not only of factory workers who live in towns, but of farm labourers and Highland cotters. The present cheapness of dietetic luxuries has proved an evil; cheap tea and sugar have done disservice to our people, while the relative cheapness of meat, especially tinned meat, has induced a disproportionate expenditure on an article of diet, the dietetic value of which is over-estimated."

Corroborative Evidence.—It would be unfortunately only too easy a matter to produce a mass of evidence culled from official and other sources in support of this indictment of the nation's mode of living. Here we will content ourselves with a few illustrations drawn exclusively† from far narrower limits, viz. the first four Annual Reports of the National Food Reform Association.

* February 12 and 19, 1910; cited in Second Annual Report, National Food Reform Association, 1910, 3d.

† Except in the case of Scotland.—Ed.

Before giving these, two counts must be added to the indictment taken also from the same quarters.—Ed.

Consumpton and Its Cure.—The most recent official and medical opinion attaches increasing importance to scientific feeding in the years of childhood as among the most effective methods of furthering the campaign against tuberculosis.

Of the 60,000 annual victims of consumption, 11,000 are children and young persons.

" It is possible, and indeed probable," observes Sir George Newman in the first report of the Medical Department of the Board of Education, " that phthisis in an incipient stage exists among children to a greater extent than has yet been suspected."

A leaflet issued by the National Association for the Prevention of Consumption remarks:

" A knowledge of diet and hygiene would not only help to diminish consumption, but would also tend to improve the general health of the community and stave off other diseases."*

A Medical Authority's Grave Indictment.—Speaking from the chair at its Third Annual Meeting, Dr Harry Campbell pointed out that the physical evils resulting from ignorance of the laws of dietetics affect the whole nation from the richest to the poorest, and instanced rickets and defective teeth as among the most serious evils of faulty diet. Statistics show that of the children in the United Kingdom, only one per cent pass through their first dentition without some diseases of the teeth. There are 100,000,000 bad teeth in the mouths of people in this country, and the same number of " socket abscesses." A philanthropist has recently given £200,000 with the object of providing dentists to look after the teeth of the poor people of this country. It would cost more like £200,000,000 in their present condition. If that gentleman had been present at that meeting he would be angry with himself for not leaving the money to this Association. It is better to prevent the trouble than to patch it up.†

* Third Annual Report, 1911.

† *Ibid.*

I. ENGLAND.

How East Anglian Children Live.—A recent letter gives a depressing picture of the state of things in East Anglia.* "The village," writes a correspondent, "in which I live is quite exceptionally fortunate in being where there is splendid air; the housing is distinctly above the average; the wages are good; and there is a good supply of milk; but with all these advantages I grieve to say the health of the young people is deplorable. Nearly all of them have lost their teeth by the time they are twenty-one. Our School Medical Inspector said in his last report: 'The better off the parents, and the higher their status, the worse the physical condition of their children and their teeth.' I often go round the school to see what the children who remain behind for dinner are having, and it is generally pastry, iced cakes and bread and jam. I believe that the things which are doing the greatest harm to the nation now are sweets, fine bread and tea. The latter is given to babies from the age of two months."

A Crying Evil in the Midlands.—In a letter from the Midlands it is remarked:

"I think that the eating of sweets and cheap biscuits is one of the crying evils of the day amongst children. It is amazing the halfpennies and pennies the parents will give their children to buy the rubbish which ruins their teeth and digestion, and takes away their appetite for wholesome food."

Medical Testimony from the West Country.—A doctor in the West Country writes to us as under†:

"I am the resident surgical and medical officer of this institution, and attend to a very large number of out-patients who come to this hospital for advice and treatment. A large number of these are women who suffer from various forms of dyspepsia, due partly to bad teeth, irrational modes of living, and anæmia, but chiefly to faulty dieting. I give them advice as to what they should eat, but one hesitates to order these very poor cottagers, crofters, charwomen, servants, etc., vegetables and fruit on account of the expense. I wish to make

* Third Annual Report, 1911.
† *Ibid.*

some kind of a weekly dietary for them with cost on a rational basis. They live on bread and butter, stale tea, quantities of potatoes, and a heavy local kind of pastry, quite indigestible. I thought you would be the most likely people to assist me in making up a cheap and uncomplicated dietary."

In ordering 50 copies of Booklet 4, she subsequently wrote:

"By distributing these to my women patients suffering from indigestion troubles, I hope to introduce gradually a better kind of dieting. The people down here are extraordinarily slow to move and conservative; but some go-ahead persons may make a start and tell the others, as they usually do. I shall let you know if I hear of any definite results from my patients."

Intemperance in Eating.—The East Anglian correspondent quoted above writes*:

"I believe the incessant eating has more to do with ill-health than anything else. I see the children eating on their way to school (after their breakfast), on their way from school going to their dinner, ditto when they return in the afternoon. I saw a poor little mite of five howling yesterday because of toothache. That child has perfectly black teeth and always has a chunk of cake or bread and jam, and is fat and white and unwholesome looking. I think the self-indulgence alone is bad."

What Mr Seebohm Rowntree Found.—Mr Seebohm Rowntree, the author of *Poverty: A Study of Town Life*, and a Vice-President of the Association, in a recent investigation at York,† found that unskilled labourers were receiving on an average 25 per cent less food than was necessary for the maintenance of merely physical efficiency. Trained artisans were receiving just about enough, and the families of the middle classes were receiving something like 15 per cent more than enough! The effect was that the labourer got 25 per cent less than the pauper and 29 per cent less than the convict.

Bad Marketing.—In a letter dated July 9, 1909, Mr Seebohm Rowntree said‡:

"The statement in your Report is correct. I may add that

* Fourth Annual Report, 1912.

† First Annual Report, 1909.

‡ *Ibid.*

in the case of the poorest families, whose budgets I examined, I found that while 58·45 per cent of the total food expenditure was for animal food, this only provided 39·3 per cent of the protein of the dietary, and 33·36 per cent of the total energy value.

"On the other hand, the 35 per cent of total food expenditure devoted to vegetable foods yielded 60·45 per cent of the total protein, and 66·48 per cent of the total energy value represented by the diet."

Ignorance and Waste.—Again, in applying for a lecture, the secretary of a large provincial society, writes*:

"I am anxious that our people should receive some reliable instruction as to the value of food-stuffs and how to obtain proper nutrition with economy and with the least amount of household slavery. It is one of the most vital subjects and has never received the attention it deserves. Our women wear themselves out in preparing food that does us more harm than good, and the waste is appalling."

A Clergyman's Views.—A meeting was held at the Educational Hall, Haslemere, on Saturday afternoon, June 4, 1910, the Chair being taken by Mr D. B. McLaren. The Rector of Haslemere (the Rev. G. H. Aitken), who at the last moment was prevented from presiding, sent a letter in which he said: "I have long felt that there is room for reform in the matter of food, and am very glad that our attention is going to be called to the subject. It was, I think, the late Sir Andrew Clark who first impressed upon me, in some speech he made, that the habit of eating more than is good for us, is one which rapidly grows if it is not watched. He said, I believe, that it was his deliberate opinion that as many people died in London every year from over-eating as from over-drinking, and I have lately heard a careful doctor say that one of the most harmful habits of our day is the tendency to eat too much meat. Three meat meals a day, he said, are not only unnecessary, but injurious to every one. Quite apart from the question of waste (about which few of us think enough) health suffers, life is shortened, and efficiency impaired. Not less important is food reform for those whose danger is not lest they should have too much, but

* First Annual Report, 1909.

rather too little to eat. It is not easy to see how a family, with an income of 20s. a week, where there are, say, five children to be fed, and five shillings a week goes in rent, can so lay out the money that no one shall go short. We all know the need of variety in food, but we have much to learn as to the constituents which are necessary to build up the tissues of the body and repair the waste. I am sure that we shall owe a debt to the Association if it can help us to understand how the careful house-wife may make her money go farthest, and, without starving herself, to be able to supply pleasant, varied, flesh-forming, well-cooked food for her husband and children. It is because I believe that Mr Hecht's Society is offering to do this in a thoroughly practical way that I was anxious to welcome him to Haslemere."*

Need for Cookery Reform.—Sir Alfred Hopkinson, K.C., Vice-Chancellor of Manchester University, recently said†: "Our drink bill is not more wasteful of the strength and resources of the English nation than the deficient knowledge as to food, and the mode in which it ought to be cooked and served. A knowledge of that subject would make an enormous difference—perhaps more than anything else—in preventing the deterioration of the race. An American, with whom I recently travelled, told me that while he had seen much that he admired in England, what struck him more than anything was the terrible condition of some of the people in our great towns. We shall never get rid of that until the food of the people is better. Is there a horror equal to that, experienced perhaps in some English country inn, where, with every intention to be hospitable, people served up a thing they called a 'chop,' which seemed a cross between the sole of a boot and a cinder; and even if one asked for so simple a thing as 'Welsh rare-bit,' they got something one did not forget for days. People who have to live on food of that character, day after day, cannot possibly do their work, or be in the condition they ought to be in. One great reason that the French people have rallied so well after all their wars and misfortunes is that they know how to cook and make the simplest articles of food go as far as possible."

* Second Annual Report, 1910.
† Fourth Annual Report, 1912.

Acknowledging a communication from the Secretary, he subsequently wrote: "If you are able to arrange a meeting in Manchester, I would do my best to be present. I am much impressed with the importance of the question, which I have referred to before in distributing prizes for evening classes, and which, no doubt, I shall refer to again on similar occasions."

GERMAN AND ENGLISH METHODS CONTRASTED. — A medical man writes*:

"I have been a keen student of 'food and dietetics' all my life and am familiar with the views of all the best writers thereon.

"During the fifteen years of my service on the Gateshead-on-Tyne School Board, I was identified with the introduction of cookery centres under the Board, but I never could induce my colleagues to see the urgent need of teaching all the girls Domestic Economy on similar lines as is done in Germany, where the food value, i.e., the percentage of protein and the average cost of every food is thoroughly taught, enabling every girl, when she comes to manage a home, to obtain the best value for the least expenditure.

"I maintain that the money spent in so-called cookery teaching in English Board Schools for the last thirty years has practically been wasted, and each generation has progressed in waste, rather than in thrift and domestic economy, where the Germans beat us hollow, e.g., how many of our workingmen's wives know that two salt herrings are equal to the nitrogen intake, adequate for the requirements of a man doing hard manual labour? An English labourer will turn up his nose at a herring for his dinner, while the well-taught Germans consume three-quarters of the herrings caught on the English and Scottish coasts.

"When I practised at Manchester I used to give popular lectures on 'Economy in Food' for the Health and Culture Society and the Ancoats and Hulme Healthy Home Societies, and the wives yelled with derision when I told them that margarine was as good as butter, and herring better than beef for their family dinner. Why, I never yet met with an English-woman who could cook potatoes properly—*in their*

* Fourth Annual Report, 1912.

jackets—even reading an extract from Hutchison fails to convince them!

"With the number of influential names among your Vice-Presidents, surely pressure might be brought to bear on the Minister of Education to adopt the German system and to require each girl to pass a satisfactory examination in cheap cookery and Domestic Economy before being allowed to leave school?"

Difficulties in the Home Counties.—A lady residing in the Home Counties, who during the last two winters has been endeavouring to improve the cooking of her poorer neighbours by organizing cookery classes with the aid of the County Council, and sought assistance in framing a model dietary for a family, wrote*: "The attendance at my classes is quite good, but the country folk here like to stick to their old ways, and I doubt whether they will give the new dishes a proper chance. I am told that mothers will not take the trouble to teach the children to eat any kind of food, to which they raise the smallest objection, and all children will be fanciful if allowed. Consequently they refuse barley water and many other good foods."

Town children are unfortunately little better in this respect, and according to a prominent social reformer an attempt to prevail upon them to take a new dish, like macaroni cheese, ended in utter failure.

Suggestions for Reform.—Among the many efforts to bring about a better state of things, two may here be mentioned.† In an article in the *Contemporary Review* for April, 1912, Mrs J. A. Hobson, a member of the Committee, outlines, under the title "A Mission to Mothers," a scheme for the provision in every village of a "Home School," designed to raise the standard of rural home life, and incidentally to do something to dispel its monotony. For details, readers are referred to the article itself.

Miss Clara Grant, who, in establishing the Fern Street School Settlement at Bow, has accomplished a splendid piece of pioneer social work, is, as a teacher, equally dissatisfied with present methods, and in a recent letter advocated the

* Fourth Annual Report, 1912.

† Second Annual Report, 1910.

establishment in London, either in connexion with or independent of the London County Council, of a model cookery and home-making centre on very similar lines to that in Mrs Hobson's scheme.

The successful institution of a University Course in Home Science, at the Women's Department of King's College, London, and of similar courses elsewhere, is welcomed by the Committee as a practical recognition of the defects of the existing system.*

II. WALES AND THE SISTER ISLE.

Here, again, the sole source drawn upon for the following testimony to the state of things in the Principality and in Ireland is the Annual Reports of the National Food Reform Association.—Ed.

A Change for the Worse in Wales.—A Welsh Medical Officer of Health, in a letter which appeared in the *Daily Mail* of March 10, thus describes the state of affairs in the Principality:†

"The food of the Welsh in these parts up to fifty years ago was of a much more strength-giving character than at present, namely, milk, oatmeal, as cakes, flummery, etc., barley-meal bread and whole-wheat bread with home-made cheese, in conjunction with bacon, beef, and mutton with vegetables. Now the majority take tea four or five times a day, with emasculated wheat bread and butter, foreign cheese, and a little meat and vegetables. The result is that the nation is degenerating physically. On examining school children I found scarcely 2 per cent with sound teeth, about 10 per cent requiring spectacles, and a very few with normally developed bone and muscle. Most of the mothers are dependent on 'shop' teeth, many are unable to suckle their infants, and most of the youths are cigarette-sucking punies; I consider the laws of the land are much too lax with reference to comestibles."

In the Emerald Isle.—In a leading article on "Food and

* Second Annual Report, 1910.
† Third Annual Report, 1911.

Cookery," the *Irish Independent* of September 27, 1909, said*: "In rural Ireland to-day the waste of good food by bad cooking is deplorable; still more so is the ignorance of food values, which causes the family of farmer and labourer alike to make bread and tea staple articles of diet in place of the coarser, but far more wholesome, food of preceding generations. In nowise is the monotony of rural life in Ireland more marked than in the selection and cooking of its food. Strictly speaking, variety is unknown. . . . .

Diet of the Irish Farmer and Labourer.—For food of his own raising, except potatoes, the farmer seems to have no relish.† Yet the men of his own class in other countries save and thrive by feeding themselves and their families on the produce of their own land, and yet they live much better, as a rule, than the Irish farmers. They cultivate for their own table fruit and vegetables, at the mention of which the Irish farmer would smile. If his wife and daughter only knew how to cook and serve these despised fruits and vegetables, the kitchen-garden would, before long, become the greatest health-pro-

* First Annual Report, 1909.

† During the August holidays a large number of teachers have been attending classes organized by the Department of Agriculture in Dublin. Anybody who knows the country parts of Ireland has noticed how sorely (except in a few favoured districts) the cottages stand in need of the amenities which a strip of garden can bestow. It is no wonder that in days when the tenant had no security of possession he should neglect the outward appearance of his dwelling. But the tenant is now a proprietor, with a permanent interest in his holding; and he should learn that a strip of garden will grow him a dozen kinds of vegetable to vary the eternal potato and "yellow meal." He should learn that small fruit, rhubarb and apples are all easy of cultivation, are good for his children's health and may even produce a little money. How is he to be taught these things? As in all countries, so in Ireland the small farmer is extremely conservative and unwilling to try new experiments. He may listen to the teaching of itinerant instructors sent out by the Department of Agriculture, but in order to be really convinced he requires an example before his eyes. That is why the help of the national school is necessary. In out-of-the-way parts of the country the schoolmaster and the priest are usually the only persons having some education and in some degree receptive of new ideas; and nobody has such easy and constant access to the peasant's confidence. Their teaching and example are needed to make him adopt new methods. If a boy has learnt the rudiments of gardening in the school patch, he may use his knowledge at home; and if his father sees that the schoolmaster's potatoes do better than his own he will borrow his spraying machine, and perhaps will buy one of his own.—*Times* Educational Supplement, September 2, 1913.—Ed.

moting agency in the country. The Department (of Agriculture and Technical Instruction) is, it must be acknowledged, doing a great deal to help the people in the country to realize that better food than they now use can be got with very little trouble, and practically no extra cost, out of their own land.

Physical and Economic Results of Better Food.—Better food does not mean richer food. There need be no increase in the quantity of meat used to make wholesome and appetizing dishes, which would enrich the blood of the pale, anæmic young people who are too often to be met with in our country places, and increase the stamina of the growing youth of both sexes. Economically,* the change would be of enormous benefit to the nation. From increased vitality would proceed greater energy and hope, the progenitors of enterprise. If the commissariat be one of the first concerns of the prudent commander in war, the food of the people is a not less important concern to the nation."

Decay of Irish Cookery.—A letter, which appeared in the *Irish Independent*, apropos of a discussion on healthy foods for the people, produced upwards of 100 replies. One, from the North-West of Ireland, may be quoted:

"I believe the most healthy foods are allowed to go to waste in Ireland; or, if cooked, owing to ignorance, are injurious to the people. Cookery in Ireland is far worse than it was sixty years ago, which I remember, and the people now sickly and barely able to walk. Some people attribute this to tuberculosis, but I believe improperly cooked food is the cause."

III. LORD ROSEBERY'S LAMENT.

Over the Border.—When we cross the border, the condition of affairs shows no improvement. Indeed ample evidence is forthcoming in support of the contention that Lord Rosebery was speaking by the book when he recently charged his fellow-countrymen with belonging to "a generation reared upon

* Professor Irving Fisher of Yale was once asked why he, a professor of Political Economy, was interested in the problem of food values. "I am interested," he replied, "in the wealth of nations."—Ed.

tea and football," at any rate so far as the former article is concerned. Equally marked is the general ignorance of food values, coupled with the bad marketing that results. The following examples are with two exceptions taken from the Highlands and the Islands, where it might not unreasonably be assumed that the good old practices would have longest survived. In the Lowlands and in the towns conditions are even more serious. As regards the latter, indeed, this has been amply demonstrated by the investigations carried out by Professor Noel Paton at Edinburgh,* and more recently by Miss Dorothy Lindsay at Glasgow. Of the Lowlands, the following observation of a School Medical Officer may be probably regarded as typical: "Porridge and milk take a less conspicuous place in the daily dietary of a child, whilst tea and bread and butter occupy a more and more important position."—Ed.

Strong Words from a Scottish Judge.—Presiding at Edinburgh over the annual meeting of the Scottish Branch of the Jubilee Institute for Nurses on December 12, 1910, the late Lord Ardwall said†:

"The crass ignorance of everything relating to health amongst the working classes is perfectly amazing. The ideas they had about diet were perfectly ghastly. They are ruining their own and their children's constitutions by tea and white bread, perhaps flavoured with a piece of very salt and very ill-cooked bacon."

Counting Gain and Loss.—In Berwickshire, up till some 20 years ago, the payment of agricultural labourers was largely by the "boll" system. It consisted of ten bolls oats, four bolls barley, one boll beans or peas, 1,800 yards potato ground, free house and garden, one month's food during harvest, with £8 to £10 "sheep money." About half the hinds on a farm had the "keep" of a cow, and those, of course, got proportionately less "sheep money." This system has now practically disappeared, and instead of being paid in "kind," ploughmen, and a great many shepherds also, are paid for their labour with the coin of the realm. The current wages paid at the present time, all perquisites reckoned, including house and garden, are from 22s. to 25s. per week. It is said that the new system is more

* *A Study of the Diet of the Labouring Classes in Edinburgh*, 1900.

† Third Annual Report, 1911.

satisfactory both to employers and employed, but Dr Andrew A. McWhan, medical officer of health for the county, has been pointing out that the old regime was not without its advantages, inasmuch as it ensured that the farm servant and his family obtained a good supply of wholesome and nourishing food. With the modern system of cash payments, money may be more plentiful, but its purchasing power has gone down, while the cost of living has gone up, so that it is very doubtful whether, as regards food, the farm servants of to-day are any better off than their predecessors. Provision vans now call at every cottage, however remote, and the very facility of obtaining supplies has unfortunately hastened the transition from the porridge of 50 years ago to the tea and bread which form such a staple of cottage fare nowadays.

Ignorant Housekeeping.—Dr McWhan finds evidence of the unwise catering of cottagers in the fact that 1·9 per cent of the children inspected in Berwickshire schools are in a bad state of nutrition. He is of opinion that this is not a question of inability on the part of many parents to provide food, but of inability to make the best of what can be provided. He refers, too, to the difficulty of obtaining milk in some parts of the county. He writes: "On many of my visits to ploughmen's houses, I have inquired into this and have been not infrequently told that no milk is to be had as no cow is kept on the farm, unless possibly for the use of the farmhouse, and that any milk obtained is condensed milk bought from the grocer's van. This is an unfortunate state of affairs, as milk is an invaluable article of diet for children, but it is no reason for housewives abandoning the making of porridge because milk cannot be had to take with the porridge. If no milk is obtainable, then the children should be taught to take porridge without milk, if necessary with the addition of a little sugar sifted over the top to make it more palatable. The scarcity of milk should not be made an excuse for the tea and bread habit."

Where the Remedy Lies.—Another reason for the inability of many mothers to make the best of things lies in their ignorance of food values. In this connexion Dr McWhan writes: "Few of them have any idea, for instance, what an immense difference in nutritional effect there is between a sandwich of bread and jelly and one of bread, butter, and meat or cheese. This is a

subject which can only be taught through the medium of schools. If taught there to the senior girls, the mothers of the county may be reached and educated through their girls. Such teaching would be the centre of an ever-widening circle of knowledge and enlightenment, all the more effective because of its coming through the plastic minds of our future mothers and housewives, who will have in their power the happiness and well-being of future generations of children."

Teapots and Porridge-Pots.—" It is rarely in South Uist," say the Highlands and Islands Medical Service Committee in their Report, 1913, " that any of the produce of the croft, with the exception of potatoes, is used for food. No meal is ground, the surplus sheep and cattle are sold for urgent cash, every egg is bartered for shop commodities, and the milk supply is insufficient, especially in winter. The excessive indulgence in over-brewed tea, especially by children, was deplored by several witnesses. Dr Murray writes: " The great feature in the decadence of the school child's mind is the abuse of tea. The good old porridge-pot has fallen from its high estate and the teapot has been exalted in its place. Probably over 50 per cent go to school on a breakfast of tea and loaf bread, the former usually long brewed.

Referring to the prevalence of consumption, Dr Murray refers to " houses of practically one room, with damp walls, damp clay floors, sunless interiors, a vitiated and smoky atmosphere, and the cattle under the same roof with the human inmates, the surroundings usually badly drained, and the site often damp. When a case of phthisis occurs in one of these houses isolation is impossible. In too many cases the patient spits on the floor, and on the floor of churches and meeting-houses, scattering tubercle bacilli all round. When one considers also the probability of the cattle being affected with tuberculosis, under the conditions prevailing what else could we expect than a wide prevalence of the disease? "

A Crofter's Bill of Fare.—" Porridge," said Dr Fletcher, School Medical Officer for the Island portion of Inverness-shire, in a recent report, " is not the rule but rather the exception. Tea, bread and butter, or oftener tea and bread without butter, is far too common. The following bill of fare may be taken

as fairly typical in poor crofting townships: Breakfast—Tea and bread; Lunch—A piece of dry scone, oatcake, or barley-bread; Supper—Porridge perhaps, but oftener tea and bread again, in spring and harvest. In the summer months and winter, when life on the croft is not so arduous as it is in spring and harvest, there is more leisure, and the children may be better attended to; but very often, as a result of the bill of fare just mentioned, the digestive system is in such a condition that the more nourishing food-stuffs cannot be tolerated."

Health in the Highlands.—A subscriber living in the far north of Scotland, in the course of a most interesting and detailed description of the condition of affairs in her neighbourhood, says*:

"I only wish I could make my subscription ten times the amount, so firmly do I believe in the ultimate and *radical* benefit it (diet reform) will be to all, and especially to the poorer classes, and by this I do not mean merely the working classes, but all who have not at present any superfluity of means. In the Highlands the deterioration of physique, even during my own recollection, is so marked as to cause concern to all. When I was a child I remember well what splendid looking men were to be found everywhere, and especially do I remember their beautiful teeth. Now very few have good teeth, and except on the more distant crofts (where they still keep much to their old food and habits), the men are not superior, and in some cases even *less* fine than in towns and in England, while the women are much more affected. Many have lost all their teeth by the time they are twenty-five or even younger. They drink strong tea five or six times a day (!) and live on *white* bread and canned meats. Many of them are anæmic and most suffer from violent indigestion, in spite of coming from such healthy stock and living in the most beautiful air in the world. Their homes and general sanitation are much *improved* from that prevalent in their *parents'* time, so that, though I know it is below the English standard, that cannot be the reason."

A Neglected Opportunity.—A member of the Aberdeen School Board, through whose instrumentality two cookery classes were successfully arranged during the winter for the

* First Annual Report, 1909.

teaching of dishes not included in the ordinary school curriculum, writes*:

"We are now in the midst of a School Board Election, and I am making it one of my points that there shall be reform in the matter of food. If there is any information you can give, I shall be glad to have it."

This letter may serve to remind those electors, who are impressed with the deficiencies in the teaching of cookery, hygiene and domestic economy in their locality, that they have in the vote, and in the concurrent privilege of electors to question those seeking to represent them, two powerful weapons ready to their hands.

* Third Annual Report, 1911.

SELF RESPECT IN RAGS

I. THE TOWN CHILD

Not a great deal was said at the Guildhall of the problems suggested by the mention of the words " clothing " and " foot-gear." Yet to the teacher, the school doctor and nurse, as well as to the social worker in a poor district, whether it be urban or rural, they are well-nigh ever present, and cannot, therefore, be left out of account in a volume which professes to look all the facts in the face.—Ed.

VIEWS OF AN L.C.C. SUPERINTENDENT.—In a paper entitled " Problems of School Attendance " (other than infectious diseases) read at the Second International Congress on School Hygiene, London, 1907* Mr E. S. Ayling, Divisional Superintendent, London County Council, observed: " The want of boots and clothing affects school attendance to a greater extent than want of food. This difficulty would be much greater were it not for the kindly sympathy and help afforded by voluntary agencies, and especially by teachers in poor schools. It is pitiable to visit a poor school on a wet wintry day and see many of the children wearing boots thoroughly sodden by the rain and with the soles almost torn from the uppers. Unquestionably the seeds of many illnesses are sown in this way. In towns especially it is dangerous for children to go about bootless. The result of this practice is frequently seen in the absence of children from school suffering from bronchitis and from septic wounds in the feet caused by getting the feet cut with broken glass and flints. Boot clubs have been successfully organized in many of the poorer schools. This plan might with advantage be extended to all poor schools.

" In cases of out-door relief the Guardians of the Poor rarely give relief in the form of clothing or boots, but as it is a condition of out-relief that the children shall attend school regularly, it seems to me that the Guardians should also provide necessary clothing in necessitous cases. Unfortunately, children whose physical condition has been weakened by underfeeding soon fall a prey to illness when, in addition, they are insufficiently clothed."

* *Transactions*, vol. 2, page 610.

Medical Testimony.—The opinion cited above finds support in high medical circles. "Sometimes in going to school," said Sir Lauder Brunton a couple of years earlier, "the child may get its shoes, stockings and clothes wet, and having no change at school may sit there for hours with a chance of greatly aggravating any mischief in the ears or elsewhere, or even bringing on disease when the child was previously healthy."

Connection with Bronchitis.—Again, in his Annual Report for 1910, Dr Ralph Williams, School Medical Officer, Sheffield, remarks: "In 271 children signs of bronchitis were found. This condition is largely due to the defective state of the clothing and footgear of the children in the poorer districts of the City. A number of these children are under observation at the office with reference to their admission to the Open-Air Recovery School."

Some Sheffield Figures. — In the same report he gives the following details of the deplorable state of things prevailing in one of our great cities: Totally insufficient and ragged clothing was found in 7·8 per cent of the children, whilst in 18·8 per cent the amount of clothing was barely sufficient. This compares favourably with last year, when 11·1 per cent were found to be clothed in rags, and in only 69 per cent was the clothing good. This year the percentage of good clothing has arisen to 73·4 per cent, 16·4 per cent of the children had boots which were ragged and quite incapable of keeping out water. In addition 12·1 per cent had boots of doubtful value. The Voluntary Clothing Guilds are doing excellent work both in the provision of boots and clothing for necessitous children.

An Impossible Task.—Describing the condition of the children attending the Open-Air Recovery School, Dr Williams says*: "The condition of the clothing and of the boots of the children attending the school was again a matter of considerable anxiety. It is practically impossible to teach a child self-respect who is clothed in rags, and the clothing of some of the children could not otherwise be described. Numerous articles of clothing were provided by voluntary agencies but were quite insufficient in number. Provision of slippers to be kept

* Annual Report, 1910.

at the school would be of great value on wet days, when the children arrive with their stockings quite wet through."

Shrewsbury Facts and Figures.—Discussing the same subject, Dr Thos. Orr, School Medical Officer, Shrewsbury, said*: "The condition of the clothing and footgear must necessarily vary according to the school, and especially the situation of the school. For instance, one must expect the standard to be much lower in a school which is situated in the midst of the lower class dwellings than in a school surrounded by houses of the thrifty working classes or artisans."

In the following table the percentages of children with fair or poor clothing and footgear are represented:

	Age-5 group, both sexes.	Age-13 group, both sexes.
Clothing, fair	12·9	9·5
„ poor	1·4	—
Footgear, fair	12·9	8·6
„ poor	2·4	·2

"In considering these figures it must be borne in mind that the parents had notice of the inspection and that under ordinary circumstances the conditions would have been much worse. It can always be seen that children are prepared for the examination by having their best on and it would also appear that even the clothing of older members of the family is used for the purpose of the examination in the case of some very poor children. The teachers usually remark on the changed conditions of the children on the day of medical inspection.

"It is unfortunate that a larger percentage of the age-5 group than of the age-13 group have insufficient clothing and footgear. At the age of 5, children are much more susceptible to cold and are much more likely to suffer than the older children.

"Whenever there was poor clothing or footgear, the attention of the parent, if present, was called to it by the School Medical Officer, and if absent by the School Nurse, who in cases of poverty was sometimes able to have help provided through voluntary agencies."

Boots and Clothing under the L.C.C.—The following passage is taken from the London County Council Annual Report (Children's Care) 1911:

* Annual Report, 1911.

It is the duty of Children's Care (School) Committees to ascertain what children are in need of boots or clothing, and of the local associations to endeavour to raise funds for the supply of such articles in necessitous cases.

Facilities exist at many schools in the form of clubs or funds. These organizations are controlled by the Children's Care (School) Committees, managers, or head teachers. From a return obtained shortly before the close of the year under review it has been found that arrangements are in existence at schools to the extent and in the manner shown below:

(1) Boot club established (boots supplied at full cost, payable by instalments in advance).	184
(2) Boot club established, supplemented with a bonus of (say) 2d. in the shilling	106
(3) Arrangements in force for supply of boots at less than full cost (usually half-price boots from the Ragged School Union)	394
(4) Arrangements in force for supply of free boots	328
(5) No arrangements in force as to supply of boots	295

The Council administers a bequest made to a school boot club in Battersea by one of its former head mistresses, and the interest derived from the investment is of great benefit to the poor children. It will be seen that according to the latest available information there are at about 400 schools arrangements whereby needy children may obtain boots through the agency of the Ragged School Union, which supplied boots to Care Committees at half price. The demand is, however, greater than the supply, the whole of the funds being derived from voluntary contributions.

Some Portsmouth Statistics.—Dr Blake, School Medical Officer for Portsmouth, gives the following figures.* During the year 1911 there were found to exist amongst the children under examination 12·7 per cent with defective clothing, 5·9 per cent being of distinctly bad character. The following table gives the comparison with the results found in the previous years:

Year	Defective	Very Poor
1909	12·14	7·1
1910	14·7	9·0
1911	12·7	5·9

* Annual Report, 1910–11.

Year	Boys Percentage		Girls Percentage		Infants Percentage	
	Defective	V. Poor	Defective	V. Poor	Defective	V. Poor
1909 . .	10·02	5·7	8·9	5·6	13·7	7·8
1910 . .	17·1	10·3	9·7	5·7	17·9	11·09
1911 . .	11·7	6·8	8·8	3·1	15·1	6·8

The figures for 1911 would appear to indicate a general improvement in the condition of the clothing.

Tables from Wolverhampton.—Finally, so far as examples from England are concerned, the following tables are supplied by Dr Spencer Badger by way of illustrating the condition of affairs in Wolverhampton*:

Condition of Clothing. Percentage Results. Comparison with Totals of Previous Year

(*a*) *Sufficiency.*

Boys, age 5–6: 797 examined; 53·6 per cent good, 41·3 somewhat poor, 5·1 very poor.

Girls, age 5–6: 820 examined; 54·0 per cent good, 43·4 somewhat poor, 2·6 very poor.

Boys, age 13–14: 664 examined; 44·4 per cent good, 45·6 somewhat poor, 9·9 very poor.

Girls, age 13–14: 635 examined; 50·7 per cent good, 47·1 somewhat poor, 2·2 very poor.

Ages combined—Boys: 1,461 examined; 49·4 per cent good, 43·3 somewhat poor, 7·3 very poor. Girls: 1,455 examined; 52·6 per cent good, 45·0 per cent somewhat poor, 2·4 very poor.

Grand total for 1911—Boys and girls: 2,916 examined; 51 per cent good, 44·1 somewhat poor, 4·9 very poor. (For 1910 the figures were: 2,924 examined; 37·0 good, 58·5 somewhat poor, 4·5 very poor.)

(*b*) *Cleanliness.*

Boys, age 5–6: 797 examined; 75·2 per cent clean, 23·3 somewhat dirty, 1·5 very dirty.

Girls, age 5–6: 820 examined; 78·3 per cent clean, 20·5 somewhat dirty, 1·2 very dirty.

Boys, age 13–14: 664 examined; 77·9 per cent clean, 20·3 somewhat dirty, 1·8 very dirty.

Girls, age 13–14: 635 examined; 82·4 per cent clean, 17·0 somewhat dirty, 0·6 very dirty.

Ages combined—Boys: 1,461 examined; 76·4 per cent clean, 22·0 somewhat dirty, 1·6 very dirty. Girls: 1,455 examined; 80·0 per cent clean, 19·0 somewhat dirty, 1·0 very dirty.

Grand total for 1911—Boys and girls: 2,916 examined; 78·2 per cent clean, 20·5 somewhat dirty, 1·3 very dirty. (For 1910 the figures were: 2,924 examined; 53·7 per cent clean, 43·6 somewhat dirty, 2·6 very dirty.)

* Annual Report, 1911.

FOOTGEAR. PERCENTAGE RESULTS. COMPARISON WITH PREVIOUS YEAR

Boys, age 5–6: 797 examined; 31·2 per cent good, 58·8 somewhat defective, 9·3 bad, 0·6 hopeless.

Girls, age 5–6: 820 examined; 28·4 per cent good, 62·4 somewhat defective, 8·3 bad, 0·9 hopeless.

Boys, age 13–14: 664 examined; 28·6 per cent good, 57·4 somewhat defective, 11·7 bad, 2·3 hopeless.

Girls, age 13–14: 635 examined; 35·6 per cent good, 53·1 somewhat defective, 10·2 bad, 1·1 hopeless.

Ages combined—Boys: 1,461 examined; 30·0 per cent good, 58·2 somewhat defective, 10·4 bad, 1·4 hopeless. Girls: 1,455 examined; 31·5 good, 58·4 somewhat defective, 9·1 bad, 1·0 hopeless.

Grand total for 1911—Boys and girls: 2,916 examined; 30·8 per cent good, 58·2 somewhat defective, 9·8 bad, 1·2 hopeless. (For 1910 the figures were: 2,924 examined; 22·3 per cent good, 66·2 somewhat defective, 10·1 bad, 1·5 hopeless.)

GLASGOW CHILDREN'S EQUIPMENT.—Dr Ernest Roberts, Chief Medical Officer to the Glasgow School Board, speaks* of a " marked and consistent improvement since the previous year " as illustrated by the following percentage results. He points out, however, that the record does not represent the usual condition in respect of either clothing, cleanliness or footgear.

PERCENTAGE RESULTS

Clothing—Good: 1911, 51·0 per cent; 1910, 37·0 per cent. Very poor: 1911, 4·9; 1910, 4·5. Clean: 1911, 78·2; 1910, 53·7. Very dirty: 1911, 1·3; 1910, 2·6

Body—Clean: 1911, 76·9; 1910, 63·9. Very dirty: 1911, 0·9; 1910, 1·3.

Footgear—Good: 1911, 30·8; 1910, 22·3. Bad: 1911, 9·8; 1910, 10·1. Hopeless: 1911, 1·2; 1910, 1·5.

REMEDIAL MEASURES.—In February, 1910, the Glasgow School Board appointed an additional nurse in order that one of the nursing staff might give her whole time to the visiting of underfed and ill-clad children, especially the former.

This appointment was made to give effect to a resolution of the Board that all children found by the School Medical Officers to be underfed or ill-clad be reported to the Chief Medical Officer, and that this information be handed to the Principal Attendance Officer, so that the latter might see that the children are fed and clothed.

Each of the nurses in rotation now devotes one month to this work.

* Annual Report, 1911.

The number of such cases dealt with till the end of June, 1910, is as follows:

Underfed, 278; ill-clad, 656; both underfed and ill-clad, 144—
Total 1,078.

Among the figures relating to ill-clad children there are included 200 cases of "no boots."

II. LOT OF THE COUNTRY SCHOOL CHILD.

Thus far with the towns. How fares it with the country school children of all ages, the great majority of whom in most districts have to take daily a more or less long walk to and fro in all kinds of weather and over all sorts and conditions of roads?—Ed.

FIGURES FROM DERBYSHIRE.—Dr Sidney Barwise, Medical Officer of Health for Derbyshire, gives the appended table*:

CLOTHING AND FOOTGEAR

North-East Division: 9,052 examined; 139 (1·5 per cent) had insufficient clothing, 304 (3·3 per cent) had dirty clothing, 342 (3·8 per cent) had insufficient boots.

West Division: 3,725 examined; 33 (0·8 per cent) had insufficient clothing, 90 (2·4 per cent) had dirty clothing, 127 (3·4 per cent) had insufficient boots.

South-East Division: 3,859 examined; 136 (3·5 per cent) had insufficient clothing, 186 (4·8 per cent) had dirty clothing, 198 (5·1 per cent) had insufficient boots.

North Division: 458 examined; 6 (1·3 per cent) had insufficient clothing, 7 (1·5 per cent) had dirty clothing, 8 (1·7 per cent) had insufficient boots.

South Division: 1,211 examined; 40 (3·3 per cent) had insufficient clothing, 107 (8·8 per cent) had dirty clothing, 121 (10 per cent) had insufficient boots.

The whole county: 18,305 examined; 354 (1·9 per cent) had insufficient clothing, 694 (3·8 per cent) had dirty clothing, 796 (4·3 per cent) had insufficient boots.

INSUFFICIENT CLOTHING: CAUSES AND REMEDIES.—The above table, he proceeds, shows the condition of the children as they appear in school, as regards clothing and footgear. The figures differ little from those of previous years. In very few cases did observation show that the insufficient footgear and clothing resulted from dire necessity. Carelessness, improvidence and neglect were the main factors. It was easier to pin together ragged and buttonless garments than to apply patches, mend

* Annual Report, 1911.

tears, or sow on buttons. In this connexion we cannot help thinking how useful it would be to mend, darn, or sew all defective garments in school. Certainly girls are shown how to do these things at present, but the practical application of this instruction is wanting in most schools. They should be made to mend their own garments in class, as well as those of the infant children. Boys with defective garments should also be sent in to the sewing class for repairs. Much improvement would doubtless be effected in this way, and the lesson more likely to be remembered. Garments would last much longer, and instead of the stitch in time saving nine, it would frequently save the whole garment.

Clogs to the Rescue.—In regard to footgear, as noted in last year's report, the chief fault lies in the cheap flimsy material that the soles are made of. Mothers frequently state their inability to keep their children in boots, as the soles wear through in such a short time. In some districts it is found that children only get new boots in the summer time, and that when winter comes they are past repair and are quite useless, reacting on the health and causing coughs, colds, and more serious ailments. All this might be prevented by the use of clogs, which are excellent in inclement weather, cheap, durable, easily repaired and easily dried. Miss Tindall, the head mistress of Sandiacre Infant School, strongly advocates the use of clogs. She has made arrangements with a local clog-maker and a large number of her scholars have obtained them. She claims that the health of the children has improved, that they do not suffer from colds, and that they arrive at school on wet days in a fit condition to receive instruction. School attendance has also improved; during the present winter the number of absentees has only been one-third to one-quarter of previous years.

A Tribute to the Teachers.—We should like to place on record here our appreciation of the large amount of charitable work which teachers are constantly doing. They frequently provide meals for poor children, supply boots, and make clothes, and are ready at all times with advice and more material assistance if necessary. This is work which, properly, should be done by " Care of Children " Committees.

Worcestershire Children's Needs.—Dr Mary Hamilton Williams, Assistant School Medical Officer, Worcestershire Education Committee, who also devotes much attention to the subject, gives the following details:

Clothing and Footgear

No. examined, 2,266; 163 (7·2 per cent) defective. No. examined, 2,239; 164 (7·3 per cent) defective. No. examined, 4,505; 327 (7·3 per cent) defective.

Value of Statistics.—It appears to be useless to endeavour to get the figures for clothing and footgear kept separate and hence I have grouped them. The statistics under this heading are of little value as the individual standards of the teachers by whom they are made differ so widely. Because a child is wearing the best clothes which the parents can afford it is not necessarily a fact that those clothes are adequate. Yet this is what in most cases the remark "satisfactory" means. I consider the number of children who are satisfactorily clothed is small. If the clothes are sufficient in number, they are as a rule, far too heavy.

Need for Flannel Clubs.—Children need flannel garments from neck to knees. A few have flannel vests or shirts. Very few have flannel drawers. Yet a change in this respect would do something to lessen the number who develop rheumatism or tuberculosis.

"Flannel clubs" are urgently needed. In some parishes there are already clothing clubs, which enable the parents to buy clothing at cost price or under. Every such club should have an inflexible rule that the only clothing supplied (besides boots) is flannel clothing. Mothers can buy cotton goods themselves. It is with the flannel garments that they need help.

Defective School Heating and its Consequences.—In another portion of her Report, Dr Mary Williams discusses the subject in the light of the heating of the Schools and the drying facilities, together with its bearing on the incidence of tuberculosis and rheumatism.

In some of the newer Schools the heating is all that could be desired, though even here supervision is needed to see that the Caretakers do not shirk their work, and, in particular, start the fires too late in the morning. In some Schools the heating arrangements are still seriously inadequate. Two years ago I

suggested that charts should be kept of the room temperatures in all the Schools, and this is now being done. These charts in many cases record temperatures considerably under 56 degrees, in many cases even between 40 degrees and 50 degrees, and on opening School the temperature may be under 40 degrees.

This means that the children get thoroughly chilled soon after entering School, and have no opportunity of getting warm until they leave School. It is true that many of the most kind-hearted teachers send these children for short periods, in rotation, to the fire to "get warm," but a few minutes is of no use to a thoroughly chilled child. And often the children come to school more or less wet. It is sometimes pitiful to see the children, with blue hands and pinched faces, trying to attend to their lessons. A really cold child does not learn well. The best education is wasted upon him. The majority have not the vitality to work their brains when their bodies are cold.

Sitting in cold schools, often in damp clothes, is the way to turn an incipient disease into a severe one, a case of slight rheumatism into a case of incapacitating heart disease. The country schools are, on the whole, worse heated than the town. And yet it is just in these schools that the children have to sit who have often walked a mile or more through muddy lanes and over wet fields. Moreover, very few children have sufficiently warm clothing in winter.

Open fires in schools are wasteful. Much of the heat goes up the chimney, and, in any case, enough heat is not generated to adequately warm a large schoolroom. No doubt they ventilate, but the primary duty of a fire is to keep children warm. Satisfactory heating can be done with stoves, if both teacher and caretaker see that the stoves are kept in good working order. Hot-water heating is, at present, the ideal method, and, in the long run, costs the least.

Lack of Facilities for Drying Clothes.—Some arrangements for drying the clothes of children who arrive only slightly damp (not damp enough to require sending home) are needed on such a scale that a number can be dried at once. At present, if five children can be dried at a time, it means that many will have to sit in damp clothes nearly two hours before their turn comes to dry. And it should be urged upon the

teachers that children must be dried, and slippers to change kept at the school. This has already been instituted by a few of the more thoughtful teachers.

Existing Law Criticized.—In regard to the two great diseases which are threatening the physique of our children, tuberculosis and rheumatism, treatment is urgently needed. But it seems almost futile to urge particular parents to take care of such delicate children, when the law is forcing the mass of the parents to acts directly contrary to the physical health of their children. My temperature statistics will show that the majority of such children have more or less fever. Such children with fever should rest until the temperature is normal. But the parents must send them regularly to school, or they will be fined. Such children should be carefully protected from over-exertion; but up to two miles* they must attend school, however tired they are on reaching it. Such children should be protected from damp, particularly damp feet, but however wet the weather, they must regularly attend school. Such children should be kept warm, and yet they must often sit for hours in rooms whose temperatures preclude any such possibility. In individual cases, your Medical Inspectors can exempt such children, but in the majority of cases it is impossible while the law remains as at present.

What a Visit Revealed.—In a school I recently visited, when a great deal of the surrounding land was under water, and many of the children had to come over fields, I examined all their feet. Out of 51 children, 42 had cold wet feet, and 10 had boots which by no possibility could keep out the wet. Alteration of the law is urgently needed. The grant should not depend on attendance, and teachers should never be commended for obtaining a percentage of, say, 98 per cent. This percentage means that many children have been in school to the serious detriment of their health.

A Bad Example.—In addition, the Attendance Officer should be a nurse, so that she may have a fair chance of recognizing when the excuses offered by the parents for non-attendance have their origin in the genuine ill-health of the child. Over

* Two miles for infants, and three for mixed schools.

and over again parents have told me they sent back their children to school when quite unfit, because they feared a summons would be taken out against them if they did not. If we teach the mothers to keep their children cold and wet, by setting the example in school hours, it will not be much use to endeavour to teach them to do the opposite out of school.

Boot Clubs in Essex.—From a report of the Essex Education Committee (Orsett District), signed by Mr Alfred Brooks,* the chairman, it appears that "boot clubs" have been formed in several schools. They are carried on by the head teachers with the object of assisting poor parents to obtain suitable boots for their children by paying in a few pence at intervals as it can be afforded. Arrangements have been made with local contractors to supply suitable boots at special prices, and a large number of parents have availed themselves of this opportunity. At present there are over 700 names on the books, and it is estimated that over 1,500 pairs of boots have been supplied during the last twelve months.

The Barefoot Brigade.—In the Scottish Highlands, the problem of the ill-shod child can scarcely be said to exist during the summer months, owing to the admirable custom of going barefoot, and in some of the islands even in winter, but, as will be seen by the following extracts, it assumes an acute form during the remainder of the year.—Ed.

Dr Gordon Lang, School Medical Officer, Inverness County Mainland portion, remarks,† under the heading of "Attendance and Causes of Irregularity," the principal excuses are "distance" and "want of boots," and, of course, the ordinary one of "illness." In summer time the children go very largely barefoot. This is an excellent custom, and much to be recommended, but at other seasons of the year it is lamentable to see the miserable condition of the children's boots in many cases, especially in and around the Burghs. In this respect the Parish Council children‡ are infinitely better off. Though acknowledged to be of the utmost importance to a child's health, little is done to help to provide boots or shoes

* Included in Dr H. W. Sinclair's (Essex School Medical Officer) Report, 1911.—Ed.

† Report to Dr J. Macdonald, 1910–11.

‡ I.e. under the Poor Law.—Ed.

for poor children in winter. The teachers themselves know the importance of this matter, and are willing to receive boots, old or new, at the schools for distribution. In Inverness the "Christian Union" does excellent work in giving boots to the children, but unfortunately cannot overtake more than a portion of the demand. It is very gratifying to see the excellent way that the great Burghs and Inverness look after their boarded-out children in the county, both in the matter of clothes and medical attention.

Often the teacher is advised in cases of bad attendance as to what is a valid excuse and what is sheer malingering.

Safety in Numbers.—On the whole the clothing seems very good in the county, though this is hard to judge, when notice of a visit to a school is sent ten days or so beforehand. One of the most common faults, especially with girls, is wearing too many garments. Some mothers seem to think that there is safety in numbers, and garments often of a most heterogeneous order are piled on the child. I have counted repeatedly nine separate articles on one child. In one case, under nine garments the mother had sewed on cotton wool tissue round the chests of her whole family! A boy has been seen also with two kilts on. In only 1·4 per cent of the children was the clothing found to be verminous; while only three families were so badly clad and dirty that they required exclusion from school to be enforced.

An Unexpected Result.—In the following year, he adds: It is seldom that a really badly clothed child is met with in the Highlands. The climate is not one that encourages the people to economize in this matter. By speaking and lecturing every endeavour has been made to teach the people that too many clothes are as bad as too few. It was with surprise that a girl was found at one small school in one of the highest glens with only a cotton overall on. She was quite happy and not a bit cold, though June in that locality is not very warm.

The Hardy Islander.—Dr Duncan Fletcher, School Medical Officer, Inverness Islands, reports*: The clothing, on the whole, was found to be fair in quantity, and (except in cases of extreme poverty or neglect) in good repair. In some instances a

* Report to Dr J. Macdonald, 1910-11.

more frequent change of underclothing seemed to be necessary, but improvement in this particular will take place as parents become appreciative of the value of cleanliness in this and other respects. Among the poorer classes the nightdress is not in evidence, and there is, therefore, all the more reason for frequent changes of underclothing. Few children were found wearing woollens or flannel; the rule was cheap cotton shirting, which in winter weather does not convey the idea of warmth and comfort; but one must remember that the West Highlander, and especially the Islander, is essentially a hardy individual, so that the lack of warmer underclothing is not, even to the children, such a matter of necessity as it is to children born in more affluent circumstances and more comfortable environments.

Where Footgear is Dispensed with.—This was found to be well attended to, even in cases where the clothing was decidedly bad. Owing to the fact that footgear is seldom worn in the summer months, and in some districts in the Outer Islands even in winter, it was found impossible to reduce the footgear to percentages which would convey with fairness any idea as to its state.

Carelessness or Negligence?—A year later, he writes: In my Report of last year I stated that " the clothing on the whole was found to be fair in quantity," etc. This year, after interviews with parents and visitation of homes regarding this matter, I conclude that in many cases the parents are negligent or careless, and, with the exception of the very poor, what is required is to impress upon them the necessity of clothing the child as properly on school days as on Sundays, with perhaps less outward show, and more attention on both occasions being paid to what is next the skin.

One or two philanthropic ladies have during the year been so kind as to make warm jerseys, etc., but on inspection it was pitiable to find family relics as a " ninth ply " before the skin was reached, needless to say with the usual accompaniment of " living things."

I am hopeful, however, that parents are not quite unamenable to reason, and that frequent home visitation by S.M.O., or nurses with his instructions, will have good effect as time goes on.

HOW THE FAMILY OF THE AGRICULTURAL LABOURER LIVES. *By* RONALD T. HERDMAN, M.D., EDIN., D.P.H. CAMB. (*Deputy County Medical Officer of Health and School Medical Officer for Bedfordshire.*)

THE following originally appeared as two articles in the *Medical Officer* (May 24 and July 12, 1913) and is reproduced here by permission of the Author and Editor. The earlier portion of the first article, which describes the method followed in studying the weights of Bedfordshire elementary school children and gives a detailed account of these investigations is, except for the conclusions, omitted from consideration of space. No more valuable contribution to our information on the subject of the mode of life of the family of the agricultural labourer has been published, and if read in conjunction with the papers by Mrs Walker Black and Dr George Finch, the speeches of Lady Meyer and others in the discussion, as well as Dr Bertram Smith's article,* it should help materially to an understanding of this section of the grave problem with which the nation to-day is confronted.—Ed.

INADEQUATE STATISTICS.—When one turns from these figures to the average height and weight of Bedfordshire "leavers" as got from the aggregate of all these, one finds that the boys are almost exactly the same as those of the English country districts generally. The Bedfordshire boys are below the average by ·08 inches and ·03 lbs. The girls, on the other hand, are 1·7 inches and 1·1 lbs. above the average.

One thus sees that 17·5 per cent of the "leavers" boys examined were more than 10 per cent below the standard; but though 20 per cent of the girls examined were 10 per cent or more below standard, the average comes out well above standard.

AN ALTERNATIVE METHOD.—It seems to me from these figures that the piling up of statistics each year, showing that the average child of a county is about the same weight as the average of England generally, is comparatively useless, and that what is wanted is to know what percentage are below the average, and then to try and find out what is the cause of this large number of badly nourished children.

* Cp. also *How the Labourer Lives.* B. S. Rowntree.—Ed.

The percentage is really greater than that I have given, for when examining school children the average child does not strike one as a well-nourished child, but rather as one that is distinctly thin, though healthy looking. This is because the average is the average of all children, ill-nourished and weakly, besides normal and well-fed, and as one can hardly say that any child at an elementary school is too well nourished, while many we know are ill-nourished, the average is really considerably below what a healthy child should be.

"An Appalling Amount of Malnutrition."—Now, seeing that in Bedfordshire, and probably in most of rural England, it is the same, over 18 per cent of the children leaving school are more than 10 per cent below the average, and a large number more (just about half the normals or 25 per cent of the total) are between that and average, and seeing that the average child is really considerably below what a healthy well-fed child should be, it is evident that there is an appalling amount of malnutrition in the country, the cause of which requires to be looked for, and, if possible, remedied.

Its Chief Causes.—On looking for the cause one finds, however, that there are probably many causes, though two things seem to have a large share in the production of the malnutrition: these are defective teeth and want of proper food.

Dental Decay and its Consequences.—In this county about one quarter of the children have four or more decayed teeth, which is a serious handicap to their health, both by preventing food being properly chewed, and also by forming much deleterious matter of a septic nature, which is taken into the stomach and absorbed into the system. This condition of the teeth is at least as common amongst the better class of elementary school children as it is amongst the poor, and shows the necessity for the careful teaching of oral hygiene to all children in elementary schools.

Malnutrition—a Threefold Classification.—In regard to want of proper food, the children who suffer from this may be divided into three classes:

First, those who can afford to have sufficient good food, but, from some cause or other, such as late hours, too much

tea, sweets or cakes between meals, or want of knowledge on the part of the mother of the proper food for a child, do not take sufficient nourishment at their meals.

Second, those whose mothers go out to work, or take in work at their homes, and, as there is no time for preparing a mid-day dinner, the chief meal of the day is something hurriedly cooked at night and the child is too tired to eat it.

The third class is found chiefly amongst the farm labourers' families in the county. In many of these families it would be very hard to feed the children properly on the money that is over from the husband's wages after paying for rent, clothes, clubs, etc., even if the wife had a good knowledge of the nutritional value of foods and the requirements of children, which unfortunately is not the case.

Main Source of Country Child's Food.—However, the quantity of food that most of these children get is probably sufficient; the quality, or proper proportion of fats, proteins, and carbohydrates, is where the mistake lies. This is partly due to the fact that as this county is near London and has good train services, and also has a residential town in it, dairy produce can be easily disposed of otherwise than locally, and so, in much of the county, tinned milk is the only kind obtainable. Home-made butter is also a practically unknown luxury, eggs and chickens find a ready sale, and thus, with the exception of vegetables, the county child's food mostly comes from towns.

"Dinner" and "Others."—Coming now to the diet itself, one finds that the meals of the younger children may be divided up into two kinds: "dinner" and "others." The latter (bread and butter meals) are chiefly breakfast and tea, though between 15 per cent and 20 per cent of the children also have lunch or supper—nearly always the former and never both. This meal consists of a small piece of bread and butter, a few biscuits, or a piece of cake, and in many instances the child who takes this lunch is one who takes very little breakfast. (Some county children can eat no breakfast, and only have a cup of tea before coming to school.)

Bread and Butter Meals.—Breakfast is usually bread and butter and tea. From inquiries that I made from mothers as

to the breakfast of 52 children (all under six years of age) I found the following:

2 had porridge and milk for breakfast.
1 had bread and milk for breakfast.
1 had bacon, potatoes, bread and tea.
1 had an egg, bread and tea.
2 had bread and tea.
45 had bread and butter, and tea.

Butter is a term used here to denote some kind of fat, such as margarine, lard, dripping, or occasionally butter itself. Lard, however, is the kind of fat generally used, though the mothers do not care to say so.

Their Deficiencies.—In regard to the quantity of fat on the bread, I was told by over 20 " dinner " children whose bread and butter I looked at, that at breakfast the butter was spread on in about the same thickness as it was on their dinner bread, and that was a thin smear that only made a glisten on the surface. I therefore do not suppose that any of the children had more than two drachms of fat on their bread at the two bread and butter meals of the day. (The amount of bread eaten at breakfast by a healthy " entrant " seems to be between 4 and 6 oz., and about the same amount is taken at tea.)

All children seem to get milk in their tea, but as in many villages condensed milk is the only kind obtainable, and in those villages where fresh milk can be got, skim is generally used, and as a pint is the most ever taken to supply the whole household for the day, including making a milk pudding, the nutritional value of the milk in the tea must be slight.

The other bread and butter meal of the day is tea, though when children stay at school for dinner, this meal is usually bread and butter, and then the children *may* have a hot meal of some kind at night, though in many cases they do not. When they do, it is the wrong time of the day for young children to have their chief meal.* Many of them are also too tired from not having had proper food all day to be able to eat much. Otherwise " tea " is nearly always bread and butter, sometimes cake is added, while sometimes cake takes the place of bread and butter.

* Cp. *Our Children's Health at Home and at School* under Evening Meal.—Ed.

School Dinner Statistics.—Of dinners at school I have seen 62, those of "entrants" and "leavers" who had to stay at school for dinner in the middle of the day.

They were as follows:

1 was an apple tart.

3 were bread and cheese.

58 were bread with a thin layer of butter or lard on it, or else bread and jam, or bread and syrup. This meal was washed down with water, as nothing hot was obtainable.

Nature of Home Meal.—In all these meals the proportion of fats, proteins, and carbohydrates is about 1, 3, and 20 respectively—a very poor ratio from a nutritional point of view, when one recollects that it is not a large excess of carbohydrates but a deficiency of fats and proteins that causes this ratio—and so the main question now is, what dinner consists of, and whether it is likely to bring the proportions to a more normal level. Dinner when taken at home, which is the usual way in Bedfordshire, fortunately, is a meal in which there is more variety than breakfast, though it usually consists of pudding of some kind or another. The puddings that the working class woman can make are meat, Yorkshire, suet, and boiled, and these during a considerable part of the year are supplemented by potatoes or vegetables obtained from the allotment or garden.

Meat and Yorkshire puddings do not need a description. Suet puddings, however, are not the same as those mentioned by Mrs Beeton, for while she recommends ½ lb. suet to 1 lb. of flour, the labourers' wives, who explained to me how they made suet puddings, seemed to use proportions varying from about 1 in 8 to 1 in 16; the latter being the more usual. Though nothing, of course, is weighed, one could find the proportions pretty accurately by asking how many puddings a ¼ lb. or ½ lb. of suet would make, and then in the same way with flour, how many puddings the quartern bag would make. Boiled puddings, which are a common form of dinner, are made from flour, baking powder, and water mixed together, and then put into a cloth and boiled. They are quite light and digestible, and are usually eaten with jam. Unfortunately there is not much nutritional value in them. Rice puddings

made with skim milk are also a common dinner for children, while in some families bread and jam is the only dinner once or twice a week.

Carbohydrates thus largely predominate, and generally the proportion of fats and proteins in the child's diet is not much, if at all, improved by this meal. Moreover, somewhere between 7 and 10 per cent of Bedfordshire school children never have this meal at home in the winter.

To obtain from this diet the amounts of fats and proteins necessary for the proper nourishment of a growing child far more food would require to be eaten than the child can be supplied with.

What Working Mothers Need.—Two things are evidently badly wanted in the education of the average mother of the labouring classes. One is a better knowledge of the nutritional value of the different food stuffs which can be obtained cheaply, so that a child may obtain more variety in its food, and also obtain more suitable nourishment than that supplied by bread and flour. At the same time, the cost must not be increased, as that is prohibitive with the present wages of farm labourers. The other thing is, that mothers should be taught the best ways to cook the different materials used, so that the meals may be properly cooked and made digestible, and so that there may be sufficient variety in them to stimulate the child's appetite.

Once a child is a little below par, and its appetite is failing, there is nothing so liable to keep it in this state as the deadly monotony of unappetizing food on which at present it is fed.

A Significant Phenomenon.—Now while the want of fats is to a slight extent rectified by the use of cod liver oil, for those who are in a state of really bad nutrition, this is only a very occasional and temporary remedy, which most mothers know the good effects of on the health of children when run down. But as a rule they cannot afford to obtain it unless it is supplied free by a hospital.

With proteins, however, there is nothing corresponding to cod liver oil which is able to supply the deficiency in the diet, and, notwithstanding all that Chittenden has said about less protein being necessary than is usually taught, it is recog-

nized in India that the races with the low protein diet are those with the poorest physique. It is also very noticeable in the agricultural districts of the county that, as soon as a boy leaves school and starts to earn money, his physique begins to improve greatly; which is very possibly due to the wage-earner getting better food so that he may be able to work.

The Most Economical Foods.—To improve this diet of the children, working-class mothers should be taught that though flour and bread seem by weight to be the cheapest articles of food, still peas, pea-meal, beans, lentils, and oatmeal, owing to their great nutritional value and small amount of water, are really as cheap in the end. At present the usual prices are: Split peas, 1½d. per lb.; flour, 1½d. per lb.; lentils, 2d. per lb.; oatmeal, 2d. per lb.; bread, 5½d. per 4-lb. loaf.

When taken by dry weight—that is, deducting water and salts, they are: Split peas, 1¾d. per lb.; flour, 1¾d. per lb.; oatmeal, 2½d. per lb.; bread and lentils, between 2¾d. and 2½d. per lb.

While taking fat as worth 6d. per lb., and dry protein at the same value, and carbohydrate at 1d. per lb., their costs as food work out in the following ratio for equal amounts: peas, 3; lentils, 3·6; flour, 4; oatmeal, 4·5; and bread, 5. Thus split peas at 1½d. and lentils at 2d. per lb. are cheaper than flour at 1½d. per lb., and oatmeal at 2d. per lb. is cheaper than bread at 5½d. per 4-lb. loaf.

It is thus seen that in all cooking lessons not only should the method of cooking food be taught, but also the comparative prices of foods, when looked at from the nutritional standpoint, and, until this is done, no great advance can be made in the nutrition of the children of the labouring classes, with the present rate of wages.

A Neglected Article of Diet.—Cheese, which would supply a large amount of the protein wanted, if used as an article of diet, is, for some unknown reason, seldom given to children in this county.

Searching for Information.—In the rural districts I found it almost impossible to obtain information, as it is extremely difficult to get an answer from a labourer's wife as to how much money she is supplied with every week to do her housekeeping

on, or how much she pays for food each week. At three schools where I tried to get information almost all that I could find out was from rather better-off mothers—those who had about £1 a week to spend on food only. They told me that in these villages the average labourer's wife would not have 10s. a week, and even adding the value of the products of gardens and allotments, a regular 10s. would be considered very good. Many women increase the family earnings by making lace, and may earn in this way five or six shillings a week, but unfortunately those with large families, where the money is wanted most, have not the time for this work. Several of the very poor told me that they had considerably less than 10s. a week for food, even when their husbands were in regular work.

A Novel Expedient.—To try to obtain information I therefore set a paper for the elder girls at one of the larger schools near Bedford. There were 29 girls, all of whom competed. (Shopping can be done in this district at about the same price as in Bedford, and the people can come in and buy chiefly at the Bedford market on Saturday afternoon or evening if they feel inclined to do so. Prices are therefore cheaper for many articles than they are in the outside rural districts, and a greater variety can be obtained.) The paper was as follows: "Write out as a bill the food required to feed for one week a family consisting of a man, wife, and three school children, ages varying from 5 to 12; amount of each item and price of it is to be mentioned, and the total cost is to come to between 10s. and 11s." This was set at 10 o'clock, and at 12 o'clock the papers were collected and most of them were found to be hopelessly bad. So in the afternoon the girls were told to work it out at night with the help of their mothers, and to bring the papers to school the next day. Prizes were given so as to stimulate a greater interest in the competition, and the girls were asked to find out from their mothers whether the money was enough for the family. Fifteen mothers said that the family could be fed quite well on this amount, the others said it was too little money. All the girls got their mothers to help them, so the result is pretty well the opinions of 29 mothers in this village on feeding, and in 15 cases the food is considered to be enough. Each paper also contained the dinner for each day, and the lines on which breakfasts, teas and suppers would be made.

Tabulating the Results.—This family of 5 persons should, according to Atwater's tables, be equal to 3·5 adult men (where a man = 1; a woman = ·8, and children vary from ·8 to ·3, according to their ages), but by mistake I took it as equal to 3·3 men, the feeding therefore appears rather better than it really is.

I worked out the fats, proteins, and carbohydrates of each diet, and also the total calories; the values of foods being taken when possible from the appendix of the "Report on a Study of the Diet of the Labouring Classes in the City of Glasgow." Prof. N. Paton, in the introduction to this report, says: "If a family diet expressed in this way gives a yield of energy of less than 3,500 calories per man per day, it is insufficient for active work, and if less than 3,000 calories it is quite inadequate for the proper maintenance of growth and of normal activity." Now 3·3 adult men's diet should produce over 80,000 calories a week at 3,500 per man per diem, and just over 69,000 calories at 3,000 per man per diem, while, of the 29 papers returned to me 4 gave less than 50,000 calories, 19 between 50,000 and 60,000 calories, and 6 between 60,000 and 65,000. That is to say, in no case did the amount come up to the minimum required.

Most of the diets were fairly well proportioned in regard to fats, proteins, and carbohydrates, and would make very good diets for a smaller family, although, of course, the fats were to a certain extent replaced by carbohydrates, and proteins were deficient compared with fats and carbohydrates combined. For a full diet the amounts should have been: fats 80·85 ozs., proteins 97·0 ozs., and carbohydrates 404·25 ozs. On the other hand, for the minimum of 3,000 calories, the amounts would be: fats 69·3 ozs., proteins 83·0 ozs., and carbohydrates 346 ozs.; while in the diets given by the girls the fats varied from 32 to 60 ozs., the proteins from 50 to 79 ozs., and the carbohydrates from 219 to 378 ozs.; that is to say, that, except in the table of carbohydrates, the minimum amount was never reached.

A Comparison with Glasgow.—When this is compared with the actual diets of 60 families in Glasgow, one finds that in Glasgow only 4 families had a lower protein intake per man than the highest given to me in Bedfordshire.

Two of these Glasgow families were being fed at a cost equal to 7s. 8d. per week for 3·3 adult men, the two others were cases of bad management, as the cost was high due to large amounts of fat. The limit of 10s. a week is just about 5·2d. per man per diem, which is almost an impossibly small expenditure on which to get the proper amounts of fats, proteins and carbohydrates, and the necessary amount of calories.

With extremely good housekeeping, that is, getting 600 calories per 1d., one can only get 72,000 calories for 10s. giving the required proteins and fats.

Conclusions.—Thus the conclusion one is brought to is that many of the housewives of the lower classes of this county are so accustomed to under-feeding that they consider a diet far under the proper one is quite sufficient for nourishment; and as we know that in a working-class family the man must be fed so as to be strong enough to earn the money to keep the family, it is evident that if the total diet is deficient the wife and children are the ones most likely to suffer in nutrition.

Unscientific Housekeeping.—To make proper use of the money supplied to the housewives in the labouring classes, it is necessary that over half of it be spent on vegetable products, and over half the proteins must be obtained from these. In none of the papers by the elder girls was this done—the amount spent on animal products being much too high.

A Practical Suggestion.—One of the most important classes for elder girls in elementary schools, therefore, should be that of how to buy food so as to obtain from 500 to 600 calories per 1d., giving at the same time a proper amount of protein, and a fair proportion of fats and carbohydrates. The girls should then be taught the best way to cook this food so as to make it palatable. To make this a success, it would be necessary for people with a knowledge of food values to collaborate with women who understand cooking, so that a number of different diets for a week might be formed, and these should be used as the basis of the cookery classes at the schools. The diets, of course, would require a certain amount of variation to suit the requirements of different parts of the country, and also the differences of feeding between urban and rural districts.

THE DIET OF COUNTRY SCHOOL CHILDREN.

By E. Bertram Smith, m.b., b.s., d.p.h. (*Medical Officer of Health, North Essex United (Sanitary) Districts, until recently Medical Inspector under the Essex Education Committee*).

Dr Bertram Smith was unable to be present at the Guildhall, but has kindly sanctioned the inclusion, as his quota to the discussion, of the closing portion of a special Report made by him in 1911 to the School Medical Officer for Essex, Dr H. W. Sinclair, and incorporated in the latter's Report for that year. It will be found to corroborate the accounts given by others at the Guildhall of the dietary of country school children, while supplementing them in a number of important particulars.—Ed.

Unsuitable Diet as a Factor in Ill-Health.—I think it is clearly demonstrated that the nutrition and physique of elementary school children—given more ideal conditions of feeding and hygienic living—could be considerably improved even for children living in rural areas. That this is so for delicate children in towns is, of course, the *raison d'être* of "open air schools."

I think the comparatively low state of nutrition of elementary school children living in country districts is due to unsuitable diet, although in towns it may be caused by insanitary surroundings. I conclude my report, therefore, with a few remarks dealing with the dietary of school children living in country districts. I think it is a fact that the wage of the agricultural labourer in rural Essex is as low as it is anywhere in England, even after the extra amount earned during "harvest" is taken into consideration. The agricultural labourer has generally a good garden with his cottage, and its products have to form a large part of the daily diet. As a consequence, many children are unsuitably fed, and some live chiefly on potatoes.

There are three main kinds of foodstuffs: (i) proteins which contain nitrogen, and are necessary for flesh-forming and growth; (ii) fats; and (iii) carbohydrates, or starchy foods. The two latter, but more especially the fats, are the source of muscular energy and the heat necessary to maintain the body temperature.

A surprisingly small proportion of a child's food is required for growth, so that he does not require as much protein as one would expect. A child of 10 years has proportionately one and a half times as much skin area as an adult, and consequently body heat is lost in greater proportion. One sees therefore why it is that a child requires an excess of carbohydrates and more especially of fats in his diet.

The necessity of adequate warming of class rooms, especially those for younger children, is therefore apparent, for the relatively increased surface area of the body is greatest in infancy and gradually declines as adult life is reached.

Deficiency of Fat.—In the normal diet for the infant, viz., milk, the fat is relatively present in four times the amount that it is in that for the adult. The main diet of children in poor circumstances is chiefly carbohydrate, e.g., bread, which also contains proteins, potatoes, rice, tapioca, etc. So much is this the case that very poorly nourished children when provided with meals by charity or the State can hardly be got to eat any fat meat.

It is, of course, essential that the fat should be given in a digestible form.

How it May be Made Good.—Certain suggestions with regard to the common elements of diet which contain fat may not be out of place here.

Of the articles of food which are mainly composed of carbohydrates and which make up such a large bulk of a child's dietary, oatmeal contains 5 per cent of fat, white flour, rice, tapioca, potatoes, and most green vegetables contain under 2 per cent. White flour contains 1 per cent, and whole meal flour 2 per cent. Amongst articles of food which are largely composed of fat, one must mention butter or margarine, dripping, fat meat, suet, milk and cheese. Butter, margarine and dripping are, of course, almost universally consumed in more or less sufficient quantities. Children very frequently do not care for fat meat and are often not encouraged by their parents to eat it, and the difficulty of obtaining new milk in the country districts is well known. Good cheese contains about 25 per cent of fat (as well as about the same quantity of protein), but cheap cheese is often made of skimmed milk and contains under 10 per cent. Cheese partaken of in the

ordinary way is not very suitable for children, only, I think, because they fail to chew it into sufficiently small particles for it to be easily digested.* The easiest way to get children to take fat is as hot fried bacon, and bread fried in the bacon fat, or as suet pudding. It is in the last-named form that our country children chiefly take their fatty foods. I regard these articles as essential in the diet of children, the only alternative being cod liver oil.

MALNUTRITION, ITS CAUSES & CONSEQUENCES

Its Heavy Responsibility.—Such a prominent place among the conditions productive of ill health in children attending our Public Elementary Schools is generally assigned to malnutrition which, in the words of Sir George Newman, "stands in the forefront as the most important of all physical defects from which school children suffer," that it may be useful to devote some little space to the consideration of the subject in detail.

Connexion with Tuberculosis.—There seems additional justification for so doing in view of the fact that the Departmental Committee on Tuberculosis class it in their interim report, as "one of the chief predisposing causes of tuberculosis."

"Childhood" the same report remarks, "affords an excellent opportunity for detecting and dealing with tuberculosis . . . the factors which tend to weaken the defensive powers of children can be brought under control easily and at an early stage. Amongst these factors the Committee desire to lay stress upon the deleterious effects of malnutrition."

Its Prevalence.—As to its extent, it was found in 1910 that eleven per cent of the children attending the elementary schools in London were suffering, in a greater or less degree, from malnutrition, while the corresponding figure for England and Wales as a whole is but little less, viz., 10 per cent.—Ed.

Signs and Causes.—"In estimating malnutrition," says Dr Hally Meikle, Chief Medical Officer to the Edinburgh

* This difficulty can be obviated by grating or milling the cheese, a course recommended by Dr Helen Webb at last year's Conference.—Ed.

School Board,* "several factors have to be considered, and these not only by themselves, but in relation to one another. Take, for example, paleness, thinness, anæmia, conditions mentioned in the table, all these are found in greater proportion in the poorer schools, but in the case of malnutrition the proportion is very much higher. Many children whose nutrition is good or fair are pale. Weight in itself is no index of nutrition; it has to be considered in relation to height, firmness of tissues, etc. The same applies to slight anæmia. It is, as a rule, the combination of these conditions, plus something else, unhealthy conditions of skin, hair, state of tissues, and the like, and lack of mental alertness, that afford the evidence of malnutrition. As to the causes of malnutrition, it is due in most cases to home conditions; insufficient or improper food, insufficient clothing, crowded accommodation, want of sleep, verminous conditions, and other evidences of neglect, all contributing to it. The Board's scheme for feeding and clothing destitute children has, in many cases, produced a marked improvement."

Results of a Special Investigation.—Dr Spencer Badger, School Medical Officer for Wolverhampton, in concluding a special report of great value on the subject, from which Sir George Newman quotes extensively in his Annual Report for 1911, says: "The outstanding impressions left upon our minds as the result of the foregoing considerations are, that malnutrition is a condition that affects all classes; that it has a close association with disease; that much of it, being associated with ignorance and defective hygiene, is due to preventible causes; that poverty operates powerfully in its production, but that in view of the number and diversity of the factors producing malnutrition, the former may not occupy, *per se*, the prominent position that is sometimes popularly assigned to it."

A Valuable though Neglected Remedy.—Commenting upon the Departmental Committee's Report cited above, Dr George A. Auden, School Medical Officer, Birmingham, remarks: "The mulnutrition may be due to:

"1. Lack of food in sufficient quantity.

"2. Want of food of suitable quality.

"3. Inability to digest and assimilate the food taken.

* Annual Report, 1912, quoted by Dr Leslie Mackenzie, First Report on Medical Inspection of School Children in Scotland, 1913. 6d.—Ed.

"All these causes may, as is most frequently the case, operate conjointly.

"It will be at once apparent that one of the most potent means of directly combating the first two of these causes and indirectly the third cause, and all three when operating simultaneously, is afforded by the Provision of Meals Act, which, if properly applied, assumes an important rôle in the anti-tuberculosis campaign. The time therefore appears ripe for the consideration of a closer association of the School Medical Department with the administration of the Act than has existed heretofore."

Improper Feeding.—As the Chief Medical Officer of the Board of Education has pointed out, malnutrition may be caused equally by unsuitable feeding and pampering as by insufficient food and general neglect. Dealing with this aspect of the problem, Dr J. Walker Beattie, School Medical Officer for Sunderland, observes*: "Many parents pamper their children, giving way to their likes and dislikes till they acquire an appetite for food that is not good for them. Put good, plain, nourishing food before healthy children. If they refuse it, let them go without. The hunger-strike will not be of long duration. Many children get plenty to eat, but the food is not of the right kind. Bread and butter, or bread and jam, and tea at every meal, although the supply is abundant, will only produce poorly nourished anæmic children: still, in many houses, from thoughtlessness or to save trouble, the children are constantly fed in this manner. At very little trouble, and no more expense, good nourishing soup or broth could be provided with beans, peas, potatoes, and vegetable and suet pudding. Every child should have at least one good meal a day. Some children get too many sweets, and when they are allowed to buy them themselves they go where they get quantity, not quality. I am not surprised at them not being able to take dinner, for the rubbish I have seen them eating in a forenoon would destroy the healthiest appetite. Sweets should be of the best quality, and not given to children till the principal meal of the day is over."

Children's "Food History."—In the schools of the Ayr and Carrick District of Ayrshire, Dr William Barr found 113

* Annual Report, 1912.

cases of malnutrition. "This number," he states, "may appear large, but under this heading the medical officer has included all cases of anæmia, as this condition is in the majority of instances due to errors in dietetics. Whenever the child manifested signs of anæmia and bad feeding, 'the food history' was inquired into, the usual story was that tea, potatoes, bread, and jelly formed the bulk of the child's feeding, and that the foods requisite for the growing organisms were a rarity. Even in the most rural schools anæmia was met with. There the cases were usually children whose homes were far from the school and who had to make a 'piece' of bread and jelly serve for dinner. It is for these latter children that the establishing of soup kitchens would be of great benefit, and already, in some schools, children can have a plate of soup for a small sum."

Tests for Anæmia.—In the report for the county of Dumfries Drs Maxwell Ross, Raeburn, and Thomson record that the numbers found distinctly "below par" or under-nourished were—boys, 150, or 4·4 per cent; girls, 103, or 3·2 per cent. The cases of anæmia were—boys, 36, or 1·1 per cent; girls, 55, or 1·7 per cent. "The condition was judged not merely by pallor of the face, but by the state of the mucous membrane of mouths and eyelids and the general appearance. Children who suffer from this suffer frequently also from headaches and are listless and sometimes backward."

In a Scotch Mining Village.—In the report for the Central District of Stirlingshire, Dr Josephine Gardner states: "Of the 5,588 children examined those only fairly well nourished numbered 613. This means that they were below standard in weight and height. Their muscles were flabby, their skin was pale, and they looked unhealthy. . . . The number of badly nourished children is estimated at 69, but this is rather under than over the mark. There are great differences at different schools. One village may have a much larger average weight than the neighbouring village, although both are mining villages, and are on an equality regarding wages and housing. A great deal is the result of the mother's habits." The children "get a 'piece' for breakfast, another for dinner, and perhaps boiled potatoes and kippers for tea, when the father comes home. At the week-end they have a great amount of food in

the house, and often small children will be getting steak and eggs for breakfast; but during the rest of the week they subsist on bread, tinned salmon and sardines, and tea; porridge, as an article of diet, is conspicuous by its absence."

Teeth and Mal-nutrition.—Dr Duncan Fletcher, School Medical Officer, Inverness Islands, observes: Parents do not realize the importance of tending the teeth, and but few will believe that diseases about the lower jaw and neck, enlarged tonsils, and even tubercular mischief in its gravest form may have originated in the cavity of a decayed tooth. Where decayed teeth are met with, and no attention is paid to the hygiene of the mouth, the result is a septic condition, and from this focus absorption takes place; the neighbouring glands put up a good fight to prevent further advance of the foe (the tubercle bacillus for instance), absorption goes on through the teeth not being attended to, and eventually the glands break down, and we have suppurating masses in the neck teeming with tubercle bacilli. The digestive system meantime is impaired through improper mastication, the child becomes anæmic and an easy prey to any disease that may come its way. Some of the consequences, then, of decayed teeth are, sepsis, enlarged tonsils, enlarged and suppurating glands, tubercular mischief, impaired digestion, anæmia, general ill-health, stunted growth, etc.

Saved by Porridge.—Dr Gordon Lang, in his last report for Inverness-shire (Mainland), gives us the reverse, and, unfortunately, too rare side of the picture. He found that, " among boys, 0·64 per cent, and, among girls, 0·9 per cent, were distinctly below the average." This is a very low percentage —" notwithstanding the very bad condition of so many of the children's teeth." He adds: " There can be little doubt that the almost universal use of porridge has much to do with this remarkable result." These figures are the percentages found after an examination of 3,856 children, the number found of defective nutrition being 12.

In the report for the Island District and Western seaboard, Dr Fletcher found 1·1 per cent of defective nutrition among boys and 1·3 among girls—also a very low percentage.

In the report for Kincardineshire, Dr King states: " Inquiries elicited the fact that oatmeal in the form of porridge,

along with milk, was almost universally partaken of by the children for breakfast, while a very large percentage of both boys and girls had porridge and milk again in the evening. Whatever may be the case in other parts of the country, it cannot be said that Kincardineshire is neglecting to take advantage of the well-known merits of oatmeal. A few children (nine in number) were noted as being obviously underfed, and in each case the reason given by the teacher was not creditable to the parents."

A Case of Pampering.—Notwithstanding the opinion of Sir George Newman, cited above, which is shared by many, if not all, School Medical Officers, to say nothing of a growing number of private practitioners, as to the connexion of mal-nutrition with wrong feeding and pampering, a good deal of scepticism in all ranks of society remains to be overcome. The inclusion here of the following authenticated statement of a recent case by the member of the London Care Committee who investigated it, may therefore serve a useful purpose: —Ed.

July 28, 1913.

"The Care Committee of which I am a member was asked to make a special investigation of a case of malnutrition, as the circumstances and the character of the parents precluded the idea that it was due to poverty or neglect. After making my inquiries I found the child's diet as follows:

Breakfast.—Porridge, Cocoa, Bread and Butter, Bacon, and occasionally an Egg.
Dinner.—Soup or Meat, Vegetables and Milk Pudding, and Stewed Fruit.
Tea.—Bread and Butter, Cocoa and Jam.
Supper.—Bread and Butter or Biscuits and a Glass of Milk.

Altogether the child had 1 pint of milk in the day beside malt and Virol. The family consisted of 5—2 adults and 3 children and the house contained 5 rooms, with plenty of light and air, but the child was too tired to go either to school or for a walk, and spent nearly all day playing in a cellar. I may mention he was 8 years old.

Three Other Common Causes of Mal-nutrition.—Dr Patrick, Assistant School Medical Officer, Ayr, reported that: Among entrants 71 boys and 60 girls were found suffering from anæmia and malnutrition; among leavers 26 boys and

39 girls. He assigns the usual causes—want of sleep, want of food, and working out of school hours. The child's working day often begins before school, when he assists in the delivery of the matutinal milk of the district in order to amplify the perhaps straitened financial resources of the family. His interval is devoted to running errands, the taking of his dinner being accomplished when and where it best may. It may be that evening again calls him to duty, and after futile attempts to do his school "home work" he retires to bed in an exhausted state and with little prospect of getting the rest he requires. It is not to be wondered at that next day his brain is not over-receptive and that both his educational progress and his physical growth pay the penalty.

ALCOHOLISM AND CHILDHOOD

At the International Congress for the Protection of Infancy, held on July 23-26, 1913, Dr A. Delcourt, Graduate of the University of Brussels, read a paper of great interest on the alcoholism of infants. His conclusions were as under.—Ed.

1. Congenital alcoholism is a great cause of miscarriages, premature births and infant mortality during the first few months.

2. The alcoholism of the nursling may be *indirect* (through the milk of the nurse) or *direct* through an absorption of alcoholic beverages.

3. *Acute* alcoholic intoxication of the child shows itself clinically accompanied by special features. It is sometimes very difficult to throw off.

4. *Chronic* alcoholic intoxication causes troubles affecting the general health of the child and all the symptoms are the more marked because its young tissues, being in course of formation, are more sensitive to the action of alcohol.

5. The prophylactic treatment of the alcoholism of the nursling consists in proscribing alcohol from the diet of the nurse, and in forbidding its use for the dressing of cracks of the breast and for the treatment of colic or other infantile ailments.

6. Hereditary alcoholism creates in the descendants a

tendency to drink. The children of inveterate drunkards show a precocious craving for alcoholic beverages.

7. These children already impregnated with it through heredity will become all the more easily drunkards because they find in the family circle a pernicious example.

8. It is, then, to the interests of society to remove the children of drunkards from their family surroundings. In this way it is often possible to prevent the appearance of a passion which exists in a latent state and only awaits an opportunity to show itself.

9. It is indispensable to create special homes for drunkards and special homes for the children of drunkards.

10. It is desirable that a law should be enacted, depriving, for a more or less long period, of the care of their children, parents who have been sentenced one or more times for public drunkenness, or who are known to be habitual drunkards.

11. A system similar to that advocated by Dr Bratt is calculated to render great services to the cause of anti-alcoholism.

12. The State should liberally subsidize Temperance societies.

13. Family and school education ought to play a considerable part in the struggle against the ever-growing alcoholism.

REMARKS ON THE FOOD REQUIREMENTS OF CHILDREN. *By* CHALMERS WATSON, M.D., F.R.C.P.E. (*Asst. Physician, Royal Infirmary, Edinburgh*).

THIS paper was read at one of the meetings of the Edinburgh Medical Chirurgical Society, and subsequently appeared in the *Lancet* and *The British Medical Journal*.* Constituting, as it does, one of the most valuable of recent contributions to the literature on a subject of vital consequence to the future of the race, it is a matter for congratulation that, by kind permission of its author, a place may be found for it here. Mothers belonging to all sections of the community, as well as others responsible for the dieting of the rising generation, will be thus enabled to profit by its teaching.—Ed.

* March 22, 1913; reprinted by permission.—Ed.

ORIGIN AND NATURE OF INVESTIGATIONS.—As a member of a subcommittee of the Edinburgh School Board, co-opted to advise as to the best means of supplying nutritious meals at small cost to the necessitous and other children fed by the Board, I was led to make the following investigations.

1. To ascertain by chemical analysis the amount of food consumed daily by apparently healthy children, about 5 years old, in good social circumstances.

2. To devise nutritious one-course meals at small cost, suitable for a large number of children (2,000 or more) fed by the school authorities.

The results of these investigations will be shortly stated:

IMPORTANCE OF PROTEINS.—Brief reference may first be made to the part played by proteins in the dietary. In early life proteins have special importance from the physiological point of view because they are the chief tissue builders; the proportion of protein in the dietary of children should therefore be relatively high. It is important to note, however, that the nature and source of the protein require quite as much consideration as the amount consumed. In later life proteins have special significance from the pathological point of view, because, being incompletely oxidized in the body, products of their incomplete combustion are liable to accumulate in the blood and tissues, and there give rise to various manifestations of so-called "autointoxication."

FOOD REQUIREMENTS OF ADULTS.—The commonly accepted standard of daily food requirements in adults is that associated with the names of Atwater and Voit, namely:

Protein, 120 grams (4·2 oz.), Fat, 65 grams (2·2 oz.), Carbohydrates, 500 grams (17·6 oz.), Caloric value, 3,147.

In recent years considerable doubt has been thrown on the accuracy of this teaching by the important researches of Chittenden, whose results led him to conclude that the standard hitherto accepted as correct is unduly high. In regard to protein in particular, Chittenden has laid down a standard of 80 grams or less of protein as the physiological intake for an adult under ordinary conditions. We are not here, however, concerned with the food requirements in adults, and

the above figures are merely cited because of their bearing on what is to follow.

I. The Food Requirements of Children.

Existing Standards.—So far as I have been able to learn from the study of textbooks on dietaries of children, authorities give little or no precise information on this subject. Details are given as to the kind of diet suitable for children of different ages, but nothing is said as to the total amount of protein, fat, and carbohydrates that should comprise the diet of a child, say, of 5 or 10 years. When we turn to textbooks of physiology and of dietetics, a definite statement is laid down as follows:

A child from 3 to 5 requires 0·4 the food a man at moderate work.

A child from 6 to 9 requires 0·5 the food a man at moderate work.

A child from 10 to 13 requires 0·6 the food a man at moderate work.

On looking into the subject, it would seem that this estimate has been arrived at empirically, the figures, once laid down, having been reproduced by all subsequent writers on the subject. If for the moment we accept the Atwater standard as a reliable guide for the food requirements of an adult, we find that the daily food requirements of a child of 5 years are as follows:

Protein, 48 grams, Fat, 30 grams, Carbohydrates, 200 grams, Caloric value, 1,270.

No attention is paid to the salts in the dietary, as these are amply provided for in any dietary which will give the above supply of protein, fats, and carbohydrates.

An Experiment.—In order to ascertain the actual amount of protein, fat, and carbohydrates taken daily by children in good social circumstances, I have made an analysis of the diet of some apparently healthy children—one member of my own family, the others of children of my medical colleagues, who took an interest in the observations and took all possible precautions to furnish accurate data. The equivalent of an average day's diet was set aside, thoroughly mixed, dried to constant weight, weighed, and a known amount taken for estimation of the protein, fats, and carbohydrates. The proteins are

calculated from the nitrogen estimation (Kjeldahl), the figures for N being multiplied by 6·1. The fat was estimated by extraction with Soxhlet apparatus, the figures for carbohydrates being arrived at by differences. The age, height, and weight of the children are recorded, and also any points of interest in the composition of the dietary.

TABLE I.—SHOWING NATURE AND COMPOSITION OF DIET IN EIGHT CHILDREN AGED FOUR TO SEVEN YEARS

Age 4, height 3 ft 2 in., weight 2 st. 2 lb.: Total dried food 220 grm.; protein 44 grm., fat 41·5 grm., carbohydrates 134·4 grm. Mixed diet.

Age 4, height 3 ft 9 in., weight 3 st. 2 lb.: Total dried food 338 grm.; protein 52·8 grm., fat 104·1 grm., carbohydrates 181 grm. Mixed diet; porridge.

Age 4, height 3 ft 5 in., weight 3 st. 2 lb.: Total dried food 260 grm.; protein 64·5 grm., fat 39·9 grm., carbohydrates 175·4 grm. Mixed diet; grape nuts; cream.

Age 5, height 3 ft 5 in., weight 3 st.: Total dried food 384 grm.; protein 74·6 grm., fat 60·9 grm., carbohydrates 248·4 grm. Mixed diet; grape nuts.

Age 4, height 3 ft 5 in., weight 3 st.: Total dried food 329 grm.; protein 75·6 grm., fat 58·4 grm., carbohydrates 195·3 grm. Lacto-non-flesh diet; fruit in abundance.

Age 5, height 3 ft 7 in., weight 2 st. 11 lb.: Total dried food 333 grm.; protein 78·6 grm., fat 60·2 grm., carbohydrates 194·6 grm. Mixed diet; no red meats.

Age 7, height 4 ft, weight 4 st. 1 lb.: Total dried food 398 grm.; protein 79·1 grm., fat 70·9 grm., carbohydrates 248·2 grm. Mixed diet; porridge twice daily.

Age 4, height 3 ft 6 in., weight 3 st. 2 lb.: Total dried food 435 grm.; protein 108·0 grm., fat 117·0 grm., carbohydrates 210 grm. Mixed diet, plus 3 pts milk.

Average of 1 to 8: Protein 72·1 grm., fat 69·1 grm., carbohydrates 198·4 grm. 1,751 calories.

The protein intake ranged from 44 grm. in No. 1, a fairly sturdy small boy, to 108 grm. in No. 8, a boy of excellent physique and high physical energy. The diet of No. 8 included an extra supply of milk, this having been given for some months on account of an enlarged submaxillary gland, a sequel to tonsilitis, which was regarded as possibly of tuberculous origin.

CONCLUSION.—The question then arises whether we should accept the forementioned Atwater standard of 48 grams protein and 30 grams fat as a reliable standard, or 72 grams protein and 69 grams fat, the average figures of this series. A knowledge of the physique, colour, and state of vigour of the children referred to inclines me to accept the latter as the more nearly correct standard. In comparing the figures for protein for the child with those of the adult it should not be lost sight of that much of the protein in the child's diet is in

the form of milk, the protein of which is much more easily digested and absorbed than the protein entering largely into the diet of the adult. In the interpretation of the above data I would emphasize three points:

A Common Error.—1. Too much importance must not be attached to the chemical composition of the food *per se*—for example, a child of five may be able to digest and absorb to advantage a quantity of protein and fat in the form of milk much in excess of what it can advantageously take in the form of meat foods.

Where Special Rules Apply.—2. In children of pronounced tuberculous or gouty tendency special rules apply. In the former the proportion of protein in the diet should be appreciably higher than the accepted standard, the protein being given in the form of extra milk, eggs, and red meats. In the case of child No. 8, for instance, I believe that the extra protein and fat in the dietary given over many months was a physiological one for the child in question. In gouty children, on the other hand, the amount of protein, and more especially in the form of rich animal food, should be judiciously restricted during the whole of the early growing period. I believe that the special advantages of an extra supply of protein in the one condition and restriction of it in the other are explained in great part by the specific effects of the diet on the thyroid gland as revealed by the results of my experimental investigations.*

Consequences of Adulteration.—3. The third point to which I wish to refer is the importance of pure food. It is probably no exaggeration to say that the medical profession, no less than the public, have a very inadequate idea as to the extent of minor or major adulteration of common foodstuffs. Bread is an important illustration. A large proportion of bread in daily use is now made from flour which has been artificially bleached by the passage of nitrous oxide fumes. These are produced by an electrical discharge, the process being described by the parties interested as "electrified air," and in ignorance accepted by millers and bakers as a process "free

* Appendix to *Food and Feeding in Health and Disease.* (Oliver and Boyd, Edinburgh. Second edition, 1913.)

of chemicals." The researches of Professor Ladd, U.S.A., Professor Halliburton, and the author, among others, have shown that the digestibility of flour so treated is, *in vitro*, appreciably reduced, and as there are, unquestionably, no compensating advantages in the process from the physiological and dietetic point of view, it is advisable that all bread should be made from the natural product of the wheat. It is conceivable that a child would thrive better on a diet containing a smaller amount of food in a pure form than on a diet which is richer from the point of view of chemical composition, but with its nutritive value impaired by the addition of various preservatives.

Form of Diet.—4. A further point of importance is the use of "hard" food, adapted for promoting mastication, giving meat in a form which necessitates chewing, bread in baked form for similar reasons, and at the same time restricting indulgence in sugar and sweets, which promote fermentation in relation to the teeth, with resulting caries.

II. Nutritious Meals at Small Cost.

Chief Cause of Malnutrition.—The question of supplying diets which are both cheap and nourishing is very important. To a man and his wife, with three or four children and an income of £1 a week or less, the question of how best to expend the sum required for the necessary foodstuffs is, or ought to be, a very vital one. There is, unfortunately, no doubt that inadequate attention is paid to this point, with the result that not a little of the malnutrition seen in the children of the poorer classes at the present time is due to ignorance rather than to actual poverty. This is very clearly brought out in the report of Sir George Newman, chief medical officer of the Board of Education, for 1910. This report not only discloses the fact that a very large proportion of the children are suffering from diseased conditions of various kinds, all of which are calculated to interfere with the conduct of education, and many with the ultimate attainment of sound physical development, but it discloses the fact that a considerable percentage of children are also suffering from a greater or less degree of malnutrition. In plain English, they are half starved. The re-

port leads to the conclusion that it is too widely diffused to be attributable to poverty in more than a small proportion of cases; a more probable explanation seems that afforded by the extraordinary ignorance of English women of the industrial classes concerning food values, cooking, and general economy of dietetics.

Added Importance of Subject.—Further, additional interest and importance now attach to the subject of cheap and nutritious foods in view of the Provision of Meals Act, 1906, which empowers educational authorities to supply school children with meals, the cost of which is met out of the rates, or, in part, by voluntary subscription. Some idea of the extent to which this power has been exercised will be learnt from the fact that in 1909-10 the cost to the rates of the meals so provided by the educational authorities was £134,105. As the principles to be observed in the feeding of a family of six or seven, where the income is very small, are similar to those applicable when a large number of children have to be fed out of the rates, it is possible to gain information of value for the family from the results of the experience recorded in the past year or two by various educational authorities.

School Dinners: Conditions to be Fulfilled.—It may be assumed that the essentials to be laid down are the following:

1. The food must be nourishing and ample in amount.
2. The food must be as cheap as possible, consistent with 1.
3. The food must be of a nature that can be readily cooked with the limited facilities available in a one or two roomed house.
4. In children, satisfactory rate of growth, increased vigour, and more efficient education must be the result.

Nourishing and Cheap Foods.—Oatmeal, peas, beans, and lentils are, in virtue of the large amount of protein, fats, and carbohydrates present, highly nourishing foods, and have the merit of cheapness. For example, a bowl of thick lentil soup containing ¼ lb. of lentils with a slice of bread, costing about ¾d., contains much more nourishment than ½ lb. of meat and a slice of bread, costing about 4d.

THE MIDDAY MEAL.—The most important meal of the day is dinner. In the case of very necessitous children it is possible to give, if necessary, at least half of the total daily food required at this meal. It may be given in the form of a two-course dinner or a one-course meal. An excellent series of cheap two-course dinners was published in 1907 by Dr Ralph Crowley in conjunction with Miss Marian Cuff for the City of Bradford Education Committee. This report gives details of seventeen two-course dinners, of which about half contain meat, adapted for a family of seven, the cost of food materials (in 1907) ranging from 1·1d. to 2¼d. per head. The average food value of the dinners in protein and fat was 29 grams (1 oz.) and 18 grams (¾ oz.).

The "Bradford" meals are perhaps better adapted for families with an income of 25s. weekly or upwards, as, in addition to the expense, the trouble involved in the cooking is in many instances beyond the facilities available in the restricted house and firing accommodation of the very poor.

A CAUTION.—When a two-course dinner of soup and pudding is relied on as an ample meal, especially for children, care must be taken to see that the proper amount of nourishing food is given in each course. Some time ago I analysed three two-course dinners which were supposed to be planned on the Bradford system, and found the composition in protein and fat as follows: Protein, 20·6 grams; Fat, 1·8 grams.

The deficiency was accounted for by the soup being too thin and the puddings also lacking in nutritive value.

CASE FOR ONE-COURSE MEAL.—The question of a good one-course dinner is important. In many of the houses of the poor the cooking facilities—one small open grate—are not well adapted to providing a two-course meal if such were otherwise available, and in connexion with the feeding of large numbers of school children there is certainly economy of time and labour, and possibly of expense, in a one-course as compared with a two-course meal. Experience has shown that a one-course meal at low cost can be made as nourishing and attractive to children as a two-course meal at similar outlay.*

* Such meals would probably also place less tax upon impaired or delicate digestive organs.—Ed.

Edinburgh School Dinners.—It is of interest in this connexion to refer to the nutritive value and cost of a series of five one-course dinners recently supplied, on my recommendation, by the Edinburgh School Board. The nutritive value of the food was determined by analysing the total amount of food taken by the "average" child in a school in one of the poorer districts of Edinburgh. The amounts of food were in each case taken by myself in conjunction with the head master of the school. I am aware that in the strict sense there is no such thing as an "average" child, just as there can be no "average" family; but still it is possible to establish what may prove, at any rate, a useful standard which may be practically applied. Any such standard must, of course, be applied intelligently, due allowance being made for those conditions of the concrete problem which differ from those which were presupposed in fixing the standard. The meals in question were greatly enjoyed by the children; the smaller number of children fed on the porridge day is due to the fact that a certain number of children who get a more expensive two-course dinner do not take porridge.

Composition and Cost.—Analysis of the five meals gave the results shown in Table II, the composition of the meals and the figures for cost being kindly given by the officials of the board. The salts in the dietary are not estimated, because we know that any diet of the chemical composition given contains a sufficiency of mineral matter.

Table II—One-Course Dinners

Lentil soup: No. of children 2,000; protein 29·5 grm., carbohydrates 112·6 grm., fat 3·7 grm.; cost £6 3s.

Meat, soup and potatoes: No. of children 2,000; protein 18·5 grm., carbohydrates 67·2 grm., fat 9·4 grm.; cost £11 15s. 4d.

Plum pudding: No. of children 2,000; protein 36·4 grm., carbohydrates 151·4 grm., fat 20·2 grm.; cost £12 12s. 7d.

Scottish broth: No. of children 2,000; protein 28·2 grm., carbohydrates 71 grm., fat 8·1 grm.; cost £8 4s. 3d.

Porridge and hard biscuit: No. of children 1,820; protein 24·5 grm., carbohydrates 105·3 grm., fat 4·1 grm.; cost £5 13s. 5d.

Average for the five meals: Protein 27·1 grm., carbohydrates 102 grm., fat 9 grm.; cost 1·2d. per head.

Studying the Details.—A study of the figures in the different columns is very instructive. The average amount of pro-

teins 27·1 grams, fat 9·0 grams, and carbohydrates 102 grams, may be taken as a reliable standard for a highly nutritious meal, erring if anything in a deficiency in fat. If we compare the individual menus we find that:

No. 1 is a very nourishing dinner at small cost.

No. 2 is of considerably lower nutritive value, and is out of proportion expensive.

No. 3 is a rich, highly nourishing meal and is proportionally dear; it is only advisable as an occasional meal.

No. 4 is a good dinner obtained at moderate cost.

No. 5 is also a good meal, a little below the average in nutritive value; this can be rectified by slightly increasing the amount of milk.

Proof of the Pudding.—The experience of the head masters in the different schools under the Edinburgh School Board has shown that meals planned on these lines have been followed by satisfactory rate of growth, increased physical vigour and more efficient education of the children, these being the criteria for judging the correctness of any system of feeding.

A Family Menu.—A highly nutritious, cheap, and palatable day's menu may be summarized as follows. When calculated for a family of father, mother, and five children, the price works out at 16s. per week, which may be regarded as the minimum rate at which a family of that size can be adequately fed.

Menu for a Day

Breakfast.—Porridge and milk: oatmeal 1 oz., treacle 1 oz., milk ½ oz., bread 2 oz., margarine ¼ oz. (Protein 19·5 grm., fat 20 grm.) Cost not exceeding 1·2d.

Dinner.—One course, framed from Table II with footnotes. Protein 30 grm., fat 10 grm. Cost not exceeding 1·4d.

Tea.—Bread and milk: bread ¼ lb., margarine ½ oz., milk ½ pt. (Protein 21·5 grm., fat 19 grm.) Cost not exceeding 1·2d.

A Frequent Cause of Ill-health.—In the foregoing remarks I have directed attention mainly to the proteins in the dietary. I am well aware that there are many disorders in children which owe their origin to the excessive use of starchy foods, and which are corrected by substituting proteins. The consideration of these cases is beyond the scope of the present paper, but in this connexion it is of interest to note that the average amount of carbohydrates in the series of cases recorded is practically identical with the generally accepted Atwater standard.

THE BRADFORD FEEDING EXPERIMENT. REPORT ON A COURSE OF MEALS GIVEN TO NECESSITOUS CHILDREN FROM APRIL TO JULY, 1907. *By The Medical Superintendent*, RALPH H. CROWLEY, M.D., M.R.C.P., *in conjunction with the Superintendent of Domestic Subjects*, MARIAN E. CUFF. *Presented to the Bradford Education Committee September* 26, 1907, *and published by them.**

The following Report, though only six years old, has long ago taken its place as a classic, and since it is out of print it has been reproduced here as a document of permanent value. Its author, Dr Ralph Crowley, shortly after its appearance, found a wider sphere for his great ability as one of the Medical Officers of the Board of Education. Miss Cuff, his invaluable coadjutor, still remains, as the Members of the Second Guildhall School Conference are aware, to guide the ship, which by their joint efforts was so successfully launched.

Appendix II, containing the Recipes used during the experiment, with full particulars as to the mode of preparation has been omitted, since the Bradford Education Committee wisely and with the happiest results, decided to circulate these amongst the parents of the children attending their schools. The Pamphlet is still obtainable from the Education Office, Town Hall, Bradford. Price 1d. or 9d. per dozen.—Ed.

OBJECT AND SCOPE OF EXPERIMENT.—The following report gives the account of a feeding experiment, carried out on about 40 children during the early summer, namely, from April 17 to July 24, 1907.

The object of the experiment was, not only to ascertain what effect the giving of food had upon the children, but, in view of the fact that the City had adopted the Education (Provision of Meals) Act, it was thought that the experiment might prove useful as a practical guide to the character of the meals to be provided and to the best methods to adopt in the serving of them. The Right Honourable the Lord Mayor, Alderman J. A. Godwin, J.P., very kindly undertook to be responsible for obtaining the money required, estimated at about £50.

SELECTION OF CHILDREN.—The meals, consisting of breakfast and dinner, were given in a School in one of the poorest quarters

* Reprinted by permission.—Ed.

of the city, about 30 of the children coming from this school, and 10 from an adjacent one. The children were selected out of Standards I to IV by the Head Teacher and myself. The children apparently most in need of meals were chosen, though a few were included primarily on the ground of the then particularly poor circumstances of the family. In the majority of the cases either the family income, for one reason or another, was very irregular, or the mother went out to work or the family was a large one; but in one or two of the cases the circumstances were comparatively good.

Educational Side of Meal.—Every effort was made to make the meals, as far as possible, educational. There were table-cloths and flowers on the tables; monitresses, whose duty it was to lay the tables and to wait on the other children, were appointed, one to each group of 10 children; they were provided with aprons and sleeves and had their meals together after the other children. From almost the first there was very little to complain of in the general behaviour of the children, for children soon respond to orderly and decent surroundings. The table-cloths, it is true, were very dirty at the end of the week, but this was chiefly due to the dirty clothing of the children, and owing to the very inadequate provision at the school for the children to wash themselves, it was difficult to ensure that even their hands were clean.

Individual Attention and its Results.—From the first the children were carefully watched individually—this is an especially important point, and if it be not attended to no system of feeding can give fully satisfactory results. With a little encouragement, by starting with small helpings, by not at first unduly pressing what is distasteful, and in other ways, children, whom at first it is difficult to get to eat, can soon be made to do so. These children it was soon found advisable to group together at one table, thus permitting of more ready supervision. All the children were allowed to eat practically as much as they wished.

Breakfast Menu.—Breakfast consisted every day of oatmeal porridge with milk and treacle, followed by bread and margarine or dripping, with milk, hot or cold, to drink. In Appendix I will be found a table showing the quantity eaten on the

average by each child, the food value in protein and fat and the cost. It will be noticed that oatmeal porridge was given to the children every day. I ascertained from the children that only one of them was in the habit of eating porridge, and he was a Scotch child. At the first breakfast 13 of them refused to eat it; the next day there were only 2, and from that day it was eaten and enjoyed by all.

Popularity of Porridge.—It was originally intended to have varied the diet for breakfast, but on any occasion when this was done the children were so disappointed at having no porridge, that practically no alteration in the menu was made. A more satisfactory breakfast, from the food value point of view, probably cannot be given for the money.

If cocoa be used instead of milk the nutritional value will be lowered in proportion as less milk is taken, there being but little actual nourishment in the small amount of cocoa used. The bread may be partly replaced by wholemeal currant loaf, but this will cost almost as much again as the equivalent quantity of bread. An egg, of course, adds very greatly to the cost of the meal, even though less milk be taken.

The Dinner Problem.—On the question of the dinners, a very large amount of time and energy was spent on experimenting by Miss Cuff, and to her is entirely due the credit of the excellent menus provided. The problem it was desired to solve was that of providing a good variety of two-course dinners, which should be practical as regards their preparation and serving, should be up to a certain standard as regards the proportion of protein and fat, would cost between 1d. and 1½d. for the material used and would be enjoyed by the children.

How it Was Solved.—Seventeen dinners fulfilling the above conditions were arranged and the recipes for these are given in full by Miss Cuff, in the Appendix. On these recipes Miss Cuff has expended much thought, and the success of them depends on careful attention to detail. It is true that many of the meals suggested are not such as one is accustomed to find in the ordinary cottage home, and it might be objected that some of them involve too much thought and time to be used in the homes of the children. It would seem, however, that if such be the case, the fault lies with the upbringing of, and with the

conditions under which many of the people live, rather than with the recipes.

Cost.—In Appendix I. will be found the details of these 17 dinners, giving the food value of each as regards protein and fat, and the cost per child, both when the feeding is on a large scale and in the home. The price of the dinners will be seen to vary from 1d. to 1¾d. per head when large numbers are being fed, and from 1¼d. to 2½d. when provided at home. The average cost of all the dinners under the same conditions respectively is, approximately, 1½d. and 2d.

Feeding an Imaginary Family.—It may now be useful to go more in detail into the question of the food requirements of children, and incidentally into the approximate cost of reasonably feeding an imaginary family of seven—the parents and 5 children. There is, of course, no such thing as an "average" child, nor yet a "typical" family of 7, but still it is quite possible to establish what may prove, at any rate, a useful standard which may be practically applied. Such a standard needs, of course, to be applied intelligently, due allowance being made for those conditions of the concrete problem which differ from those which were pre-supposed in forming the standard.

The Four Classes of Food.—All articles of food contain certain constituents which may be grouped under four headings; they may be composed of only one of these constituents, or of two or more in combination:

1. Protein, the nitrogenous portion, found for example more especially in such foods as meat, peas, cheese, etc.
2. Fat.
3. Carbohydrate, including all the starchy foods and sugar.
4. Salts.

Basis of the Diet.—The protein portion of a diet being from the point of view of body building the most important, experiments have practically all turned on ascertaining the amount of this constituent required under varying conditions. A diet then must so be arranged that it contains the required

proportion of protein, and fat should be present, at any rate, for children, in the proportion of three of fat to four of protein.

No special attention need be paid to the carbohydrate element, as of this there will always be enough in any diet likely to be arranged. The salts are a very important element and are more especially contained in vegetables and fruit of all kinds. Much depends on the method of cooking vegetables as to whether or not their full value is made use of.*

The actual amount of the protein element has been ascertained in practically every article of diet likely to be used, so that given the amount of protein required it is only necessary to see, so far as this element is concerned, that a diet is chosen containing a sufficient quantity of different kinds of food to ensure the right quantity of protein being present.

Relative Amounts Required.—Taking the almost universally accepted standard, viz., that of Atwater, the following table gives the amount of protein necessary under the conditions stated:

Man, doing moderate muscular work, 125 grammes ($4\frac{1}{2}$ ounces);
Woman, 100 grammes ($3\frac{1}{2}$ ounces);
Child (assuming average age of family to be about 10 years), 68 grammes ($2\frac{1}{2}$ ounces).

Analysis of Meals Provided.—Working then on the basis of the requirements of an average child of 10, the amount of protein necessary will be 68 grammes ($2\frac{1}{2}$ ounces) per day. Turning now, in the first instance, to the breakfast suggested, it will be seen that it has a protein value of 19 grammes ($\frac{3}{5}$ ounce) and a fat value of 20 grammes ($\frac{7}{10}$ ounce), while its retail cost is $1\frac{1}{3}$d. per child. The 17 suggested dinners, of which about half contain meat, vary somewhat in their protein and fat value, but the average quantity of these two elements works out approximately at 29 grammes (1 ounce) and 18 grammes ($\frac{3}{5}$ ounce) respectively. Taking these two meals together it will be seen that the combined protein value is 48 grammes ($1\frac{3}{4}$ ounces), that is to say 20 grammes ($\frac{3}{4}$ ounces) short of the estimated amount necessary for daily consumption. This, of course, would be supplied at tea, and would be contained in, for example, a meal consisting of 6 ounces of bread, weak tea

* See note on page 188.—Ed.

containing 4 ounces of milk, ¼ ounce margarine or jam.* Such a meal would cost just over 1d.; the details are given in the Appendix.

Cost and Character of Diet.—Adding up now the cost of each meal, a total of 4⅗d. per child per day is obtained. Multiplying this by 7⅘†, as representing the 5 children and the 2 parents, the total cost per day for food works out at 2s. 8d., or at 18s. 8d. per week. If further of the 17 dinners the two cheapest meat and the cheapest non-flesh dinners (including two of the cheese dinners) are chosen, the total cost is brought down to 17s. 3½d. per week. The cost per week for a similar family, in order to maintain physical efficiency, is given by Seebohm Rowntree at 17s. 3d.; it is interesting to note how nearly the two estimates approximate. It will be noted that there is nothing extravagant about the diet suggested, and however looked at it must, I think, be admitted that the amount allowed for food (under pre-supposed conditions of city life) cannot be considered unreasonable. It should be noted that the figures are based on the assumption, for example, that margarine at 4d. per pound‡ is used, and not fresh butter at 1s. 2d., and that meat free from bone is put at the low figure of 6d. per pound. Moreover, it is presumed that the mother is a careful and capable manager, that she knows something of food values, and how to lay out money to the best advantage, and that there is no waste.

A Subject of Controversy.—There has been a good deal of controversy lately as to whether the amount of protein food given in the usually accepted standards as necessary for an adult is not unnecessarily high, and recent experiments certainly tend to show that this is the case. The results of these experiments, however, have been much criticized, and there is, at any rate, no reason to suppose that the amount of proteid required by an actively growing child has been over estimated.

Ascertaining the Results.—I now turn to the effect produced on the children by the provision of breakfast and dinner for

* Fat being so valuable for children, jam should not wholly replace the margarine.

† Calculating relative cost of feeding child and parents on Rowntree's basis.

‡ This is quite as satisfactory in every way as more expensive margarine.

five days a week during the three months' experiment. This is a somewhat difficult part of the subject, and there are numerous pitfalls. The effect may be judged, on the one hand, by any change in the general appearance and carriage of the child, and on the other by observations on the weight. The improvement under the first heading was more or less apparent in all, and very obvious in some of the children, who visibly filled out and brightened up. The reverse process was equally apparent when the children were seen after the summer holiday, during which time no special meals had been provided. To interpret aright the effect produced on the weight of the children, several important considerations have to be borne in mind. Chief among them are the following:

1. The increase in the weight of children normally varies greatly at different seasons of the year;
2. The increase in the weight at any given season fluctuates much sometimes, comparatively, from even week to week;
3. The proportional increase in weight varies with the age of the child, or rather with the weight to which the child has already attained.

Comparative Tests.—In order then usefully to be able to judge of the effect on the weight of the meals provided, the children experimented on were weighed three times during the five weeks preceding the starting of the meals. Sixty-nine control children, i.e., children as comparable as possible with those being fed, except that they did not receive the special meals, were also taken, and these were chosen from the same school and from two adjacent schools, where the poverty conditions were as comparable as possible. So far as size was concerned, these children may be considered satisfactory for comparative purposes, since their average weight closely approximated to that of the children fed, namely, 21 kilos. (46¼ lbs.) as against 22 kilos (48½ lbs.). It was found, taking the period covered by the experiment, April to July, that these control children gained an average of ·029 kilos (1 ounce) per week, i.e., at the rate during those three months of 1·5 kilos (3 lbs. 5 ounces) per year. It is interesting to note that the control children, who between the three weeks prior to the

Whitsuntide holiday had lost ·003 kilos ($\frac{1}{10}$ ounce) on the average, gained during the 11 days of the Whitsuntide holiday ·23 kilos ($\frac{1}{2}$ lb.), while the gain during the subsequent 11 days was only ·02 kilos ($\frac{3}{4}$ ounce). A group of controls from another school similarly gained ·21 kilos ($7\frac{1}{2}$ ounces) during the holiday, the increase during the following fortnight being only ·04 kilos ($1\frac{1}{2}$ ounces). This effect of the holiday is interesting.

The Average Gain.—Turning now to the children actually experimented on, none of whom had previously been receiving free meals, the effect produced on their weight is shown on the accompanying chart. It will be seen that between the dates of March 12 and April 9 (four weeks) they gained on an average ·17 kilos (6 ounces) and during the week previous to feeding the average gain was ·008 kilos ($\frac{1}{4}$ ounce). As the result of the first week of feeding the average increase was found to be ·58 kilos (1 lb. 4 ounces) i.e., at the rate of 30 kilos (66 lbs.) a year. All the children gained except three, one of whom was ill and one of whom remained stationary; the highest gain was 1·5 kilos (3 lbs. 5 ounces) and three other children gained just 1 kilo (2 lbs. 3 ounces). It may be pointed out that the average gain per year of children of this class and size is not more than 2 kilos (4 lbs. 6 ounces) for the whole year. After this sudden rise, as one might expect, no gain was made on the average the next week, there being indeed a slight loss on the previous week of ·001 kilos ($\frac{1}{30}$ ounce). The next two weeks showed a gain of ·15 ($5\frac{1}{2}$ ounces) and ·13 kilos ($4\frac{1}{2}$ ounces) respectively, while the control children during the same period lost slightly in weight.

Effect of the Holidays.—From May 15—27, being the Whitsuntide holiday, no meals were given, and on weighing the children on their return to school it was found that they had, on the average, lost ·48 kilos (1 lb.). During the same period the control children had gained ·23 kilos ($\frac{1}{2}$ lb.) as has already been pointed out.

The increase in weight after the holiday and when feeding was recommenced was more gradual than at the beginning of the experiment, and it took nearly a fortnight to make up for the effect of the holiday, the gains being respectively ·32 kilos ($11\frac{1}{4}$ ounces) and ·22 kilos ($7\frac{3}{4}$ ounces) for the two weeks.

It is interesting to note, too, the effect of the four weeks' holiday during the summer. The control children gained ·37

kilos (13 ounces), i.e., at the rate of ·074 kilos (2½ ounces) per week, as against the previous rate of ·02 kilos (1 ounce). Those who had previously been fed lost on the average ·46 kilos (1 lb.).

Towards the end of the time twelve additional children from an adjacent school were given dinners only for five days in the week. The experiment, however, so far as these children were concerned, was, for several reasons, unsatisfactory. Circumstances prevented them being weighed at the end of the third week, and on account of the schools being unexpectedly closed a day earlier than anticipated only a few turned up on the last day of feeding. The average increase for the first week was ·24 kilos (8½ ounces), but the numbers as a matter of fact were too small to allow of any satisfactory inferences being drawn.

Conditions of Success.—In making arrangements for the feeding of children on a large scale there are certain conditions which it would seem necessary to observe if the maximum benefit is to be derived:

1. Considering the difficulty of providing suitable meals in many homes, every encouragement should be given to parents who are willing to pay, as well as to those who are unable to do so, to send their children to the Dining Hall.

*2. Every attention to detail should be paid in the arrangements of the Dining Hall, to ensure the opportunity being as educational as possible—the Hall itself should be scrupulously clean and freshly colour-washed, the tables should be arranged in groups to seat, say, 50 children and, so far as possible, each group should be well defined so that there may be no confusion when the monitresses come to hand round the food. The tables should be covered with table-cloths and plants or flowers should be provided; if necessary some outside agency might well be asked to be responsible for this.

* Further experience has shown that it is more practicable to serve out all the food for any number of children up to, say, 300, from one serving table. This serving of the food will probably be better carried out by, say, a man and his wife in charge of the Centre. A responsible head in the person of a teacher would still be required, and in order to make the meal really educational, another responsible person should be present to every 25 or 30 children. As stated above, there should still be one monitress to each table holding from 10 to 12 children.—R. H. C.

*3. Each Dining Hall would require a responsible head, preferably a teacher, and each group of, say, 50 children should similarly be presided over by a responsible person, also preferably a teacher, who, assisted at the table by two older girls as monitresses, would serve out the food, while four other monitresses would wait on the children, each having a definite table or tables allotted to them; they should wear aprons and sleeves.

4. Careful individual attention should be paid to the children, who should come with clean hands and faces at any rate. The younger ones and the more delicate ones—probably amounting to about ten in every fifty—should sit together, so that they may receive more attention, and may get only small helpings in the first instance. To some of these who at first eat very little it may be necessary to give milk.

Carried out on some such lines as these much benefit, direct and indirect, might reasonably be expected to follow this provision of Dining Halls for school children.

ACKNOWLEDGMENTS.—I should like to express my sincere thanks to the Right Honourable the Lord Mayor (Alderman J. A. Godwin, J.P.) for so kindly holding himself responsible for finding the money, and to the Lady Mayoress (Mrs J. A. Godwin) for the interest which she took in the experiment. To the Head Master of the School (Mr J. E. Smart) I feel under much obligation; without the kind co-operation and help which he gave at every point, the experiment could not have been carried out. I should wish to express my obligation, too, for the help given by the members of his staff, and more especially to Mr W. Ward, who assisted in the supervision every day whilst the experiment was carried on.

APPENDIX I

In the following tables will be found the ingredients of the breakfasts given and of the seventeen dinners.

The dinners are arranged in order of cheapness (at wholesale prices).

The protein and fat values, the cost, wholesale and retail, will be found in detail.

A table is given at the end showing upon what basis the prices have been calculated.

* See note on p. 374.

BREAKFAST

OATMEAL PORRIDGE, TREACLE, MILK AND BREAD AND BUTTER

Material	Quantity	Protein (grains*)	Fat (grains*)	Wholesale Price	Retail Price
Oatmeal	1 oz.	72	31	·094	·125
Treacle	1 oz.	—	—	·134	·172
Milk	½ pt	140	176	·625	·750
Bread	2 oz.	80	12	·187	·187
Margarine	¼ oz.	—	92	·062	·062
		292	311	1 ·102	1 ·296

DINNER No. I

GREEN PEA AND VEGETABLE SOUP (CLEAR); BOILED JAM ROLY-POLY

Material	Quantity	Protein (grains)	Fat (grains)	Wholesale Price	Retail Price
Peas	3 oz.	324	12	·267	·376
Carrot	1½ oz.	3	2	·020	·094
Turnip	1½ oz.	6	1	·012	·023
Onion	1½ oz.	6	1	·080	·094
Bread	1½ oz.	60	9	·141	·141
Flour	1½ oz.	75	6	·101	·119
Nutter Suet	¾ oz.	49	196	·258	·352
Jam	¼ oz.	1	—	·050	·055
		524	227	·929	1 ·254

DINNER No. II

BROWN HARICOT SOUP, DUMPLINGS; BAKED JAM ROLL

Material	Quantity	Protein (grains)	Fat (grains)	Wholesale Price	Retail Price
Beans	1⅓ oz.	133	13	·104	·167
Carrot	⅔ oz.	1	1	·009	·042
Onion	1 oz.	9	2	·080	·094
Flour	1 1/16 oz.	36	3	·049	·056
Nutter Suet	⅓ oz.	22	88	·115	·156
Milk Powder	½ oz.	81	2	·155	·156
Bread	1½ oz.	60	9	·141	·141
Flour	1½ oz.	75	6	·101	·114
Margarine	¾ oz.	4	279	·188	·188
Jam	¼ oz.	1	—	·051	·055
		422	403	·993	1 ·169

* One gramme equals 15·4 grains.

DINNER No. III

Lentil Soup; Ginger Pudding and Sweet Sauce

Material	Quantity	Protein (grains)	Fat (grains)	Wholesale Price	Retail Price
Lentils	3 oz.	305	26	·313	·470
Carrot	1 oz.	2	1	·013	·063
Turnip	1 oz.	4	1	·008	·016
Onion	1 oz.	6	1	·054	·063
Bread	1½ oz.	60	9	·141	·141
Flour	1 1/6 oz.	59	5	·078	·089
Bread Crumbs	½ oz.	20	3	·047	·047
Nutter Suet	¾ oz.	49	196	·258	·352
Golden Syrup	1 oz.	—	—	·134	·172
Ginger	1/16 oz.	—	—	·004	·009
Baking Powder	1/16 oz.	—	—	·019	·031
Milk	1/12 pt	24	30	·104	·126
Margarine	⅛ oz.	—	62	·042	·042
Sugar	1/12 oz.	—	—	·010	·014
		529	334	1·225	1·635

DINNER No. IV

Savoury Batter, Gravy and Beans; Rice and Currants

Material	Quantity	Protein (grains)	Fat (grains)	Wholesale Price	Retail Price
Meat	1 oz.	81	9	·250	·375
Milk	⅛ pt	35	44	·156	·188
Flour	1 oz.	50	4	·067	·076
Egg	¼	23	18	·188	·200
Beans	1½ oz.	150	15	·117	·188
Butter	⅛ oz.	—	46	·031	·031
Bread	1½ oz.	60	9	·141	·141
Milk	⅛ pt	35	44	·156	·188
Rice	½ oz.	17	—	·054	·063
Sugar	¼ oz.	—	—	·029	·043
Currants and Sultanas	¼ oz.	2	2	·063	·078
		453	191	1·252	1·571

DINNER No. V

BAKED LENTIL SAVOURY, GREEN PEAS AND BEAN GRAVY; MILK PUDDING AND STEWED FRUIT

Material	Quantity	Protein (grains)	Fat (grains)	Wholesale Price	Retail Price
Lentils	⅔ oz.	74	6	·069	·104
Rice	¼ oz.	8	—	·027	·031
Potato	½ oz.	4	—	·013	·020
Bread Crumbs	½ oz.	20	3	·047	·047
Onion	⅔ oz.	4	—	·039	·042
Egg	1½	8	6	·063	·066
Margarine	⅙ oz.	—	62	·042	·042
Peas	1½ oz.	162	6	·133	·188
Beans	½ oz.	50	5	·039	·063
Bread	1½ oz.	60	9	·141	·141
Milk	¼ pt	70	88	·312	·375
Rice	½ oz.	17	—	·054	·063
Fruit	3 oz.	4	—	·187	·375
Sugar	¾ oz.	—	—	·087	·129
		481	185	1·253	1·686

DINNER No. VI

YORKSHIRE CHEESE PUDDING, PEAS AND BEAN GRAVY; BUTTERED RICE AND SUGAR

Material	Quantity	Protein (grains)	Fat (grains)	Wholesale Price	Retail Price
Milk	⅛ pt	35	44	·156	·188
Flour	1 oz.	50	4	·067	·076
Egg	¼	23	18	·188	·188
Cheese	1 oz.	122	162	·375	·438
Peas	1½ oz.	162	6	·134	·188
Beans	½ oz.	50	5	·039	·063
Bread	1½ oz.	60	9	·141	·141
Rice	¾ oz.	25	—	·081	·094
Sugar	¼ oz.	—	—	·029	·043
Margarine	¼ oz.	1	93	·063	·063
		528	341	1·273	1·482

DINNER No. VII

CORNISH PIE (NON-FLESH), GREEN PEAS AND BEAN GRAVY; BLANCMANGE AND JAM

Material	Quantity	Protein (grains)	Fat (grains)	Wholesale Price	Retail Price
Potato	2½ oz.	20	1	·066	·100
Apple	1 oz.	1	1	·063	·125
Onion	2 oz.	12	2	·107	·125
Lentils	⅔ oz.	74	6	·069	·104
Flour	1¾ oz.	87	7	·118	·133
Margarine	¾ oz.	3	279	·188	·188
Peas	1½ oz.	162	6	·134	·188
Beans	½ oz.	50	5	·039	·063
Bread	1½ oz.	60	9	·141	·141
Milk	⅙ pt	46	58	·208	·250
Cornflour	¼ oz.	8	1	·055	·093
Sugar	⅙ oz.	—	—	·020	·027
Jam	½ oz.	1	—	·102	·109
		524	375	1·310	1·646

DINNER No. VIII

CHEESE AND LENTIL SAVOURY, BEAN GRAVY; MILK PUDDING AND FRUIT

Material	Quantity	Protein (grains)	Fat (grains)	Wholesale Price	Retail Price
Cheese	1 oz.	122	162	·375	·438
Lentils	⅓ oz.	68	6	·069	·104
Onion	½ oz.	3	1	·026	·031
Bread Crumbs	⅓ oz.	13	2	·031	·031
Margarine	⅙ oz.	—	62	·041	·041
Beans	½ oz.	50	4	·039	·063
Bread	1½ oz.	60	9	·141	·141
Milk	¼ pt	70	88	·312	·375
Rice	½ oz.	17	—	·048	·063
Sugar	¾ oz.	—	—	·087	·129
Fruit	3 oz.	4	—	·188	·375
		407	334	1·357	1·791

DINNER No. IX

BAKED CHEESE AND POTATO PIE, PEAS AND BEAN GRAVY; BREAD AND FRUIT PUDDING

Material	Quantity	Protein (grains)	Fat (grains)	Wholesale Price	Retail Price
Cheese	1 oz.	122	162	·375	·438
Potato	3 oz.	24	1	·080	·120
Bread Crumbs	½ oz.	20	3	·047	·047
Egg	⅙ oz.	15	12	·125	·133
Rice	¼ oz.	9	—	·024	·031
Margarine	⅓ oz.	—	124	·083	·083
Peas	1½ oz.	162	6	·134	·188
Beans	½ oz.	50	4	·039	·063
Bread	1½ oz.	60	9	·141	·141
Bread	1 oz.	40	6	·094	·094
Fruit	3 oz.	4	—	·187	·375
Sugar	½ oz.	—	—	·058	·086
		506	327	1·387	1·799

DINNER No. X

MEAT HASH AND SAVOURY BALLS AND RICE; STEWED FRUIT

Material	Quantity	Protein (grains)	Fat (grains)	Wholesale Price	Retail Price
Beef	3 oz.	243	26	·750	1·195
Onion	1½ oz.	9	2	·078	·094
Carrot	1 oz.	2	1	·013	·063
Turnip	1 oz.	4	1	·008	·016
Flour and Bread Crumbs	¾ oz.	41	5	·059	·070
Nutter Suet	¼ oz.	16	66	·086	·117
Rice	¾ oz.	26	1	·071	·094
Bread	1½ oz.	60	9	·141	·141
Fruit	3 oz.	4	—	·188	·375
Sugar	½ oz.	—	—	·058	·086
		405	111	1·452	2·251

DINNER No. XI

COTTAGE PIE (MEAT WITH CRUST), GREEN PEAS AND GRAVY; STEWED FRUIT

Material	Quantity	Protein (grains)	Fat (grains)	Wholesale Price	Retail Price
Beef	2 oz.	162	17	·500	·750
Potato	3 oz.	24	1	·080	·120
Onion	1 oz.	6	1	·054	·063
Flour	1¾ oz.	87	7	·118	·133
Margarine	¾ oz.	3	279	·188	·188
Peas	1½ oz.	162	6	·134	·281
Bread	1½ oz.	60	9	·141	·141
Fruit	3 oz.	4	—	·187	·375
Sugar	½ oz.	—	—	·058	·086
		508	320	1·460	2·137

DINNER No. XII

SCOTCH BARLEY BROTH; RHUBARB TART

Material	Quantity	Protein (grains)	Fat (grains)	Wholesale Price	Retail Price
Beef	2½ oz.	202	22	·625	·938
Carrot	1 oz.	2	1	·013	·063
Turnip	1 oz.	4	1	·008	·016
Onion	1½ oz.	6	1	·080	·094
Barley	⅔ oz.	14	3	·063	·083
Bread	1½ oz.	60	9	·141	·141
Flour	1½ oz.	75	6	·100	·114
Margarine	¾ oz.	4	279	·188	·188
Fruit	3 oz.	4	—	·187	·375
Sugar	½ oz.	—	—	·058	·086
		371	322	1·463	2·098

DINNER No. XIII

FISH AND POTATO PIE, GREEN PEAS, LEMON SAUCE; BLANCMANGE AND JAM

Material	Quantity	Protein (grains)	Fat (grains)	Wholesale Price	Retail Price
Fish	4 oz.	66	5	·500	1·000
Potato	6 oz.	48	2	·160	·240
Margarine	⅕ oz.	—	74	·050	·050
Flour	⅕ oz.	10	1	·013	·015
Milk	1/20 pt	14	18	·063	·075
Lemon	1/24 oz.	—	—	·021	·041
Peas	1½ oz.	162	6	·134	·188
Bread	1½ oz.	60	9	·141	·141
Cornflour	¼ oz.	8	1	·055	·094
Milk	⅙ pt	46	58	·208	·250
Sugar	⅙ oz.	—	—	·020	·029
Jam	½ oz.	1	—	·102	·109
		415	174	1·467	2·232

DINNER No. XIV

MEAT AND POTATO HASH, BEANS AND GRAVY; MILK PUDDING AND FRUIT

Material	Quantity	Protein (grains)	Fat (grains)	Wholesale Price	Retail Price
Beef	1½ oz.	122	13	·375	·589
Potato	4 oz.	32	1	·107	·160
Carrot	½ oz.	—	—	·007	·031
Onions	1½ oz.	9	1	·081	·094
Beans	1½ oz.	147	12	·117	·188
Margarine	⅛ oz.	—	46	·031	·031
Bread	1½ oz.	60	9	·141	·141
Milk	¼ pt	70	88	·312	·375
Rice	½ oz.	17	—	·054	·063
Sugar	¾ oz.	—	—	·087	·129
Fruit	3 oz.	4	—	·187	·375
		461	170	1·499	2·176

DINNER No. XV

MEAT PUDDING, CABBAGE AND GRAVY; BOILED RICE AND CURRANTS

Material	Quantity	Protein (grains)	Fat (grains)	Wholesale Price	Retail Price
Meat	2 oz.	162	17	·500	·750
Carrot	1 oz.	2	1	·013	·063
Turnip	1 oz.	4	1	·008	·016
Onion	1½ oz.	9	2	·080	·094
Flour	1½ oz.	75	6	·101	·114
Nutter Suet	¾ oz.	49	196	·256	·352
Cabbage	⅙ oz.	—	—	·166	·250
Bread	1½ oz.	60	9	·141	·141
Rice	½ oz.	17	1	·054	·063
Currants and Sultanas	¼ oz.	2	2	·063	·078
Sugar	¼ oz.	—	—	·029	·043
Milk	⅛ pt	35	44	·156	·188
		415	279	1·567	2·152

DINNER No. XVI

RICE AND CHEESE SAVOURY, CABBAGE AND BEAN GRAVY; WHOLEMEAL CAKE

Material	Quantity	Protein (grains)	Fat (grains)	Wholesale Price	Retail Price
Milk	¼ pt	70	88	·312	·375
Rice	1½ oz.	52	1	·162	·188
Cheese	1 oz.	122	162	·375	·438
Margarine	½ oz.	2	186	·125	·125
Beans	½ oz.	50	5	·039	·063
Cabbage	⅙ oz.	—	—	·166	·250
Bread	1½ oz.	60	9	·141	·141
Wholemeal	1½ oz.	60	9	·114	·127
Currants and Sultanas	¾ oz.	8	7	·189	·234
Sugar	⅜ oz.	—	—	·044	·064
Margarine	3/16 oz.	—	69	·047	·047
		424	536	1·714	2·052

DINNER No. XVII

SHEPHERD'S PIE (MEAT AND POTATO), GRAVY; MILK PUDDING, STEWED FRUIT

Material	Quantity	Protein (grains)	Fat (grains)	Wholesale Price	Retail Price
Beef	3 oz.	243	26	·750	1·195
Potato	6 oz.	48	3	·160	·240
Onion	1 oz.	6	1	·054	·063
Bread	1½ oz.	60	9	·141	·141
Rice	½ oz.	17	—	·054	·063
Sugar	¾ oz.	—	—	·087	·129
Milk	¼ pt	70	88	·312	·375
Fruit	3 oz.	4	—	·187	·357
		448	127	1·745	2·563

TEA

BREAD AND MARGARINE, TEA WITH MILK

Material	Quantity	Protein (grains)	Fat (grains)	Wholesale Price	Retail Price
Bread	6 oz.	240	36	·562	·562
Margarine	½ oz.	2	184	·124	·124
Milk	4 oz.	56	70	·250	·300
Tea	1/10 oz.	—	—	·100	·100
		298	290	1·036	1·086

The following table shows the prices upon which the above figures relating to cost are based:

Material	Wholesale Price			Retail Price		
	s.	d.		s.	d.	
Baking Powder	6	5	stone	0	8	lb.
Bread	1	9	stone	0	1½	lb.*
Cabbage	0	1	each	0	1½	each
Carrots	2	0	cwt.	0	1	lb.
Cheese	7	0	stone	0	7	lb.
Cornflour	3	6	stone	0	6	lb.
Currants	3	0	stone	0	4	lb.
Eggs	1	0	for 16	1	0	for 16
Fish (dressed)	3	6	stone	0	4	lb.
Flour (seconds)	1	3	stone	1	5	stone
Flour (wholemeal)	1	5	stone	1	7	stone
Fruit (in season)	1	2	stone	0	2	lb.
Ginger (powdered)	10	6	stone	1	2	lb.
Golden Syrup	2	6	stone	0	2¾	lb.
Haricot Beans (brown and white)	1	6	stone	0	2	lb.
Jam	3	9	stone	0	3½	lb.
Lemons	0	6	doz.	0	1	each
Lentils	2	4	stone	0	2½	lb.
Margarine	4	8	stone	0	4	lb.
Meat (free from bone)	5	3	stone	0	6	lb.
Milk	0	10	gallon	0	1½	pint
Milk Powder	5	0	stone	0	5	lb.
Nutter Suet	6	5	stone	0	7½	lb.
Oatmeal	1	9	stone	0	2	lb.
Onions	6	0	cwt.	0	1	lb.
Pearl Barley	1	7	stone	0	2	lb.
Peas (dried)	1	9	stone	0	2	lb.
Potatoes	4	0	cwt.	0	9	stone
Rice	1	9	stone	0	2	lb.
Sugar (castor)	2	2	stone	0	2¾	lb.
Sultanas	6	0	stone	0	6	lb.
Tea	1	4	lb.	1	4	lb.
Turnip	1	3	cwt.	0	0¼	lb.

* Representing cost of home-made bread.

LONDON'S UNDER-NOURISHED CHILDREN.

METHODS OUTLINED.—The following statement briefly indicates the nature of the provision made by the London County Council for the supply of meals to under-nourished children of the Metropolis:*

1. Buildings are hired by the Council or lent free of charge for use as dining centres, and food is supplied ready cooked by the Alexandra Trust or by other caterers.

2. Children attend coffee houses.

3. Food is supplied by the cookery centres of the Council; in some cases to be consumed at the cookery centres; in others, to be sent to dining centres.

4. Children attend dining centres where the food is cooked on the premises.

5. School halls are used as dining centres, the food being supplied by the Alexandra Trust or other caterers.

NEGOTIATIONS WITH THE ALEXANDRA TRUST.—The greater number of the children receive their meals through the medium of the Alexandra Trust. The problem of providing meals for any considerable proportion of London's under-nourished children is such a huge one that it occasions no surprise to learn that four out of the five catering firms approached by the London County Council and invited to tender declined to do so. The Alexandra Trust, which had also been invited replied stating that being a Trust originated for the purpose of supplying food to the poorer classes at cost price and without any object of making a profit, they did not see their way to tender for business in competition with catering firms, but were prepared to supply meals in accordance with the speci-

* In 1889 it was estimated that the number of children in London in want of food was 55,000 and this estimate was subsequently found statistically to be correct. In 1895 the number of necessitous children was found to be 51,900, and an exhaustive inquiry held in 1898-9 showed that this number was then about 55,000. In 1908, 1909 and 1910 the numbers of children fed during the "maximum weeks" were 48,394, 55,181 and 55,147 respectively. These figures show a remarkable correspondence with the estimates that were made over 20 years ago.—Annual Report of the London County Council 1910.—Ed.

fication forwarded by the Council, or of the same kind as those already supplied to various Children's Care Committees. The subsequent history of the relations between the Council and the Trust is best told in the words of the Report of the Education Committee adopted by the London County Council on December 17, 1912.—Ed.

THE FIRST CONTRACT.—The Council on February 16, 1909, decided to enter into a contract with the Alexandra Trust, City Road, E.C., for the supply of meals to necessitous school children, for a period of four years as from and including April 1, 1909. This contract expires on March 31, 1913, and we have, therefore, considered the question of its renewal. The principal features of the present contract are, that the Alexandra Trust supply dinners to the order of the various local associations of children's care (school) committees at the price of 15s. a hundred meals, or 1·8d. a meal (this price including the cost of delivery at the dining centre); that not less than 5,000 nor more than 30,000 meals are ordered daily (except during the summer months), and that the meals are delivered in covered vans or carts and in containers supplied by the Council.

The contract is subject to the sanction of the Board of Education being given annually to the expenditure in accordance with section 3 of the Education (Provision of Meals) Act, 1906.

Since the contract was signed, considerable developments have taken place in the work of supplying meals to necessitous children. Variations have been made in the original menus of the dinners, other menus have been added, breakfasts are supplied, and it has been found necessary to incur additional expenditure of 1s. a day at each dining centre for the special collection and washing of the food containers, and of 1s. a day for washing the cloths in which potatoes are wrapped for transmission to the dining centres.

From inquiries which have been made it appears that, generally speaking, the supply of meals by the Alexandra Trust is satisfactory. The cost of the meals is reasonable, and compares very favourably with that charged by local caterers, and, as the Alexandra Trust have at all times met the wishes of the Council in the direction of effecting small improvements,

no difficulty has been experienced in the working of the contract.

Revised Agreement.—In order to enable us to arrive at a decision in the matter, we approached the Alexandra Trust with a view to ascertaining on what terms they would be prepared to renew the contract. The Alexandra Trust state that, taking the present contract as the basis, they will be willing in any new contract (1) to supply the dinner meals, including all the menus at present in force, at an inclusive charge of 15s. 8d. per 100 dinner meals, such rate to cover the cost of the meals, delivery to the centres, the special collection and washing of food containers, and the washing of the potato cloths; (2) to supply only one soup meal in each five meals, instead of two as at present; (3) to deliver the meals in box vans, and by motor-box vans to the outlying dining centres; (4) to include in the contract breakfasts which will be supplied at the rate of 12s. a hundred meals. The Trust also undertake to meet any reasonable suggestion made by the Council for further improvements in the meals.

The Trust stipulate, however, that the Council shall order a minimum of 10,000 meals daily, and that the contract shall be renewed for a period of three years.

We have given very careful consideration to the matter, and we are of opinion that, having regard to all the circumstances, the most satisfactory manner of dealing with it, and the most advantageous to the Council, is to renew the contract on the terms stated above.

We may mention that, since the contract was entered into, the average daily number of meals supplied by the Alexandra Trust has increased by about 80 per cent; that the Trust now supply three breakfast menus and 18 dinner menus, from which a selection can be made: that different menus are given in the summer months from those supplied in the winter; and that the needs of the very young children are catered for. The Trust supply about 55 per cent of the total number of meals required in London, the minimum number ordered daily being about 13,000 and the present maximum about 23,000.

We have communicated our proposal to the Stores and Contracts Committee, who concur in the renewal of the contract

on the terms mentioned. We have asked the Finance Committee to submit the necessary estimate under standing order No. 228. We recommend:

(*a*) That, when the Council has approved the necessary estimate, the contract between the Council and the Alexandra Trust for the supply of meals to necessitous school children be renewed for a period of three years as from and including April 1, 1913, on the existing conditions, and subject to the subjoined modifications; that the solicitor do prepare, and obtain execution of, the necessary contract; and that the seal of the Council be affixed thereto, in duplicate, when ready:

(i) The Alexandra Trust to supply a minimum number of 10,000 meals a day and a maximum number of 30,000 meals a day, except upon the usual school holidays, and other occasional holidays.

(ii) To supply each and all of the undermentioned breakfast and dinner menus at the inclusive rates of 12s. and 15s. 8d. a hundred meals respectively, such rates to cover the cost of the meals, delivery to the centres, the special collection and washing of the Council's food containers, and the washing of the potato cloths:

(*a*) Breakfast menus (at an inclusive rate of 12s. a hundred meals):

1. Cocoa, porridge and two slices of bread and butter.
2. Cocoa, three slices of bread and dripping.
3. Hot milk and bread, two slices of bread and jam or marmalade.

(*b*) Dinner menus (winter) (at an inclusive rate of 15s. 8d. a hundred meals):

1. Haricot bean soup, bread, treacle pudding.
2. Fish and potato pie, bread, baked rasin pudding.
3. Pea soup, bread baked in dripping, fig pudding.
4. Stewed beef or mutton with dumplings, steamed potatoes, bread.
5. Beef stewed with peas, dumplings, potatoes, bread.
6. Mutton stewed with haricot beans, steamed potatoes, bread, suet pudding.
7. Meat and potato pie, bread.
8. Meat pudding.
9. Toad-in-the-hole, potatoes, bread.
10. Rice pudding, two slices of bread and butter.

(*c*) Dinner menus (summer) (at an inclusive rate of 15s. 8d. a hundred meals):

1. Rice pudding, two slices of bread and butter.
2. Toad-in-the-hole, potatoes, bread.
3. Meat pies, potatoes, bread.
4. Meat pudding, potatoes, bread.
5. Cold meat pie, fruit roll.
6. Meat sandwich, piece of cake.
7. (For infants.) Hot milk and bread, fruit roll.

(*d*) Dinner menus (for infants) (at an inclusive rate of 15s. 8d. a hundred meals):

1. Liquid part of winter dinner menus No. 4, 5, or 6.
2. Rice, tapioca, macaroni or barley pudding, with two slices of sultana bread and butter.
3. Stew—very fine mince.
4. Baked custard, with bread and butter.
5. Savoury custard, with bread and butter.

(iii) To supply only one soup meal during the winter months in each five dinner meals.

(iv) To deliver the meals at the various breakfast and dinner centres in box vans, and by motor box vans to the centres in the outlying districts.

The Finance Committee, having considered in its financial bearings the above-mentioned estimate, submit the same.

Provision for Delicate Children.—It was also decided in 1910 that in cases of special necessity or delicacy an additional meal, or milk, or cod liver oil, should be supplied to necessitous children. The additional milk meal is a lunch consisting of milk and bread and biscuit only, given during the interval set aside for morning recreation, i.e., about 11 a.m. In cases of delicate or anæmic children, a certain dietary, e.g., milk or cod liver oil, is recommended by the school doctor, and if the case is approved by the Children's Care (School) Committee this is supplied by the Council to the children. The usual period for the continuance of such meals is a month.

HOW EDINBURGH FEEDS AND CLOTHES HER SCHOOL CHILDREN

By J. W. Peck, *late Clerk, Edinburgh School Board.*

Scotland enjoys the advantage which belongs to those who can profit by the experience and the mistakes of others. The urgency of the problem of the under-nourished child had been brought home to her even before her Southern neighbour, through the findings of the Royal Commission on Physical Training (Scotland), 1902. It was not, however, until 1908, two years later than the Education (Provision of Meals) Act, that the corresponding measure for Scotland, the Education (Scotland) Act, was passed.

The following memorandum issued* by the Edinburgh School Board and given here by the courtesy of its Medical Officer, Dr Hally Meikle, supplies an instructive account of the manner in which the modern Athens set about the discharge of her new responsibilities and incidentally of the differences between the two Acts of Parliament. It should be read in conjunction with the paper by Dr Ernest Roberts, Chief Medical Officer of the Glasgow School Board.—Ed.

EDINBURGH SCHOOL BOARD.

Memorandum on the Feeding of School Children in Edinburgh, under the Education Act, 1908.

Its Object.—The Education Act of 1908, which came into operation on January 1, 1909, imposes upon the School Boards of Scotland certain responsibilities in regard to the problem of destitute and neglected school children. In order to make clear the nature of these powers, and to indicate the manner in which, in the opinion of the Board, they should be administered in Edinburgh, the present Memorandum has been prepared. The matter is considered under the following heads:

I. The Board's duty under the Act.

II. The conditions of the problem in Edinburgh.

III. The proposed organization.

* October 25, 1910.

IV. The Feeding Centre.

V. District Social Work.

In the Appendix there are given the appropriate extracts from the Act.

I.

THE BOARD'S DUTY UNDER THE ACT.

Enforcing Parental Responsibility.—Section 6 of the Act requires the Board to do two things in relation to pupils in Edinburgh schools: (*a*) to initiate prosecution through the Procurator Fiscal in cases of neglect where the child's education is suffering; and (*b*) to supply food and clothing in cases of genuine destitution, where voluntary agencies are unable to deal with the matter. It is to be observed that no option is given to the Local Education Authority in these matters. As soon as it appears that there are in attendance at the schools within the district children who are unable through lack of food or of clothing to take full advantage of the education provided, the Board must consider these cases in relation to the circumstances of the parents or guardians. It is further to be noted that this applies not only to children attending schools of the Board, but also children attending any school within the district of the Board. If, after warning to the parent and careful investigation, it is found that the condition of the child is due to neglect on the part of parents or guardians who are in a position to avoid that neglect to any extent, then it becomes the duty of the Board to initiate through the Procurator Fiscal a prosecution under the Education Act, 1908, and the Children Act, 1908.

It will be seen then that the first stage of the Board's duty is investigation and action towards enforcing parental responsibility where dereliction of such responsibility exists.

Where Inability Prevails.—But it may happen that on investigation a real inability on the part of the parent or guardian is shown to exist—an inability due to poverty or ill-health. In such cases another stage in the Board's duty arises. It must be ascertained whether voluntary agencies will provide for the necessities of the case. That the Board must investigate

the adequacy of voluntary charity is shown by the words of the Act, which are that the Board must be " satisfied " on this point before proceeding to the next step. It is, therefore, clear that it is highly desirable for the Board to be in touch with all the voluntary agencies in the City, and to be assured that they are acting in unity and efficiently. In any case, it is the Board's wish to conserve parental responsibility, and to avoid placing the feeding of children on the rates. To attain the latter result the utilization of voluntary funds should be as effective as possible.

But if the case is one of genuine necessity and if voluntary efforts are inadequate to deal with it, then the Board has no option. The Board in these circumstances must make such provision for the child out of the School Fund as they consider necessary. This is a statutory requirement.

A Useful Power.—Lastly, the Act gives Boards the power to make temporary arrangements for feeding and clothing of children whose education is suffering, pending the completion of the investigation into the circumstances of the case. It is clear that the investigation may take some time, and the aim of this part of the Act is to give the starved or ill-clothed child immediate relief pending the conclusion of the inquiry. If, as a result of the inquiry, the parent or guardian is shown to have been able to make provision for the child, then in addition to the prosecution for neglect, the Board is empowered to recover the cost of the food or clothing supplied as an alimentary debt. This part of the Act, viz. the provision of interim relief, is a power, not a duty; that is to say, the Board has the option of taking advantage of it, but is not required to do so.

Summary.—The Board will therefore aim at discovering cases of neglect, at enforcing parental responsibility, at deterring the idle, the dishonest, and the unscrupulous, at organizing effectively voluntary effort so as to relieve genuine necessity and honest poverty; only in the last resort will it lay upon the rates the cost of feeding and clothing destitute children.

II.

THE CONDITIONS OF THE PROBLEM IN EDINBURGH.

Extent of the Board's Task.—The total number of children on the rolls of the Board's schools is approximately 41,000; and in the voluntary schools 5,500; total 46,500. The Board is responsible for dealing with the problem of necessity in both cases. From the experience of the winter of 1909-1910 it was found that the number of children regarded as necessitous was about 2,400. In addition there was throughout the year approximately 370 children, of parents receiving outdoor relief, fed at the expense of the Parish Council. The number is necessarily approximate, for much depends on the definition of necessity and upon the thoroughness with which the investigation of cases and application of the standard is made. In the opinion of the Headmasters who were asked to make an estimate in the summer of 1909, the number was put at about 4,000, of which 400 were considered to be cases of parental neglect. The following table gives the data that are available in respect of the period from the beginning of January to the end of April, 1910. The schools are classified in groups according to the number of necessitous cases so that an indication of the schools where destitution occurs is thus given.

Table (omitted) showing the maximum number of Children in the undernoted Schools provided with free dinners from January 10 to April 1, 1910.

III.

THE PROPOSED ORGANIZATION.

Nature of Proposed Organization.—In order to give that thorough investigation which is essential to the proper working of the Act, the Board think it will be desirable to constitute a system of Care Committees—Committees of voluntary workers. For the city as a whole there will be a Central Care Committee; for each school or group of schools there will be a Local Care Committee. The constitution and function of the latter will first be described.

The Local Care Committee will consist of about 10 members. and will in poverty-stricken districts be attached to one

school; in other districts to a group of schools. It will contain the Lady Managers, the Visiting Members, and experienced philanthropic workers who have knowledge of the district.

Functions of Local Committee.—The primary function of the Local Committee is to investigate thoroughly all cases of destitution in the school or schools under their charge, to keep in touch with these cases continuously so as to be aware of any change of circumstances, and to make recommendations to the Central Care Committee described below as to the action to be taken. It is clear that a Committee of voluntary workers resident or interested in the district can perform this work most effectively, for they can sub divide the duty, and each member can keep in continuous and sympathetic touch with a certain number of families. The Committee will act as an instrument of thorough investigation preliminary to action by the Central Committee.

Functions of Central Committee.—The Central Committee is to be composed of the members of the Board, of representatives of such societies and voluntary agencies as are willing to co-operate with the Board in this work, and of other influential and representative elements of the community. It will have two functions. In the first place it will aim at collecting voluntary funds for the help of necessitous school children and at rousing general interest in the problem of school feeding. In the second place it will, in conjunction with the Local Committees, aim at utilizing these funds to the best possible advantage. Accordingly all the recommendations of the Local Committees will come before this Central Committee (or an Executive Sub-Committee thereof), and the Central Committee will decide as to whether they are to be acted upon. The value of the Central Committee in ensuring uniformity of treatment over the area is evident. Otherwise the Local Committees might adopt widely different standards of necessity.

Encouraging English Experience.—The following extract from a recent report of the English Board of Education is of interest as showing the success with which, in various parts of England, a system of Care Committees has been established.

Special attention is directed to the reference to the bad effects of unsuitable food:

> "In one direction, however, it is possible that in the course of time much may be done to deal with cases of mal-nutrition among school children, so as to diminish or keep within reasonable bounds the demand for meals at the cost of the rates. One of the useful by-products of the Act of 1906, and of the medical provisions of the Act of 1907, is the stimulus given to the formation of local 'Children's Care Committees' and similar voluntary agencies. Even if the voluntary contribution of funds has been diminished by the operation of those Acts, the demands and opportunities for the voluntary contribution of effective personal service have been greatly increased, and it is not too much to hope that the workers so enlisted in the service of the children may through them obtain influence in the homes, and thus carry on an effective warfare against ignorance and carelessness.
>
> War on Ignorance.—"A large proportion of the badly nourished children suffer from unsuitable food rather than from lack of food. It is probably no exaggeration to say that the improvement which could be effected in the physique of elementary school children in the poor parts of our large towns, if their parents could be taught or persuaded to spend the same amount of money as they now spend on their children's food in a more enlightened and sensible manner, is greater than any improvement which could be effected by feeding them intermittently at the cost of the rates."*

Mode of Investigation.—The process of investigation will be as follows: The case of a destitute or neglected child will be brought to the notice of the Local Care Committee either through their own investigations, or by the Medical Officers or Nurses of the Board, or by the teachers, or by the Atten-

* Report on the Working of the Education (Provision of Meals) Act, 1906, Board of Education, p. 5.

dance Officers, or by the parent himself making application. In whatever manner the case may arise, it will be sent in the first instance to the Local Committee for investigation. Further, it will be the duty of the Local Committee to take the initiative in the matter of making periodic inquiry at the schools as to the existence of destitution, especially during the winter. An effective Local Committee should be so much in touch with the circumstances of its area that no delay in searching out neglect or destitution should occur.

Part of Central Committee.—After the case has been investigated by the Local Committee with such assistance as is necessary from the teachers, the attendance staff, and the medical staff, a report will then be made to the Central Committee. This report will be to the effect that the child's education is suffering from under-feeding or want of clothing, and that either (*a*) there is parental neglect or (*b*) that the case is one for relief. The Central Committee, acting through a small executive Sub-Committee, will examine all these reports and satisfy themselves that the case has been carefully investigated, that a uniform standard is being kept by the various Local Committees, and generally of the propriety of the conclusion arrived at by the Local Committee. The Central Committee will thus decide on (*a*) the cases for prosecution, (*b*) the cases for relief, either provisional pending further inquiry, or definite. The former will be transmitted to the Board as the statutory authority charged with the duty of initiating prosecution; the latter will be notified to the Local Committees as cases approved to be placed on the feeding-list, and the children will then be supplied with the necessary vouchers by the Headmasters.

It will be the duty of the Local Committee to renew a recommendation in respect of any child every month, so that any change of circumstances may thus be taken account of.

Where Procedure does not Apply.—The above procedure will only be followed so long as voluntary funds are adequate to meet the requirements. If they cease to be adequate, then the Central Committee will only have the final decision as to placing children on the feeding-list to the extent that the voluntary funds can meet; in the remaining cases, the Central Committee must recommend action to the Board, since the

School rates for which the Board is responsible are being to that extent utilized. The duty of recovery of cost in cases of wilful neglect, if provisional relief is given by the Board from the rates, also falls on the Board.

IV.

THE FEEDING CENTRE.

Exercising Statutory Powers.—Under Section 3 (2) of the Act (*See Appendix A.*) the Board has the power to provide accommodation, apparatus, equipment, and service for the preparation and supply of meals to pupils attending schools within the district. This power is in respect of all children, but it does not apply to the purchase of the food used to prepare the meals. The cost of food, as distinct from the preparation and supply of meals, can only be incurred as set out in the preceding parts of this Memorandum.

The Board have decided to exercise this power, and accordingly the West Fountainbridge Centre has been planned and is in course of construction. With it there will have to be organized a system of distribution and of halls for service in the various districts.

Reason for Decision.—The Board has given very careful consideration to this matter, and has come to the conclusion that such an organized system of supply and service is preferable on many grounds to the method which has hitherto been adopted, viz., sending the children to local caterers and restaurants. The principal reason was that a properly supervised service of meals has a very real educational effect. This has been the result in the various parts of the country where properly organized feeding has been instituted. If the children sit down at well set-out tables, and under supervision eat wholesome food in a cleanly and well behaved manner, education in a very real and wide sense is given, and moral and physical benefit is bound to accrue. In this connexion the following extracts bearing upon the operation of the system in England may be quoted from a recent report of the Board of Education:

English Official Testimony.—"The advantages of treating the provision of meals as a part of the

educational system, and of connecting it with the training in conduct which every public elementary school tries to give are obvious. To many of the poorest children a well-ordered meal, with its accompaniments of clean table-cloths, clean crockery, and seemliness of behaviour, is almost unknown; and it is hoped, with some confidence, that the object-lessons supplied by the meals which have been provided either by private benevolence or by money derived from the rates, will have more than a transitory effect upon the behaviour of the children who have received them.*

"Doubtless the discipline of school is futile and inadequate if it has no effect on the conduct of the children outside: but the additional and wholly different opportunity of training which is provided by the dining-room may be appreciated without any slur being cast upon the training given in the class-room. Training given in the dining-room, which follows the same lines as the training which is given in a well-ordered home, supplies an adjunct to the school which has an importance that cannot be neglected."†

"In the Debates in Parliament when the Act was under discussion, stress was laid upon the opportunity offered by the provision of meals for training the children in habits of orderliness and decorous behaviour; and it has been found that in more than half of the cases simple but sufficient regulations have been framed by Local Education Authorities for securing good conduct in the dining-rooms."*

"In a large number of cases authorities have, by providing clean table-cloths once a week, by methodical service, by prescribing the saying or singing of grace, and by requiring the children to come with washed hands and faces and to sit quietly at table, sought to secure some especial training in deportment."†

* Report on Education (Provision of Meals) Act, 1906, Board of Education, p. 17.

† *Ibid.*, p. 18.

> "The method of serving meals at local restaurants has the advantage of avoiding not only initial outlay, but also disturbance of the work of the schools. It offers, however, little or no opportunity for supervision, or for that training in good behaviour on which stress is rightly laid, and the Board feel sure that whatever attractions the system may seem at first sight to possess are counterbalanced by its disadvantages which are very considerable."*

Another of the advantages of the proposed system is that a thoroughly wholesome and nourishing menu can be drawn up by the Board's Medical Officer, and the food can be cooked by proper appliances and under efficient supervision.

Advantages Summarized.—Briefly, the advantages of a well organized cooking centre may be stated as follows:

1. The children received some training in decorum and good manners.
2. Scientific knowledge of food-values can be made use of in drawing up the bills of fare.
3. The meals are properly cooked, and the materials used are of good quality.

These benefits would be worth securing at some extra cost, but the system now proposed by the Board seems to be less expensive than any alternative method.

Children who will Benefit.—The Board will also supply from the Cooking Centre meals to children in the Higher Grade and ordinary Schools whose parents are prepared to pay the full price, and who for a variety of reasons find it more convenient that their children should have the mid-day meal at School; and to the children in the Special Schools at Willowbrae and Duncan Street. The possibility of the Parish Council taking advantage of the output of the Feeding Centre for the numerous cases for which they have to provide should also be borne in mind.

Place and Nature of Installation.—The Cooking Centre is an old and disused school, part of which has been adapted for the purpose of the preparation of all meals needed by

* *Ibid.*, p. 18.

children in the city schools. A modern and efficient system of machinery for cooking has been installed following the experience of the English cities, and it is estimated that 5,000 meals per day can be prepared. An experienced cook and manager will be in charge of the Centre, and such assistance as is necessary for dealing with the demand will, as need arises, be supplied. The installation comprises the following:

Eight steam cooking pans, containing altogether 600 gallons.
One large steam press.
Vegetable and potato paring machines.
One three-cylinder dish-washing machine.
One large steam-boiler operating all the cooking plant.
Three electric motors for the machines.

Arrangements for Distribution.—For distribution purposes a special van will be supplied, which will make the round of the halls in the middle of each day. The containers are such that the cooked food will remain warm for many hours, and the dishes are all to be stored and cleaned at the Centre and conveyed to and from the halls each day. At the halls there will only require to be the necessary supply of tables, chairs, and table-cloths.

V.

DISTRICT SOCIAL WORK.

Supervision of Meals.—An important duty of the Local Committee not yet mentioned will lie in the supervision of the meals at the halls. Each Committee will only have to deal with one or two halls, and in some cases several Committees will have their schools served at the same halls. By forming rotas for supervision this task will be considerably lightened. At the same time, its importance and arduousness must not be minimized, for the proper service and supervision of the meals are of the greatest importance. It is hoped that voluntary workers will come forward and give to it that continued support that the problem demands.

But beyond this there will be found many other opportunities for social service on the Care Committees. Co-operation with the work of the Board's Employment bureau and help

in impressing the need for taking advantage of the facilities for further education may be given as examples. Voluntary workers in close contact with a small number of homes may in these spheres do much which is beyond the range of official action.

Opportunities of Care Committees.—And in general the Local Care Committees which carry out the work of feeding properly will find themselves in a very strong position for social work in their districts. The knowledge of the home circumstances of destitute families and the personal and sympathetic contact with parents and children may in the hands of the tactful and zealous worker lead to many results in social amelioration of which efficient feeding and clothing of school children is but a small part. It is to be hoped that these Local Committees will, each in its own district, become the repository of accurate knowledge of the social conditions and the focus through which will pass all the streams of benevolence which at present are often in duplication and without exact data for action.

APPENDIX A

The Sections of the Education (Scotland) Act, 1908, bearing on the Problem

Section 3.—"It shall be lawful for a School Board, if they think fit, . . . to incur expenditure, and to defray the same out of the School Fund . . .

"(2) In providing accommodation, apparatus, equipment and service for the preparation and supply of meals to pupils attending schools within their district: provided that no expense incurred in the purchase of food prepared and served at such meals shall be defrayed out of the School Fund except as hereinafter provided."

Section 6.—"(1) When as the result of medical inspection or otherwise it is brought to the notice of a School Board that a child attending a school within their district is in a filthy or verminous state, or is unable by reason of lack of food or of clothing to take full advantage of the education provided, it shall be the duty of the School Board, after due warning, to summon either or both of the parents or the guardian of such child to appear before them to give an explanation of the child's condition, and if the School Board shall find that such explanation is not forthcoming or is insufficient or unsatisfactory, and that the condition of the child is due to neglect, they shall transmit a copy of such finding to the parent or parents or guardian of the child and to the Procurator Fiscal, and it shall be the duty of the Procurator Fiscal to institute a prosecution under the subsection immediately following.

" (2) Without prejudice to the general operation of the Prevention of Cruelty to Children Act, 1904, or any Act amending the same, neglect to exercise due care of a child as aforesaid shall be deemed wilful neglect, likely to cause the child unnecessary suffering within the meaning of such Act, punishable summarily as an offence of cruelty in terms of such Act, and subject to the provisions thereof as to the committal and custody of the child and otherwise:

" Provided that if it shall be shown to the satisfaction of the School Board, or in the event of a prosecution under such Act of the Sheriff, that such parent or parents or guardian are unable by reason of poverty or ill-health to supply sufficient and proper food or clothing for the child, or to give the child the necessary personal attention, the School Board, if satisfied that the necessities of the case will not be provided for by voluntary agency, shall make such provision for the child out of the School Fund as they deem necessary during such period while the child is under obligation to attend school as they may determine. But it is hereby provided that any aid given in terms of this section shall not deprive such parent or guardian of any franchise, right or privilege, or subject him to any disability:

" Provided also that the School Board, where they deem it necessary owing to the condition of the child, shall have power to make temporary provision for the child out of the School Fund, pending the completion of the procedure hereby prescribed, and to recover the cost of such provision from such parent or guardian as an alimentary debt, unless it is shown to the satisfaction of the School Board that such parent or guardian was unable by reason of poverty or ill-health to supply sufficient and proper food or clothing for the child, or to give the child the necessary personal attention."

AN ESSEX VILLAGE HEALTH CENTRE

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INTRODUCTION.

The following pages give some account of an interesting and successful attempt by Lady Meyer to grapple with the health problem in a rural district, in the light of her experience at the St Pancras School for Mothers. The work, it will be seen, is many-sided, and both preventive and remedial. It includes both adults and children within its scope and attacks, in a most practical manner, the two pressing matters of child nutrition and the teeth. It has, from the first, been carried on in close consultation with Dr H. W. Sinclair, the County School Medical Officer, whose sympathetic description will be found below. Lady Meyer would be the first, no doubt, to admit that much of its success is attributable to her good fortune in having prevailed upon that "born optimist" and tactful and resourceful personality, Miss Petty (the "Pudding Lady"), with her exceptional experience, to serve as chief of staff. With the exception of a few isolated efforts, such as those of the late Mr F. W. Verney, under the guidance of Florence Nightingale in Buckinghamshire, no organized attempt has been made until recent years to pierce through the thick mists of rural ignorance in matters of health. It seems probable that the publication here of these details will provide a useful object lesson that will encourage and assist many other districts to go and do likewise.—Ed.

Health visitors, school managers, teachers, members of Care Committees—all persons interested in the health of elementary school children, who have welcomed the institution of medical inspection, have been confronted with the difficulties of following up that inspection by obtaining for the children the medical treatment advised, especially with regard to the teeth.

In urban districts many progressive bodies and some private individuals have set up School Clinics where treatment for most of the children's ailments is received. A dozen or so have set up Dental Clinics, i.e., Clinics solely for attending to the teeth. In rural districts, on account of the population being scattered over large areas, there has been less enterprise, the difficulties having appeared much greater.

The following extract from the Annual Report of the School Medical Officer for Essex (Dr H. W. Sinclair) gives an account of an attempt made by private and personal effort to show how a Dental Clinic can be worked in a country village so as to afford opportunity for the treatment of the children, advised by the Medical Inspector, to be carried out.

The attempt is naturally in the nature of an experiment, but in a short time it has been demonstrated that by co-ordinating the existing agencies for social and hygienic work, and instituting others, it is possible for a modest sum to do much toward preventing the deplorable conditions of health of rural elementary school children reported by many medical authorities.

A Vacation School, a Girls' Club, a School for Mothers, a Babies' Welcome are not, on the face of it, connected with the medical inspection of school children. They were organized with the purpose of improving the health and hygiene of the neighbourhood. The Dental Clinic, which is placed last in the items of the following report, was an object in view from the first starting of the work.

The subjoined table gives an approximate idea of the cost of treatment in the Dental Clinic. It works out at 2s. per head. This average, having been obtained from six months' work *only*, and those months the *first* six during which the number of extractions under anæsthetics was large, would probably be lower during any succeeding six or twelve months when the majority of patients would receive conservative treatment.

Doctors' fees for six months	£9	0	0
Dentist's ditto	12	2	6
Paid out for gas.	0	17	6
	£22	0	0
Received in fees from patients . . .	£6	2	0

The difference is £15 18s., or for 134 cases 2s. per head.

The initial expenditure for setting up the Clinic was £14 0s. 2d., and the hire of the rooms and services of the workers are not included.

These figures and statements show that anyone who can provide two rooms and obtain the services of two workers—the

one a nurse (district or school) or a health visitor for the operating room, and the other merely to preside in the waiting room—can, with little expense, set up a village Dental Clinic, and one such Clinic may easily become a centre for the use of the neighbouring villages. Since this Report was issued application has been made on behalf of Quendon and Rickling that their school children may share the benefits of the Dental Clinic with the children of Newport School.

I should also like to add that, owing to the initiative and generosity of a Newport resident, there is now yet another development of the Health Centre, i.e., The Clog Club. Children belonging to this can procure clogs which keep their feet dry and do much to prevent colds and sore throats.

It is early yet to expect much definite result from the Health Centre, but it is encouraging to the promoter and to the workers that their efforts have been so generously recognized by the School Medical Officer.

ADÈLE MEYER.

Newport, Essex, May, 1912.

Since this Report was printed in June, 1912, several schools in the neighbourhood have asked and obtained permission to send their children to be treated at the Newport Dental Clinic.—A. M., July, 1913.

A HEALTH CENTRE AND DENTAL CLINIC IN A RURAL DISTRICT, NEWPORT, ESSEX.

AIMS AND OBJECTS.—This was inaugurated by Lady Meyer early in November, 1910, and has been financed by her throughout. With a full knowledge of the work, gained by her experience with the London Care Committees and the St Pancras School for Mothers, Lady Meyer decided to start a modified scheme in the village of Newport, and to establish a rural Health Centre as a means for improving the standard of hygiene and general well-being of the community.

METHODS.—A commodious old-fashioned farmhouse was rented, and Miss Florence Petty, well known in St Pancras as the "Pudding Lady," was installed there as Health Visitor. Personality counts for much in schemes of this kind, particularly where a rural population is concerned, slow-minded and

suspicious of strangers, and Newport is fortunate in possessing a Health Visitor who combines an informed enthusiasm with a quiet, kindly persistence, which has worn down the indifference or opposition of the villagers. Knowledge, tact and genuine sympathy have won them over to co-operation in an organized hygienic crusade.

Girls' Club.—I.—A start was made with a Girls' Club. The Health Visitor, having made herself acquainted with as many families as possible, and thus made a first favourable impression, was "At Home" each evening to any young woman of the village who cared to come. Numbers attended directly. Music, drill, sewing, dancing, games, cookery lessons had each their evening, meanwhile the Health Visitor was getting to know the girls and their people and using her influence for their general improvement.

A feature of the dancing class, lately developed, has been the learning of Morris Dances, under the direction of a teacher from the Esperance Club, and *mirabile dictu*, the local boy scouts, for one evening a week, joined the girls as partners with entirely decorous and successful results.

Members of the Girls' Club pay 4d. a month.

Penny Dinners.—II.—Next, "penny dinners" for school children were begun. At first only those who came from a distance were admissible; later any child to whom it seemed the dinners would prove a decided boon. In all, eighty-four children have more or less regularly attended the dinners.

Results.—The results of these nutritious meals was soon manifest in the increased weight, better nourished appearance, and, not less important, the improved manners of the children. Not only so, but the children act as missionaries to their mothers, comparing the meals at the Health Centre with those at their homes, much to the disparagement of the latter, which quickly brought the more intelligent mothers to the centre to "see how it was done."

After a year's experiment it has become evident that the brain power and general morale of the children have vastly improved. The increase in weight is above the average. Observations, published in 1894, made upon 14,744 children in the public schools of St Louis, U.S.A., showed that the



MOTHERS' MEETING

Martin's Farm, Newport, Essex, Health Centre.

To face p. 407

average gain in weight from the fifth to the fourteenth year was $5\frac{1}{2}$ lbs per year. The average increase in the case of 39 children, weighed regularly during the year, at the Newport Health Centre has been $6\frac{3}{4}$ lbs for the period from January 4, 1911, to December 22, 1911. These weights include the ordinary house clothing.

One penny per dinner covers the cost, for each child, of the actual food used and a small amount towards the price of the gas used in cooking.

MENUS.—A typical menu for two weeks is the following*:

(*a*) German Lentil Soup with Dumplings, Standard Bread.
(*b*) Potato and Celery Soup, Wheatmeal Bread, Baked Syrup.
(*c*) Haricot Beans and Tapioca Pie, Brown Bread.
(*d*) Meat and Barley Soup, Cabin Biscuits, Apple and Sago Pudding.
(*e*) Pea Soup, Standard Bread, Rice Pudding.
(*f*) Red Lentil Stew, Cabin Biscuits, Milk Pudding (Sago, Semolina, Tapioca, etc.).
(*g*) Macaroni Soup, Wheatmeal Bread, Apple, Sago and Currant Pudding.
(*h*) Baked Potatoes, Wheatmeal Bread with Margarine or Dripping, Date, Currant and Fig Pudding.
(*i*) Lentil and Rice Pies, Standard Bread with Dripping or Margarine.
(*j*) Haricot Stew, Standard Bread or Cabin Biscuits, Milk Pudding.

Dumplings are made with two-thirds white flour and one-third wheatmeal. Milk puddings are made with skim milk, fat being added in form of suet, margarine or dripping.

Most of the children have two or more helpings of each dish.

Dinners are not supplied on Saturdays, Sundays or school holidays.

WELCOME CLUB AND SCHOOL FOR MOTHERS.—III.—Soon after the penny dinners a "Welcome Club" was commenced. Mothers were invited to bring their babies to the centre, where the infants are systematically weighed. The Health Visitor gives the mothers cookery demonstrations and informal health talks with—incidentally—moral lectures. A penny per month is paid by each member of the Club.

The mothers are encouraged to talk about their children, and any illness or defect mentioned by them, noticed by the Health Visitor, or formally reported by the School Medical Inspector is discussed, with the result that the child affected is generally brought to the local doctor or to the parish nurse for treatment.

* For further menus, with details of the cost, see page 273.—Ed.

And here it may be mentioned that the local Nursing Association, which is managed by a committee of ladies, with Lady Meyer as President, has cordially co-operated with the local doctor and with the Health Centre to their mutual advantage and satisfaction. At the annual meetings of the Nursing Association, which supplies a parish nurse to the villages of Newport, Widdington and Wicken, a large audience of subscribers attend, and on several occasions they have been addressed on health subjects by the doctor, or other speakers, who have thus assisted in co-ordinating the various agencies for improving the health of the community.

Dental Clinic.—IV.—The latest development of the Newport Health Centre has been a Dental Clinic.

Prior to the inauguration of school medical inspection the teeth of the local school children were practically neglected. Cleansing of the teeth was almost unknown; caries had but one remedy—extraction. This was carried out by the local doctor (there is no dentist in Newport), or at Saffron Walden Hospital, where a dentist attends for extractions only. The three miles to the town, necessitating in most instances the expense of transit and half-a-crown fee to the hospital for gas administration, was a bar to the villagers. Fillings were only to be had at the private surgery of the dentist—an expensive luxury not to be contemplated for a labourer's child. Extractions by the local doctor were insufficiently paid, one shilling being the customary fee, as in many country districts. The teeth of most of the young women of the village were badly affected by caries or greatly diminished in numbers by extraction. Possibly the caries of the uncleansed teeth of these young women was partly due to the greater amount of starchy food eaten by the women as compared to the men.

Medical inspection of school children has drawn general attention to the necessity for dental hygiene. Following on this at Newport came an address at the Nursing Association Annual Meeting, on the structure, functions and care of the teeth. A way was thus prepared for the establishment of a Dental Clinic at the Health Centre, Lady Meyer financing this scheme also. Arrangements were made with Mr A. G. Bolton, L.D.S., of Saffron Walden, to attend at the Health Clinic once a week or as often as required, and with Dr Arthur

Browne, of Newport, to administer anæsthetics. The fees agreed to were: dentist, 12s. 6d. per hour; anæsthetist, 5s. per case. Considering that all the patients would have been eligible to go for extraction to the hospital, where the services of both anæsthetist and dentist would have been given gratuitously, and that fillings, etc., would simply have been left undone, so that the dentist would not have had them to treat, these professional fees have been accepted as adequate under the circumstances.

Both the anæsthetist and the dentist have cordially entered into the scheme, which has so far worked admirably. It is too soon to publish final results, or a balance sheet, as the Clinic was started only in July, 1911; but a few figures may be helpful:

The dentist has attended the Clinic 24 times.

He has seen 134 patients, made up as follows: adults, 32; young people (from 14 to 20 years), 51; school children (from 5 to 14 years), 51.

There have been 44 extractions under nitrous oxide anæsthesia; 37 extractions without an anæsthetic; 25 fillings; 32 preparings, consultations, etc.

A good second-hand dental outfit was obtained, and is the property of the Clinic; a stout kitchen chair, with arms and an adjustable head-rest, makes an efficient dental chair. Instruments are boiled after each case on a gas-ring.

The Health Visitor arranges for the attendance of each patient, and is present during the various operations.

Payments are made to the Clinic as follows: By working-class adults, for each gas extraction, 3s. 6d.; by working-class adults, for each simple extraction or for filling, 2s.; by boy scouts or members of the Girls' Club, for each filling or extraction, 1s. 6d. to 1s. 9d.; by school children, for each filling or extraction, 1s. to 1s. 6d.; by children whose mothers belong to the Welcome Club, for each filling or extraction, 6d. to 9d.

The Clinic is much appreciated by the village. Already the prejudice against spending money on fillings has been overcome. Daily cleansing of the teeth has become the fashion. Before long fewer extractions will be required, and only the repair and hygiene of the teeth will need attention.

A TALE OF TWO CITIES

By George Rainey.

Paris was held up to members of the Guildhall School Conference by several speakers as a shining light in regard to its methods of dealing with the problems of the under-nourished and ill-clad and shod child. Many will, therefore, welcome the opportunity of learning something more of its ways.* The following article from the pen of a social worker in East London appeared originally in *School Hygiene* for November, 1912, under the title of "Necessitous Children in Paris and London," and is reprinted by permission of the Author and Editor. By its fine sympathy and discernment, as well as by a certain forceful simplicity, it has profoundly impressed many of those who have read it, so that no apology seems needed for now making it available to a wider circle.—Ed.

Scope of Article.—The Easter-Holiday debate in the London County Council, coupled with the Charity Organisation Society's letter, published in the *Spectator* in February, revives the question as to whether the principle of feeding necessitous children is a sound one. It is not my province in the present article to argue at length the vexed question of the claims of the individual upon the State, but it might be of interest to consider the matter from a fresh point of view, and glance at the methods which other nations are adopting in dealing with what is admittedly a difficult problem.

The Charity Organisation Society, we are given to understand, does not believe that free meals "will improve the condition of the poor"; it thus throws the whole weight of its opinion into the scale against the system, and is supported in this view by a majority of the more conservative opinion of the country.

Attitude of European Cities.—On the other hand, we find, as soon as we begin to inquire, that the leading cities of Europe, or at least of its more civilized portions, have frankly abandoned the old *laissez-faire* attitude, and are agreed that "no argument, moral or economic, can defeat the claims of a hungry child." It may be that a comparatively small section of the

* Cf. also p. 463.—Ed.

community in this country has a monopoly of wisdom, but it must be at least admitted that if we err in feeding the children we err in good company. "We hold that a nation cannot afford in the long run to neglect its children any more than a farmer can afford to starve his young horses." "We feel that the practical advantages of making the school population physically efficient more than outweigh the hypothetical weakening of parental responsibility." Such appears to be the line of thought taken by the more enlightened cities of Europe to-day. A few examples may be quoted.

Some Illustrations.—In Brussels nearly one-fifth of the children in the elementary schools receive a free meal. Milan, the richest city in Italy, spends in proportion to its population very nearly twice as much as London on school dinners. Munich refuses to run the risk of making holiday time for its children a time of starvation, and continues free meals when the schools are closed. Similar conditions prevail in Vienna, while Paris has a system which, so far as the welfare of the children is concerned, is a model of organization and completeness. In May I had the privilege of inspecting the "*cantines scolaires*" of four schools in Paris, and was much struck by what I heard and saw. The object of the present article is to describe the French system and methods, so far as they were explained to me, and to attempt some comparison of the results with those obtained in London.

Paris and London Methods Contrasted—One cannot help remarking at the outset how the methods of each city bear the stamp of the national character. The French see their object and make for it; we in this country proceed cautiously one step at a time. We refuse to "scrap" our old machinery, but instead replace it with new bit by bit, a wheel here and a cog there.

In Paris they set out with the definite object of securing the efficiency of the children at all costs, and money is spent ungrudgingly to promote it. Where it is found that food alone does not suffice, clothing is added, and backed by the authority of the State the schools insist that it shall be kept clean and mended.

In London we feed grudgingly, and we supply food to

children who are so poorly clad that in cold weather much of the benefit derived from the meal is lost.

Clothes and Chaos.—The provision of clothing is in a state of chaos. Quantities are given away by teachers and charitable agencies, and care committees have a limited supply at their disposal. But where, as is too often the case, a child's clothing, if we except what passes for boots and stockings, consists of four or even three ragged garments, we generally content ourselves with adding one fresh one. Often it is already the worse for wear, but if it happens to be a new one it is like putting new cloth on old garments; the child is still in rags and the result is far from satisfactory.

A Scorn of Half Measures.—Paris scorns half measures, and, if necessary, the child is taken out of its rags and started afresh with a new outfit. In the French capital feeding is carried on to an extent which would horrify the average London care committee. Any parent who is unable to provide his child with a sufficiency of food may apply to the Président de la Caisse d'École, an office which is generally held by the mayor of the borough. The application is placed in the hands of a paid official, who investigates the family circumstances, and it is very rarely that a refusal is met with. The first school I visited had 540 boys on its register; of these no less than 145 were receiving free dinners daily throughout March, while a further 30 were paying either the whole or part cost of the meal. During the month the school had also supplied free of charge 393 portions of soup before first school, 348 afternoon meals, and 473 doses of cod-liver oil, in addition to a large supply of boots and clothes.

Clothing appears to be dispensed on the same scale as food. The pupils have cards with each article of a boy's wearing apparel marked on them, and the cards indicated that many of them had been practically clothed from head to foot by the school.

The boys are constantly inspected for clothing, and if the parents cannot supply it, the municipality does; it is insisted that the children shall be properly clad.

Varying Views and Practices.—I inquired if any principle was laid down as regards selecting the children to be fed, and

was told that owing to lack of officials, investigations were too perfunctory and the system was undoubtedly abused in that district. A child once placed on the feeding list is allowed to remain there twelve months, though the family circumstances might easily have changed for the better during the period. This is a defect which ought to be, and might be, easily remedied.

It is held that a working man, earning up to thirty shillings a week, cannot properly feed and clothe more than three children, and with a larger family the municipality is quite willing to assist him, even to the extent of giving free country holidays in special cases. A widow is not considered capable supporting even one child, and her family are always fed if an application is made.

In London a widow with two children and an income of some twelve shillings a week is expected to explain once a month her inability to feed them, and I venture to say most care committees would hesitate before granting free meals where a man was supporting a wife and five children on an average wage of a pound, out of which he would be paying at least five shillings and sixpence for rent of two rooms.

Such is the difference in the ideas which govern the two cities. It may be that the truth lies somewhere between London and Paris, or it may be that we give the parent sufficient help to enable him to struggle on and withdraw it just at the point where, if continued, it might enable him to provide his family with decent clothing. Withdrawing the free meal may well be equivalent to depriving the children of boots.

A Visit to the Schools.—I watched the boys assemble for dinner in the dining hall, which forms part of the school building, and inspected a batch of about forty as they filed by. Every boy had good boots; their clothing was clean and tidy and they are expected to keep it so. To protect it each boy is compelled to fasten a napkin in at the front of his collar before he sits down at table. I walked down the lines as they sat at dinner and was much struck with their appearance; they not only looked well cared for, but alert and vigorous, and it must be remembered that with few exceptions they correspond to the necessitous children of the London slum.

A Meal Described.—The menu that day consisted of soup, macaroni and roast leg of mutton, each portion being charged one halfpenny to those who pay. The soup is served very hot and looked quite satisfactory at the price.* The basin is so constructed that the plate containing the second portion fits over it very cleverly and keeps the contents warm.

I was invited to taste the meat and macaroni; the latter was excellent, and was fried in some kind of fat. The meat is cut into small cubes so that it may be eaten with a spoon and is rightly served out separately in exact quantities, 35 grm. to each boy, 30 to a girl, and 25 to an infant. A master dined with the boys and perfect order and discipline prevailed. The meal I noticed was eaten leisurely and not gobbled after the London fashion.

All the cooking is done in the school kitchen, and I was told it more than pays them to buy and prepare their own food rather than trust to a caterer. After visiting the kitchen we looked into the girls' dining hall. Time did not permit of a closer inspection but they appeared equally well cared for, and I was told that exactly the same system prevailed.

My next visit was to the girls' department of a school in the fifteenth arrondissement, classed by the Directeur de l'Enseignement primaire as one of the poor schools of Paris.

Marvellous Results.—Here, again, the results obtained were marvellous when compared with the condition of the children in a poor school in East London. The head mistress was

* In Paris, the school canteens provide a varied, palatable, nutritious and sufficient dietary, at a cost of under twopence per child. The meal consists of three courses, is served with scrupulous cleanliness, and, though simple, is more refined than the meals of fairly well-to-do people in this country. When we contrast that with the daily soup or slice of pudding which too often represents culinary effort for the children in this country, Sterne's famous observation comes back with redoubled force. In Paris, as in London, voluntary effort, which was at first relied upon, gradually dwindled, and its contributions to the feeding of the children now form a very small percentage of the total cost. But French frugality and organization, together with culinary skill, have evolved a system which, while efficacious as to feeding, covers a great deal more, at a cost which to English people must seem surprisingly small. It is administered, too, by the localities themselves, which receive subventions from headquarters. There is, at the same time, under a Socialist municipality, a very careful and thorough system of inquiry and inspection, to see that parents who can pay the low price charged for a meal do not avoid payment.—*The Times*, December 17, 1908. —Ed.

deservedly proud of her flock, and in answer to my inquiry explained that the result arrived at was largely due to the continued personal efforts of herself and her staff. The girls are inspected for clean linen every Monday. The inspection is made as little vexatious as possible, being quite perfunctory for those who are known to have careful mothers. But those girls who come from unsatisfactory homes or who have received clothing from the school have to submit to a more searching examination.

Help on Terms.—Here, as before, everything is done to assist the poorer parents. If they cannot provide the child with a change for washing the municipality will supply it, but in return the school can insist, and does, that the garments shall be forthcoming and shall be kept clean and tidy.

Washing Day.—No woman need be placed in the position of an heroic London mother, who I found one evening last winter trying to wash the linen of a large family in a basin of inky luke-warm water (the room had no boiler), while her offspring stood by clothed only in their outer garments. The children had no change, and the clothes must either be dried by a handful of fire or put on damp the following morning. Figures are hard to obtain, but it seems probable that one half of the necessitous children of London are reduced to such straits as these. No wonder that all, except the more energetic mothers, give up in despair the struggle to keep their children clean and let them gradually sink into the ranks of the ragamuffin. Some of the clothing is made by the girls, and everything so made is sent to the central store owned by the municipality, which in its turn distributes the garments as required among the various schools in the division.

Effect on the Parents.—Everything is organized, centralized and tabulated. The teachers are provided with a list of what is given and the weekly inspection alone is a check on pawning, but as the pawnbrokers' shops are under the control of the State doubtless a remedy would easily be found if the evil were wide-spread. As a matter of fact it gives them no trouble, so the teacher explained, partly because there is hardly a market for the clothes and the pawnbrokers will lend practically nothing on them, partly because the parents, as a whole, respond to

the assistance given, and are anxious that their children should not fall below the average standard of the school.

Problem of the Safety-Pin.—It must not be thought, however, that this standard has been attained entirely without difficulty. The safety-pin, the most popular article of toilet in the London slum, finds favour among some of the mothers of Paris. I asked the head mistress how she dealt with the problem. She said that if a girl came to school with her frock fastened with a pin, a warning was sent to the mother; if no notice were taken a second warning might be given, and after that the pin would be confiscated and the frock allowed to gape; as a result the child took care to return to school the next day with the defect remedied.

Indirect Teaching of Hygiene.—The regulations with regard to handkerchiefs are equally strict. It is insisted that each girl shall have one and they are called for every Monday. The children may not come to school with their hair loose: for the sake of cleanliness it must be worn plaited. Heads are examined once a fortnight: the doctor visits the school every Friday. Contrast the thoroughness of this part of their system with that of our own. In London a school nurse has some 10,000 children to attend to and examines heads every three months.

Clothes and the Child.—Our inspection of clothing is equally inadequate; it is supposed to be examined every three months, for cleanliness, but apparently not for sufficiency. In London, where the mother is poor and refuses to beg, a child still suffering from the effects of rheumatic fever can go through the winter clad in a thin cotton frock, a chemise and a ragged petticoat. In Paris, fortunately for its children, this would be impossible. The weekly inspection alone protects the children; but more than this, they themselves are growing ashamed to be seen in rags. The idea is gradually sinking into their souls. This in itself is a great gain, the value of which could hardly be over-estimated. In London the ragged child has scores of companions in rags; it is unfortunately taken as a matter of course, and is part of the price we have to pay for our *laissez-faire* attitude.

A Teacher Thunderstruck.—I sat in the head mistress's

study and watched the children as they marched by to dinner, each girl saluting as she passed the door. In this school they retain a relic of the old clerical days. The girls wear a broad band of ribbon across the chest and shoulders. The colour indicates the class they belong to and relieves their dark pinafores very effectively. There are 627 girls on the roll and of these 105 were receiving free dinners. The menu that day consisted of potato soup, stewed leeks and hashed mutton. Each child had a separate mug, and the teacher was thunderstruck on hearing that in London it was possible for 150 children to share a dozen mugs. "Is it possible that in a rich city like London," she began, but I forget in exactly what terms her expressions of surprise terminated.

We walked leisurely between the rows and inspected the girls as they sat at dinner. Their general condition was fully equal to that of the boys described above, and there was nothing whatever to indicate that they were a group of necessitous children. When spoken to they answered clearly and intelligently, and one could not help concluding that they were being thoroughly equipped mentally, as well as physically, for the battle of life.

An École Maternelle.—My next visit was to an École Maternelle in a poor district in the south of Paris. The "maternelle" corresponds very closely to the kindergarten, children being admitted between the ages of three and six.

As attendance is not compulsory the head teacher can neither threaten nor insist when parents prove refractory or negligent, but she may retaliate by excluding the child. Any infant who in any respect falls much below the required standard is taken home immediately.

Some Stringent Regulations.—The regulations in the "maternelles" are very strict, but the parents have been gradually brought to submit to them.

A few specimens may be quoted:

"Every child must be brought to school clean. A searching inspection for cleanliness is made every morning when the pupils arrive." "The head must be washed frequently and the hair carefully combed; that of the little girls must be plaited, and of the boys cut short." "All clothing and linen must be clean and free from rents; a pin replacing a hook

or button is strictly forbidden." " Each child must be provided with two handkerchiefs—one for the nose, the other for the lavatory."

RESULTS.—One would have thought that the effect of regulations such as these would have been to exclude a vast number of children. But apparently it is not so; with few exceptions the parents submit in return for the clothing and more especially the food, which appears to be dispensed very lavishly, as no less than one third of the infants were receiving free dinners.

Notwithstanding the great poverty of the district, the condition of the children was excellent, and has been brought about by gradual and untiring effort. As I arrived before the dinner hour I was escorted through the class-rooms. The infants presented a charming appearance, and when told to do so, saluted by kissing their hands as naturally as if the advent of a stranger were an everyday occurrence.

HANDKERCHIEF DRILL IN TWO CAPITALS.—Every morning the signal is given, " Show hands, show handkerchiefs," and I was told the children came out of the ordeal quite satisfactorily.

For the sake of comparison I asked the teachers in an East London school to call for a show of handkerchiefs in a few classes taken at random. Among the boys 42 per cent responded satisfactorily, of the girls 21 per cent, and of the infants 20 per cent. The much higher proportion among the boys appears to be explained by the fact that the girls rely on their pinafores and the infants trust to luck. If, as doctors tell us, nose and throat troubles often take their origin from the neglect of the handkerchief, one can only conclude that the authorities in Paris consider money better spent on handkerchiefs than on medical treatment later on. In London we resemble the infants—we trust to luck.*

SHABBY BUT NO RAGS.—The last school on my list was an exceptionally poor one, lying on the outskirts of Belleville, a notor-

* Since the above was written in June, an East London school has been brought to my notice where the Head Mistress insists upon the mother providing a handkerchief before she enters the infant on the register. By this method, when she calls for handkerchiefs, about 60 per cent of the children respond satisfactorily. Would that the example were more often followed.

iously bad district. The children here were undoubtedly shabby but there were no rags, though here and there I noticed a boy who had a rent in his clothing which had not been sewn up. Several of the boys looked ill and wanting in vigour. I asked the master for the explanation. He replied that they were the offspring of the degenerates and the "alcooliques" who abound in the district. The school did what it could, but it was a very difficult neighbourhood, and some of the worst parents gave them a considerable amount of trouble, especially as regards disposing of boots to small dealers.

In this school glasses were not supplied for dinner, the soup being held to provide sufficient liquid.

A Triumph over Difficulties.—The girls, too, were shabby, but their clothing was carefully mended and tidy. Though representing one of the very worst schools in Paris they would have put to shame the children of an average East London school. The poverty of this school may be estimated from the fact that no less than 25 per cent of the girls were receiving free dinners, and 250 pairs of boots had been distributed during the twelve months among 340 boys.

On leaving the school I had a short interview with the administrator of the Caisse d'Ecole for that division of Paris. He was most enthusiastic over the results obtained with such bad raw material as the district provided. Speaking of their system, he summed up with the remark: "d'un point de vue sociale c'est magnifique."

Achievements of the System.—Bringing, then, the evidence to a focus, two facts stand out clearly: The necessitous children are disciplined and orderly, and appear well nourished, and rags are no longer to be seen in the schools of Paris. The methods and standards are not cast iron; they vary a little in different divisions but the results are everywhere practically the same.

The Reasons.—It will perhaps be said that they are to be attributed to the inherent love of dress which exists even among the poor in France; but this explanation is quite inadequate. In some of the smaller French towns where the children are allowed to take their chance, one sees rags and destitution on the old scale.

The results, so it seems to me, are due primarily to three causes. The dinners are properly served, a master or mistress dining with the children, and thus they are made an education in discipline. Secondly, the teachers are devoted to the children and deservedly proud of them; and, lastly, clothing is distributed according to an organized method which enables the school to insist on its being forthcoming and kept tidy.

How London Teachers are Handicapped.—In London the teachers cannot be expected to make bricks without straw, and have little to encourage them. It is of little use calling for handkerchiefs or inspecting linen and boots if the child has neither and there is no source capable of supplying the deficiency. It may be that the total amount of clothing given away by the various agencies is proportionate to that supplied by the municipalities in Paris, but, if so, our methods render the results absurdly disproportionate. In this country there is a school of thought whose fear of undermining parental responsibility or of pauperizing amounts almost to an obsession. How many of these moralists know what it means to rise from a meal hungry because they have shared the last crumb with their children? Many of them might learn a lesson in self-denial and parental responsibility from those they term "unsatisfactory" parents. If we call upon the working man to abstain from a single pipe of tobacco until he has bought handkerchiefs for his children, we demand from him an amount of self-denial which we should hardly expect to find even in a bishop.

The Manufacture of the "Cadger."—The system of "cadging" which our methods foster in London is far more likely to injure the characters of the poor than an organized provision of clothing under proper safeguards. Under our system boots may be obtained, for instance, at the Sunday school, pawned, and a second pair procured elsewhere. There is no need to labour the point, the facts are too well known. Generally speaking, those who "cadge" the most get the most, and the more independent among the poor complain bitterly of it.

So long as clothing is supplied by innumerable charitable agencies there is little likelihood of much improvement, while children are seen to be suffering and human nature remains the same.



CHILDREN WAITING TO BE FED, GLASGOW
(Prior to the School Board taking over the Work).



AN UP-TO-DATE DINING ROOM
Cranstonhill Board School, Glasgow.

To face p. 421

Clothing Systems Compared.—In Paris the charitable public pays its subscriptions into the Caisse d'Ecole, and subscribers have the satisfaction of knowing that no child need suffer from lack of clothing owing to the poverty of its parents. There is no suggestion here that their system is perfect, but there is much that we might learn from it.

In London the individual gives privately or subscribes to his favourite society; we pour gold into an apparently bottomless well; our system gives us little control over the parents, and permits countless children to run about half-clothed and almost bootless in the depth of winter.

As any care-committee secretary who has a boot store is aware, when these children come for boots in bad weather, one may often wring the water from their cold stocking-feet, like squeezing a wet sponge. An immense amount of cruelty to children exists here in its most insidious shape, and the injury to health must be incalculable.

How Some London Children are Fed.—Again, contrast our methods of feeding with the carefully organized arrangements described above. At one centre two children share a glass; at another perhaps 150, if thirsty, are compelled at the conclusion of the meal* to scramble for a dozen mugs, in complete contradiction to any lessons in manners or hygiene they may have been taught. At a third they are packed like sardines without elbow-room to feed themselves properly. Meat and crust are often so mixed up that it is impossible to distribute them evenly. I have seen a child's dinner consist of a lump of cold crust and a quantity of luke-warm mashed potato (its share of meat having gone to a neighbour) without a draught of water to assist the process of swallowing.

"I am Watching the Dinner get Cold."—But this does not exhaust the catalogue unfortunately. Children, sometimes half clothed, may be kept waiting outside the feeding-centre, shivering in the cold until the last table is ready and the signal is given to enter. Complaints are made that they do not come straight from school, and it is hardly surprising when the

*At one centre six drinking mugs were used by about 80 children and at another centre 200 children shared the use of 17 mugs. At still another centre, no mugs at all were on the table. Annual Report, Chief Medical Officer, Board of Education, 1911, p. 281. Cd. 6530, 1s. 5d.—Ed.

reward for punctuality may be pneumonia. The meal may be served in cold plates, of a type which rapidly abstracts the heat from its contents, and by the time the third table is ready the food on the first is sometimes literally not fit to eat. Hungry as they are the children protest openly. I have heard a small boy, who was looking through the open door longingly, remark to a companion while waiting, "I am watching the dinner get cold." When a boy has cause to indulge in such irony further comment is needless. How wide spread these grievances are I am unable to say, but this list is the result of observation and inquiry at five feeding-centres taken at random between January and May. It is high time the London County Council framed more stringent regulations; the remedy would appear to lie in management rather than in money.

Price of the Abolition of Rags.—If the feeding arrangements are sometimes deplorable, the condition of the children's clothing is even more so. One third of these ragamuffins would not be tolerated in Paris for their own sakes and for the sake of their class-mates. Another third would hardly pass muster in a poor school without undergoing extensive sartorial repairs. And yet the results in Paris have been achieved without a heavy expenditure. Last year's balance-sheet for one of the poorest divisions shows that the total outlay on boots and clothing amounted to less than one shilling per head of the school population, while for feeding the cost was less than five shillings per head. These figures would be almost incredible were it not that part of the clothing is made in the schools; the boots are what is known as "galoshes," at 1s. 9d. a pair, and the dining-halls forming part of the school buildings are rent free.

Tradition among the poor dies hard, and the French system at first might be expensive and perhaps troublesome to establish, but if, when once set on foot, we could abolish rags from the London schools by an expenditure of one shilling per head of the school population, it would undoubtedly be one of the finest investments the ratepayer could make. The outlay involved of £35,000 a year would be but a trifling addition to the three and a half millions we are now spending on education proper. It will perhaps be objected that the English parent is not amenable, like the French, to persuasion or pressure. If it

were so the Swiss have taught us how drastic measures may be introduced for coercing the " unsatisfactory " father.

PARENTS AND TEACHERS' ATTITUDE.—But the parents have already given proof that a higher ideal will sink into their souls if steadily held up before them; witness the improvement in their attitude towards medical inspection and treatment, and the steadily diminishing number of children who appear at morning school with unwashed faces. In conclusion the French appear to have no misgivings as to the ultimate results of their system. The teachers are enthusiastic about it, and so far as I can gather no considerable section of the public is opposed to it. The ultra-conservative and the advanced liberal alike agree that the sins or misfortunes of the fathers shall not be unduly visited upon the offspring. They appear equally convinced that it pays to have the children fed and clothed, and they know no better way of carrying out their principle. I was discussing the system a short time ago with the General Secretary of the National Council of French Women and asked her if she were not afraid it might ultimately injure the family. She has no objection to her views being quoted.

EFFECT ON THE FAMILY.—" In Paris," she said, " the burden of unrelieved parental responsibility was often so heavy that the family could break down under it. Modern civilization made heavy demands on the parents, and if those demands were lessened the children would suffer. Owing to economic laws the workman had to submit to high rents and low wages, and under existing circumstances he must have assistance in some shape or form. By the help they were giving, the children were an example to their parents and thus helped to raise the tone of the family; left to themselves they were often such a burden that they dragged down the household. So far from family life deteriorating her experience was that the parents, as a whole, were responding to a higher ideal of what the family should be."

This is only an individual opinion, but the National Council of French Women devotes itself specially to all questions concerning " women, children, and the protection of the family," and the views of its secretary are therefore of interest; with those who know Madame Avril de Sainte Croix and her work they will carry considerable weight. Theories come and go, but facts are stubborn things. The raggedness of our

children continues to be an object of wonder for foreigners who visit our shores, though it is generally admitted that their physical condition has improved of late years.

Conclusion.—London is sitting down and watching a generation grow up, which will be content to be clothed in rags with their almost inevitable accompaniment of degradation and inefficiency.

Paris, on the other hand, is training its necessitous children to look upon rags as a disgrace; there the term "ragged school" would be an obsolete expression of the nineteenth century.

CLOTHES AND THE CHILD. *By* Alice M. Burn, m.b., edin., d.p.h., *Assistant Medical Officer of Health and Assistant School Medical Officer, Cheltenham, formerly Assistant School Medical Officer, County Durham and Resident School Medical Officer, Wycombe Abbey School.*

A good deal has been heard in recent years of the shock which colonial and foreign visitors to this country experience at the physical appearance of the masses of the people in our great cities. It is in a sense, therefore, fitting that it should fall to the lot of one of the former, with her greater freedom from the fettering influences of tradition and wider outlook, added to, in her case, varied experience in this country, to give her impressions upon so vital a matter as that of children's clothing. It is a humiliating and melancholy picture she paints of existing conditions and one that lends support to Miss Matheson's dissatisfaction with the achievements of our educational system. Yet no one who is at all familiar with the facts will be disposed to question its substantial accuracy. Social workers and School Medical Officers will note without surprise that just as it is frequently not the poorest homes which furnish the worst cases of malnutrition, so Dr Burn finds that it is often the children of the comparatively well-to-do who suffer most in these matters from parental ignorance and folly. The following important contribution to our knowledge, not less valuable because it is constructive as well as critical, appeared originally in *The Child* for March, 1912, and is reproduced here by permission of author and editor.

It should be read in conjunction with Dr Cecil Reddie's valuable monographs on the same subject, which will be found in *Our Children's Health at Home and at School.** Readers of this volume will recollect that Dr Burn contributed a stimulating and suggestive paper† on "The Teaching of Elementary Physiology and Personal Hygiene in Public Secondary and Private Schools" at last year's Guildhall School Conference.—Ed.

WANTED A NEW CRUSADE.—Anyone who is in close and continuous medical relationship with the elementary school child cannot fail to be struck, not to say appalled, by the ignorance and lack of common sense which characterizes the clothing of the great majority of girls and boys of school age.

Infant mortality schemes and consultations for mothers are slowly but surely evolving saner ideas on the subject of infant clothing, and the new-born child stands an infinitely improved chance of survival and subsequent physical fitness. It is now time, with the new opportunities to our hand afforded by medical inspection, to carry the crusade into the schools and institutions which take educational control of the earlier years of the child.

FAULTY CLOTHING IN CHILDHOOD—ITS FAR-REACHING EFFECTS.—All the physical injury that the combined ignorance of fashion and convention can do to the comparatively set adult frame is as nothing in importance and gravity to the far-reaching, deep-seated defects which are the outcome of wrong principles and bad ideals in the clothing of the soft, mouldable framework of the young. Nor does the mischief end with the physical. Every student of the child knows that there is hardly any physical deficiency which does not have its corresponding mental or moral drawback. For this reason practical educationists should no longer ignore a factor in child care and development which is so subtly important and at the same time so easily remediable.

In view of all the careful records now taken of medical defects, and of the many thoughtful efforts made to elucidate and ameliorate the adverse physical conditions, found as the result of school medical inspection, I have often wondered that

* Pp. 220, 223. Cf. also *ibid.* 142 and footnote.

† Pp. 118-132 and 157-8.

attention has not been more urgently drawn and criticism more definitely levelled at the great mass of those general defects of physique which are obviously the more or less direct result of improper clothing.

A Strong Statement.—After four years' association with schools in England, and several years abroad, I am convinced that I do not overstate when I say that 70 per cent of the girls, and a considerable percentage of the boys, in our elementary schools are physically victimized to their clothes. I know of no other one condition—not even excepting bad housing and bad feeding—which, taken alone, is responsible for so much impaired vitality and consequent low standard physique. I would carry my statement even further: all other conditions remaining unchanged, rationally clothe a child from infancy and bring it under the influence of physical movements, even such as our elementary schools provide, and better racial results will be obtained than by the correction of any other one deteriorating influence.

A Painful Fallacy.—To clothe the new-born human, already at a distinct disadvantage compared with its animal contemporary, so as to leave free and untrammelled use to limb and lung, and yet secure the necessary warmth and covering, is not by any means the unskilled question it is generally assumed to be. The school infant, too, requires still greater consideration by reason of the new confinement and increased restraint inseparable from school life. Yet the clothing of this child is usually considered a point in child care at which parental ignorance or carelessness could be trusted to exercise its least baneful results. Such, I believe, is the prevailing opinion still, even in medical circles. But for those of us who are engaged in the work of school medical inspection, with its opportunities for extensive and continuous observation over all age-periods this is a painful fallacy. Parental ignorance apparently reaches its maximum when it comes to the rational clothing of the infant and the growing child.

The Elementary School Picture.—The infant* of 5 years,

* Infant boys had frequently two flannel shirts, a waistcoat, jersey and jacket, in addition to collar and muffler. The clothing of girls and infants conveyed the idea sometimes that they had been fastened together for "a season." Dr Boleyn, Assistant School Medical Officer, Durham County, 1910.—Ed.

just entering school, already only too often bears the stigma of the binder in the laterally compressed thorax and the pigeon chest. The small school-girl is now encompassed round about by quilted stay-bands of a semi-rigid type, string-like tape supports cut into the little shoulders, the costal margin is gripped by the returning tie tapes which pass from back to front, the whole garment expressive of constraint and compression. The covering bodices almost invariably supplement the restraint of the stays. Lung expansion and chest movement are chronically restricted, the forward droop of the shoulders, with its associated hollow clavicles and prominent abdomen, is initiated and encouraged, while the whole body axis is thrown into the worst possible position for practically all the physiological processes of respiration, digestion, and elimination.

The small school boy is victimized in somewhat similar fashion though to a much less extent; having survived the binder stage he is now held together by an antiquated type of brace, frequently a family relic, hoisted up chest high and not uncommonly crossed in front of the sternum for security of tenure. The same malpositions ensue, rounded shoulders, contracted chest, and poor thoracic development.

Girls at the younger age periods continue to pass through stay garments of varying degrees of rigidity with gradually increasing tendency to waist line, till we find the girls of 12 to 14 years commonly wearing the old-fashioned busked corset, the acme of unhygienic folly in its waist and lower thoracic grip, its stiff unyielding lines, and its downward pelvic pressure. The bodily poise of these girls amounts almost to deformity, while there is an utter lack of grace and elasticity of movement.

Where the Responsibility Lies.—The deep-rooted conviction in the average maternal mind that infants need "support," as it is termed, and that the older girls require "moulding into shape," is responsible for adherence to these obsolescent types of garment. The real needs of the growing and developing body, crying out as it does, in every natural movement, for space and freedom to expand, are utterly ignored or denied.

Clothing and Body Temperature.—The principle of the proper distribution of warmth is also outraged in practically every garment worn. The woollen combination, if worn, is of the type which invariably deserts the kidneys; stay bands and

bodices poultice the waist and starve the upper chest and arms; a multitude of petticoats envelop the thighs without giving warmth or close cover to the legs. Short socks expose the knees, and elbow sleeves afford inadequate covering for many a pair of little blue arms. An attempt to correct deficiencies is often seen in the wash-leather or red flannel bib chest-protector, usually crumpled and awry and increasing the grip of outer garments; or a twisted muffler is crossed in front of the chest and knotted up behind. I have removed or unfastened ten different items of clothing before reaching the poor little cramped chest beneath, and this in a quite "well-cared-for" child. Indeed it is among the "well-dressed" children that we find many of our worst cases of damaged physique and induced minor defect as the result of unwise clothing.

Lot of the "Neglected Child."—My school nurse, a woman of wide experience and keen observation, with whom I often discussed this question in the early days of medical inspection, made a point of drawing my attention to many of the so-called neglected cases, dirty, insufficiently clad, verminous may be, but when stripped to the waist for medical examination displaying a chest and back sturdy and well formed, with good thoracic movement and perfect lung expansion. These children were probably worse fed, worse housed, and receiving less home care than their class-mates, yet, largely, I take it, by reason of their physical freedom from the cramping restraint of unwise clothing, they have put up a better fight against other wrong conditions than the more carefully tended school-child. Ignorant care is often worse than no care. Nature seems to forgive almost anything but interference, and she has wonderful compensating powers for the lung- and chest-free child.

Reform—The Ideal Solution.—How best to sow broadcast among the people saner ideas on this subject has occupied much of my thought. At best, the medical inspector reaches but a small fraction of the school parents during a school visit, and as yet few Education Authorities have made adequate provision for bringing their medical officers into educational contact with parents, teachers, and older children. Of course, the ideal thing is a whole-time schools' instructor in hygiene whose course will include practical demonstrations

of the how, when, where, and why of child clothing; submitting varying age-sets of rational garments and illustrating on the living elastic frame of a class-mate the many effects of compression, and showing the need for a wide margin of "room" in all garments that clothe the trunk. Further arrangements could also be made with departments that every girl shall have made one complete set of garments for herself before leaving school, or better still at continuation classes for these subjects.

KEY OF THE SITUATION.—The next best thing has been suggested by the fact that at present practically all school clothes are shop bought, rarely indeed home made, and that the average parent simply buys what meets the eye in the stores, feeling assured that these are quite the right things to have. It has often seemed nothing short of pathetic at a medical examination of a school, to meet many brand-new garments, particularly stays, bought to do credit to the occasion; things that I have strongly to condemn while deploring the waste of money.

For these reasons it has seemed to me that the point at which education on the subject might well get a first footing is in the direction of a ready supply in the stores of school sets of rational clothing, trusting to a gradually increasing demand as instruction filters through the schools and the knowledge comes that such things can be obtained at their doors. From my experience of the average mother I feel sure there is a simple, sincere desire to do her best by her children if things are made fairly plain and straightforward for her, but I have also felt that it is expecting a great deal of the already overburdened housewife to ask her to provide sensible home-made clothing for her family when it is quite as cheap and certainly less troublesome simply to buy ready made at the nearest store. Yet the stores provide little, within the compass of her purse, that is not thoroughly bad in principle and ridiculous in detail.

WHAT EDUCATION AUTHORITIES MIGHT DO.—Many counties could take up this aspect of the question very effectively. Practically every home in County Durham for instance purchases from the Co-operative stores, which are the universal providers for the working man's needs. It ought not to be

difficult for an education authority to stimulate both wholesale and retail firms to put on the market a type of rational garment indicated to them, and from a business point of view such a suggestion should recommend itself to the co-operative firms. Neither does such a movement seem to me to lie outside the scope of an education authority any more than the treatment of refractive errors and provision for suitable glasses. Most of the minor defects which arise in school life as the result of wrong habits of breathing and bad habits of posture—the presence of adenoids and hypertrophied tonsils, lateral curvatures, round shoulders, contracted chests, and all the varying degrees of lung impairment, which owe their earliest initiation to the stultifying, deteriorating effects of an imperfect thoracic development, would be materially diminished both in frequency and degree by the advent of a universally adopted rational school outfit.

Clothes or Spectacles.—This is one of the simple practical points at which amelioration might be effected without much disturbance of opinion, public or private, and in my estimation it is of much greater national significance that a whole army of school children should be given the chance to be rationally clothed than that a few should be provided with cheap spectacles for instance.

Some Practical Hints.—To conclude with a few practical details: In better-class schools I have succeeded in reducing the number of garments necessary to serve all purposes of warmth, exercise, convention and appearance, to three; merely varying the thickness according to the exigencies of the season: a pair of long-sleeved closed combinations, a pair of serge or stockinet knickers on a bodice-top, a belted tunic to cover all to the knee. Long stockings, of course, completed the dress, but these are not a very variable quantity. At most five garments should serve the elementary school child, a skirt on bodice-top, and a knitted wool jersey or sweater replacing the tunic. Suspender tabs are sewn inside the bodice-top of the knickers, well behind the side line so that any pull on the shoulders is *back* and down—not forward, and an elastic support meets the stockings. Practically the same garments without the skirt serve for boys of younger years. Bodice-

tops to knickers or trousers should replace the universal brace until the little shoulders are broader and better set.

A Test Question.—One word further from the physical culturist's point of view. The most efficient instructor of this class that I have had occasion to work with asked one invariable question as a preliminary to treatment: "What plan of dress does the patient habitually wear?" for she knew that anything that restricted natural movement besides being a menace to grace and harmonious development would render futile her best remedial efforts.

Wanted—A Science of Clothes.—It is strange that this most familiar and most obvious of errors should have escaped its share of destructive criticism so long. No one denies that there are "interests" involved which make the question of a more rational dress for adults a difficult and unpromising one. But in childhood, which, after all, is the age and stage where all habit reform might well find its earliest expression, the problem is open to a comparatively straightforward solution. Further, give the children of to-day a "physical conscience" to preserve, developed from a sense of habitual freedom and ease of body, and they will form part of a generation that will less complacently accept the dictates of a convention that restricts their joy in movement and hampers them in the efficient performance of their duties.

It is the day of the Child, and anything and everything that can be shown to be of advantage to the "nation's greatest asset" rapidly finds its way to the public heart and conscience. Is there not much evidence that it is time a science of clothes was evolved and even incorporated in our textbooks? We look for answer to the women whose knowledge and insight are already being increasingly utilized in the public service.

MORE ABOUT MEALS FOR UNDER-NOURISHED SCHOLARS.

Unconsidered Aspects.—It was well nigh impossible within the limits of a single session to consider at the Guildhall Conference the subject of the provision of meals for under-nourished scholars from every point of view, and the plan pursued alike by contributors of papers as by speakers, of concentrating upon certain of these, was probably under the circumstances the best available. If, however, this volume is to serve as a guide and a work of reference with regard to children's diet, as well as the other subjects discussed at the Guildhall, it seems desirable to supplement the papers and the discussions on one or two heads which failed to secure their due meed of attention.

Food and Brain Work.—That there is still much room for thought upon the matter is evident from the vagaries of the existing practice. The extreme importance of the subject from the point of view of brain-work is brought out very clearly in the following passage from Sir James Crichton-Browne's address at the Second International Congress on School Hygiene, London, 1907.*—Ed.

"Hunger is terribly demoralizing from a psychological point of view, and anæmia during the season of brain growth is responsible for much mental failure in after life, but the appeasement of hunger and the enrichment of the blood are not enough, and if brains are to have fair play when growing they must have food of a kind suitable to their requirements. There is no special brain-food: a dull child will not swim into ability on fish, and phosphorus is no more the secret of genius than are tomatoes the cause of cancer, but the food that is to be useful to a working brain must have its chemical constituents properly proportioned, and must contain an abundance of protein, which is largely consumed during brain work, and which has a stimulating effect on nerve tissue. Animal food which contains protein in a compact and easily assimilable form should therefore always enter to some extent into the diet of school-children. But as important as the chemical composition of the food of school-children is its digestibility and palatability too,

* *Transactions*, Vol. 1, 106–107.

for good digestion waits on gusto as well as on appetite. Brain-workers of all ages should have small and frequent meals and not large and heavy ones, and that points to one of the difficulties in the public provision of meals for school-children. I have seen penny dinners for school-children of a stodgy description, well calculated to promote lethargy and to suspend brain work in favour of that of the abdomen for the whole afternoon. The entire question of school dietaries and of home dietaries for children is in need of revision, and it is to be hoped that this Congress will secure that."*

DESIDERATA OF THE MEAL.—Foremost among the questions deserving of further consideration may be placed that of the conditions which meals for under-nourished children should fulfil. On this head no more concise or valuable statement is to be found than that embodied in a "Memorandum *re* Breakfasts for Necessitous Children" drawn up by the School Medical Officer for Birmingham, Dr George A. Auden, and included in his Annual Report for 1911:—Ed.

There are certain desiderata which should be kept in view in the determination of the best means of supplying food to those children who, by reason of insufficient food, are unable to benefit by the instruction given in the schools. These may be arranged as follows:

1. That it shall, as far as possible, supply those food constituents in which the usual food taken by the children is deficient, i.e., the proteins and fats. These constituents should, moreover, be in proportion to one another.
2. That other things being equal such palatability and variety shall be introduced as may exercise tonic effect upon the mucous membranes of the stomach and bowels.
3. That the food shall introduce warmth into the system;

*At the International Medical Congress Dr Kerr of the London County Council pointed out that the growth of the brain increased rapidly up to the age of 7 years, after which time it grew very little in size. It was extremely important that during this period of brain growth, the child should be in the best possible condition of physical fitness. His investigations showed that physical and mental growth went together; children who were mentally backward were poorly developed physically.—*The Times*, August 12, 1913.—Ed.

i.e., that the food shall be as warm as can be taken by the children, for warmth taken into the stomach in this way is as desirable as is the proper food value.

4. That the digestibility shall be such that it is capable of digestion by weakly children, and, if possible, the consistency should be such as to give exercise in mastication.

"There are also certain points which should be kept in mind in devising means of distribution:

1. The diminution of haste in taking the food. This is aided by—
2. The introduction of social order by means of seats and tables.
3. That the room in which the food is eaten shall be of such a temperature as will prevent undue loss of body heat."

Functions of Foods.—In an earlier report from his pen, which finds a place in the Report (1909) on the Working of the Provision of Meals Act* the following observations appear:

"It may be shortly stated that, other things being equal, while a definite amount of protein food is necessary for vital activities, the chief value of food lies in the carbohydrate and fat moieties, which serve as tissue savers and heat producers, and impart the energy value to the food. The fuel or energy value is expressed in terms of calories (a calorie represents the amount of heat required to raise a kilogram of water from 15 to 16 degrees Centigrade), and by this means the physiological value of any given foods can be known and compared. The proportion which these components bear to each other should be definite, but in the food of the poorer classes there is frequently a carbohydrate excess associated with a deficiency of fat and protein. Food of high protein value, e.g., meat, eggs, is relatively expensive, but fortunately a small quantity only is necessary per diem, for the average three full meals per day taken by the majority of persons contain an excess of protein, which may overload the body with injurious waste products."

A Useful Caution.—Dr Auden reminds us that "children

* Cd. 5,131, 3d.

whose digestion is impaired cannot at once accommodate themselves to a reasonable diet, and have a predilection for strong flavours, probably because these, by stimulating the palate, produce a readier flow of gastric secretion. Any food to the sight of which they are unaccustomed should be introduced by degrees only."

BREAKFASTS OR DINNERS?

Authorities at Variance.—The much debated question as to the relative merits of breakfast and dinner as a meal for under-nourished children was not touched upon at the Guildhall, but it can hardly be passed over in silence here. While the practice of Education Authorities on this head differs extensively, it is probably not going too far to suggest that the tendency is to give dinners the preference.

An Expert's Advice.—In this connexion a London County Council Report quotes the opinion of Dr Robert Hutchison, the well-known author of *Food and Dietetics*, who gave the Council to understand that it is not material how the nourishment given to a child during the twenty-four hours is divided up, but that it is more important to have a meal before physical exercise than before mental, and therefore mid-day dinner is more important than breakfast.

Connexion with Malnutrition.—Pointing strongly in the same direction is the following recent Report by Dr E. Hill, late Assistant School Medical Officer, Birmingham Education Committee, and late Principal Medical Officer to the Natal Government. In presenting the Report, the School Medical Officer, Dr George A. Auden, at whose instance it was prepared, expresses the opinion that the question of the form which the meal should take is intimately connected with the problem of dealing with children suffering from tuberculous and other forms of malnutrition.—Ed.

Nature of School Breakfasts.—I have been present at the time when the school breakfasts are served. They consist of porridge with milk (with reduced ratio of cream) and sugar or syrup, and one slice of bread and margarine or, alternatively, of two slices of bread, one with margarine and one with jam, and a mug of cocoa, of which, of course, the milk is the important

constituent. The quantity is sufficient, and the quality satisfactory, but I venture to question whether the provision of such a meal, in the circumstance of undernourishment such as I have indicated, at this time of day, is the best meal available for ameliorating the condition.

The Lowest Grade of Food.—Bread is the base of the diet of the less fortunate classes; indeed it is the base of diet of the young of all classes. It is the one thing which the children of the poor receive when everything else fails, and is the last to disappear in the face of absolute want. Bread is, therefore, the lowest grade of food in a sense—I do not mean in nutritive value; the next thing above it is bread with fat in some form, commonly known as " a piece."

How Far are Children's Food Requirements Met.—A child of necessitous parents is found to be under-nourished, and is invited to breakfast at school upon a dietary just above the lowest level, with the addition of a half-pint of milk; he returns home at mid-day to the same fare, which is again provided for his evening meal. If he is in good health generally, with digestive powers undebased by a long course of unsuitable food, the result of securing, during the day, an addition to the quantity merely of the kind of food, which he will get anyhow, may and does produce satisfactory results, that is to say if the deprivation at home is of quantity only. But for many children the need is different. What they require is a difference in quality and the provision of a meal, which is superior in character and more readily dealt with by an enfeebled stomach; there is need not of more of the base, but of some of the embellishments of a dietary.

Suitability of Hour.—N.B. It is also noteworthy that many children have little or no appetite for an early morning meal. It commonly happens that those who attend school breakfasts fail to consume their two slices of bread at the time, and either reserve one for later consumption or, if living in the immediate vicinity, take it home to be used, I think, in some instances, for others of the family under school age. The want of appetite, no doubt, results from some general conditions of the home life, but it is beside the question to discuss the causes, which are not susceptible of present remedy. But it

materially affects the question of the most suitable time of day for provision of meals.

Remedy Suggested.—In my opinion, more uniformly satisfactory results would ensue upon the provision of a meal such as dinner, of a character similar to that enjoyed by the children of those more favourably situated. The children would then receive those constituents of a normal dietary, which they are not at the time getting in their homes, and at a time of day when all the under-nourished are best able to relish and gain the maximum advantage from it.

Parents' Point of View.—There is further advantage that it is practicable to provide dinner of, say, stewed meat, or boiled fish with potatoes and bread, and possibly some form of pudding occasionally, at a much lower rate proportionate to the actual cost in practice of a similar meal in the home, than a breakfast as now supplied. If the parents pay the cost of the meal, there is little advantage in a breakfast, but much gain in a dinner obtained at the cost of the Committee.

Conclusion.—If meals must be provided, it is better to supply a meal which is practically certain to do good, than one the advantage of which is, for many, slight and problematical.

Two Breakfast Experiments.—In some towns, breakfasts are provided in lieu of, or, in the case of certain children, in addition to dinners. Experiments carried out by Dr Auden, the Birmingham School Medical Officer, have demonstrated conclusively the superiority of the porridge-dripping breakfast over the cocoa-jam-margarine breakfast. The former is likewise preferred by the children, who also like the wholemeal bread provided. Dr Auden has made suggestions for a week's dietary, so as to secure variety.

Sheffield, where, as in Birmingham, breakfasts only have hitherto been provided, formerly supplied cocoa with bread and dripping or bread and jam. As the result, however, of an experiment, carried out by Dr Ralph Williams, the School Medical Officer, it has been decided to give porridge and milk on three mornings a week and bread and milk on the remaining two mornings.*—Ed.

* Further particulars of the two experiments will be found in the Annual Reports for 1910 of Dr Auden and Dr Williams, respectively.

Cf. also *Food and Dietetics*, Hutchison, 3rd ed. p. 223.—Ed.

THE SCHOOL TEACHER AS HEALTH MISSIONER.

By S. B. WALSH, B.A., M.D., D.P.H. (*School Medical Officer, Gillingham, Kent*).

The unrivalled opportunities of the school teacher in the sphere of hygiene are obvious and indeed may fairly be likened to those of the district nurse, to whom Florence Nightingale once applied the term of Health Missioner. Dr S. B. Walsh was one of the many School Medical Officers whose duties prevented them from participating in the Guildhall School Conference. It is some satisfaction, however, that at any rate it has been found possible to include in this volume his stimulating and suggestive paper.*—Ed.

SCOPE OF ARTICLE.—Since we are concerned with but one, it is not necessary to enumerate here the many factors which go to yield the resultant known as the public health. Like all others affecting the individual, they may, for purposes of classification, be divided into those hereditary and those environmental.

The former belong to the sphere of eugenics rather than sanitary science, and may, therefore, for present purposes, be left out of consideration. The latter will be readily seen to include nearly all agencies operating on a large scale towards the benefit or detriment of health. Under this heading, for example, would come the housing conditions of the people, epidemic diseases, food habits, economic conditions, the level of sanitary and general education, etc. Each, it will be obvious, is separately responsible for a share in raising or lowering the level of average health, yet, at the same time, all to a large extent mutually affect one another.

SCHOOL TEACHER AS EDUCATIONAL FACTOR.—In this article the educational factor, personified, as one may say, in the school teacher, is alone to be considered. And its purport is not so much to examine the question in detail, as (1) to emphasize the close inter-relation between health and education, (2) to urge a re-fashioning of the latter so as to promote the interests of the body as apart from the mind, to a much greater extent than hitherto.

* Reprinted by permission from *School Hygiene*, November, 1912.—Ed.

At the outset, however, it must be confessed that the factor under consideration is potential rather than existent; *in posse* rather than *in esse*. In other words, present-day elementary education is only a fraction of its proper and possible importance as an agent in the creation and maintenance of the public health.

"Corpus Vile" View of Education.—This is no more than one should expect, having regard to the notorious fact that for ages, one may say indeed since the commencement of the Christian era, education has been treated as solely an affair of the mind, wherein the body, the so-called "corpus vile," was in no wise entitled to participate. This almost logically led up to the typical nineteenth century attitude, in which physical and intellectual development were regarded as things apart, if not, indeed, mutually antagonistic.

The result of this perverted, and from the hygienic standpoint, disastrous view, has been to saddle us with an ill-balanced, ludicrously lopsided system of education, inefficient even if judged from a mental, and hopeless from a physical standpoint.

Athenian Ideals and Achievements.—For a practical illustration of what the term "education" should properly imply, one must go back to the age of Athenian supremacy. To the Athenians education meant the complete and equal development of mental and bodily faculties as a means to plenary fulfilment of the duties of citizenship. Greek educational ideals may be said to be crystallized in two words: "ἀρετή," and "Κᾱλόκαγᾱθός," literally "virtue" and "beautiful and good." Both, however, express much more than their literal English equivalents. Because both, like the Latin "*virtus*," implied physical quite as much as mental and moral excellence.

To those inclined to doubt the wisdom of their view, I would answer, "Results are its best justification. Unroll, therefore, the scroll of fame and note the mighty contribution of this little state of Athens, in area no more than a medium-sized county, in population a mere provincial borough. Reflect for a moment on the immortal names begotten of their system, and hold, if you still can, that the body is not as worthy of consideration as the mind in any scheme of education calculated to produce the maximum of vital efficiency."

THE TEACHER'S OPPORTUNITIES.—To set down all the points at which health and elementary schooling come into contact would require an article to itself. Speaking generally, however, one may say that health during childhood and youth goes a long way to assure a healthy adulthood. And if, therefore, the teacher can be made a means of promoting the bodily welfare of the child, he will, *ipso facto*, be raising proportionately the general level of communal health. Looking, then, at the question negatively, the teacher can aid to that end in as many respects as the school or school child is defective, by the obvious means of helping towards remedying such defects. Their name is legion. Thus as regards the school itself, the lighting, heating, ventilation, seats, desks, cloakrooms, playground, and sanitary arrangements, one or all may be, and generally are, unsatisfactory; and all have an evident bearing on health. As to the child, to mention only the more prevalent defects, enlarged tonsils, adenoids, defective sight, decayed teeth, ear disease, bronchial catarrh (surprisingly common), the various forms of tuberculosis, skin diseases, malnutrition, etc., each is the badge of ill-health already present, and is, in addition, with readiness discovered or at least suspected by the teacher.

The latter is an important point—firstly, because no school doctor, work he ever so strenuously, can personally examine in school hours more than a moiety of the children so munificently allowed to his charge; secondly, because discovery of a defect is a big step towards its remedy. If the teacher discovers, he is entitled to part credit of the remedy.

TWO NECESSARY QUALIFICATIONS.—Important, however, as are the potentialities of the teacher from the foregoing negative aspect, they are still more so from the positive; i.e., if we regard him as a possible teacher and producer of health rather than a discoverer of disease. But it must be said before further parley, that as a condition to aid in either direction, there are two essential requisites which are unfortunately not always conjunct. First, a fair knowledge on the part of the teacher of hygiene and the laws of health. Second, the mind to apply it. The former is readily acquired. The teacher's training supplies, or should supply, a good foundation. Daily contact with large numbers of children affords opportunity for its

practical application; while the medical inspection of the schools helps to render familiar the symptoms, consequences, means of prevention, etc., of the commoner ailments of childhood. The second essential depends for its presence or absence on that vague entity known as the personal factor. Where absent knowledge is obviously of no avail, where present, in conjunction with the first, the teacher possessing it has the power, philosopher-wand like, of transforming the most unpromising personal and impersonal school environment into something good to behold.

A Unique Position.—It is, then, as an educator that the teacher is to be of most service in the campaign for health among school-children and the community at large. He possesses special faculties, innate or developed, or both, for imparting knowledge. And knowledge we know in our present complex state of existence to be an essential pre-requisite to health. Bereft of instinct in favour of nobler, but in this respect less effective, attributes, we must needs fall back on reason, as developed by education, to save us from the deadly gins and pit-falls besetting us at every step. In fact, broadly speaking, the health of a people is a measure of their knowledge of hygiene.

In order to properly appreciate the unique position of the teacher it is well to emphasize a couple of facts which are apt to be overlooked. One speaks, for instance, of the public in connexion with health, public opinion, etc., as if it were a well-defined homogeneous entity, easily to be sized up and reckoned with, whereas it is, on the contrary, a huge aggregate of distinct individuals—a great mosaic of separate personal cubes, each to a large extent a law unto itself. Furthermore, although position in the social mosaic (to keep up the metaphor) may depend on uncontrollable factors, the final shape of each individual cube has been in good part determined at school.

The School as Character and Habit Builder.—It is not, I think, generally recognized to what extent schooling is responsible for the formation of life habits. To appreciate it one must bear in mind that the most important, if not the majority, of childhood waking hours are spent at school; that the teacher, in other words, is *in loco parentis* during the greater part of the most impressionable period of life, the

period when habits become set, to form character. The much invoked public, then, is composed of individuals of whom the vast majority have passed through the hands of the teachers—have been, as it were, shaped by the preceptorial potter when in their most malleable condition. This fact will serve to indicate the mighty health force into which the school teacher may be readily fashioned, once his possibilities are realized and his services properly availed of.

To repeat a statement which will bear much repetition, health is largely a matter of education, especially of education while young, in the principles and practice of right living. The patriot has said, "Educate that you may be free." With equal truth the sanitarian may say, "Educate that you may be healthy." For disease, in its ultimate analysis, is always traceable to some or other infraction of Nature's inviolable laws.

Education as an Ally in Health Reform.—The importance of education as an ally in the campaign towards health is fully realized on medical, and, *mirabile dictu*, to some extent in legislative circles. The much-debated Insurance Bill lays special stress on the need for an educational propaganda towards the prevention and final eradication of tuberculosis, and what is of much greater import, it allocates funds for that purpose. A Bill, too, was recently introduced into Parliament to provide for the compulsory teaching of hygiene and infant care in all public elementary schools: while scarcely a week passes in which there is not a conference of some or other health-promoting organization. The latter, unfortunately, can only hope to directly influence the grown up. The good they do in their limited sphere in undeniable. But they work at a great disadvantage in being compelled to operate on the kiln-burned clay of the adult instead of the plastic material of the child. The same work could be done at school with greater effect and with much greater facility did the educational powers but recognize and act on their responsibilities in the matter of the public health. For if the teacher can in a few years school the young idea from the letter *a* to the higher mathematics, assuredly he can in the same time unforgetably impress on him the dozen rules of health.

National Physique To-day.—Educational ideals, then, urgently need a leavening of hygiene. From a scholar-manu-

facturing standpoint systems may be good or they may be evil. But the health of the child is beyond good and evil. Yet every third school-child is diseased or defective in some way, whilst among adults one is justified in presuming a still larger proportion of unfit. Nor is the presumption likely to be weakened by viewing, for example, a procession of strikers or unemployed in one of our large industrial centres. It is a revelation of debility, decrepitude and degeneracy in a class that should be physically the cream of the race. It is also, parenthetically, a terrible indictment of our social, political, economic and educational systems. And it goes a long way to justify those who would reckon our much-vaunted civilization, judged from a bodily standpoint, an abject failure.

Changing the Ship of State's Course.—To redress the state of affairs represented above and if possible to ward off the physical bankruptcy of the race, no available agency, however so little helpful, must be left out of account; and certainly not education. But its character needs radical reformation. For one thing, its objective must be changed. The course of the educational barque, so long set direct for the arid promontory of the crammed head, must be deflected towards the more productive vale of bodily vigour—midway between the two if you will, although if any bias be shown let it be in favour of the latter.

Teaching of Hygiene—What it Should Include.—The present perfunctory and skimpy lessons in hygiene—a sort of sop to the Cerberean forces of health—must be enlarged and vivified. Hygiene in all its branches should be taught, and, which is easy, taught interestingly. The term "elementary education" should connote a thorough grounding in the hygiene of housing, clothing, exercise, respiration, eating, and the nutritive value of different foods. It is true, I believe, that the average manual worker knows more about the food of a prize pup than he does about his own. And certainly the poor mother is appallingly ignorant of infant dietary.

All this must be changed. The whole school-day must be mildly revolutionized until an atmosphere of health pervades and permeates it. For vigour and health, not cram and examinations, should be ample justification for, if not the chief end of, a child's existence.

THE RACE WITH WHOM THE FUTURE LIES.—Our future, after all, depends not on our heads but on our bodies. The physically healthy race will live, and may hope to achieve when achievements will be really worth the name; but that of low-grade health, though its mentality verge on genius, is doomed, sooner or later, to extinction.

Minds, however brilliant, if wedded to frail frames, are not for the future. The way is long and arduous, and untraversable except by vehicles of sturdiest build. The body must first be healthy. We are, in fine, but bridges to better things, and health is the keystone.

DOCTOR AND TEACHER OF TO-MORROW.—To anyone who has watched the trend of events during the past decade it will not come hard to foretell that the future is fraught with great changes in both medicine and education, and their relation to one another. Medicine of to-morrow will be largely preventative. The health officer will be as much a teacher of health as a preventer of epidemics; and education will be his heavy ordnance. In fact, looking far ahead, one can see that the two sciences are destined to progress along lines converging towards a common goal—health.

The new teacher will be more of a doctor; the new doctor more of a teacher.

A SIDE-ATTACK ON INTEMPERANCE

ALCOHOLISM plays so large a part in causing physical degeneracy, alike of children and adults, and the problem is such a many-headed monster that additional light from any quarter cannot be otherwise than welcome. Social workers, and indeed all who are brought face to face with this gigantic national evil, may, therefore, find the following passages culled from the Annual Reports of the National Food Reform Association, alike helpful, suggestive and encouraging. —Ed.

MEMORANDUM TO HOME OFFICE COMMITTEE.—In view of the Departmental Committee on Inebriates appointed by the Home Secretary, a Memorandum was prepared and presented in December (1908) for circulation among its members calling attention to the bearing of diet reform upon the subjects under consideration, and especially to the cures effected at the Salvation Army Homes for Women Inebriates.* As anticipated, the Memorandum, being outside the scope of the inquiry, was not included in the Report, but at the instance of Lord Leigh, the late Dean Kitchin, the late Dr J. B. Paton, and others, the Committee decided to publish it.

INTERNATIONAL CONGRESS ON ALCOHOLISM.—At the Twelfth International Congress on Alcoholism held at the Imperial Institute, July 18 to 24 (1909), the Association was represented by its Secretary, who took part in the discussion on Inebriates, directing attention to the value of dietetic treatment. A summary of his remarks, which aroused considerable interest among the delegates and led to many inquiries, will be found in the official report of the proceedings, obtainable from the National Temperance League, Paternoster Row, E.C. Price 5s. net.

A NEW CURE FOR INEBRIETY.—After Easter (1909) a third

* Endeavouring to ensure that the promised legislation on the subject of inebriates shall take into account the evidence as to the efficacy of the dietetic treatment of inebriety, furnished by the Salvation Army Homes for Women and Inebriates (vide memorandum submitted on behalf of National Food Reform Association to the Departmental Committee of the Home Office.).—*Questions to Parliamentary Candidates*, N.F.R.A., General Elections, January and December, 1910.—Ed.

booklet entitled *A New Cure for Inebriety* (published originally as *The Dietetic Treatment of Inebriety*)—*a Postscript to the Departmental Committee's Report*, with letters from the late Dean Kitchin, Mrs Bramwell Booth, Sir Thomas Barlow, the late Dr J. B. Paton, Drs A. Haig and J. H. Kellogg, was published, and has aroused widespread interest. Copies have been sent to the leading temperance organizations, to many of the bishops, clergy, and ministers, Members of Parliament, doctors, Justices of the Peace, etc., as well as to Inebriate Homes."

Temperance Journal's Advice.—The *Temperance Chronicle* of June 18, 1909, in reference to this subject, says:

" Mrs Booth's remarks should be read not only by those who treat inebriates, but by all others interested in the temperance cause. The facts upon which they are based are too weighty to be ignored."

It further recommends those interested to obtain *The New Cure for Inebriety*, published by the Association, and quotes the late Dean of Durham's remark that " the treatment goes to the physical root of the great evil."

A Working Man's Opinion.—In this connexion, a letter received from a north country working man may also be quoted:

" I hope your Society will constantly urge temperance societies to take up the diet cure of the drink crave—a doctrine I have been preaching for years. It is high time that they understood the connexion between flesh-eating and the craving for alcohol."

Verdict of Inter-Departmental Committee on Physical Deterioration.—It may be further suggested that, quite apart from the facts contained in this booklet, the whole subject of diet reform deserves the attention of temperance and other social reformers. Indeed, the oft-quoted Inter-departmental Committee on Physical Deterioration placed " properly selected and carefully prepared food " second only to improved housing, as a means of combating alcoholism. By the circulation of such publications as *Economical Dishes for Workers* (see below), a great deal may be done to remove that craving for drink which the stimulating, often unappetizing, and

nutrition-lacking fare, on which the working classes so often subsist, tends to produce.

A Useful Weapon.—A fourth booklet, entitled *Economical Dishes for Workers* has recently been added and seems likely to attain exceptional popularity. It is intended primarily for use among those engaged in various forms of manual labour, or by those leading an exceptionally active and open-air life. The dishes have been tested and have proved both acceptable and economical. This will be found most useful for distribution by doctors, clergy and ministers, district visitors, temperance and other social workers. It is also suggested that eating-houses catering for the working class might be approached and urged to give these dishes a trial in their daily menu.*

World's Women's Christian Temperance Union Resolution.—The subject of the close connexion between diet and inebriety, which was referred to at length in the last Annual Report, continues to attract public attention. There has been a steady demand during the year for Booklet 3: *A New Cure for Inebriety; A Postcript to the Departmental Committee's Report*, and many correspondents have testified to the increasing recognition of this connexion. Most significant of all is the unanimous adoption by the great Convention of the World's Women's Christian Temperance Union, held in Glasgow in June, 1910, of the following resolution:

"That in view of the fact that eminent medical men were of opinion that insufficient and improper food tended to produce a craving for drink, and as practical experience showed that the use of whole wheat meal, oatmeal and other cereals, pulse, fresh fruits and green vegetables helped to cure and prevent inebriety, the managers of inebriate homes be urged to study the science of food, and that, without advocating the exclusive use, their attention be directed to the good results obtained by the more general use of the previously-mentioned healthy, nourishing, non-stimulating foods."†

Leading Reformers' Views.—The past year has brought fresh evidence of the growing recognition by temperance reformers of the connexion between intemperance and faulty diet or

* First Annual Report, 1909.
† Second Annual Report, 1910.

bad cookery. Many are finding in *Economical Dishes for Workers* an effective antidote to this poison which is sapping the physical and moral fibre of so many of our people.

Mrs Bertrand Russell pointed out at our Oxford* meeting that, unless the wives would make suitable dishes for their husbands, they could not expect the men to stay away from the public-house.† She urged that it was a very real form of Temperance work that those who sought to improve the national diet and cookery were doing; and concluded by expressing a hope that the British Women's Temperance Association would take the matter into consideration and see if they could not in this way make a side-attack on intemperance.

At the Hampstead Garden Suburb Conference, Mr Frederic Litchfield, the well-known housing reformer, made a strong appeal to all Temperance reformers to join the Association, remarking that it was useless to continue their work unless they attacked the question of food.‡

A Temperance Worker's Testimony.—"I am a member," wrote a correspondent,§ "of the Executive Committee of the North Wales Women's Temperance Union, a society which is affiliated to the British Women's Temperance Association, and have for some time recognized the connexion between inebriety and improper feeding. So much so that I try, in every Temperance speech that I make, to bring it before the public notice. I therefore think I might find membership in your society of some help. Will you kindly send me a copy of your *New Cure for Inebriety* by return. I am speaking in Montgomeryshire next week, and want to bring in some of your facts."

* Held, like similar gatherings at Cambridge, Leamington, Taunton, and Worcester, on the invitation of the Mayoress, the Mayor presiding.—Ed.

† Similar views have been expressed in recent years by, among others, the Bishop of London, Sir Lauder Brunton and the present Dean of Durham.—Ed.

‡ Third Annual Report, 1911.

§ Fourth Annual Report, 1912.

EMPLOYERS WHO LEAD THE WAY

If there be any who doubt the expediency of making such subjects as Elementary Physiology and the Laws of Health, Cookery and Housewifery, the Care of Infants, and, last, but not least, Physical Training (including Swimming) compulsory in our schools, primary and continuation, whether day or evening, a perusal of the following pages may tend to modify their views. The firms, whose practice is described below, are merely cited as examples of employers of youthful labour on a large scale, and there are doubtless others, who are pursuing a similarly enlightened and public-spirited course of action. Its mainspring, to use the words which Professor W. J. Ashley applies to the Bourneville policy in his preface to the recently published *Experiments in Industrial Organization*, by Edward Cadbury, has been a sense of social duty, and its aim to combine business efficiency "with an all-round development of the workers as individuals and citizens."—Ed.

A Social Reformer's Views.—The following letter from Mr Seebohm Rowntree was read at the Second Guildhall School Conference:

June 27, 1913.

"I am very sorry it is quite impossible for me to be at your Conference, which I hope will be a great success.

"My investigations into poverty and other social problems have impressed me with the great need for educational work, especially among those of limited means, upon the relative value of different food stuffs. Although I do not think that the poor as a whole buy food with the extravagance which is sometimes suggested, they could add both to the economy, and very greatly to the variety of their diet, if they received instruction as to how these objects might be achieved.

"The members of my firm look upon the teaching of these matters as of such vital importance, that we have started cookery and housewifery classes for all girls in our employ under the age of 17. These are held during working hours, and are attended weekly by nearly 1,400 girls."

A New Building and its Uses.—In response to a request for more detailed information, Mr Seebohm Rowntree forwarded

a pamphlet entitled *Some Notes on Education and Other Work*, from which the appended extracts are taken. Some account is also given of the fine new block of buildings erected to house the Schools and Dining Department which was opened by the President of the Board of Education this summer. The writer had the good fortune to see it a few months earlier when still unfinished, and was greatly impressed by the character of the thoughtfully planned building and, in particular, with the careful provision made for ample light and air. The position in an orchard, close to the river Ouse with its public bathing place, and commanding, from the windows and flat roofs adjoining the dining rooms, extensive views of the city and surrounding country, is an admirable one. By kind permission of Messrs Rowntree & Co., two of the illustrations appearing in the pamphlet are reproduced here.—Ed.

Our Elementary Education System Criticized.—Some years ago the Directors felt that consideration should be given to the question of systematic educational work amongst the boys and girls. Educationists are generally agreed that our present system of elementary education stops just when boys and girls are at the age at which they are most capable of intelligently assimilating knowledge and of fitting themselves for the requirements of the worker and the citizen. Ignorance, apathy and home circumstances combine to prevent the spread of any enthusiasm for continued effort to improve the mind—especially amongst those who do not have the opportunity of entering any skilled trade. Even when the inclination to benefit by further education exists, it is too often stifled by the fatigue of long hours at work and the difficulty of finding suitable classes. The comparative failure of the ordinary Evening Continuation Schools is admitted, and two of the contributory causes are (1) the inability of children of 14 and 15 to apply themselves seriously to learning after a long day's work, and (2) a similar lack of freshness and vigour of mind on the part of the teachers, who have generally been teaching during the day also.

Having in mind these and other considerations—e.g. the difficulty of enforcing attendance at evening schools a considerable distance from the homes of the children—the Directors decided that any classes that were instituted should,

as far as possible, be held during work hours, and be taught by teachers engaged specially for this work.

Framing the Boys' Curriculum.—The question of a suitable curriculum presented some difficulties so far as the boys' classes are concerned. Obviously, both boys and girls beginning work at 14 years of age will profit by systematic physical training, combined with instruction in personal hygiene. The boys' classes were therefore started in 1908 by the institution of three classes each week in Swedish Gymnastics, and meanwhile several experts in education were consulted regarding the best subjects to be taken in addition. A description of the completed curriculum will be found on another page, but we may be permitted to say that this is regarded to some extent as experimental, and likely to undergo alteration in the light of further experience.

A Common Objection Met.—In the case of the girls' classes, less difficulty was experienced in determining what subjects were likely to be of most value to the pupils in after-life. Most of our girls leave to make homes of their own, and one of the most common criticisms of the use of girl labour in factories is that it unfits the girls for the positions they have to take in the home. Since 1905 our Domestic School has been an attempt to meet this criticism by the provision of a practical domestic training for all the girls employed here. In 1910 the classes in Swedish Gymnastics were added.

Relation to the Board of Education.—It should be added that the classes are under the supervision of the Board of Education, and are visited regularly by H.M. Inspectors. The grant received from the Board of Education in respect of the classes amounted in 1912 to about £1,500.

Scope of the Girls' Instruction.—Attendance at these classes is compulsory for all girls who enter the factory under the age of 17. They occupy three hours per week for a period of three years.

The staff consists of the head mistress and eleven assistant mistresses, all fully trained and qualified for their special work, and the number of girls on the registers (May, 1913) is 1,350. The classes are held almost entirely during work

hours, and the curriculum is framed with the view of training the girls to become proficient housewives.

The subjects taught are Gymnastics, Needlework, Cookery and Housewifery. The Gymnastic course extends over the whole of the three years—a lesson of half an hour's duration being given each week, and the exercises being adapted to correct deformities and to help in the proper development of the body. Baths are provided in the dressing-room for the use of the girls after each lesson. There can be no doubt that the gymnastic classes have a beneficial effect, and greatly improve the carriage and general appearance of the girls.

Domestic School.—In the Domestic School one year is devoted to each subject. Needlework is taken in the first year, and this includes the various branches of plain needlework, simple cutting out and home dressmaking. During the year each girl makes a blouse and skirt and one other garment, and is taught the use of the sewing machine. The second year is given to Cookery, and in these classes the aim is to give a thorough grounding in the general principles of cookery and their application to dishes suitable for an artisan's home. The relative food values and cost of materials form part of each lesson, and an endeavour is made to inculcate habits of cleanliness, accuracy and judgment. The apparatus used includes kitchen ranges similar to those to be found in most working-class homes in York. It is important to add that the whole of the teaching is planned with a view to the practical needs of the girls in later life, and they not only listen to the lessons and take notes, but actually prepare and cook the dishes.

The Cottages.—Housewifery in its various branches is taught in the third year in two cottages built for this purpose. The housework in the cottages is done entirely by the girls, and meals are cooked there each day. Hygiene, home-nursing, the care and management of infants, laundry work, and the keeping of household accounts, also form part of the course.

Examinations are held at the end of each term, and certificates awarded for proficiency.

Wages are not deducted for the time that day-workers spend at the classes, but the piece-workers lose their time.

Boys' Educational Classes.—It is a condition of employ-



DOMESTIC SCHOOL COTTAGES

To face p. 43

ment that a lad shall, up to the age of 17 years, attend the educational classes provided at the works. Each boy attends for 6 hours weekly, this period being divided into three attendances of two hours each. Two of these attendances are made during work hours and the third in the evening in the lad's own time. Wages are not deducted for the time spent at classes in working hours in the case of day-workers; piece-workers lose their time. Each lad spends his six hours as follows: Gymnastics, two hours; Mathematics, one hour; English, one hour; Woodwork, two hours. The last named gives place in his second and third year of attendance to Experimental Science, two hours.

The Swedish system of Gymnastics has been selected as the best for improving the physique and health of the lads, and for correcting any inharmonious development caused by the daily work. The lessons also give opportunities for dealing with such subjects as the harmful effects of cigarette smoking.

The work engages the whole time of five masters. Without interfering with factory organization it would be impossible to secure the homogeneity desirable in each class, but this difficulty is largely overcome by making twenty the maximum number of pupils in each class, and thus allowing of some individual teaching during the lesson.

Outside Activities.—Swimming and Life-saving are taught in the summer in the bath adjoining the works. During the last five years the Royal Life Saving Society has awarded 181 certificates of proficiency to lads at the works.

Football is organized and supervised, and five boys' teams are placed in the field weekly, each teacher holding himself responsible for one team.

For several summers a week's camp has been held for the lads, generally in the Lake District. This has recently led to the institution of a week-end camp up the Ouse.

Saturday afternoon runs are arranged by the Boys' Cycling Club to places within a radius of twenty miles from York.

One member of the staff devotes much time to the teaching of gardening on the Boys' Allotments.

The Dining Rooms.—A large staff is engaged to attend to the needs of those employees who live so far away from the works that they are unable to go home to dinner. Those who

desire to do so may bring dinners with them and have them heated if necessary. In addition the firm supplies a considerable amount of food cooked on the premises, and efforts are made to encourage the demand for nutritious and economical dishes.

The girls' dining room accommodates 2,500 and is provided with tables seating eight persons. As so many men live near the works, accommodation is at present only required for about 600 men and boys.

How a Great Firm Prepares its Employees for Marriage.—In response to an inquiry the appended letter was received from Messrs Cadbury Brothers:

"*Aug.* 12, 1913.

"In response to your letter of the 8th inst., we are sending herewith two booklets describing the scheme by which the education of our employees is organized. Of the number of girls employed (at present over 3,500) a very large percentage leave during their twenties to be married, and in view of this fact the educational courses for the girls are chiefly domestic, including home dressmaking, cookery and laundry work, simple physiology, the laws of health, sick nursing and the care of infants, and housewifery, etc.

"The housewifery classes are taught in a typical cottage, which was acquired for the purpose by the firm several years back, and was subsequently taken over by the Education Authorities.

"A large number of girls enter our service from the elementary schools, and as is fully explained in the booklets we send, their continuation education is compulsory up to the age of 18, the courses being outlined on page 9 of the larger booklet. It is a gratifying testimony to the success of the system that a large number of the students continue to attend classes voluntarily.

"We trust the information sent will be ample for your purpose, but shall be pleased for any member of your Association to visit us, who is specially interested, when we could explain our arrangements more fully."

Enforcement of a Health Standard.—The additional details which follow are taken from the descriptive pamphlets referred to in the foregoing letter:

In the first instance, the firm insists on a certain standard of health, development and cleanliness on the part of all new employees, careful examinations being conducted by the works' doctors and dentists. This attention to physical fitness is maintained throughout the entire system of factory organization, and it is intimately correlated on the one hand with the work of the Medical Department, and on the other hand with the regulation of hours of labour and the selection of suitable occupation.

Compulsory Gymnastics and Swimming.—During the first and second years the boy attends physical training classes twice a week in the firm's time. The lesson lasts half an hour, and in view of the fact that most of the boys are engaged in manual labour before and after the lesson, the lesson itself is of a light character. Special attention is paid to abdominal movements. Before the physical training classes were commenced, hernia was frequent among the boys, but since we have had no case recorded. One hour is allowed from the time the boy leaves his department until he is back again at work. Gymnastics are taken in winter, swimming in summer. There are three well qualified instructors. Once a week before returning to work the boy is required to use the spray baths.

During the third and fourth year gymnastics and swimming are taken in the boy's own time, once a week for three-quarters of an hour.

The physical training classes for girls are governed by the same general conditions. For two years, each girl has one half-hour lesson in gymnastics, and one half-hour lesson in swimming per week, in the daytime. In their third year girls attend one lesson a week, generally during the latter part of the afternoon, being allowed to leave work earlier than usual for the purpose; in the fourth session, they attend in the evening, in some cases, but considerable numbers of third and fourth year girls are accommodated in the day classes. In these later years one-half of the session is devoted to swimming and the other half to gymnastics. There are five qualified instructresses and some assistants. The course includes Life-Saving, and Morris Dancing, as well as Swedish Gymnastics and Swimming. Remedial classes, following a special syllabus, are held for those girls whose development is below normal.

Every girl is advised in the fundamental laws of hygiene, and is instructed as to the importance of wearing suitable clothing.

THE RESULTS.—Of the results, Mr George Cadbury, Junior, addressing the North of England Educational Conference this year, said:

"The general physique of the younger generation has been immensely improved, and with it the general tone, both morally and physically, has greatly benefited. The moral effect of proper physical training has been most marked."

REGULATIONS AT PORT SUNLIGHT.—Messrs Lever Brothers, of Port Sunlight, state that all their educational arrangements are now conducted in connexion with their Local Education Authority, to whom their Voluntary Schools have also been handed over. From the accompanying pamphlet it appears that attendance at evening continuation classes is compulsory for all employees under the age of 18, with the provision of facilities for the voluntary pursuit of studies by those over that age. The girls employed are required to take an approved commercial or domestic course. The class fees for all students under 18 are paid by the firm, while they are refunded to those over that age provided that examinations and 85 per cent of the meetings have been attended. Text books required by compulsory students are provided by the firm with the option to the student of purchasing them at half-price at the end of the session.

INSTITUTIONAL HOUSEKEEPING

A NEW CAREER FOR WOMEN

A Twofold Importance.—So much interest has been aroused by the action taken by the Joint Committee, appointed by the Matrons and Schools Committees of the National Food Reform Association,* that it seems desirable to reprint here from the *Queen, The Lady's Newspaper*, of April 5th, 1913, together with that Journal's welcome endorsement of the policy here enunciated, the letter issued by them in the early part of the year. The subject is one of the utmost importance to heads and committees of institutions of various kinds, as well as to the steadily growing number of residents in settlements, hostels, clubs, etc. Moreover, the career of a dietician, as the Secretary to the Joint Committee pointed out in a letter appearing in the *Daily Mail* of September 1, 1913, opens up to girl graduates an honourable and lucrative source of employment. In the United States good salaries are obtainable from the first, and the average remuneration received by the head of an institution is stated to be from £400 to £500 per annum.

Waste in Institutions.—In private families in this country, as Sheriff Bower remarked at the Conference, the wastage is considerable, while in boarding houses in the United States, even when economy was sought, it was found to average 10 per cent. In Institutions more waste is probably in the natural order of things, unless special precautions are taken.

What Experiments Revealed.—As the result of a careful investigation undertaken by the Office of Experiment Stations of the U.S.A. Board of Agriculture at the Government Hospital for the Insane, Washington, on the invitation of the superintendent, it was ascertained that the patients wasted 18 per cent of the total amount served to them and the attendants 22 per cent, leaving out of account the excess of food served. In similar institutions in New York, the average table and kitchen waste is found to be 12 per cent.

Penny Wise, Pound Foolish.—If it be remembered that no account is taken here of faulty contracting, of leakage, of kitchen ignorance and negligence, it will be realized what a substantial economy even a five per cent saving represents. It

* See also page 194, and Introduction, p. xxxviii.—Ed.

will be evident from the foregoing that an expert dietician may be relied upon to save her salary over and over again, to say nothing of the enhanced physical and mental fitness that accrues to inmates living under her intelligent and beneficent sway. It has, moreover, been proved by experiments in the United States that more palatable and attractive food can be provided at a lower cost.

The announcement has met with a sympathetic reception at the hands of the Press, and has brought numerous inquiries from women desirous of qualifying for such posts, as well as fresh testimony to the value of the work that is being done in the United States and Canada, and the need for it here.—Ed.

A Great Journal's Support.—We are convinced that if educated and competent women could receive a thorough training in institutional housekeeping, the dietary of many hospitals, schools, and colleges could be rendered far more attractive and nourishing than it now is. We therefore hope that the following letter will receive careful attention:

"The work of feeding in institutions ought," said a speaker at the Guildhall School Conference in May last, "to be regarded as a profession in itself, and should be studied from every standpoint." Two months later a representative from Toronto University informed her fellow members of the Congress of Universities of the Empire that a new career had been found for the girl graduates in home science—they were becoming dieticians in the public hospitals. The same remark applies, in a much wider sense, to the United States, where such a profession, with the training its existence implies, has been open to women for a generation or more.

While we are far from undervaluing the training given in this country in domestic science or housecraft, still less oblivious of recent promising developments, it must be generally admitted that, mainly through lack of any demand, systematic training in institutional housekeeping, both practical and theoretical, on a scale comparable to that supplied at Teachers' College, Columbia University, and, in a greater or less degree, at many other American and Canadian universities, colleges, and training schools, has not been obtainable. The need, however, for highly trained and duly qualified women as housekeepers or cooks, as essential to effective reform, was

insisted upon by numerous speakers at both the Conference of Matrons of Hospitals and Similar Institutions in 1910, and at the Conference on Diet and Hygiene in Public Secondary and Private Schools a year and a half later. It is certain to be urged again at this year's Conference on Diet and Hygiene in Public Elementary Schools and in Public and Philanthropic Institutions for Children and Adolescents. The *Lancet*, indeed, in its review of "Our Children's Health at Home and at School" (September 14, 1912), went so far as to say, "What is wrong is the business management of the catering department—in a word, the housekeeping."

The Head of the Manchester High School for Girls writes: "I am very much interested in the proposal about training in institutional management, feeling very strongly that this is badly wanted in England. On visiting Canada and the United States in 1908, I saw what splendid work the qualified ladies did there. Indeed, I went from college to college, and ate everywhere excellent food, attractive, simple, and wholesome, and far better than anything of the kind in schools and colleges here. I am very glad to know that hospital matrons are also moving in the matter. I always hesitate to recommend a girl to take up nursing as a career, since I have heard so much of the bad food in hospitals, and of how even vigorous girls break down. Even when the food is wholesome and sufficient in quantity, it is too often badly served. A good general cares for his soldiers' commissariat; nurses' meals ought to be even more carefully provided by skilled and trained women officials in our hospitals. In schools and colleges, too, common meals are becoming more the custom, and institutional life, whether we like it or not, is being developed and increased as part of the fight for social betterment. Educational progress and physical energy depend largely on food, as the generation of power depends on coal. We must improve our stoking machinery for what is still the finest engine we know, the human body. You could do nothing better in your society than find some way of manufacturing these qualified women here, as they do in America."

An outline of the course at Teachers' College* will be found in the introduction to *Our Children's Health at Home and at*

* The Prospectus of this and other Colleges in the United States and Canada may be seen at the offices of the Association.—Ed.

School, as well as a brief consideration of the position and prospects in this country (pp. 7-9). The same volume also contains a full report of the important papers read at the Guildhall on "Problems in Institutional Feeding" and "Training in Institutional Work," together with the discussion that followed (pp. 161-192). The book is published at 5s. net, post free 5s. 6d., and may be obtained from any bookseller, or from 178 St Stephen's House, Westminster. Much additional information on the subject will be found in *The Feeding of Nurses* (price 6d. net; National Food Reform Association).

Impressed with the urgency of the subject the Matrons and Schools Committees of the National Food Reform Association have appointed the undersigned as a joint committee, with instructions to bring the matter before the University and other colleges and training schools, as well as the public generally. We are confident that these institutions will not be backward in offering facilities to those desirous of entering this new field of work for women. If desired, we are prepared to co-operate further.

In connexion with such developments, the association will, it may be hoped, come to be increasingly regarded as a link between duly qualified women and those seeking their services.

L. V. Haughton, Matron, Guy's Hospital (Chairman, Matrons' Committee).
H. A. Alsop, Matron, Kensington Infirmary.
A. C. Gibson, Ex-Matron, Birmingham Infirmary.
E. M. Musson, Matron, Birmingham General Hospital.
M. S. Rundle, Matron, Royal Hospital for Diseases of the Chest, late Isla Stewart Scholar, Teachers' College, Columbia University.
A. E. Windsor, Trained Nurse.
Kate C. House, Wife of Housemaster, Malvern College.
M. E. Robertson, Head Mistress, Christ's Hospital.*
May C. Scott, Head Mistress, Godstow School.
Florence Hazell, formerly Lecturer on Domestic Economy and Hygiene.

Chas. E. Hecht, Secretary
(to whom all communications should be addressed),
178 St Stephen's House, Westminster.

* Since elected President of the Association of Head Mistresses.—Ed.

PART IV

LIGHT FROM ABROAD

The following particulars of the systems employed in the provision of meals and clothing for children in need of either or both in the countries specified makes no claim to be in any sense exhaustive. The information is, however, at any rate, up-to-date and, so far as it goes, more detailed than that contained in the Government publication* on the subject issued in 1906, in conjunction with which it should be studied. This gives much valuable information in tabular form supplied in response to a schedule of questions prepared by the Board of Education.—Ed.

I. THE UNITED STATES.

The Case for School Meals.

Our American cousins are sometimes credited with being peculiarly laconic in their mode of expressing themselves. It is perhaps, therefore, scarcely to be wondered at that by far the most concise and convincing statement of the case for school meals should emanate from that country. The following memorandum under the title of "Lunches in Elementary Schools" is issued by Louise Stevens Bryant, of the University of Pennsylvania, Secretary of the Section on School Feeding in connexion with the Fourth International Congress on School Hygiene held at Buffalo in August of this year.—Ed.

All the arguments that have won the fight for providing wholesome, well-planned meals served at cost to high school children apply equally to similar provision for elementary school children. Opportunities for education and habit formation are greater with the younger children, because they are younger, and because there are many more of them.

School lunches help to reduce the large amount of truancy caused by the long uncontrolled noon recess. A light, well-planned meal in the middle of the day has an immediate effect on the children's power of attention and their resistance to

* Statement of Information Collected by the Board of Education and the Foreign Office regarding methods adopted in great Continental and American cities for dealing with under-fed children. Cd. 2,926; 4½d.

fatigue. That this makes the remainder of the session far more efficient is the universal testimony of teachers wherever the lunches have been tried.

The elementary school lunch is established in 41 cities of the United States, 200 English cities, 150 German cities, 55 Italian cities, and 1,200 French communities. Some of the results are as follows:

1. Nourishing food increases the mental efficiency of the children.
2. Lunches prepared and served under school supervision make for the formation of good habits of diet.
3. Supervised meals eaten in the group cultivate between teachers and children, and among the children themselves, a spirit of friendliness, of courtesy, and of democracy.
4. The school lunch forms a natural basis for the study of hygiene and physiology. It furnishes a working laboratory for domestic science classes, and for general instruction concerning the pure food movement, food costs, food values, and the relation of food to working efficiency.
5. The establishment of the school lunch leads to increased interest in school activities among the parents. Mothers seek to adapt the school menu to their household needs, come into close contact with the school dietician, and the resultant friendship makes for co-operation between the school and the community.

Although a large proportion of our school children—10 per cent by conservative estimate—are suffering from malnutrition, the relief of this condition is not the primary aim of those who are advocating school meals. It is their conviction that if the school is to assume responsibility, it must be because of purely educational considerations. School feeding finds its justification in the fact that we cannot separate bodily and mental welfare; a well nourished mind is impossible in a poorly nourished body, and physical health is essential to the full mental and moral development of our children.

II. FRANCE.

In response to an appeal for information from the Schools Committee of the National Food Reform Association with regard to the provision of meals and supply of clothing to the necessitous school children in Paris, H.M. Ambassador was good enough to obtain and forward, on July 7, 1913, the memorandum given below.—Ed.

CAISSE DES ECOLES (SCHOOL FUND).

Composition and Financial Basis.—The "Caisse" is constituted by philanthropic individuals who pay a fixed subscription. It is supported by the said subscriptions, donations and the subsidies of the Paris Municipal Council and of the "Conseil Général" in the Communes.

Aims.—Provision of warm food for necessitous children.
Distribution of clothes to those in need of them.
Enabling certain children to spend some time in the country.
Encouraging scholars by the offer of special prizes.

Distribution of Food.—1. School canteen (one canteen for each school).

2. District canteens. In this case the warm food is prepared in one school for several other neighbouring institutions. Each school sends the Assistant Superintendent of the canteen with a small conveyance to fetch the requisite food.

Necessitous children may benefit by this meal without payment; the others contribute 0.25 centimes (2½d.) per meal.

The service and the supervision of the canteen are in charge of a superintendent and assistant (both women), who distribute the food to the children.

The supervision of the children (from 11.30 a.m. to 12.30 p.m.) is in the hands of either the Games Superintendent or of a specially appointed individual.

For such supervision the city makes them a supplementary allowance—1.50 fr. (1s. 3d.) per meal.

Distribution of Clothing.—Necessitous parents make a request to the Head Master or Head Mistress, who forward it to the Town Hall of the Arrondissement or Commune,

certifying that the child attends their school. An inquiry is made at the home of the parents, and if they are found to be deserving of help a communication is sent after a short interval to the school stating that the child has been granted either a pinafore, clothes, boots, or shoes. In certain cases an order is given to the children to obtain the clothes from a specified firm, which has an arrangement with the "Caisse des Écoles," in others the Head Master or Head Mistress themselves receive and distribute the clothing.

Stay in the Country.—The "Caisse des Ecoles" sends children to the country (length of stay three weeks), either during the holidays, or even during the school year from April onwards, in the case of necessitous children whose state of health is particularly bad. The selection of the children to profit by this arrangement is made by the Head Masters and Head Mistresses, assisted by the School Doctors. The children must comply with certain conditions of age, conduct and general suitability.

Encouragement of Scholars.—The "Caisse des Ecoles" gives special prizes (the prize of the 14th of July, the recipient of which is chosen by his comrades, etc.), savings bank books, etc. It also awards grants of from 50 to 100 frs. (£2 to £4) to certain teachers, but this practice is falling into disuse.

The "Caisse des Ecoles" is framed on regular lines throughout France, but its organization is not everywhere absolutely identical.

Insurance and Pension Scheme.—A second memorandum gives details of an Insurance Scheme which aims at providing help for the families of sick children, as well as the nucleus of a pension for the children. The parents contribute ten centimes (one penny) weekly, which is divided between the two objects, while the State allows interest at 4½ per cent upon double the sum deposited.

Proportion of Free Meals to Total.—The Annual Reports of the "Caisse des Ecoles" in two of the Paris Arrondissements are among the documents sent. From these it appears that out of a total of 126,682 meals provided in the Third Arrondissement (Mairie du Temple) in 1912, 38,303 were paid for and

88,379 were free. The respective figures for the Fourth Arrondissement (Mairie de Hotel-de-Ville) for 1910 were 117,294, 45,714, and 71,580.

III. SWITZERLAND.

Provision for Meals and Clothing

A similar application addressed to H.M. Minister at Berne met with an equally helpful response.

(a) Canton of Basle

The British Vice-Consul at Basle, Mr C. Oswald, forwarded on July 28, 1913, the appended communication addressed to him by Mr F. Mangold, President of the Education Department in that Canton, together with a number of interesting and valuable reports.—Ed.

Provision for the Nourishment of Necessitous School Children.—The State makes contributions as under:

2,700 frs. (£108) yearly for the supply of milk and bread to the Pestalozzi Society.

350 frs. (£14) yearly for milk and bread to the scholars of the Communes of Riehen and Bettingen.

2,300 frs. (£92) yearly for the supply of breakfast (milk and bread) to poor children in Special Schools (Mentally Deficient).

7,051 frs. (£282) yearly to the Committee for the distribution of soup to schools. The total expenditure, as the Report shows, exceeds this amount, a portion of the requisite sum being collected yearly in the schools. The scholars are given small envelopes in which they bring on the following day the voluntary contributions of their parents.

The State also makes each year a further contribution of 7,000 frs. (£280) to the Committee undertaking the care of children during holidays. This Committee collects voluntary contributions which are devoted to the maintenance of children in Holiday Colonies during the summer holidays (14 days).

2,000 frs. (£80) to the Convalescent Home at Langenbruch.

Clothing.—The State makes contributions as under:

About 6,500-7,000 frs. (£260-£280) yearly for provision of boots to the Lukas Foundation.

500 frs. (£20) to the Pestalozzi Society for the distribution of clothes.

2,000 frs. (£80) to the Children's Clothing Committee.

It also gives:

About 500 frs. (£20) yearly for school journeys of children attending the Primary Schools.

About 2,500 frs. (£100) for School Libraries.

About 15,000 frs. (£600) for School Baths.

7,000 frs. (£280) for Dentistry. (Preservation of the teeth of elementary school children). To this fund the parents also contribute, the total amount in 1913 being about ten to twelve thousand francs (£400-£480).

About 2,800 frs. (£112) yearly for the care of Defective Children: (deaf and dumb, epileptics, etc.)

About 3,500 frs. (£140) to the Children's Games Committee.

1,000 frs. (£40) to the School Gardening Committee.

(b) Canton of Geneva

The British Consul at Geneva, Mr Auguste de Candolle, writes on August 6, 1913:

"A State, or State-aided organization, for the regular supply of food to poor children does not exist in the Canton of Geneva, but eleven private associations have been formed in the more important urban communities of the Canton to provide gratuitous mid-day meals, and in seven of them also 5 o'clock tea (in the primary schools) for necessitous children. The advantage offered by these benevolent associations has been extended also to children whose parents, though not indigent, cannot conveniently provide them with proper midday meals. Inquiries are invariably made into the pecuniary circumstances of the parents whose children are to benefit by these institutions, and those who can afford to pay are charged at the rates of from 5 (½d.) to 20 centimes (2d.) per meal. Some 900 school children are thus provided with proper meals, and as schooling in Geneva is compulsory till the age of 13, it may be safely assumed that no boy or girl in the Canton of Geneva need be without proper food.

"I enclose a week's sample dietary of one of the Communes, in which only mid-day meals are supplied, and have ascer-

tained that the average cost ranges from 38 to 42 centimes (about 4d.) a meal.

"Besides these 'School Kitchens,' six private associations, so-called 'Crèches,' exist in Geneva, which undertake to keep and feed infants during the day, whilst their mothers are at work. A charge of 25 centimes (2½d.) is supposed to be made for this service, but in many cases it is absolutely gratuitous. Over 200 infants are thus well looked after every day.

"Twelve 'Holiday Colonies' have also been established in the Canton, enabling poor children to receive the benefit of a stay in the country for somewhat over a month. No charge is made for board and lodging. The colonies are kept up by private associations, and an annual subsidy of 7,000 francs (£280) is granted by the cantonal authorities. Over 1,000 children are kept in these colonies.

"As regards the supply of clothing, I may mention that a sum of 5,000 francs (£200) is spent every year by the Department of Public Instruction to supply needy school children with clothing and boots.

"I am always at your disposal for any further information you may require."

"Cuisines Scolaires" of the Commune "Eaux-Vives"

Monday.—Soup, Cabbage, Bacon, Potatoes.
Tuesday.—Soup, Semolina, Beans, Jam.
Wednesday.—Soup and Bouilli, Potato Salad.
Thursday.—No School and no meal.
Friday.—Bean Soup, small Meat Patties, Maccaroni, Fruit.
Saturday.—Vegetable Soup, Black Pudding, Mashed Potatoes.
Sunday.—No school and no meal.

The children receive also Beef, Veal, Salted Pork with Sourcrout.

(*c*) Town of Zürich

A recent visit from a City Councillor of Rotterdam, himself in search of information on the subject, was the means of directing attention to the excellence of the methods adopted by the town of Zürich. Thanks to the courteous assistance of H.M. Chargé d'Affaires at Berne, Mr R. H. Clive, and the British Vice-Consul at Zürich, Mr J. C. Milligan, full particulars will be found below. Writing on August 14, 1913, the latter says:—Ed.

The local authorities have forwarded to me a copy of the report of the Schools Authorities of the town of Zürich for 1912. In this report, on pages 56 to 69, you will find full particulars on the subject in question. The chapter is under the heading of " Fürsorge für hülfsbedürftige Kinder."

I am also sending you a copy of some information which we recently supplied to a member of the London County Council.

With reference to your inquiry on the subject of the feeding of school children, I have now had an opportunity of inquiring into the system in use in this city, and beg to send you the following information.

The system of providing dinners for school children has been employed in Zürich for a number of years, and those who have followed its working express themselves as being convinced of the great benefits which accrue from it to children of needy parents.

Great care is, however, taken to ensure that only children of really deserving parents obtain the meals free, and each case is personally inquired into by the teacher. Before a child is admitted to the meals, the authorities first satisfy themselves:

1. That the parents are in needy circumstances;
2. That the child is insufficiently nourished;
3. That the parents are absent from home at midday, or that the child lives a long way from the school;
4. That the child is one of a numerous family; or
5. That the parents are without work, or ill.

Apart from the dinners, however, all underfed children receive an allowance of ¾ pint of milk and five or six ounces of bread for breakfast, the promoters of the scheme wisely pointing out that it is unreasonable to demand mental work from children whose bodies are insufficiently nourished.

The majority of the children admitted to these meals receive them gratuitously, and last year only 11·5 per cent of the children paid for them.

The following information was sent in answer to various questions put:

1. Dinners are provided by the school authorities, the cost per child varying between three halfpence and two pence halfpenny per meal.

2. The diet consists of soup, bread and sausage or cheese. Besides meat, bones, sausage and green vegetables, pulse, barley, oatmeal, oats, rice, pastes, potatoes, etc., are also used as ingredients in the soup. The menu is left to the discretion of the superintendent of each institution.

3. All children whose parents have made application on their behalf have to take their meals in the school eating-room. No food is allowed to be taken home, except in the case of sick children.

4. Parents who are unable to pay through needy circumstances, can send their children to these meals free of cost.

5. In answer to the question, "To what extent is the opportunity of having meals at the school taken advantage of by parents," the information obtained was as follows: Last year 12·3 per cent of the school children partook of the meals, but only 11·5 of these paid for them.

6. It is possible that the provision of these meals has to some extent had the effect of increasing the number of children receiving them, but it is difficult to determine this exactly.

7. In order to secure that only children of really deserving parents obtain these meals free, strict control is observed by means of forms of application for these free meals.

8. The teachers voluntarily undertake the superintendence of the meals. They arrange the matter among themselves and are present at the meals alternately.

9. In answer to the question if meals are provided at each school, or if there are feeding centres, the reply was that there are various feeding centres in the town.

10. In some cases the meals are cooked at the schools, by the school authorities, and in some cases the meals are provided by contract with catering firms.

11. The meals are provided only on school days and only during the winter.

12. The reply to the question as to the success or otherwise of the scheme for the provision of meals was that, the result is generally considered to be beneficial, and the school authorities report that their experience in the matter has been favourable.

Should you require any further information, please do not hesitate to communicate with me again, as I shall be delighted to assist you as far as possible in this matter, which is one of such vital importance to the children of our London poor.

The following additional details are taken from the "Geschäftsbericht der Zentralschulpflege der Stadt 1912." Zürich, (Report of the Central School Care Committee of the Town of Zurich.)—Ed.

Midday Meal—Two New Features.—The dinners were given from November 11, 1912, to March 15, 1913 (98 days as against 99 in 1911-12). Two new features were introduced during the year. An experiment was made of throwing open to competition the supply of the ingredients composing the soup, as well as the meat and bread for the whole town so that a contract might be made with the local caterer. The second new departure was the demand of a minimum contribution of one franc from every family who desired to send children to the free meals. The proposal of the Children's Care Committee on ethical grounds to exact a contribution of one franc, i.e., a centime ($\frac{1}{10}$th of a penny) for each meal from every scholar attending, was carried out to a very small extent.

Nature of the Meal.—In the preparation of the soup the following ingredients were principally used: peas, beans, rice, barley, flaked oats, oatmeal and tapioca. Moreover, as in the previous year, a certain quantity of green vegetables and meat was also given. The amount supplied to each scholar was 6 to 8 décilitres (about a pint) per day. In addition, to provide variety, sausages, cheese, oranges or pears were given.

Results.—Breakfast was provided during the same period as the dinners. The organizers and teachers are much gratified with the results of the meals. It is frequently remarked that

thanks to the better nourishment, the children become more intelligent, and more capable of effort.

NUMBERS.—The following figures give the numbers partaking of the meals.

3,028 Midday meal.
2,497 Breakfast.

5,525 Total.
1,343 scholars partaking of both meals.
4,182 different children sharing in the meal.

CLOTHING AND FOOTGEAR.—The number of requests sent in for boots or clothes was 1,493 (1911, 1,397) viz., 1,367 for boots, 58 for spectacles, 30 for clothes and under-clothing and 38 for both clothes and boots. Some of the above applications came through philanthropic agencies, while others were made direct. We distributed 1,077 boots and shoes, 58 spectacles, 29 sets of clothes and under-clothing, and both clothing and shoes to 38 scholars. Of these grants, 290 were made free. In the other 912 cases, contributions, varying from 50 centimes (5d.) to 5 francs (4s.) were given towards the cost.

ANALYSIS AND SUMMARY OF EXPENDITURE.—From a statement of accounts it appears that for the midday meal the cost per scholar ranged from 1½d. to 3d., the average being just under 2d., while for the breakfasts it varied from 1½d. to 2¼d., the average being slightly over 1½d. The average cost of the dinners per scholar for the entire period of 98 days amounted to 18·19 frs. (14s. 4d.) while for breakfast it was 15·81 frs. (12s. 6d.).

Total expenditure	111,704 frs.	(£4,468)
Receipts for soup sold, contributions from the scholars, societies, etc.	23,142 ,,	(£925)
Net cost of meals	88,562 ,,	(£3,542)
Expenses for boots, clothing and spectacles	8,804 ,,	(£352)
Contributions from parents	1,420 ,,	(£56)
Net cost	7,384 ,,	(£295)
Total civic expenditure for food and clothing	95,946 ,,	(£3,837)
The corresponding figure for the previous year was	108,422 frs.	(£4,336)

THE TEACHING OF DOMESTIC SUBJECTS IN GERMANY

In consequence of certain complimentary references to the nature and extent of the teaching of domestic subjects in Germany, a letter was addressed early last year on behalf of the Parliamentary Committee on Food Reform to H.M. Ambassador in Berlin seeking information on the subject. In reply, the Imperial Foreign Office were good enough to send the appended Memorandum, dated July 29, 1912, together with numerous documents, illustrating and supplementing the same. The Memorandum is of great interest and importance, and in view of the various suggestions for reform in this department of education put forward at the Guildhall Conference, coupled with the hopes expressed that some, at any rate, of these would figure in next year's Education Bill, it seems desirable that it should find a place here.*—Ed.

MEMORANDUM

In reply to the inquiry addressed by the British Embassy upon the subject of the teaching of Domestic Subjects in German schools, the Foreign Office beg to state as follows:

Position in Prussia.—In *Prussia* the teaching of Domestic Subjects has been introduced into a large number of Elementary and Secondary Schools for girls.

Where towns or communities have introduced it, the Education Department has made it compulsory, so that non-attendance may be treated as absence from school. It has also assisted communities lacking the necessary means to introduce such teaching, and subsequently by considerable grants.

Training and Status of Teachers.—In the same way the Education Department has taken care that teachers should be trained for such teaching. After the issue of the new Order of 1907 regarding the training of teachers, fresh Examination Regulations were published on May 18, 1908 (both obtainable from any bookseller). The Department further took steps

* A brief account of Housecraft Teaching in Secondary Schools in Foreign Countries will be found in Appendix B of the Interim Memorandum on the Teaching of Housecraft in Girls' Secondary Schools issued by the Board of Education, 1911; 4d.—Ed.

to secure that all duly appointed whole-time teachers of Domestic Subjects should be regarded as teachers within the meaning of the laws regulating the remuneration of teachers, and thus be eligible for a pension.

How Country Problems are Solved.—These wholetime teachers can naturally only be appointed in the larger cities or communities. In the country, where only a few girls are in their last school year, other means must be found. Here the Education Department has proceeded in various ways. Where in country districts itinerant teachers give instruction to girls who have left school, their services are also utilized for children in compulsory attendance, so that the latter are likewise taught in itinerant courses. Elsewhere, several communities have formed themselves into a group of schools for Domestic Subjects, in which one of the teachers appointed by the group gives the instruction. Again, in other places, courses are arranged which qualify teachers at the Primary Schools to give practical and theoretical instruction in Domestic Subjects to the small number of girls in their last school year.

Intermediate and Secondary Schools.—As regards *Intermediate Schools* (Mittelschulen), Domestic Subjects are included in the curriculum and occupy four hours weekly.

In *Secondary Schools* (Höhere Mädchenschulen) the teaching of Domestic Subjects is not introduced because such teaching is not within the scope of these institutions. On the other hand, the subject is taken up in the *women's classes* of the Lyceums; indeed the final examination for a teacher of Domestic Subjects can be taken there.

Training Colleges.—In the curriculum of the *Training Colleges for Primary School Teachers*, the study of Domestic Subjects is carried so far that the student is competent alike to prepare meals unaided, and also to give instruction in the subject as a deputy in a small way.

Nature of Curriculum.—A common curriculum for every kind of school has not been fixed because in certain provinces and districts the differences are too great. In the Communal Schools of Berlin, however, a fixed curriculum is in existence (see page 11 of the Report of the Society for the care of children released from school attendance)—(Verein für das

Wohl der aus der Schule entlassenen Jugend) as well as at the Domestic Economy College of the Berlin Provincial Union of the National Union of Women (Provinzial-verein Berlin des Vaterländischen Frauenvereins). The latter Society would be happy to supply further particulars.

Where Full Particulars May be Found.—The following publications will also afford information:

1. Liese, das hauswirtschaftliche Bildungswesen in Deutschland. München-Gladbach 1910, Volksvereinsverlag;

2. Flügel, Vorschriften über die Bildung und die Prüfungen der technischen Lehrerinnen in Preussen, Saar-Louis 1908;

3. M. Voigt, Lehrbuch für den Unterricht im Kochen und in der Hauswirtschaft, Erfurt, 1910.

Conditions in Bavaria.—In *Bavaria* Domestic Economy instruction is principally given in Domestic Economy Schools. The teachers in these schools receive their professional training in Domestic Economy Colleges. Admission to such Colleges is limited to those who are 18 years of age, and have passed the sixth class of a Secondary Girls' School (Höhere Mädchenschule). The training in the Domestic Economy Colleges usually extends over two years.

Character of Domestic Economy Schools and Training Colleges.—Domestic Economy Schools and Training Colleges are private teaching establishments with optional attendance. In accordance with a Royal Order of May 10, 1905, concerning the foundation, management and inspection of schools and colleges, the principals of such institutions have to show that they are possessed of sufficient professional qualifications, theoretical and practical, together with adequate means corresponding to the status of the institutions.

Domestic Economy Schools and Colleges are under State control, i.e., under the oversight of the Minister of State for the Interior, as being responsible for Church and School matters within the sphere of local Government.

Elementary and Continuation Schools.—Elementary instruction in Domestic Subjects is also given in the eighth class of Elementary Schools for girls, and likewise in the Women's Continuation Schools, the greater number of which are

erected and supported by the community, as well as in the public or privately organized Secondary Girls' Schools (Höhere Mädchenschule). The Continuation Schools are for the most part compulsory, while attendance at the Secondary Girls' Schools on the contrary is optional.

Teaching of Food Values and Prices.—Instruction in food values and the prices of food stuffs are never overlooked in Bavaria. The teaching is chiefly based upon the tables of Food Values of Professor König and Von Springer. Full particulars concerning the scope of the curriculum in the schools and colleges of Domestic Economy will be found in the accompanying documents marked with a red cross.

Methods in Saxony.—In the *Kingdom of Saxony* Domestic Subjects are not yet compulsory. There is on this account no general curriculum issued by the Chief Education Authority. The manner in which this instruction is given in the girls' schools of a large town in Saxony (Chemnitz) and in the girls' Continuation School of a large industrial village (Oberlungwitz) may be ascertained from the accompanying papers.

Württemberg.—Full particulars of the conditions prevailing in *Württemberg* will be found in the papers sent herewith. The curriculum of the Secondary Schools there is now undergoing revision and will be completed in the autumn.

YOUNG MISTRESSES OF THE ART OF COOKERY.

Extract from the Report for the years 1906 and 1907 of "Der Verein für das Wohl der aus der Schule entlassenen Jugend." (The Society for the Care of Children released from School Attendance), Berlin.

A picture of the value of our school kitchens is drawn by Mrs A. Plothow in the *Berliner Tageblatt*.

Pioneer Work by a Society.—"Compulsory instruction in Domestic Economy has not yet been introduced into the Elementary Schools of Berlin, as it has been long ago in Cassel, Chemnitz, Charlottenburg, Wilmersdorf. We have, however, at least an attempt in this direction, since for about 15 years the Society for the Care of Children released from School Attendance have held cookery courses in the four School

Kitchens provided by the City of Berlin for children who have left the Elementary Schools. In 18 Courses some 450 pupils from the upper classes of the schools have had the advantage of this teaching. An open day concludes the training in which the young housekeepers show how far they have advanced into the secrets of the higher arts of cookery.

An Open Day.—"They have to be very precise, very exact, and yet the candidates know no examination nervousness—they are indeed sure of their facts. In the School Kitchen in Müller-strasse, where we attended the examination, a number of mothers represented the public. It was instructive to hear the grounds on which they had sent their daughters to receive this instruction. The one let her daughter go in order that she might learn to like vegetables. It is, indeed, a melancholy fact that many children of working class families dislike all vegetables. The pallor and anæmia of the children of our great towns is largely attributable to this circumstance. Another mother had already sent her third daughter to the school. One, again, had sent her eldest daughter ten years ago, for cookery lessons, and as she still remembered all she had learnt and always cooked once on Sunday, the mother was sending her youngest daughter. It is, therefore, a family audience.

Why these Subjects Should be Compulsory.—"Anyhow, a glance at the clean intelligent troop of girls convinces one that here the best elements of primary schools are united. If, however, such instruction is to reach those who need it most, it must be made compulsory. It is difficult to over-estimate the public advantage that would result if every Berlin girl learnt at school the proper basis of cookery and housekeeping, to say nothing of family happiness. In this way also, the frequently urged objection that school children were still too young to learn effectively anything of housekeeping and cookery would be splendidly refuted.

Tribute to Teaching Methods.—"It was a pleasure to see how cleverly the children made their preparations, how accurately and adroitly they carried out all orders. Theory and practice were mingled in the examination. At first the bill of fare was discussed, the preparation of the food indicated, and

then they went to work. The vegetable was prepared, and put on with the meat. While the meal was being cooked the little cooks were keenly examined regarding the food value and the combination of important foods, such as eggs, vegetables, meat, fat. The answers followed promptly, and yet in so elastic a form that one noted that they had not been merely mechanically learnt by heart but comprehended. This teaching had precisely the advantage that theory was learnt through experiment, and thus led to a real understanding.

The Proof of the Pudding.—"When it was time to put on the potatoes, the practical side once more came into operation. At the word of command bowls and knives were ready, the potatoes were peeled, washed and put on. While they cooked, the vegetable was mixed with flour and a milk soup was prepared. In a moment the table was cleared and laid, and the meal, now ready, placed upon it. All the spectators were invited to taste. There were carrots with mutton and potatoes. The meal was so good and tasty that it would have adorned any citizen's table. The milk soup and large portions of vegetables were then divided among the children of the two adjoining Children's Homes, who were also fed by the Cookery School. The close of the examination consisted in the orderly clearing up of the School Kitchen. The delight and love with which the children executed all the work showed that they would carry away with them into the world this teaching which, alike practically and intellectually, would be of great value to them."

An Indirect Gain.—The dishes produced in each lesson—a principal and a supplementary dish, served as before for the lesson of the scholars, and for providing meals for the children of the neighbouring Children's Home. The connexion of the school kitchen with the Children's Home has proved of the utmost value. About 200 children of the home receive from the school kitchen daily an abundant meal, which during 40 school weeks of 6 days is equivalent to 48,000 portions. If one reckons in addition the meal at 50 portions daily, which is by no means an accurate estimate, the total number of portions amounts to 60,000 yearly which benefits the children of the poorest strata of the population. This additional result of our system should be appropriately taken into consideration when

the question of the provision of meals for poor school children is being discussed, in forming a judgment on the teaching of Domestic Economy.

Poverty or Ignorance?—As the result of searching investigation into the conditions of life of the lower classes, the well-known hygienist, Professor Rubner, arrives at the conclusion that the deficient nourishment of many families is often far less due to inadequacy of income than to bad management of household budgets, to unsuitable choice of food and to faulty cooking. That conclusion is in entire accord with the reasons that prompted the former Chairman of our Committee, Dr Zwick, to found the first school of cookery. The duty of providing meals for the hungry, shelter for the homeless, clothing for the poor stands high, but higher still stands that form of assistance which induces self-help, since it teaches the young to take thought for their own bodily welfare, by relying on their own capabilities and their own work.

PART V

NATIONAL FOOD REFORM ASSOCIATION

OBJECTS

1. To enlighten public opinion on matters of diet.

2. To point out the dangers of our present system of food supply and its bearings on such problems as the adulteration of food and milk, infant mortality, consumption and physical deterioration.

3. To make known the intimate connexion of diet with:
   (*a*) Moral and physical well-being.
   (*b*) Social reform.
   (*c*) Economy—national and domestic.

4. To urge the necessity of reconsidering the dietary of Schools and Colleges, the Army and Navy, Hospitals, Workhouses, Asylums, Prisons and other Institutions, etc.

5. To recommend more humane, hygienic and scientific methods, both in the selection and preparation of food.

METHODS

1. Publication and circulation of:
   (*a*) An organ in which the progress of the movement will be set forth.
   (*b*) Books, pamphlets, leaflets, posters, etc.

2. Collection and publication of the results of experiments in diet.

3. Communication to the Press—correspondence, etc.

4. Holding of meetings, lectures, debates, conferences (provincial, national and international), dinners and other social gatherings.

5. Establishment of an Information Bureau, and a Registry Office for the supply of cooks and housekeepers.*

* Such an office has been in existence for some years and is licensed by the London County Council. Particulars on application. See also *Our Children's Health at Home and at School*, pp. 194-5.—Ed.

6. Promotion of the scientific study of cookery by lectures, demonstrations, classes and exhibitions.

7. Endeavouring to enlist the sympathy and aid of the medical, nursing and educational professions.

8. Encouraging the study of various aspects of diet by offering certificates, prizes and scholarships at medical, domestic economy and other schools and colleges.

9. Influencing local and other authorities by electoral, parliamentary and municipal action.

10. Urging upon the proprietors of shops and stores, factories, restaurants, exhibitions, clubs, hotels (at home and abroad), steamers, etc., the desirability of providing a more extended dietary.

11. Formation of local societies or groups.

12. Co-operation with existing societies having kindred aims.

MEMBERSHIP

The Association is working for food, cookery and health reform in co-operation with the heads of the medical, educational and nursing professions and social reformers generally. It has no dogmatic policy nor dietetic test.

All in general sympathy with its aims are cordially invited to help by enrolling themselves as members.

A subscription of 10s. or upwards entitles the giver to receive a monthly copy of *National Health*, in the publication of which the Association joins with the National League for Physical Education and Improvement, The Association of Infant Consultations and Schools for Mothers, the National Association for the Prevention of Infant Mortality and for the Welfare of Infancy, and the Mansion House Council on Health and Housing.

Additional particulars of the work (with specimens of publications) and of arrangements for meetings, lectures and cookery demonstrations may be obtained from the Secretary.

"We must have healthy homes, before we have healthy schools."—Dr Clement Dukes (Hon. Consulting Physician to Rugby School).

"To reform the food at school, we must reform the food at home."—Dr Eric Pritchard.

"It lies with parents to give the lead by their choice of schools."—Mrs H. H. House (Malvern College).

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EDITED BY CHARLES E. HECHT, M.A.,
Secretary of the National Food Reform Association

THE NATIONAL FOOD REFORM ASSOCIATION
178 ST STEPHEN'S HOUSE, WESTMINSTER BRIDGE

SIMPKIN, MARSHALL, HAMILTON, KENT AND CO., LTD.
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PRESS REFERENCES

"The Conference was the subject of a leading article in our May issue, and was fully reported in *The Times*. The present volume deserves a wide circulation among heads of schools and parents."—*The Times* (Educational Supplement), August 6th, 1912.

"Those who have to do with children's diet, whether in schools or homes, will find much very valuable help and guidance in this volume. Mothers, matrons, and heads of boarding schools should get it, study it, and apply its teachings." —*Child Study*, October, 1912.

"In a goodly volume of nearly five hundred pages, the Secretary has edited a full report of the Guildhall Conference held in May, supplemented by the newspaper comments and correspondence that it provoked. . . . Heads of schools and houses and matrons will be grateful to have in a permanent form the detailed menus supplied by schools of various classes, and the introduction sums up very judiciously the results of the Conference—'The little done, the undone vast.'"—*Journal of Education*, October, 1912.

"Ably edited—likely to prove of the greatest interest and value to medical advisers, educationists, and parents."—*The Child*, August, 1912.

"This volume, which so far as the general get-up is concerned is a work of art, is a rich mine of expert knowledge upon all such matters as its title implies. We know of no other single work which contains within its covers so much that is essential for all to be thoroughly informed about who have the care and responsibility of boys and girls during their school career. . . . We advise all our readers who have not yet secured a copy to do so at once."—*Secondary Education*, September, 1912.

"Carefully edited. . . . The great Conference has done much to advance and promote the objects of the Association." —*The Schoolmistress*, October 3rd, 1912.

"This formidable volume of 467 pages will be found a mine of expert opinion on the relation of diet to health and the teeth. . . . The wide circulation of the work and its commendation to parents, teachers, and responsible caterers of institutions may confidently be suggested to dental and medical practitioners."—*British Dental Journal*, October, 1912.

"The volume is of exceptional value, and deals with subjects of vital importance to the youth of the nation. We strongly advise all our readers to procure a copy of this really remarkable collection of opinions and record of experiences."— *British Journal of Inebriety*, October, 1912.

"It should be in every common room where heads of boarding-houses congregate, and will supply material for thought to every mother or other person responsible for the feeding of the young."—*Westminster Gazette*, August 10th, 1912.

"The papers have the greatest value to all who are concerned with the upbringing of the young. . . . The real worth of this publication lies not so much in its relation to secondary schools in particular as to child-life in general, and parents will find in it, as well as much discussion, not in ultra-scientific terms, of food values, a number of dietaries which will teach them much that is worth knowing about the right kind of food for youngsters."—*Newcastle Chronicle*, July 26th, 1912.

"One of the most practically valuable compilations of the age, as regards its power to arouse parents to the recognition of the need of their finding out for themselves what are the things that tend to develop health or disease in their children. As doctors and heads of schools disagree thereon, conscientious and responsible-minded parents are compelled to decide for themselves. . . . I am constantly meeting those who prefer to sacrifice the many social and disciplinary advantages of school-life for their children, to having them blood-poisoned by being compelled to inhabit badly ventilated rooms and eat unwholesome food at unphysiological intervals in unphysiological quantities. . . . entertaining and educative."—*Herald of Health*, October, 1912.

"Not a book to be swallowed and digested in the course of a single evening. . . . In these days of ever-cheapening literature it takes some courage to recommend a 5s. book. Yet I do recommend it most strongly. I know well that for most of my readers the expenditure of 5s. on one book is not a matter of light thought. Yet this volume contains more of vital importance to our social and personal health, and the health and happiness of the race that is growing up around us, than four or five gross of popular magazines of fiction."—Edgar J. Saxon in *The Christian Commonwealth*, October 23rd, 1912.

"The speeches at the recent Conference on Diet in Public Secondary and Private Schools excited so much interest, and, in some instances, protest in the public mind, that the National

Food Reform Association will probably have a good sale for the comprehensive and very readable report, which is a charming monument to the speeches."—*The Hospital*, July 27th, 1912.

"The subject of children's diet is exciting so much attention at the present time that this book should be specially interesting."—*The Queen*, July 27th, 1912.

"It contains a good deal of sensible advice to parents and teachers on the school boys' and school girls' diet."—*Hearth and Home*, September 19th, 1912.

"The book itself is well worth reading by anyone who has the care of a household or the duties of catering. It gives a collection of expert opinions on diet and a number of excellent menus for schools."—*Cambridge Independent Press*, August 3rd, 1912.

"Not only in its main discussion and the opinions of the many medical and scholastic authorities expressed in it, but also the specimen dietaries and Press cuttings commenting on the Conference, are full of interest for every one anxious to counteract the noxious influence of the tuck-shop, and give boys and girls the best food for them."—*Scotsman*, August 5th, 1912.

Appreciations

"I feel it will be most valuable. Your Conference must have done a great work. I shall spend some time in studying the book and, of course, shall speak of it to others."—Miss Silcox, Headmistress, St Felix School, Southwold.

"I have dipped into it with the greatest interest. I hope it will find a place in every secondary school."—Mr W. L. Thompson, Editor of *Secondary Education*.

"I think that there is much in it of permanent value."—C. E. Shelly, M.A., M.D., M.R.C.P., Consulting Medical Officer, Haileybury College; President, Medical Officers of Schools Association; and Chairman of the Special Conference Committee.

"I will do all I can to make your book known. It will rank as one of the blessings of this decade. It will make people think. It is an encyclopædia on right living and right thinking for youth and adult."—Mrs Leigh Hunt Wallace, Editor of *The Herald of Health*.

DIET IN OUR SCHOOLS.

Reprinted, by permission, from the *Lancet*,
September 14th, 1912

The report of the conference on diet in secondary schools, which was held at the Guildhall in May last, has now been published, and a very instructive and comprehensive volume it is. In certain respects the conference itself was disappointing, because the important papers on which its deliberations hinged were " taken as read," and the time of the meeting was occupied, if not wasted, by a series of disjointed criticisms and personal reminiscences, often inapposite and generally tedious. The report itself, however, is full of interest, for, in addition to a verbatim transcript of the proceedings and a complete reproduction of the papers themselves, it contains a full description of the display of exhibits representative of many new phases and aspects of school hygiene which were on view at the time of the conference in one of the galleries of the Guildhall. Now that this full report has been published we are in a better position to judge of the work done by the conference as a whole, and we are bound to admit that after reading this report we have considerably modified the opinion which we originally formed. It will be remembered that the conference was convened and organized by the National Food Reform Association. A quite strong and independent committee of specialists were actually responsible for the final arrangements. . . . It clearly emerges from the papers contained in the undoubtedly valuable report, notably from those of Dr Clement Dukes and Dr Cecil B. Reddie, that lack of knowledge as to properties of foods and the physiological requirements of growing boys and girls is not the cause of the improper and inadequate feeding which is too common in our schools despite the enormous improvement in every direction that has taken place in recent times. What is wrong is the business management of the catering department—in a word, the housekeeping. In addition, many parents are greatly to blame; the pampered life of many of our children at home does not fit them for the plain, wholesome fare of a properly conducted school *cuisine*, and this drives many a boy, and girl too, to the tuck-shop. The tuck-shop is, of course, universally con-

demned, and fared badly at the conference. Yet a well-conducted tuck-shop has its points, and why, in spite of all the demerits of the ill-conducted institution, is it still allowed to exist? It still exists, not from want of knowledge, but from want of initiative in our headmasters and from the force of custom and tradition. Points on which all speakers were agreed were that greater variety must be introduced into the dietaries, that vegetables and fruits should bulk more largely in the programmes, that large quantities of meat were not essential, that more time should be allowed for meals, that more trouble should be taken in the amenities of the table, and that the food should be presented in a more appetizing form. The psychology of appetite and digestion is a department of dietetics which certainly deserves more attention not only on the part of caterers for schools, but on the part of the public at large.

The Secretary of the Froebel Society writes: "I should like to make this book as well known as I can to our members."

A schoolmaster writes: "The report is of great interest to us."

A Superintendent of Domestic Subjects writes: "I must keep your book. Please tell me the price."

The Librarian, United States Department of Agriculture Library, Washington, writes: "As this publication would be of interest in connexion with the nutrition work of this department, we would be very glad to receive a copy."

IMPORTANT TO HEADS OF INSTITUTIONS

The matron of an L.C.C. training college writes: "I should like to testify to the immense use of which the report of the Conference on Diet and Hygiene, held in May, 1912, has been to me. It is of the greatest value to possess in compact book form, with an index so thoughtfully appended, such a collection of papers, compiled by those who are recognized authorities on these subjects. I find myself constantly referring to the volume, for the matter of selection of suitable dietaries for girls of over eighteen years of age, since the care of their health during their college course is ever before my mind. In these two matters I find here so much food for thought and practical advice and help. I feel sure that none, who have young people under their care and are anxious to

secure the best advice for their welfare, would fail to find this collection of papers other than a household treasure."

A few proofs of the papers submitted at the Conference still remain, price 1s.

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CAXTON HALL, WESTMINSTER

November 5, 1910

CONTENTS

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III. Appendix A:
    1. Constitution of Advisory Committee.
    2. Hospital Kitchens (Miss E. M. MUSSON).
    3. Press Comments.
    4. Correspondence.
IV. Appendix B:
    1. Supplementary Suggestions. (Made at the instance of the Special Committee of Matrons).
    2. Table of Food Values.

6d., post free 7d.

N.B.—Many Heads of Schools and Institutions attach great value to the book above referred to.

Miss MABEL ATKINSON (Lecturer on Economics at King's College for Women) writes: "I have found the Report of the Conference on Nurses' Diet very useful."

The Feeding of Young Children (reprinted from the *Edinburgh Medical Journal*). By W. A. POTTS, B.A., M.D., M.R.C.S. 3d.

Diet in Pregnancy (reprinted from the *Birmingham Medical Review*). By W. A. Potts, B.A., M.D., M.R.C.S. 3d.

Hints Towards Diet Reform, with 24 Simple Recipes; twentieth thousand. 2d.; fifty copies 5s.

Economical Dishes for Workers, with Useful Hints; fourteenth thousand. 1d.; fifty copies, 2s. 6d.

The following communication is typical of many. "What natty, handy little cookery books they are. Just what is needed."

The Medical Officer of Health for a Metropolitan Borough wrote: "I am much interested in *Economical Dishes for Workers* and will be glad if you will send me a dozen copies."

A County and School Medical Officer writes: "Thank you for your booklets, on which I hope I may congratulate you. They are most attractive to look at and, at any rate, to dip into. I should be very glad if you would send me a copy of your book, *Our Children's Health at Home and at School.*

A woman Assistant Medical Officer of Health and Assistant School Medical Officer, in ordering copies of *Economical Dishes for Workers*, asked for the price for quantities: "for distribution at the end of addresses given to working mothers on diet in connexion with the schools. They have proved to be in great demand, and the supply here is exhausted."

Heads of Settlements and other social workers have likewise testified to the value of this publication.

The Dietic Treatment of Inebriety—a postscript to the Departmental Committee's Report—with letters from the late Dean of Durham, Mrs Bramwell Booth, Sir Thomas Barlow, the late Dr J. B. Paton, Drs A. Haig and J. H. Kellogg. 3d.

Fifth Annual Report, 1913. 3d.

Questions to Parliamentary Candidates. 1d.

N.B.—In addition to its own publications, the Association stocks a large number of standard works on diet, cookery and health, including most of those referred to in this volume. List on application.*

* For a selected list, with prices, including postage, see *Our Children's Health at Home and at School*, pp. 455-7.—Ed.

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CAUTION

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ADDENDA

School Meals

The Liverpool City Council on October 1 rejected by 48 votes to 39 the proposal of its Education Committee to institute, at a cost of £3,500, a municipal cooking and distribution centre for the provision of meals for under-nourished school children. The meals are at present provided by contractors. It was contended that the food consisted of " slops," which were useless for building up brain, bone and muscle.

School Clinics

According to a recent published statement, the Bradford School Clinic, the first to be established in the country, is a very profitable investment. Its cost in 1912 was approximately £2,000, towards which the Government made a grant of £1,000. Through the Clinic ringworm has been stamped out, and this achievement alone has resulted in improved attendance, which has increased the attendance grant by £800 a year. Of the remaining £1,200, it is generally admitted that that has been more than liquidated by the general improvement in attendance of young children who have been treated for many other ailments. So satisfied are the Bradford Municipal Authorities with the results that the school medical and nursing staff has recently been increased fivefold.

Ignorance of Food Values

Professor Sims Woodhead in a recent letter says: " There can be little doubt that, taking it all round, we waste at least a third of the money that we spend in provisions—waste of nutrient material, bought with the hard-earned wages of our working class—and one cannot help feeling that the expenditure of this money on proper lines, so as to get its full food value, would lead to as great an improvement in future generations, as would result from a rise of a third in wages. . . . As the physiology of nutrition and the character of foodstuffs come to be better understood, there will be less demand for useless articles of diet and a very great demand for those that are useful in building up body and brain."

Continuation Classes

In *The Times* of September 22, Miss Margaret Llewelyn Davies, Hon. Secretary of the Women's Co-operative Guild, stated that the following resolution was carried unanimously at its last Annual Congress at Newcastle:—

"That this Congress welcomes the Government's proposal to deal with the question of national education and urges that the hours of work of young people between the ages of 14 and 18 should be legally shortened and a specified time each day be compulsorily devoted to their general and technical education."

Great weight attaches to this pronouncement coming from such a quarter. Miss Llewelyn Davies' letter, with its earnest protest against the suggestion of compulsory evening schools, deserves to be read in full.

A step in the direction advocated above was taken on October 6, when day continuation classes, which will be attended by six hundred of Messrs Cadbury Brothers employees, were opened (with the sanction of the Board of Education) at the Stirchley Technical Institute. Each girl or boy will be present one morning or afternoon a week, compulsory attendance at the evening school being proportionately reduced.

Railway Charges

"The cultivator," said Mr Lloyd George at Bedford on October 11, "must be assisted to get his produce to the market without paying excessive tolls to anyone and without unnecessary delay, difficulty and expense in collection. There must be improved and cheaper transport facilities for the bringing of produce to market and for bringing the material required by the tillers for their business on to the soil. And more especially, there must be an end put to the present system by which certain railway companies give undoubted preference to foreign produce."

Women on Committees

Speaking at Hampstead on October 8, the Bishop of Lincoln, after emphasizing the value of the work done by women on Boards of Guardians, School Boards and Education Committees, remarked: "I sometimes wonder that more women do not come on the governing bodies of our great hospitals."

INDEX.

PAGE

A

Aberdeen, Countess of xx, 258
Abernethy, Dr 2
Adults, food requirements of 200, 357, 370
Agricultural labourer, how family lives 337–346
Aids to Fitness 303–306
Air, value of fresh xxiii, xxiv, 94, 96, 113, 270
Aitken, Rev. G. H. 311–312
Albumen (*see* Protein)
Alcoholism, childhood and, 355–356
diet and 355–356, 445–448
Allen, B. M. 283
Anaemia 33, 88
causes of 317, 476
indications of 352
malnutrition and 350–352
Animal foods 45–46, 126, 216, 300, 311, 432
Anstruther, Mrs xix
Arden Press xlvii
Ardwell, Lord 318
Ashley, Professor W. J. 17, 449
Ashton, Miss Margaret 135
Assimilation, promotion of 214–216
Athletes, diet of 6, 134
Attendance Officer, functions of 14, 22
School Nurse as 83, 333
Atwater and Voit, standard of daily food requirements 280, 345, 357–359, 365, 370
Auden, Dr George A. xxiv, xlvii, 61, 350, 433–435, 437

B

Babies' Welcome Club 404, 407
Bacon xxiii, 101, 349
Baden, Grand Duchess of 195
Badger, Dr W. Spencer xxiv, 86–87, 136–145, 147, 150, 154, 156–157, 196, 327–328, 350
Barlow, Sir Thomas xlvii, 446
Baron, Miss E. M. L. 259
Barr, Dr William 351–352
Barwise, Dr Sidney 83, 329–330
Basle, provision for meals and clothing in Canton of 465–466
Bath, the daily 147, 151, 156
Bavaria, domestic subjects in 474–475
Beaconsfield, Lord vii

PAGE

Beans 10, 46, 111, 235, 343, 362 (*see also* pulses)
Beattie, Dr J. Walker 351
Bedfordshire children, diet of 337–346
Beef-tea 225, 272
Berlin, H.M Ambassador at xlvii, 472
Bermerside Residential Open Air School, Halifax 212–217, 222
Berne, H.M. Minister at 465
Birley House Open Air School, Forest Hill, dietary at 203–205
criticism of 223–224
life at 198–205, 221
Birt, Mrs L. 282
Biscuits 101, 105, 296, 305, 309
Black, Mrs Amy Walker 98–106, 125
Blake, Dr Victor J. 20–26, 64–66, 73, 326–327
Blount, Mrs Ethel xxvii
Boarded out children xxxiv–xl
Board of Education xxvi–xxvii, xxxviii, 3, 19, 98, 136–137, 141, 218, 492
Board of Trade, investigations by xxxiii
Booth, Mrs Bramwell 446
Boot clubs 323, 334
Boots (*see* Clothing and footgear)
how they may be repaired 140
Boys, cookery for 19, 165
domestic teaching for xxxiii–xxxiv, 94–95, 163, 165, 247
instruction in personal hygiene and helpfulness in the home 268–271
teaching of hygiene to 94, 96
Boys' Brigade, achievements of a 146
school, dietetic experiment at 279
Bower, Sir Alfred 133–135, 245, 457
Bradford Education Committee 7–15, 66–72, 177–180, 265–266, 366–384
menus and regulations 10–12, 67, 265–266
Bradford feeding experiment 366–384
analysis of meals 369–371
cost of meals 369
results 371–374
Brain, food and vi–ix, 432–433, 435
Branthwaite, Dr R. W. xxxvi, 231–235, 289
Bratt, Dr 356
Bread 8, 10, 44–45, 67, 100–101, 107–108, 118, 134, 170, 188, 436
absence of "vitamines" in white 101
and butter meals 107–108, 339–340, 351

PAGE

Bread, bleaching of 44–45, 360
excess of, in diet of wage-earning classes 100–101, 127, 436
home made 101, 108, 118, 170
Breakfast (*see* School Meal, Children's Home Conditions, Diet of the Wage Earning Classes, Diet of Country Scholars)
Breathing, defects and remedies 141, 144
evils of mouth 141, 294, 297
Broadbent, Albert 280
Brooks, Alfred 334
Brunton, Sir Lauder xxx, 4, 127, 324, 448
Bryant, Miss Louise Stevens 461
Brussels, school meal at 411
Burn, Dr Alice 148, 424–431
Burnett, Sir David, Bt. (the Lord Mayor) 1, 133–134
Burns, the Rt Hon. John (President, Local Government Board) xxxix, 49, 127
Burstall, Miss Sara (Head Mistress, Manchester High School for Girls) 194, 459
Butcher meat 101, 126
(*see* also Meat)
Butler, Miss Edith 186–191, 196
Butter, substitutes for 10, 130, 280
value of for children (*see* Fat)
Buxton, the Rt Hon. Sydney (President, Board of Trade) 128

C

Cadbury Bros xxx, 454–456, 493
Cadbury, Edward 449
Cadbury, George, Junior 456
Cadger, manufacture of 420
Caisse des Ecoles 412, 419, 463–465
Cake 52, 105, 107–108, 309–310
Campbell, Dr Harry 303, 308
Candolle, Auguste de (H.M. Consul, Geneva) xlvii, 466–467
Canteen Committee 11, 14, 24, 79
Capel, Lady Beatrice 211
Carbohydrates, excess of in Wage Earning classes' diet 44, 108, 127, 200, 341–343, 345–346, 365, 434
how to secure adequate amount in children's diet 8, 370
part of, in children's diet 198, 347–348, 358–361, 434
process of digestion of 131

PAGE

Care Committee 51, 53, 79, 93, 211, 326, 330, 393–396, 400–401
Workers, views of 47–54, 56–58
Carr, Miss A. B. xlvii
Case, Miss Janet xxvii
Central Care Committee 394–396
Cereals 10, 69
(*see* also Bread, Maize, Rice)
Cheese, neglect of 45–46, 101, 177, 216, 343, 348–349
use of, in cooking 10, 171
Chester, Mrs Amy 54–56, 152–154
Children, digestive powers of 131, 349, 353, 363, 432–435
(*see also* Malnutrition)
in good social circumstances, analysis of diet of 358–359
preventible disease in xli, 100, 102–104, 109, 123
(*see also* Dental Caries, Malnutrition)
rights of 16
town and country xxii-xxiii, 106–107, 112, 329
Children's Act, power of Local Authorities under 38, 391
appetites 10, 13, 30, 40–41, 227, 229, 234, 266–267, 282
baskets, contents of 105, 107–108, 341
clothing 424–431
(*see also* Clothing and Footgear)
Children's diet, attempts at standardization of 61, 67, 73, 220, 280, 358–361
importance of vii–ix, 104, 186–187, 225–226, 440
influence of suggestion on 128
need for variety in xxi, xxxvi, 11, 63, 65, 342
Children's Dinner Table Movement, origin of 2
Dinner Table Society, Glasgow 38
food requirements ix, xxi, 8–10, 61, 67, 192, 280, 338–346, 348–349, 356–361, 368–371, 436
garments, repair of 139
health, factors in 212
home diet and conditions xxi–xxii, 17, 49, 54–55, 59, 67, 76, 91, 98, 178, 247, 249, 350, 368
tastes xxi, 52, 63, 67, 69, 215, 233–234, 314, 351
Children's weight 66–67, 202, 212, 337, 372
school meal and 406–407
Chittenden, Professor R. H. 357
Chops 171, 312
Clark, Sir Andrew 311
Classes, size of 57, 181

PAGE

Class-rooms, heating of vii, 331–332, 348, 434
Cleanliness, connexion between physical and mental 209, 212
lack of 42, 56, 138–139, 143, 149–150, 153–155, 157, 417
obstacles to xxiv–xxv, 147, 155
powers under the Children's Act 150
remedies for lack of 139, 149–150, 492
results of absence of 23, 143
Cleansing stations, London County Council Scheme 143
Clive, R.H. (H.M. Chargé d'Affaires, Berne) xlvii, 467
Clog Club 405
Clogs 330
Clothing and footgear, connexion of defective, with disease 323–324, 331–334, 405
defective x, xxvi, 323–336, 471
how defects are dealt with in London 325–326, 412, 416
how to secure reform in 90–91, 429–430
influence of defective, on school attendance 323, 330
methods in Canton of Basle 466
methods in the Canton of Geneva 467
methods in Paris 415–419
methods in Zurich 471
Mr Seebohm Rowntree's suggestions xxvi–xxvii
Paris and London methods contrasted xxvi, 421–422
Poor Law children and 323, 334–335
powers and duties of Scottish Education Authorities 38, 391–392
remedy for defective xxxii, 328, 330–331, 335, 422, 463–464
repair of 139–140, 153, 269–270, 329–330
School Nurse and defective 328
Teacher's efforts 55, 330
Clothing, education and 4, 16
effect of unsuitable, on health 425–426, 430
lessons in purchase and repair of 152–153
of school children, faulty methods of 330–331, 335–336 426–427
physical defects and 426
Clothing reform 424–431, 456
some practical suggestions 425, 430–431

PAGE

Clothing, what Education Authorities might do 430
Clothes, lack of facilities for drying 332–333
Cocoa 46, 116, 118, 368
Cod liver oil 41, 44, 282
Coffee 46, 277
effect of, on children 118
Cold, Benjamin Franklin on cause of a 189
Collie, Dr R. J. 76
Collins, Sir William J. x
Combined domestic centre, instruction at 170–171
Committees, need for women on xxxviii–xxxix, 245, 493
Compulsory school attendance and its consequences 82, 106, 109
criticism of existing law 333–334
Condiments 305
Conference, proposed further xlvi, xlvii
Continental artisans, diet of xxxiii, 227
Continuation classes, case against evening xxx, 173–174, 184, 450–451, 493
case for day 172, 175, 180–181, 493
compulsory attendance at xxix, 179, 184, 449–456
Cookery at home and abroad 193
centre and home xxx, 178, 180, 182
centre and school xxx, 178, 182–183
classes for adults and mothers 42, 180
compulsory teaching of 110–111, 314
English and Continental methods contrasted ix–x
existing methods of teaching criticized ix–x, 19, 103, 109–110, 168, 174, 310–315
ignorance and decay of xxix, xxxix, 143, 312, 317
practical methods of teaching 161, 168, 452, 454, 476–477
suggested reforms in teaching 19, 103, 314, 342, 346
teaching of ix–x, xxxi, 19, 42, 57–58, 161, 170, 271–273
teaching of, in Germany 313–314, 472–477
The Times on ix
Cookhouses xxiii, 116, 121
Cooper, Sir Edward 1, 2, 245
"Cornwall" Training Ship, dietary scale 278
Country Children, breakfast of 107, 115, 339–340
evening meal of 118, 370–371, 383–384

PAGE
Country children, main source of food of 339
midday meal of (*see* Case for provision of)
Country holidays for town children 464–465, 467
Country scholar, diet of xxii–xxiii, 98, 106–133, 337–349
Country school curriculum, criticism and suggestions 109–111
Coventry Girls' Industrial School, dietary and notes on 279–282
Craftsmanship, value for character building 166
Crewe, the Earl of xii, xxix
Crichton-Browne, Sir James 432
Crowley, Dr Ralph 7, 259, 363, 366–384
Cuff, Miss Marian E. vi, xxx, 7–15, 51, 66–71, 177–180, 363, 366–384
Cunningham, Professor D. J. 114

D

Daily Telegraph, medical correspondent of xlii–xlvi
Dakers, A. W. 259
Davies, Dr Sidney 225–227, 246
Day industrial schools 230–231
meals at 39–41, 289
Delcourt, Dr A. 355–356
Denne Denne, Mrs Mabel H. 58, 183, 195
Dental Clinic 103, 113, 123, 403–405, 408–409
case against 124–125
case for 403–404, 408–409
Dental decay, causes of 125, 295
diet and 100, 125, 302–305, 309
extent and consequences of 102, 299, 315, 321, 338
lecture to teachers on 294–300
rules for the prevention of 301–306
Dental hygiene, promotion of 140, 144
Derbyshire Education Centre, exhibit at Guildhall from 268–271
Dietary, advantages of a varied 68, 316–317
importance of a balanced 8, 61–62, 67, 162, 356–361, 369–370, 433
non-flesh, for children 6, 9, 279–282
Diet, changing views on children's 6
errors in babies' 59, 129
health and 279, 347
John Locke on Children's 6
of agricultural labourer's family, comparison with Glasgow artisans 345–346
oral hygiene and (*see* Oral Hygiene)

PAGE
Diet, physical efficiency and vi–ix, 2, 310
self-cleansing 294, 296, 300–305
Sir Henry Thompson on children's 6
Temperance workers and 445–448
Dietetic ignorance, no class monopoly 104
Dietetics, doctors and xxxi, 6, 180, 182–183, 248
neglect of xxxi, xlv–xlvi, 248, 308, 358
recent discoveries in xlv, 183
Dietician, career of 457–459
" Dinner for Toddlers " 60
Disease, Florence Nightingale on x
preventible methods in xli, xlv (*see also* School Meals and Oral Hygiene)
Doctor and teacher, relations of 444
and dentist, differing views of 126, 130–132
Domestic catering, teaching of 161, 170–171
Domestic subjects, boys and (*see* Boys)
compulsory instruction in xxx, 475–476
existing methods criticized xxviii, 162, 174–175, 177, 182, 184
experiments in teaching of 162–163
instruction in continuation school 474–475
London's special problems 160–166, 182–183, 271–273
place in curriculum xxvii, 158–159, 165
practical instruction in 273
suggestions for reform in teaching xxix–xxxiii, 162, 175, 177–179
teaching of 94, 158, 185, 268–273
teaching of, in country schools 109–110, 167–176, 473
teaching of, in Germany 472–477
teaching of in New York City 165
teaching, where co-operation is required 177–178, 182
training and status of teachers in Germany 472–477
Dripping iv, 348
Drury Lane Industrial School, dietary at 289–290
Dukes, Dr Clement xxxiv, 63, 188, 263
Durham, Dean of 448
Durham, mining villages, diet in 98–106

PAGE

E

Eastwick, Miss 211
Eating, intemperance in 310, 351
Edinburgh School Board, policy and methods of xxi, 390–402
Edinburgh School dinners, composition and cost 364
Educational system, criticism of xxviii–xxix, 90–91, 95–97, 174, 450
Education, Athenian ideal of 439
Authorities, exhibits at the Guildhall from 265–277
Bill, the coming xi–xii, xix, xxvi, 172, 493
corpus vile view of 439
health and vi–vii, 438
physical basis of vi–xii
practical methods in 92, 96–97, 158–159, 273
Education (Provision of Meals) Act, Amendment Bill 81, 98
Education, scope of vi, 81
Education (Scotland) Act, 1908 37–42, 119, 390–402
powers and duties of Education Authorities under 37–42, 390–402
Edwards, Dr A. D. vii
Eggs 107–108, 216
Ehrlich, Professor Paul 183
Eichholz, Dr A. 76
Electors, neglected opportunities of 322
Elliot, Miss A. I. M. 47–51, 71–72
Ellis, I. xxxvi, 230–239, 279–280
Elliston, George S. xlvii
Emerson, R. W. vi
Employees, classes for 449–456
dining rooms for 453–454
domestic training for 179–184, 449, 451–452, 454, 456
health standard for 455
English wage-earning classes, diet of 307–311
Experiment Stations, U.S.A., Office of xxxii–xxxiii

F

Family, food requirements of 365, 369
incomes in West Riding 169
school and State xi
Fat, forms in which it may be taken 348–349
importance of, in children's diet 8, 44–46, 62, 67, 108, 127, 189, 198, 200–201, 216, 341–343, 345–349, 360, 365, 369–371, 433–434
Feeding and care of school children, advice regarding 46–47, 276–277
Feeding, improper xxii, 307, 351–353
Ferguson, Dr 118
Finch, Dr George xxiii, 106–112, 130
Fish 46–47, 115, 117, 216
Fisher, Professor Irving viii, 303, 317
Flannel clubs 331
Fletcher, Dr Duncan 320–321, 335–336, 353
Fletcher, Horace 304
Flour 101, 294
bleaching of 44
use of "improvers" 45
Food and cookery, English and Continental methods contrasted 227, 312, 316
English and German methods contrasted 313–314
Food, four classes of 369
importance of vii–ix, 459
lack of facilities for storage xxix
need for variety in 63, 65, 113, 263, 316–317, 433
physical and economic influence of vii–viii, 3, 317
ready cooked 62, 103
waste in home 134, 214, 311, 316
Foods, cheap and nourishing 45–47, 310–311, 362
cleansing (*see* Diet)
selection of vii, 8, 114, 216
starchy 294, 300
sugary 294, 300
Food Values, ignorance of vii–x, xxxi, xxxiii, 130, 311–312, 316–319, 342–343, 362, 395, 449, 478, 492
instruction in 162, 171–172, 313, 346, 475, 477
Footgear, 55–56 (*see also* Clothing and Footgear)
where dispensed with 334–336
Forsyth, Dr David xl
Fothergill, Dr 272
Foulerton, Dr Alexander 112
France, provision for meals and clothing in (*see* Paris)
Franklin, Benjamin 189
Franks, Miss F. xlviii
French Naval Officers, visit of 156
Freud, Professor 110
Froebel, F. 129
Fruit 8, 10, 47, 118, 189, 216, 233, 305, 316, 447
railway charges on 124, 128, 493

G

Gardner, Dr Josephine 352
Geneva, provision for meals and clothing in Canton of 466–467

PAGE

George, The Rt Hon. D. Lloyd (Chancellor of the Exchequer) 493
German Imperial Foreign Office xlvii
Germany, domestic subjects in 472–477
  Open Air Schools in 196
  school meals in 80
Girls' Club, an Essex school, dietetic experiment at 279–282
  wages, problem of 152
Glasgow School Board 37–47
Godwin, Lady 9, 375
Godwin, Sir J. A. 8, 366, 375
Goldman, Professor 183
Gordon, Miss Catherine R. xxiii, xxvii, 158–166, 182–183
Goulding, Miss S. 279–282
Gouty children, special dietetic requirements of 360
Graham, James 179
Grant, Miss Clara 314–315
Green, F. 201, 221
Guest, Dr L. Haden xix, 26–37, 47, 50, 71–73
Guildhall School Conference (first) xix, 194, 233, 248
  The Times on 304
  report of 481–487
  (second), apologies 258–262
  list of members 253–258
  Local Education Authorities and 3, 265–267
  scope of xix
Guildhall School Conferences, burden of 135, 249–250
  H.M. the Queen and xlvi
  impressions of Second 247–249
  timeliness of xix

H

Haddow, Martin xlvii
Haig, Dr Alexander 240, 446
Haldane, Viscount (the Lord Chancellor) xi–xii, 258
Half-timer, problem of xxx, 169, 173–175
Halliburton, Professor 361
Hamer, Dr W. H. 143
Handkerchiefs, regulations concerning 139, 316, 418
Handwork, educational value of xxvii
Haweis, Rev. H. R. 103
Hayes Industrial School, dietary, scale of diet and time-table 232–234, 237–238

PAGE

Health and Education Committees, need for co-operation 177
  centre, co-operation with Nursing Association 408
  parental responsibility for xliv-xlv
  state of national 106, 307–321, 442–443
Hecht, C. E. 127–128, 193–195, 222
Hedger, Dr Caroline 174
Henderson, Dr John M. 239–242
Herdman, Dr Ronald T. 337–346
Herrings 115, 313
Hill, Dr E. 435
Hill, Professor Leonard vii, 101
Hitching, Miss Willena 91, 259, 268–271
Hobson, Mrs Florence 314
Hogan, Miss K. 58
Holidays, school meals in xxii, 8, 33, 38, 62, 65–66, 81, 83, 85, 373, 411
Holme, D. O. 217–220
Home and Centre, co-operation between 178–179
  diet, a recent Glasgow investigation 42–44, 318, 345–346
  reform in xxxiv
  the school as agent for xi, 71, 79, 137, 143, 145
Homemaking centre, teaching at 167, 171
Hopkinson, Sir Alfred 312–313
Horsfall, T. C. 5
Hospital Matrons, Conference of 194, 459
Hospitals, criticism of food in 459
  waste in 457
Hours of work 147–149
Housekeeping, teaching of 273, 346 (*see also* Domestic subjects and Domestic catering)
Housemaster's wife, letter from 247
Housewife, education of 174–175, 475–478
  position of xxvii
  the overburdened xxviii, 62, 102–103, 121, 154–155
Housing problem xxix, 147, 151, 157
Hugo, Victor 2
Hutchison, Dr Robert ix, xxxi, 8, 10, 44–45, 69, 118, 127, 130, 188, 240, 272, 280, 314, 435
Hygiene and physiology of sex, teaching of xxvi, 148, 152
Hygiene, compulsory teaching of xxv
  definition of x
  encouraging results of teaching 147, 154, 157
  importance of personal influence and environment in teaching of 146

PAGE

Hygiene, indirect teaching of 135, 154, 190, 415–416
methods of a pioneer 137–138
policy of Local Education Authorities criticized 142–143
practical methods of teaching 152, 154
scope of teaching 443
suggestions for teaching 428–429
teaching of x, xxiii, xxxi, 91, 268, 451–456
teaching of self-respect to girls x, 146, 416
teaching of, to town children 136–145
the teacher's opportunity xxiv, 138, 153–154, 438–444
theory and practice xxiii–xxiv
training of teachers in xxxvii
why teaching fails 136, 145–147, 152–156
Hyndman, Mrs 2

I

Ill-health, economic results of vii, viii, 248
improper feeding and 88, 309–311 (*see also* Malnutrition)
in childhood, consequences of neglect viii–ix, 82
prevention of x, 4
Impey, Mrs E. Adair x
Improper feeding of children, responsibility for 91
Infant schools, suggestions for reform xxii, 31, 57
Infant, special requirements of 33, 69, 129
Institutional adviser, a travelling 195
Institutional catering 187, 247, 459
effect on staff and inmates 193
Institutional housekeeping, a new career for women 457–460
existing methods criticized xxxvi–xxxvii, 457–459
in the United States and Canada 192–193, 457–459
King's College for Women and training in 195
The Times on its scope xxxviii–xxxix
training in xxxviii, xxxix
Institutional kitchen, hygiene in 190–191
Institutional life, problems of xxxvi
Institutions, advantages of a varied diet in 191–193, 243
clothing in 190, 240

PAGE

Institutions, cookery in 234–235
dietaries in 240–241, 278–292
diet in 232–235, 264, 458–459
discretion allowed to housekeepers 283
educational and social side of meals in xxxvii
exhibits at the Guildhall relating to 278–292
floor and air space in 240–242
fruit and salad in 281
Government inspection of xxxvii–xxxviii, 231
health records in 191, 232
heating of dormitories in 231, 239
hours of meals in 278, 280, 282, 290
hygiene in xxv, 137, 189–190, 214–215, 231–232, 240
medical inspection and dentistry in 232, 240, 244
nature of meals in xxxvii, 187, 233, 240–241, 281–282
official criticism of diet in xxxvi–xxxvii
physical education and games in 232, 240
service of meals in xxxvii, 192, 215
supervision in 191, 215, 240–241, 263–264, 282
time allowed for meals 290
ventilation in 231, 239–240
waste in 457–458
Intemperance, diet and 445–448 (*see also* Alcoholism)
results of xliv
International Medical Congress, some conclusions of xlii–xlvi
Inverness-shire (mainland), diet in 112–121
Irish wage-earning classes, diet of 316–317
Irons, Miss Gertrude xxviii–xxx, 167–176, 184

J

Jam 44, 100, 105, 127, 132, 189, 309–310, 371
James, Warwick 130
Jamieson, F. R. 109
Jaws (*see* Teeth, Jaws and)
Jessop, Dr 272
Johnstone, Vice-Admiral C. 87–88, 123
Joints, cooking of 189
Jones, W. H. 100
Jowett, Alderman 81, 98

PAGE

K

Kekewich, Sir George 1–7, 35, 73–74
Kellogg, Dr J. H. 446
Kelynack, Dr T. N. xlvii, 4, 259
Kerchensteiner, Dr 5
Kerr, Dr James 433
King, Dr 353–354
King, Mrs Maude E. xxvii
Kitchen, co-operative 103
hygiene in 190–191
Kitchin, Dean 445–456

L

Labourer's wife, budgets of 343–346
Ladd, Professor 361
Lang, Dr Gordon xxii, 112–121, 131–132, 334–335, 353
Langworthy, Dr C. F. 188
Lawrence, the Hon. Maude (Chief Woman Inspector, Board of Education) xxviii
Leaving age, proposed raising of 172, 174–175
Leigh, Lord 445
Lentils 46, 122, 235, 343, 362
(*see also* Pulses)
Lever Bros. 456
Lincoln, Bishop of 493
Lindsay, Miss Dorothy xxxii, 42, 46, 318
Litchfield, Frederick 448
Liverpool Sheltering Homes dietary at 282
Living, cost of xxxiii, 11, 319
Llewelyn Davies, Miss Margaret 493
Locke, John 6
London, Bishop of 448
London County Council 26–37, 51–53, 151, 158–166, 182–183, 196–212, 411–424
boots and clothing under 325–326
Clerk of xlvii
exhibits at Guildhall from 267, 271–273, 283–290
the Education Officer of vi

M

Maberly, Gerald C. xix, 95–97
Macaroni 52, 122, 314, 414
Macdonald, Dr John 117
Macdonell, Sir John xi
Mackenzie, Dr W. Leslie vii, xli, xlvii, 258–259
Mackenzie, Mrs Leslie 259
Mackenzie, Professor Millicent xxi, 15–20, 26
Macmillan, Miss Margaret 214

PAGE

McWhan, Dr Andrew 319
Maize 69
Malnutrition, nature, causes and extent of xxii, 4, 27, 31, 72, 82–83, 100, 113, 319, 338, 347, 349–350, 355, 361, 385, 395
consequences of 349, 353
improper feeding and 21–22, 106, 354
indications of 349–350, 352
lack of sleep and 355
poverty and 86–87, 350, 424
school meal and xxi, 351
threefold classification of children 27, 338–339
tuberculosis and xxi, 349
Mangold, F. 465
Manual instruction, London County Council policy 160
Margarine 10, 130, 313
Marketing, faulty 45–46, 310–311, 346, 449, 478
teaching of 162, 273
Marmalade 115–116, 189
Marriage, Ernest 132
Marriage, preparation of employees for 449, 451, 454
suggested examination prior to 5
Martineau, Councillor E. 128
Mastication, health and xxii, 2, 23, 115, 214–215, 293–305, 361, 414
Mather, Sir William vii, xxxv
Matheson, Miss M. Cecile xxxiii–xxxiv, 90–97, 165, 424
Meals, drinking at 11, 47, 70, 216, 293, 298, 305, 419
drinking between 280, 305
eating between 190, 215, 298, 300–301, 305
ending of 177, 294, 300–305
open air 67, 109, 196, 206
Meat 6, 9–10, 47, 101, 107–108, 111, 122, 131, 171, 177, 192, 228, 305, 307, 311, 317, 360, 371, 414
pies 31, 108
Medical education, American Medical Association and xli, xlvi
existing curriculum criticized xxxi, xli–xlii, xlv–xlvi
Medical Inspection and Feeding of Children, Interdepartmental Committee on xxii–xxiii, 78
parents and 325, 328
results of vii, 84
Medical profession and the public xlii–xlv
changing views of xli–xlii
Meikle, Dr Hally 349–350
Mentally deficient children, special schools for 208–209, 211–212

PAGE

Metchnikoff x
Meyer, Lady xxiii, xlvii, 59–62, 73, 121–124, 127, 131, 180–182, 403–409
Midday meal of country scholars, provision of, an Essex experiment 121–122, 406–407
case for xxii–xxiii, 17–20, 55, 105, 107, 109, 111, 122, 130, 173, 309, 329, 341, 348, 406–407
menus at Newport, Essex 273–274, 407
methods in Inverness-shire 116–117, 121
open air dining room for 109
parents' share in 111, 117
pupils' part in 19–20, 111
results of an Essex experiment 122, 406
scope of an Essex experiment 122
teaching of cookery and xxx–xxxi, 19, 109–111, 212
Midday meal, town and country problem contrasted (*see* Children, Town and Country)
Midday rest, a Birmingham experiment 61
the 61, 201, 215
Milan, school meal at 411
Milk 10, 46, 51, 56, 58, 107–108, 115, 187, 192, 340, 360
as a food for adults 125, 130–133
as a food for children 124–125, 131, 215
care of 188, 191
need for legislation xliv, 124, 127, 130
pudding 30, 46, 171, 217 (*see also* Puddings, Rice and Suet Puddings)
scarcity of xxii, 124, 127, 339
Milligan, J. C. (H.M. Vice-Consul at Zurich) xlvii, 467
Miners' Eight Hours Act xxviii, 102
Mining villages, children's diet in 98–106, 352
Monro, George 128
Montessori methods 57, 63, 201
Morris, Edgar xlvii
Morton, Dr E. J. 196–205, 223–224, 228–229
Mothers, advice to 46–47, 276–277
diet for young 176
education of 59–60, 407
heroism of 55–56, 154–155, 415
ignorance of 59, 73, 176
lectures for 54
Motion, James R. 239–242
Munich, educational methods in 5
school meat at 411

PAGE

Murray, Dr 319
Murrell, Dr Christine M. 205–212, 227–228

N

Napoleon I 2, 272
National Food Reform Association, appeals to 61, 124, 181
Banker's Order form 490
conditions of membership 480
form of bequest to 491
Joint Matrons and Schools Committee of xxxviii, 194, 457–460
Matrons Committee of 194, 457, 460
membership form 489
objects and methods 479–480
organ of 480
publications 481–488
Registry Office 479
Schools Committee of 194, 243, 251–252, 263, 303, 457, 460
National Insurance Act 105
Necessitous children (*see also* School meals for Town Children) 55
Newdigate, Bernard xlvii
Newman, Sir George ix, 20, 83, 86, 98, 138, 300–303, 308, 349
Newport, Essex, Health Centre 121–124, 273–274, 403–409
Nicholls, W. A. xxi, xlvii, 62–64, 75–84, 89, 150–151, 157, 245
Nightingale, Florence x, 403, 438
Niven, Dr James 127
Norwich Open Air School 217–220
Nut butter 10, 280
Nutrition, existing standards questioned 212, 337
factors in 212, 225–226
weight and 212, 350
Nutter suet 10

O

Oatcake 117
Oatmeal 43, 46, 343, 362, 447 (*see also* Porridge)
Oliver, Dr James 74
One school one meal xxx–xxxi, 18
Open air life, effect of 196–198
Open Air School, duration of 201, 220–221
Halifax experiment 213, 222
Open Air Schools, case for xxxiv, 198 202, 219, 347

PAGE
Open Air Schools, cost of dietary 218–220
dietary 41, 67, 203–205, 275
diet at 196, 198, 218–219, 275
diet, cookery and hygiene in 196–205, 217–225, 228–229
influence on ordinary schools 219–220
policy of Local Education Authorities xxxv, 222
provision in London 196–205, 221, 228–229
results of 198, 202, 219
selection of children 198, 213, 219
Open Air Schools (residential), case against 228
case for xxxv–xxxvi, 212–215, 221–222
diet, hygiene and cookery in 212–229
educative influence of 217
results 215
Oral hygiene xxi, 23, 30–31, 52, 144, 214, 263
(*see also* Diet, Self-cleansing)
doctors and 130
principles of 222–229, 293–305
Orr, Dr Thomas 120, 325
Oswald, C. (H.M. Vice-Consul at Basle) xlvii, 465–466
Oxley, C. 243–244

P

Palmer, Miss M. S. V. 276
Pampering, malnutrition and 351, 354
Parental ignorance 54–55, 90–92, 95, 108, 113, 121, 129, 186, 214, 319, 335–336, 350, 361, 426–428
remedy for 5, 9
Parental neglect 68, 79, 143, 150, 154, 329
powers under the Children's Act, 1908 38, 391
Parental responsibility 14–16, 35, 57, 60, 71, 77–79, 86, 110–111, 145, 156, 228, 391, 393, 396, 413–415, 420, 422–424, 464, 466
Parent and Local Education Authority, relation of 79
(*see also* School and Home)
Parents, lectures to 59
(*see also* Mothers)
methods towards negligent xxii
Paris, H.M. Ambassador at xxi, xlvii, 463
methods in 16, 51–53, 79–80, 410–424, 463–465
Parliamentary Candidates, questions to xxix–xxx, xxxii, 127
Committee on Food Reform 127
PAGE
Parsons, Dr C. T. xxxvi
Pastry 10, 47, 108, 187, 189, 309
Paton, Dr J. B. 445–446
Paton, Professor Noel viii, xxxii, 8, 318, 345
Peanuts 279–282
Pearson, J. C. 258
Peas 10, 43, 46, 111, 235, 343, 362
(*see also* Pulses)
Pease, the Rt Hon. J. A. (President, Board of Education) xi, 84, 98, 258
Peasmeal 46, 343
Peck, J. W. 390–402
Penny dinners (*see* Midday meal for country scholars, provision of, an Essex experiment)
Petty, Miss Florence 128, 154–155, 227, 403, 405–406
Physical degeneracy, extent of 7, 98, 105
Deterioration, Inter-departmental Committee on 75–76, 82, 84, 446
Physically defective children, meals for 37, 39–41, 205–207, 211
special schools for 205–208, 210–211
Physical training 232, 240, 426, 431, 451–455
Playground classes in London 221
Plothow, Mrs A. 475–477
Plowright, Miss 273
Poor Law children, teeth of 102, 240
institutions, diet, cookery and hygiene in 239–242
Poor Laws, Royal Commission on 49, 57, 87, 89
Pork pies 47, 277
Porridge 46, 115, 125–126, 132, 187, 353–354, 367–368
pot, decay of 318–320
Portsmouth Education Committee 20–26, 64–66, 72, 274–275, 326–327
Potatoes, cooking of 294, 313
excess of, in working class dietary 127
Poverty or ignorance xxii, 214, 428, 478
(*see* also Poverty, problem of)
problem of xxix, 53, 89–90, 96, 144–145, 164, 181, 184–186, 312, 339, 346–347, 361–362, 371
Power, Miss R. O. 192–193, 195
Prices, rise in xxxiii, 11, 319
Pritchard, Dr Eric xxxiv
Prosser, W. H. 165, 188
Protein 8, 44–46, 67, 162, 311, 345–346, 360, 369–370, 433–434
animal and vegetable 45–46, 310–311

PAGE

Protein, importance of in children's diet 8, 44, 108, 127, 131, 200, 341–346, 357, 434
Provision of Meals Act, a Durham County experiment 99–100
administration of 74, 362
object and significance of 20–21, 27
powers of Local Education Authorities under 77–78
suggested amendment of 79, 82, 85
Prussia, domestic subjects in 472–474
" Pudding Lady," the (*see* Miss Florence Petty)
Puddings 13, 118, 122, 189, 217
(*see also* Milk and Rice Puddings)
Pulses 46, 177, 447
(*see also* Peas, Beans, Lentils)
Pure food, importance of 44–45, 360–361
Pycroft, Miss Ella 135–136, 156–157, 184–185

Q

Queen, H.M. the xlvi, 303

R

Rainey, George xxi, xxvi, 51–54, 410–424
Rathbone, William 211
Reddie, Dr Cecil xxiii, 148, 425
Reformatory and Industrial School dietary, Home Office and xxxvi, 234
Reformatory and Industrial Schools, class of children 230–231, 243
Day, *see* Day Industrial Schools
Departmental Committee on xxxvi–xxxvii, 243–245
dietary, food allowance at 40–41, 283–289
dietaries in 237–238, 278–282, 283–290
diet, cookery and hygiene in xxxvi, xxxvii, 230–245
dietetic experiments at 233, 234, 279–282
results of 236–237, 244
Retardation, problem of 236, 243–244
Rice 10, 46, 68–69
pudding 52, 55, 63, 68–69, 73,
unpolished 73–74
Rickets, causes of 43–44, 308
Roberts, Dr Ernest T. 37–47, 328–329
Robertson, Miss M. E. 460
Rollier, Dr 197

PAGE

Roosevelt, Theodore 303
Rose, Dr Frederick xxxiv
Rosebery, the Earl of xxiv, 317
Ross, Dr Maxwell 352
Rousseau, J. J. vii
Rowntree and Co. xxx, xlvii, 450–454
Rowntree, B. Seebohm xxvi, xxxii, 45, 310–311, 371, 449
Rubner, Professor 478
Runciman, the Rt Hon. Walter (President, Board of Agriculture) xxxii–xxxiii, 128
Russell, Charles E. B. xxv, 258
Russell, the Hon. Mrs Bertrand 448

S

Sadler, Dr M. E. 259
St Catherine Press xlvii
St Jude's Home for Girls, Selhurst 191–192, 290–292
Sainte Croix, Mme Avril de 423
Salad vegetables 187, 233
Salop County Education Committee, exhibits at Guildhall from 293–300
Salts, mineral 8, 280, 358, 364, 369–370
Sausages 47, 171
Savarin, Brillat vii
Saxony, domestic subjects in 475
School and home xi, xxxi–xxxv, 9, 57–58, 70, 90–97, 145, 147, 175, 177–179, 182, 185–186, 366, 406, 415, 417–418, 441–442, 462
School baths, case for xxiv–xxv, 151, 157, 209, 212
London County Council and 151
School children, health of 84, 443
insurance and pension scheme for 464
posture of 141, 144, 148, 427
suitable foods for 276–277
unsuitable foods for 277
School Clinic 21, 23, 403, 492
as a profitable investment 492
School for mothers 60, 407
heating, consequences of defective vii, 331–332
leaving age xxix–xxx, 97, 174, 180–181
School meals for under-nourished town children ix, xx–xxii, 1–74, 432–437
anæmic scholars and 33
a neglected opportunity 11
attendance officer and 25
a Bradford experiment 7–9, 366–384
a twenty-four hours' dietary 67

PAGE

School meals for under-nourished town children, breakfast, experiments in 368, 437
breakfast menus 8, 11, 40–41, 99, 275–276, 376, 388, 435–437, 465, 468
breakfasts 11, 30, 276, 367–368, 375–376, 384, 388, 433–437
case against xx, 29–30, 47, 49–50, 64, 79, 83, 87, 410
case for ix, xxi, xxx, 4, 15, 34–35, 60, 71, 73, 76–77, 81, 86, 410–411, 432–437, 461, 468
case for one-course dinner 357, 363
children's part in xxi, xxiii, xxxi, 19, 57, 152–153
conditions of success xxi, 26, 29, 80, 362, 374–375, 433–434
conflicting views reconciled 72
cookery instructress and 8–15, 31, 366–368
cookery teaching and xxx–xxxi, 31, 58, 163, 212, 385
cost of food 9, 11, 40–41, 273–276, 364, 385–389, 414, 463, 466–467, 471
dietetic experiments 7–9, 358–360, 366–384
dining room regulations xxii, 13, 53, 68, 264–267, 416–418
dinner menus for 9, 11–12, 40–41, 99, 203–205, 210, 265, 274–276, 363–364, 375–384, 388–389, 467
Dr Chalmers Watson's investigations 356–365
drinking utensils at 11, 13, 30, 53, 70, 421
duties of monitors at 13, 29, 58, 69–70, 265–267, 367, 374–375
existing methods criticized xx–xxii, 4, 30, 53, 62, 64, 85, 177, 263, 414, 421, 432–433, 436
head teachers' views 54–56, 58, 62–63
housekeeper's point of view 7–15, 66–71
how far an educational function 75–89
inadequacy of voluntary effort 77, 83, 85, 414
in holidays (*see* Holidays, School Meals in)
Lambeth experiment 31–33
Local Education Authority and xx, 22, 35–36, 66, 79, 83
malnutrition and xxi, 435
methods in Bradford 7–15, 19, 30, 66–71, 104
methods in Canton of Basle 465
methods in Canton of Geneva 466–467

PAGE

School meals for under-nourished town children, methods in Germany 80
methods in Glasgow 37–42
methods in London 28–37, 48, 51–58, 72–73, 385–389, 421
methods in Paris xxi, 16, 52–53, 79, 411, 414–419
methods in Portsmouth 20–26
methods in Zurich 467–471
nature of food xxi, 9–12, 30, 40–41, 52, 62, 67, 69, 414–417, 421, 432–437, 469–470, 492
number of children in need of 10, 385, 393
numbers at 64, 385, 393, 471
oral hygiene and (*see* Oral hygiene)
organization of 9, 12, 19, 22, 24–25, 39, 65, 397–400, 463, 469–470, 492
parent and 35, 60, 437, 469 (*see also* Parental Responsibilities)
Paris and London methods contrasted 51–53, 410–424
Paris teachers' views 423
paying and non-paying parents xxi, xxxi, 11, 16, 29, 39, 79–80, 374, 463–466, 468–470
place of 18–19, 39, 67, 374, 385, 397–399, 434, 469
Poor Law aspect (*see* Case against)
Poor Law children and 399
precautions against waste at 13, 266
problem of chronic cases 50, 63
provision for secondary pupils xxi, 399
quantity of food (*see* Children's appetites)
results of 7, 14, 17, 31–33, 36, 41, 65, 72, 365, 371–374, 417, 462, 470–471
School Medical Officer and xx, xxx, 20–26, 27, 29, 38, 64–66, 104, 351, 395, 399
School Nurse and 23–24, 26
selection and classification of children xx, 4, 8, 14, 17, 21–22, 28, 35, 39, 64, 66, 78–80, 366, 395, 412–413, 468–469
service of xxii, 13, 19, 29, 67, 85, 88–89, 266-267, 386–389, 414, 421 463
sick scholars and 33, 64, 469
social and educational value of xxi, 13, 15, 17–20, 30, 36, 58, 74, 80, 84, 87–89, 227, 367, 374, 397–399, 462

PAGE

School meals for under-nourished town children, special requirements of infants xxii, 13, 31, 33, 36, 52, 57, 58, 69–70, 266, 375, 387–389
suggested extension of xxi, 4, 50, 79, 98, 104–105
suggested reforms xx–xxii, 15–16, 26, 29, 34, 37, 57
supervision of xxii, 13, 18, 20, 25, 29, 36, 58, 69–71, 265–267, 367, 374–375, 399–400, 414, 420, 463, 469
teacher and 13, 18, 22, 29, 35, 65, 71, 265, 374–375, 420, 463, 469
tuberculous scholars and xxi, 435
two courses at 8, 30, 368–369
variety at xxi, 11, 63, 65, 234, 263, 387, 433
voluntary helper and 18, 25, 65, 104, 395, 463
(*see also* Care Committees and Canteen Committees)
School meals in country districts (*see* Midday meal for country scholars)
School premises, insanitary conditions in xxiv, 142
Scottish and English Law contrasted 119
Education Department and continuation schools 175, 184
wage-earning classes, diet of 42–46, 317–321
Secondary Schools, meals at 16–17, 60
Sense training, educational significance of 158
Sewing Guild, a 153
Sex, teaching of hygiene and physiology of xxvi, 148, 152
Shaw, G. Bernard 164
Sheffield Education Committee, exhibit at Guildhall from 275–276
Shoreditch Technical Institute, Domestic Economy School, exhibit at Guildhall from 273
Shower bath installations xxiv–xxv, 151
Shrewsbury, A. K. 61
Sinclair, Dr H. W. 44, 403
Sleep, importance of, for children 47, 61, 142, 144, 148, 150
Smart, J. E. 375
Smith, Dr Bertram 347–349
Smith, Miss Esther 191–192, 290–292
Smithers, F. O. 232
Soup 46, 52, 117, 189, 351–352, 414, 469
Special schools, dietaries in 40, 210, 283
Starch (*see* Carbohydrates)

PAGE

Starling, Dr 131
State and the child xi, 3–4, 35, 47, 51, 63, 78, 104, 109, 228, 415
Steele, Captain H. W. 278
Stobhill General Hospital, Glasgow, diet, cookery and hygiene at 239–242
Storr, Miss Florence 145–149, 166
Suet 10, 118
puddings 31, 46, 111, 118, 189, 341, 349
vegetable 10
Sugar 47, 126, 307, 361
Sun as therapeutic agent 197, 214
Sutherland, Duchess of 5
Sweets 101–102, 190, 309, 351, 361
(*see* also Teeth, Sweets and)
Switzerland, provision for meals and clothing in 465–471
Sykes, Dr J. F. xxix

T

Talbot, the Lady Edmund xi, 185–186, 227, 243–246
Taylor, Dr D. M. xxxv, 212–217, 222
Tea 46, 100, 118, 187–188, 307, 309, 315–316, 320–321
effect on children 118
Teacher and mother, relation between 57–58
and sanitary officer, co-operation between 149
and social worker, need for co-operation xxxiii, 92–93
salary of 181
training of 440
tribute to 138, 330
Teaching, water-tight methods in 93, 135
Teeth, anæmia and 102, 353
biscuits and 144, 296, 305
care of 47, 120, 190, 293-306
(*see also* Oral hygiene and Diet and the Teeth)
causation and prevention of decay 88, 294–305
children's diet and 113–114, 132, 144, 226, 293, 295, 308
fruit and 126–127
hard food and 113, 126, 132, 293, 299
jam and 101, 107, 126–127, 132, 310
jaws and 113–114, 120, 296, 304
malnutrition and 102, 353
marmalade and 126
milk and 125, 144
national health and xliv, 88, 122–123
our children's 303

PAGE

Teeth, porridge and 115, 125, 132
sugar and 125–127
sweets and 101, 126, 144, 298, 301, 305, 309
toothbrush and 47, 190, 229, 298, 303
Temperance, diet and 445–448
Thackley Open Air School, Bradford 67, 222
Thompson, Dr Lewis 91
Thompson, Lady 2
Thompson, Sir Henry vii, 2, 6
Thorburn, Miss Isabel S. xlvii
Thrift, suggestions for enforcing 139, 153
Times, Reviewer of the viii–ix
Tindall, Miss 330
Tinned foods 47, 100–101, 307
milk 101, 319, 339
Tradition, influence of xxxiii, xxxvi, 92
Treacle 8, 44, 367
Tuberculosis, ignorance of diet and hygiene and 270, 308, 320
Interim Report of Departmental Committee on 214, 349
school meal and xxi, 33, 349–351
Tuberculous child and Open Air School 219
special dietetic requirements of 360

U

Uncleanliness (*see* Cleanliness)
United States, case for school meals 461–462

V

Vacation school, village 404
Vegetable foods 43–46, 126, 162, 235, 311, 346
Vegetables 8, 10, 46, 101, 118, 216, 233, 316, 447, 476
preparation and cooking of 187–188, 370
railway charges on 124, 128, 493
Verminous conditions (*see* Cleanliness)
Verney, F. W. 403
Vernon, W. A. 44
Vitamines, importance of xlv, 101

W

Wage-earning classes, British Medical Journal on health of 307
diet of 42–46, 67, 101, 108, 115, 124, 134, 181, 184, 307–321, 337–355
how to improve diet of 45–46, 343, 346, 362
Wainwright, Dr Lennox 197
Wallace, Dr J. Sim 124–127, 132–133, 180, 222–227, 300–303
Ward, Mrs Humphry ix–x
Ward, W. 375
Washington, George 157
Water supply, defective 147, 155, 168
Water, use in cooking 10
(*see also* Vegetables, cooking of)
Watson, Dr Chalmers 356–365
Webb, Dr Helen 349
Week-end, school meal at 66
(*see also* Holidays, School meals in)
Weighing machine, fetish of 212
Weights of scholars, statistics questioned 337–338
Well-to-do classes, health of 88
Welsh wage-earning classes, diet of 315
Wheatley, Dr James 293–300
Wheatmeal 294, 447
White, Dr Jessie 56, 88, 148, 181–182, 195
Whitehouse, J. Howard xxv
Whiteley Wood, Open Air School, Sheffield, menus at 275
Wilkinson, Cuthbert xlvii
Williams, Dr Mary 45, 120, 130, 331–334
Williams, Dr Ralph x, 203, 275–277, 324, 437
Winder, Miss Phyllis D. 17
Windows, census of open xxiv
Winslow, Dr H. F. 70
Wolff, Captain M. C. 103
Wolverhampton Education Committee 136–145, 327–329
Women, a new career for xxxviii–xxxix, 192–195, 457–460
Women's Co-operative Guild 493
Woodhead, Professor Sims 492
Württemberg, domestic subjects in 475

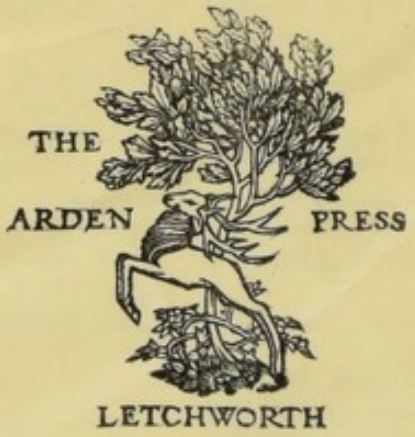
Y

York Health and Housing Reform Association 277
Young, Mrs Lilian C. 176–177
Yoxall, Sir James xxxiv, 75, 84–86, 97, 130, 132–133, 180

Z

Zürich, provision for meals and clothing in 467–471
Zwick, Dr 478

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