


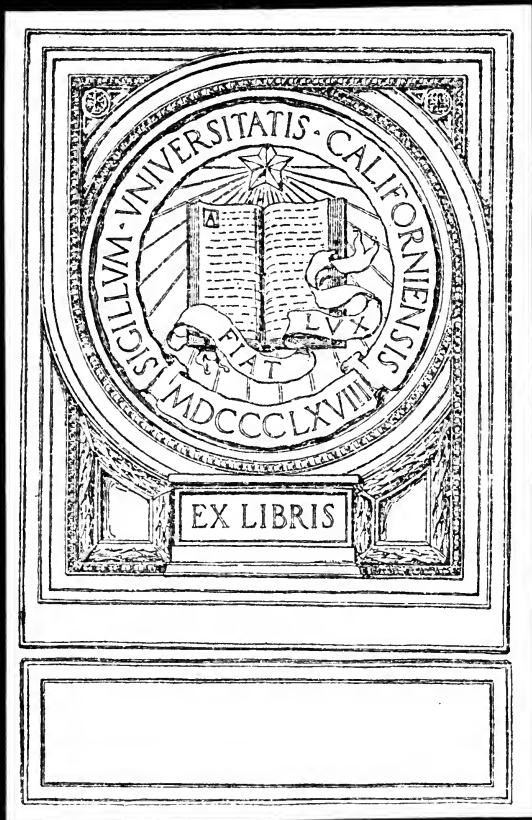
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# SCHOOL HYGIENE

*A Monthly Review for Educationists  
and Doctors.*

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NO. 11, VOL. II.

*Price 6d. net.*

NOVEMBER, 1911.

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THE EDUCATION OF DEAF CHILDREN.

THE EXAMINATION OF MENTALLY DEFECTIVE  
CHILDREN.

F. C. SHRUBSALL, M.D., D.P.H.

CONTROL OF ATTENTION.

F. C. LEWIS, M.D., D.P.H.

THE TREATMENT OF DEFECTS.

DR. VICTOR J. BLAKE.

MEDICAL INSPECTION IN AYRSHIRE.

A CLASS FOR INTERMEDIATE CHILDREN.

DR. FORBES and DR. LAMBERT.

DUST OF SCHOOL ROOM FLOORS.

DR. HERMANN PETERS.

MEDICAL REPORT ON MANCHESTER GRAMMAR  
SCHOOL.

REVIEWS.

ABSTRACTS.

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# SCHOOL HYGIENE

## CONTENTS

No. 11. NOVEMBER, 1911.

	PAGE
THE EDUCATION OF DEAF CHILDREN ... ..	601
EDITORIAL NOTES ... ..	604
THE EXAMINATION OF MENTALLY DEFECTIVE CHILDREN ... ..	609
F. C. Shrubbsall, M.A., M.D., D.P.H.	
CONTROL OF ATTENTION ... ..	620
F. C. Lewis, M.D. (Lond.), D.P.H.	
DUST OF SCHOOL ROOM FLOORS ... ..	625
Dr. Hermann Peters	
REVIEW OF THE METHODS AVAILABLE FOR THE TREATMENT OF DEFECTS ... ..	628
Dr. Victor J. Blake	
A CLASS FOR INTERMEDIATE CHILDREN AT BRIGHTON ... ..	634
Dr. Duncan Forbes and Dr. J. Lambert	
MEDICAL INSPECTION IN AYRESHIRE ... ..	638
THE FIRST INTERNATIONAL CONGRESS ON CHILD STUDY ... ..	641
THE ENGLISH SECTION AT THE INTERNATIONAL HYGIENE EXHIBITION AT DRESDEN ... ..	643
FAR AND NEAR ... ..	644
Cleansing of Floor—The School Ambulance—Boy Scout Schools.	
WOOLWICH DISTRICT INVALID CHILDREN'S COMMITTEE AND RINGWORM ... ..	647
REVIEWS ... ..	648
The Deaf Child, by Dr. J. Kerr Love—Hygiene and Public Health, by Sir Arthur Whitelegge and Sir George Newman—The Prevention of Dental Caries, by Dr. J. Sim Wallace—Lateral Curvature of the Spine and Flat Foot, by J. S. Kellett Smith, F.R.C.S.	
ABSTRACTS FROM CURRENT LITERATURE ... ..	654
Medical Inspection in France—Independence Day Tetanus—A Class Epidemic of Diphtheria—The Experimental Study of General Intelligence—The Dangers of the Cinematograph—How our Children Write—Hygiene Teaching in the Public Normal Schools of the United States—The Statistics of Infantile Paralysis	
OFFICIAL PUBLICATIONS, ETC. ... ..	658
i. Manchester Grammar School, Dr. Alfred A. Mumford.	
ii. Medical Inspection at the Hague, Dr. J. J. Pigeaud.	

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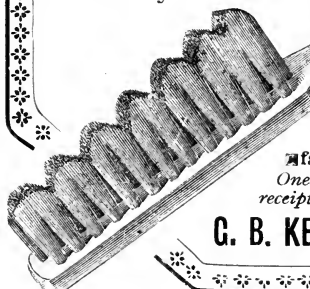
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## The Education of Deaf Children.

The education of the deaf child, probably one of the most arduous branches of the teaching profession, has received considerable stimulus, and no small amount of public attention lately. Three causes have led to this, and it is to be hoped that, now the matter has received so much attention in a great public daily, the upward trend that is shown to be taking place in deaf education in Great Britain may be accelerated, and receive help from the education authorities. Early in the year our contemporary, the *Lancet*, published three notable articles by Mr. MacLeod Yearsley, whose experience has been gained in the work which he is doing in the London County Council schools. These articles we have already noticed in our October number, and, as we then pointed out, the London deaf child owes to Mr. Yearsley a number of important advances in the organisation of this tuition. This fact was also appreciated by the *Lancet* in its leading article on March 11th. The *Times*, recognising the great importance of deaf education to the community, then took up the matter in a vigorous and well-argued leader in its education supplement for April 4th. This led to an inter-

esting controversy, in which Dr. Kerr Love, Mr. J. O. White, the Reverend Arnold Hill Payne, and Mr. Yearsley himself took part, a controversy which was wound up by a judicious summing-up in the supplement for October 3rd in favour of Mr. Yearsley and Dr. Love. The dispute is one which we have followed with interest and care, and we scarcely know which to admire most: the clear logic and dispassionate arguments of the physiologists, or the kangaroo-like agility in changing ground shown by one advocate of making the deaf a race apart—silent and alone. The doctors have been told to "stick to their business," and we may say that, even disregarding the fact that the annihilation of pain is a part of it, they have shown conclusively that in deaf education they have the right to a place, that they have taken it, and intend to stay therein.

The third of the causes to which we have alluded has been the opportune publication of Dr. Kerr Love's valuable book, reviewed on page 648, *The Deaf Child*, one of the most important contributions to the literature of education that has appeared for some time. Dr. Kerr Love has long been known as an advocate for the deaf child, and there is probably no man in the world, doctor or layman, who has seen more of his subject, or obtained a wider experience of the world's methods of instructing the deaf. He knows, and Mr. Yearsley knows, the futility of hard and fast systems, the narrow-mindedness of those who say all should be oral, or all should be singing, or all should be half and half—advocates of the so-called "combined method." Dr. Love and Mr. Yearsley know that there is but one possibility of deciding how the deaf child should be taught, and that is by the *study of the deaf child himself*. In a word, they are the advocates of the rational application of physiological principles to deaf education, and are strenuously opposed to the old idea of making deaf education a hard and fast matter of systems evolved upon purely pedagogic lines. We must say that the position occupied by Dr. Love and Mr. Yearsley is a sure one, based upon sound and scientific reasoning, and, as such, has come in for no little abuse from its most fanatical opponents, or those who have other axes to grind. The doctors' arguments are not destructive, or are only so to the limited extent of destroying what is wrong; they are, on the contrary, largely constructive, and they lead to the formulation of certain needs which, we believe, must, if obtained, enormously enhance the efficiency of deaf education in this country.



Let us see what Dr. Love considers to be the needs of British schools for the deaf. They are : (1) A scientific classification based on clinical observation. (2) A restoration to the mind of the British teacher of the deaf of Watson's belief in speech as the best instrument of thought for the deaf. (3) The extension of the school age from 16 to 18 years. (4) The extension of the day-school system. (5) The transference of the schools for the deaf from the control of boards of directors to that of the ordinary school authorities. (6) The encouragement of teachers of the deaf to visit other schools, both at home and abroad. (7) The establishment of a training college for teachers of the deaf. (8) The preliminary training of very young deaf children. Space will not permit of our entering into the discussion of these eight needs, and we can but refer the reader to the conclusive arguments which Dr. Kerr Love uses to support them. One or two of them, however, we may notice briefly. Classification, based upon clinical grounds, must be the classification of the future. Many attempts have been made to classify the deaf child, and those which most fulfil his needs are clinical. Of these, we incline most to that wider and more comprehensive classification which has been advocated by Mr. Yearsley, and which, as he has pointed out, must be the inevitable outcome of efficient school medical inspection. It includes and provides for the proper training of every deaf child, from the very slightly deaf, who can be taught in a hearing school, to the defective deafmute, whose life detention in an institution must, as legislation progresses, become an accomplished fact.

It is important to note how strikingly coincident are the writings of Dr. Love and Mr. Yearsley, save, perhaps, for one or two minor and unimportant details. Both favour clinical classification, both advocate the early education of the deaf child. The arguments upon which these two points are based are, we repeat, of so strictly scientific a character that such unanimity in men who think scientifically is not surprising. Dr. Love's experience of deaf education is wider, and of longer duration than Mr. Yearsley's, and he is thus able to speak with greater authority upon matters more extra-physiological. His opinions upon the latter show such sound common sense that they must command respectful attention. We earnestly commend to every educational authority, and especially to the officials of the Board of Education, a careful perusal of the writings of these two gentlemen. What they advocate must come, and the sooner it comes the better for deaf education in Great Britain.

## EDITORIAL NOTES.

---

When a Cabinet Minister is found to possess rather less than what counts for competence among Ministers, above all, when he has got his department into something of a mess, the gentleman transfers himself to some other department (which bears the same salary). Fortunately, our country has a never-failing supply of gentlemen to fill the gaps. Mr. J. A. Pease, who, no one doubts, possesses all the qualifications of his predecessors, is the new President of the Board of Education (to which a salary of £2,000 a year is attached). It is conceivable that an able President with a knowledge of the people's wants might do some good at the Education Office.

Dr. F. G. Haworth, in a letter to the *British Medical Journal* (October 21st), backs up our own plea not to withhold an occasional lollipop from the children. He believes that the "desire of children for sweets rests on a physiological basis," and that "it would be not only unkind to the children but absolutely contrary to physiology to withdraw pure sweets from them." It is pleasant to find medical men in these days who are not prepared to advocate every departure from tradition. We are sure that violent alterations in traditional habits must not be effected without considerable discussion and careful thinking. The vegetarians not long since promised full health and long life to all non-meat eaters. Finding that ill-health attached itself as much to a diet of lentils as to one of beef we have had the purin-free craze, Fletcherism, no breakfast, 40 days starvation, and the host of other cures. One of the latest is the mazadar system which enjoins deep breathing and raw carrot munching—the two processes to be carried on simultaneously. The fact is the vast majority of the human race can ensure quite tolerable health (and no one should desire more—the man who has never had a day's illness is a horrid person) on almost any kind of diet. Religion and æsthetics, pockets and enterprise, should determine the kind. But the enterprise should be self-limited. No kind of reform should in the first place be imposed upon the children just because it is "so simple."

The *National Educational Association*, in its annual report, maintains that the exploitation of child labour is increasing. It calls attention to the danger attending the demand for "industrial training."

"The great difficulty which arises in all these discussions is an eagerness in many quarters to make all education in public elementary schools a training for manual labour only, whereas a national need, greater than the need for efficient training of artisans, is the need to open wide the doors for the intellectual development of every child by an elementary preparation for any career which he has the capacity to follow. This pressure to substitute industrial training for all other forms of education for the 'elementary school child' receives encouragement in England and Wales from the Board of Education, and too many local authorities, by the persistent 'delimitation' of the public elementary school as regards the leaving age of scholars and the liberality of its curriculum."

The difficulty really arises from something much more profound. The working classes—not, be it understood, "representative working men"—have never been asked as to the education they require for their children. In this, as in so many other matters, they have been treated as cyphers. Official and well-meaning, but often quite ignorant, well-to-do people have laid down the education which they consider right for the poor man's child.

The Child Study Society has an attractive series of lectures for this session. Two have already been given on "The George Junior Republic," and "Co-education during adolescence." On November 2nd Mr. Holman will speak on "Psychology and Grammar"; November 9th, Professor W. Rippmann, on "Psychology of Speech"; November 23rd, Mr. T. G. Tibbey, on "Psychology of Reading." The last lecture will be given by Professor W. Brown on December 7th, "Psychology of Mathematics."

The Froebel Society has arranged a course of six lectures on Toys, Games and Constructive Handwork, and their use in teaching of form and number; three will be given by Miss Mildred Swannell, and three by Mr. J. G. Hamilton. On November 24th Miss Nancy Catty will lecture to the Froebel Society on "Children's Literature."

The Incorporated Association of Hospital Officers has also resumed its discussions. The paper which Mr. H. G. Barker will give, "Medical Treatment of L.C.C. School Children,"

on November 17th, will interest many of our readers. Admission can be obtained on application to the hon. secretaries, 32, Sackville Street, W.

The appeal of the Galton Laboratory Committee for £15,000 cannot but bring a smile to those who recall Prof. Karl Pearson's hint that "the endowment of research" often means only "the research for endowment." Eugenics seemed very nicely endowed by the will of Sir Francis Galton; there ought not to be any difficulty, however, in raising the further necessary funds among rich people. The object of eugenics, disguised in all kinds of ways by its many exponents, Prof. Pearson, Dr. Saleeby, the Dean of St. Paul's, the Rev. R. J. Campbell, is, by destroying the virtues and valour of the poor, to make them the slaves of the rich.

Though the unsoundness of so much of the work ground out at the Francis Galton Laboratory has been demonstrated, we have no reason to suppose that the future work will be more trustworthy; so far as we are aware, none of the past untrustworthy memoirs, etc., has been recalled. How utterly out of touch with Christian or any other sentiment the advocates of eugenics are may be seen in a letter in the October number of the *Eugenics Review*, which we will quote in full:—

#### NATIVE CUSTOMS.

An interesting letter reaches us from Mr. Mather Smith of the Transvaal, of which we think the following extract is of eugenic interest:

"The destruction of the 'unfit' is an old-established custom of the Zulus of South Africa and their kindred tribes, and I have often thought that we who send our missionaries to teach them the better way, might ourselves learn a great deal from them.

"As far as I can learn the Matabele, No'zengele, and I think the Shangaans, all offshoots of the Zulus, destroy all deformed children, albinos, and the weaker of twins at birth. From enquiries I have made the Zulus do not now destroy the weaker twin, but I feel certain that they must have done so at one time, as all their kindred tribes still do, and I have heard that the Matabele destroy both twins.

"The Swazis, also akin to the Zulus, do not appear to destroy albinos, as there are quite a number of albino Swazis in this district

"These customs are still adhered to. A weaker twin was destroyed on a farm within five miles of this mine less than a year ago, and yet children mean wealth in all of these tribes.

"I have never, in Zululand or on the mines, seen a deformed Zulu, Shangaan, Swazi, or No'zengele, and if a man of one of these tribes gets disabled on the mines he will not, if he can help it, go back to his own country.'

With much relief does one turn from all this pretence at scientific investigation, from this debased teaching of eugenics, to such a book as Mr. George Bcurne's *The Bettesworth Book*, or to Mr. Stephen Reynolds's *A Poor Man's House*. "If, for instance, Mrs. Widger came down earlier and scrupulously swept the house, her temper would suffer later on in the day. If she did not sometimes 'let things rip,' and take her leisure, her health and with it the whole delicate organisation of the household, would go wrong." What Galton Laboratory, Eugenics Education Society, Minority Report, or other device would have discovered, as Mr. Reynolds discovered, this or any organisation in the Widger household?

In the summary of Dr. Kerr's annual report, presented to the Education Committee of the London County Council, it is stated that as the results of 37,420 complete examinations during 1910, 12,656 children, or 33 per cent., were found to require treatment. In all, 172,619 children were examined in 1910, and 52,954 children, or 32.6 per cent., received advice cards. The proportion of children who would be selected by the doctors after careful examination and given advice cards could be fixed now, on the basis of the last two years, as 65,610 out of 210,039—that is, 32 per cent. of those examined. Of the 172,619 children recorded, 81,151 were returned as normal—that is, free from any definite organic defect. Bad defects of vision or eye diseases were recorded in 18,923 cases. Children with defects of throat or nose numbered 29,927; of ears or hearing, 9,499; skin diseases, 2,913—this included 453 ringworm cases found by the doctors, ringworm cases being generally excluded by the nurses. Other diseases were recorded in 15,296 cases. As regards "state of nutrition," 46.7 per cent. of the children were classified as of "good condition," 41.8 per cent. as "moderate," and 11.5 per cent. as "bad." During 1910 some beginnings were made with dental treatment, but so little had the public realised the value of this service that its developments must necessarily be slow. Medical inspection was now carried out in the Council's secondary schools, training colleges, trade and technical schools. It was just as important in these institutions as in the elementary schools, and from the economic point of view probably more important. In the secondary schools special attention was given to curvature of the spine. A review of 1910 revealed a striking diminution in the incidence of scarlet

fever and diphtheria; measles, on the contrary, had been unusually prevalent.

The first of the special series of twelve lectures on illumination, arranged to take place at Battersea Polytechnic, was delivered by Professor J. T. Morris on Tuesday, October 17th. On this occasion the lecturer dealt with incandescent glowlamps, laying stress on the enormous progress of the last few years and the extraordinary difficulties that had been successfully overcome in making metallic filament lamps. The gradual evolution of the carbon filament, Nernst, Tungsten, and Tantalum lamps, the methods of attaching the filaments, and making allowance for the "sag," were illustrated by a series of lantern slides. The actual filaments used in various types of carbon and metallic filament lamps were mounted intact on one of these slides and thrown upon the screen in order to show their comparative thinness, and the lecturer subsequently showed that even these fine wires could support a tension of a 2 lb. weight without snapping. A great variety of the latest types of lamps was also shown, including the latest 200 v. 16 c.p. Osram lamps and the new drawn-wire Mazda lamps. A series of life curves on metallic filament lamps (the latest tests of the National Physical Laboratory) also attracted much attention.

# The Examination of Mentally Defective Children.

*From the report presented to the Committee\* on Mental and Physical Factors involved in Education.*

By DR. F. C. SHRUBSALL.

*(Continued from page 576.)*

## GRADED TESTS FOR DEVELOPMENTAL DIAGNOSIS : DE SANCTIS' TESTS.†

De Sanctis uses the following material. Five wooden balls painted in distinctive colours, three wooden pyramids, two wooden parallelepipeds, five wooden cubes all of the same size, twelve cubes of varying sizes, a small black cube, and a testcard on which are painted triangles, squares, and rectangles to represent the outlines of the pyramid, cubes and parallelepipeds. The tests are :—

- (1) The five balls are placed on the table and the observer says "give me a ball." The time taken in responding is noted on the stop watch.
- (2) The same five balls are again shown and the observer says : "Which ball did you give me?" The time is again noted.
- (3) The five identical cubes, the three pyramids, and the two parallelepipeds are mixed up on a table screened from the child. A cube not very different in size is shown to the child, who is asked to pick out all the bits of wood on the table which look like it. The screen is then removed, and the time of the performance and any errors noted.
- (4) The child is shewn the test card of forms and the small black cube, and is asked : "Look at this piece of wood? Is there anything on the card which looks like the piece of wood?" and if correct is

---

\* Section L. Meeting of the British Association at Portsmouth, 1911.

† The description is abbreviated from *Manual of Mental and Physical Tests* by Guy Montrose Whipple.

directed to "pick out all the things that look like it." Whipple suggests he may be asked alternatively to "pick out all the squares on the card." The time and errors are recorded.

- (5) The twelve cubes of various sizes are put on the table at different distances from the child, who is told, "Here are bits of wood like the things you were picking out on the card. Look at them carefully, and tell me how many there are, which is the biggest, and which is farthest away from you." The time taken and the errors are recorded.
- (6) All the test materials being concealed the child is asked four questions, each being answered before the next is asked.
  - (a) "Are big things heavier or lighter than small things?"
  - (b) "How does it happen that small things are sometimes heavier than big things?"
  - (c) Which looks bigger, a thing that is close by or a thing that is far away?"
  - (d) "When things are far away, do they just look smaller or are they really smaller?"

The times of response are recorded, and the answers taken down verbatim. De Sanctis considers that ability to pass Nos. 1 and 2 only indicates intellectual defect of a high degree, ability to pass Nos. 1 to 4 or 5 with many errors indicates a moderate defect, ability to pass Nos. 1 to 5 but not No. 6 indicates a slight degree of mental insufficiency, while ability to pass all in normal time indicates a normal intelligence. Yet even such a child may rate as "backward" pedagogically. Goddard, however, thinks training comes into play, and that a child with a good training may pass even No. 6 and yet be feeble-minded.

The principle employed in these tests has in part been utilised, but not the exact method. In particular the time required for response has not been noted. This applies to all the other tests. One reason is that whilst the child is thinking, the time is used in getting points of history, etc., from parent or teacher, at the admission examinations, or in noting the performance of some other child at a centre. The conditions under which the work must be done require a considerable number to be passed in a short time. This must be borne in mind in evaluating the opinions of the school medical officers. Occasionally there is the opportunity for more. We have, however, no such standard set of objects as



de Sanctis suggests to carry about, desirable as it would be from a comparative standpoint; but perhaps some commentary from the methods, having a similar aim, which have gradually grown up in use quite independently of the Italian authority, may be pertinent.

*Test 1.*—This is tried in almost every low-grade case at an admission examination, and with shy or nervous children generally, as it so resembles a game that a response can usually be obtained. Very few refuse. Of these, some are obstinate, and in nearly every case will respond later, if necessary, with the aid of the teacher. The rest turned out to be imbeciles or ineducable.

*Test 2.*—Tried less often, as, unless distinctly coloured objects are available, it is out of the question. I have tried a similar test showing various objects, including the one the child had previously picked up.

Not having anticipated at any time that I should want to refer in detail to the results obtained by these tests, I find my notes are too brief to allow of an analysis. But I am confident the response was quicker and more accurate when different objects were used than when the recognition depended on colour. Errors in colour certainly arose, particularly between a deep yellow (some might call it an orange) ball, and a rather dirty, light vermilion ball. The response to this was generally good.

*Test 3.*—Only tried with a limited range given by wooden bricks, and actually not very often. (I might point out that when a test must statutorily be made on a certain day and time the postulates of the general directions cannot be ensured, and the children are not all comparable in the matter of comfort, fatigue, mental attitude towards the test and the observer. This from a diagnostic, as opposed to the experimental psychologist's standpoint, can be reasonably, though not entirely, discounted by appropriate allowances of time, encouragement, etc. Repetition after a day or two is impossible.)

Response is, generally speaking, good even in low-grade cases, who, however, take very much longer and want to stop and play with the bricks instead of finishing collecting those that resemble the one indicated. It gives indications of observation, attention, and perseverance, and is very useful, but as time presses it is not used for the better grade of case.

*Test 4.*—Only tried with letter-cards and pictures of animals as used in vision testing, etc. Then ask, Show me

the E's or the cats, as the case may be. But are these cases comparable?

*Test 5.*—Tried with bricks or any similar objects of varying size, and without reference to the foregoing. Out of questions asked singly, to elucidate ideas of number, size, and distance, the order of correctness seems ordinarily to be distance, size and number. But if differences are only slight the estimate size falls off more than that of distance, both being diminished in accuracy and rate of response very materially, while the estimate of number was unimpaired. The majority of the grade at which this was used touched and counted the objects. There was, unfortunately, no attempt at timing.

*Test 6.*—These and similar questions seem more adapted to better-grade children. They are useful to detect backwardness, for a child who can answer them at all readily is bright and intelligent, or well trained. Now, if a child could answer such questions, yet could not read or write, and had attended school to a reasonable extent, that child must have some specialised defect. If, on the other hand, it had not had any opportunity of education, then it may be expected to progress rapidly, and would be regarded as merely backward, because of the comparative rarity of specialised defects associated with a quite bright general response. Such cases do, however, exist; e.g., there is a distinguished draughtsman and inventor who cannot letter his drawings.

The general method of de Sanctis' tests is of high value, especially in dealing with those who cannot read or write, or whose powers in that direction are very limited. Tests 1 to 5 should be passed by the child of seven to eight, as should Tests 6 (*a*) and (*c*). Test (*a*) yields a more doubtful response, as the child hardly grips what is meant, but if time be allowed, and the object put in the new position, it will be done.

Older children can answer it quickly, but the defectives take much longer. Out of six of these two at least failed.

#### THE BINET-SIMON TESTS: 1905 SERIES.\*

##### *Visual Co-ordination.*

1. Never tried with a match, but frequently by asking child to follow movements of the finger while keeping his head still. Accessory test tried in various forms.

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\* See SCHOOL HYGIENE, Vol. I., pp. 102-108.

*Co-ordination of Grasp, Object put in Contact with Hand.*

2. Always tested, though not usually with direct intent, but any failure to co-ordinate movements would be noted.

*Co-ordination of Grasp when Object is only Offered.*

3. As above. Failure with these leads to an examination along physically defective lines—i.e., more strictly medical, with a view to a provisional diagnosis. Invalidating the almost certain result.

*Cognisance of Food and other Desirable Objects.*

4. Tried in so far that the offer of a sweet or a halfpenny is sometimes tried as a last resource with a very low-grade or obstreperous case. Conclusions seem sound.

*Seeking of Food when a Difficulty is Interposed. The Child is Offered a Chocolate Wrapped up in Paper.*

5. Tried unintentionally, much as described, with a caramel. One unwrapped it, the other threw it at me. The test I have tried is to give the child a simple knot to untie, but not done often enough to have more than the general impression that all but the lower grades attempt it correctly.

*Execution of Simple Orders. Imitation of Gestures.*

6. Always tried. See earlier remarks. A very useful test, as all not defective at seven to eight can pass this. Those that cannot, usually ineducable.

*A Knowledge of Real Objects by Name.*

7. Very useful; always directly or indirectly tried, usually the latter. In a definite test on about 400 children in special schools about 5 per cent. failed to point to their mouths. These were recent admissions in the lower classes.

*Knowledge of Names of Objects in a Picture.*

8. Always tried.

*Naming Objects in a Picture. Always tried. Binet says this gives a line between idiocy and imbecility.*

9. This does not seem to give the line between idiocy and imbecility at any age; 6 is nearer my experience. The question involves a good deal, and the response is by no means always obtained in the lower classes of normal infants' schools. See also the 1908 series.

*Comparison of Lines.*

10. Tried. I agree in the main with the text. I have never used lines of known length.

*Auditory Memory for Three Digits.*

11. Tried. General agreement as to result. Have never laid stress on it. In asking this, and similar questions, or others, echolalia may be noted.

*Comparison of Weights.*

12, 13. Not tried in a reasonably comparable manner. Discrimination of weights is taught in some special schools.

*Definition of Familiar Objects.*

14. See note on "What is a cat?"

*Immediate Memory for Sentences. Sixteen Syllables in the Shortest.*

15. Tried. No defective child at an admission examination could do such long sentences, except, perhaps (1). I have not used the examples quoted. Yet the child may know a verse of a popular comic song.

*Differences Between Familiar Objects Recalled in Memory, e.g., a Fly and a Butterfly.*

16. Tried. Usually looked on as a catch, and so is apt to spoil the examination. Many stick to "don't know." I am not sure a response, unless quite to the point, is a good sign.

17-25. Not tried.

*Sentence Building.*

26. Tried with older children. More often by listening to the spelling lessons actually in progress. Serve the purpose, but more convenient methods.

*Replies to Problem Questions, e.g., What is the thing to do when you feel sleepy?*

27. In some form often tried, especially at later examinations. Questions must not be abstract or the mentally deficient fails.

*Interchange of Clock Hands.*

28. Quite satisfied if a mentally deficient child at later stages can tell the time at all. If a child passed this at

admission should hesitate over saying mentally deficient, save for special defect; e.g., word-blindness.

29, 30. Not tried.

1908 SERIES: (CONDITIONS AS BEFORE, THREE-YEAR-OLDS).

*Cognisance of Real Objects by Name.*

1. A little hard for many threes, or even fours, until some time at school. French family life must involve far more talking intelligently to the child—i.e., true education—than obtains in many poor English homes. On this base a general disagreement with Binet's standards as too high in the main; with some exceptions equally too low.

*Memory for Sentences. Two to ten Syllables.*

2. Varies. Few will do so long a sentence until some time at school; then they pick up quickly.

*Memory for Digits.*

3. All who respond could do two at least. I found all the mentally deficient, seven to ten, could do digits, but not always possible to understand what they said.

*Description of a Picture.*

4. See previous notes. I have never seen a three or four who said "A man and a dog"; "Man-dog," or even "Man and dog," I could more easily credit. (I confine myself strictly to the elementary schools grade of child. Some four-year-olds in good families can, and do, read the newspaper.)\*

*Knowledge of Family Name.*

5. I think a three-year-old would give Tommy or Nelly, not the family name. I have tried, but kept no exact records. Five per cent. of the younger mentally deficient, seven to ten, did not know their names.

FOUR-YEAR-OLDS.

*Knowledge of Own Sex.*

6. Agree; 3 per cent. of mentally deficient did not know, and as many said Yes to both "Are you a little girl?" and "Are you a little boy?"

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\* An imbecile might say cat or dog, but would add no descriptive word unless he had had some more definite training than they have usually had when up for report.

*Naming Familiar Objects.*

7. Agree in the main, but many threes would call any coin "penny" or "farden"; all mental deficientes who answered, recognised, and named the objects, though several confused the halfpenny with other coins.

*Memory for Digits.*

8. Agree; all the mentally deficientes passed.

*Comparison of Two Lines of Differing Length.*

9. Agree; all the mentally deficientes passed.

## FIVE-YEAR-OLDS.

*Comparison of Weights.*

10. Not tried.

*Copying a Square.*

11. No certainty as to age level. Tried in mentally deficientes *with a pencil*; the upper classes made successful efforts; about half the lower-class children failed. A simple test of manual powers.

*Counting Coins.*

13. Fifteen per cent. of the mentally deficientes failed to count to five. I have no record of the counting to four correctly but failing at five, but can recall two instances.

## SIX-YEAR-OLDS.

*Knowing Right from Left.*

14. There are a good many failures at six and over in this. In regard to the feet, or turning round, any drill mistress could confirm this. The mentally deficientes are far behind the normal, but I have no figures.

*Memory for Sentences. Sixteen Syllables.*

15. Mentally deficientes, or the majority, cannot do it with easier sentences.

*Definition of Familiar Objects.*

17. See "What is a cat?" A useful test in good hands.

*Execution of a Triple Order.*

18. Done earlier than Binet suggests with normal children. Of the mentally deficient almost all failed to carry out more than two of the orders.

*Knowledge of Own Age.*

19. More than half the younger mentally deficient knew their age.

*Knowing Morning and Afternoon.*

20. Three-quarters of the younger mentally deficient knew whether it was morning or afternoon.

SEVEN-YEAR-OLDS.

21. Not tried.

*Writing from Copy.*

23. See under *Writing* above. All sevens should be able to do this unless pen and ink have not been allowed, and then pencil could be substituted. At six and a-half infants move to senior departments and learn to use ink. Of mentally deficient one-fifth utterly failed, many scrawled, and half scarcely intelligible.

*Counting Thirteen Pennies.*

27. See under 13.

*Naming four Common Coins.*

28. Of mentally deficient a quarter failed outright, and another quarter made a mistake.

EIGHT-YEAR-OLDS.

*Reading and Report.*

29. The following passage is the American adaptation of Binet's passage :—

*Three Houses Burned.*

Boston, September 5th. A serious fire last night destroyed three houses in the centre of the city. Seventeen families are without a home. The loss exceeds fifty thousand dollars. In rescuing a child one of the firemen was badly burned about the hands and arms.

After reading the child is asked to say what he has been reading about. The time for reading the French passage

was said to vary from 45 seconds at 8, to 25 seconds at 11 years.

Much too hard a passage for most eights in elementary schools, but varies directly with the home surroundings. Too hard for most mentally deficient who are leaving. Time certainly longer than given. An absurd test for imbecility as understood for school purposes.

*Counting Money.*

30. Some younger mentally deficient could count two simple coins; the older ones varied. It is a good differential test of a border case.

*Naming Four Colours.*

31. See previous notes. Most mentally deficient passed.

*Counting Backwards from Twenty.*

32. All mentally deficient failed, turning round and going back to twenty at some stage or other. I should not use it as a test; too many normals fail at even older ages.

*Writing from Dictation, e.g., the Pretty Little Girls.*

33. See previous notes. Children of eight can do more than this.

NINE-YEAR-OLDS.

*Knowing the Date.*

35. Known earlier, except, perhaps (4), the year. Mentally deficient very variable at later stages; beyond them at earlier, i.e., seven to ten.

*Reciting the Days of the week.*

36. Mechanically in order from Sunday, very much earlier. Many passed as mentally deficient could do this. See note on "What is to-morrow?"

Beyond this point Binet's tests pass out of the mentally deficient range, or my experience. Some, as 47, 49, and 51, could be easily tried, but ? diagnostic.

The tests included in this series closely resemble those we actually use; they may test school results more than intelligence, perhaps, as some allege; but that is one factor to be borne in mind in deciding whether a child needs a special school education. The best of them, from the school medical officer's standpoint, will be included. The real point, I suppose, is whether the series should be used in preference



to others. If so, I should not care to give up the three types of writing, the last of which, I believe, Binet does not include, or the question of response to a written command. The last is very useful, as where present the child does not need special school training in the terms of the Act, excepting a rare condition, as word-deafness, and this needs a modified deaf training.

#### SIZE-WEIGHT ILLUSION.

Dumoor's test consists in presenting to the child two objects of identical form and weight, but differing in size. To persons of normal intelligence the smaller appears to be the heavier when handled. It is claimed that mentally defective children respond that the larger package is the heavier. Dr. Thomas found in London mentally deficient special schools that the test generally elicited a normal response in the higher grades of children, but the defective response in the lower grades. The test, therefore, divides the defective children in the schools, roughly, into two classes, one approximating to the dull and backward, the other to the imbecile. He regards it as of considerable value.\*

From the account of the various methods which have been from time to time suggested, and tested in the course of examinations, it might appear as if these were lengthy and very detailed inquiries, lasting, say, three-quarters of an hour each. This is not the case. All the tests are never used at any one time, and eighteen to twenty-two children are supposed to be dealt with in two hours. If one takes a long period, say, fifteen to twenty minutes, the time is made up on the others. Most of the points dependent on observation are noted in the course of tests, in which they appear as accidents, or necessary concomitants of the action in the test itself. The central feature is to confirm or to controvert the teacher's estimate of backwardness, and if this is present to endeavour to apportion its cause. The distinction required is to divide backwardness from mental causes from backwardness due to lack of opportunities, ill-health, or physical defect, and in particular to arrive at anything remediable. Research into mental conditions is not a primary point, and the opportunities, in point of time, for so doing, are distinctly limited. With more time a finer classification might be possible, but this would be of little use without a far more elastic curriculum than at present exists.

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\* Dr. Myers points out that the 'defect' occurs in *normal* very young children.

## “Control of Attention.”

By F. C. LEWIS, M.D., LOND., D.P.H.

It is sufficiently well known that most of the organs of the body are innervated by nerves, or by communications from nerves, which at some spot immediately adjacent, or in many instances far removed, reach the surface of the body as a nerve of ordinary sensation. This was established by Head, and Head's areas have long been a guide to physicians in localising remote and deep-seated lesions.

A further evidence of the intimate association between sensation and mental states of activity, or the reverse, is afforded by hitherto little regarded observations of Dr. Stoddart on the anæsthetic and hyperæsthetic areas of the insane. In many instances, especially of melancholia with associated intestinal delusions, areas of anæsthesia were found persistently present over the region indicated by Head as most intimately associated in nerve supply with the viscus which was the seat of the delusion.

The same was found even more marked in melancholic cases with sexual delusions.

Again, as Dr. Stoddart points out, the muscular activities, and consequently, therefore, the sensations conveyed to the nerve centres of the highest levels are altered in abnormal mental conditions. The well-known rigidity of the melancholic, a rigidity which affects chiefly the large joints of the trunk and extremities, leaving the smaller ones of fingers, etc., unaffected, is well known.

It is from these and similar abnormal conditions that one is led to consider the possibilities that finer variations may occur in health, and which are so slight and gradual in their outset as to remain unrecognised, until the more apparent alteration of mental status has altogether masked them.

From observation on children, more especially in those of what is called the backward type, one gathers that motor—physical sensations produced as the result of repeated move-

ment at the peripheral end of the nerve-muscle or nerve-joint connection, must precede mental recognition and its psychic mental co-ordination.

A class of young children may be taken, and by means of carefully selected exercises graduated to the children's physical development and nutrition, the mental attainments will be seen to increase as the physical range and control of movement.

This is a truism, but I do not think even yet sufficient stress is laid on purely physical methods in the course of ordinary education. In the case of the feeble-minded or mentally defective it is now generally recognised, and is made the basis of any system of education; but in the case of the more fortunately placed, they are handicapped at the start by the lack of appreciation still shown by teachers for ordinary physical stimuli as a means of education.

Physical education, as I understand it, does not mean the routine performance of a table of Swedish exercises. It means, or should mean, the gradual establishment of a control through the nerve centres over every joint and muscle of the body, at first gained by means of definite willed exercises requiring active attention and recognition on the part of the pupil; later, when the stimulus has been perceived, and the meaning of it indelibly registered, active attention is unrequired and can be safely dropped, to be recalled if necessary. As a result, the movement and co-ordination necessary drops to the lower grade of automatism.

The aim of the physical educationalist should be to produce a complete sympathy and sureness in the range of every movement, in the performance of every action.

In achieving this he will find he has achieved in the child something more, he will have established a co-ordination of ideas in the brain, as well as of movements in the body.

Nothing is more remarkable and more constant in human degrees of development among the purely normal than the exactness of the relationship which exist between the degree of bodily mobility and intelligence.

Muscular strength and development alone is something quite different, often-times being merely the result of muscles hypertrophied out of all proportion, and is to be avoided. Co-ordination of muscles and movements produces inevitably a brain that is mobile, and co-ordinated in the ever-increasing power of association of ideas.

I have advisedly said the sane, by which I mean people or children of ordinary all round possibilities of perception and

execution. The case of the abnormal, whether of mental or physical proclivities, cannot be included, though it is probably true that the musical brain has its origin in a greatly increased and trained auditory, i.e., physical, power of perception in the first instance. Likewise an over-development of the motor side, as occurs in hypertrophied muscles, means a slowness of thought and action.

The reason why the wrestler of huge proportions is more likely to be a fool than a sage is probably more owing to the fact that he gained his bulk by means which stimulated the muscle, but never brought into play the quality of attention which is necessary for mental growth to coincide with the physical.

With this explanation I would consider closely related a condition, which though of recent discovery among psychologists, and as yet vague and ill-defined in its beginnings, is of very real moment to the student of mental states. I refer to the disease known as "dementia præcox."

A recent writer, and high authority on education and educational phases, has declared that it is probable that every adolescent at or near the mature age suffers in some slight degree from this affection.

The abnormal mental activity which obtains at this period of life, brought about by the widespread and deep-seated physical stimuli emanating from bodily growth and development, finds its counterpart in a lowered reaction to extraneous objects. More, there is often a marked disinclination to physical exertion of any sort, the organism being so engrossed with the internal calls upon it that it fails to respond to external stimulation.

As always, the prolonged disuse causes atrophy, and there follows an actual diminution of the power of perception, and of attention on which it depends.

The resulting condition is the first stage of "dementia præcox," which, if encouraged, results ultimately in a condition of dementia or even amentia, in which the nervous system reacts unequally or not at all to physical and mental stimulation.

The condition is one which, as a rule, corrects itself in a normal adolescent as soon as the excessive, internal, physical disturbance of adolescence has settled down into the more ordered and controlled conditions of maturity.

But in an individual with a nervous disability of self-control, either due to inherited or other causes (e.g., mode of

life, environment, etc.), it persists, and is aggravated into a truly abnormal, mental condition.

Occupation, which means control of the attention, is the only remedy. By controlling the attention it is possible to prevent the increased internal, physical stimulation, and those concomitant mental co-ordinations arising to consciousness. They persist, but without active attention being directed to them they are unregistered as memories in the highest level of brain cells, and so do not later play a dominant part in the formation of mental processes and habits of thought.

It is usually advised that the occupation of the individual at this stage should be manual, if possible; but it is probable that mental would equally meet the case if it was sufficiently interesting to distract the attention, and to hold it. Manual occupation is far preferable; for, in addition to occupying the mind, it also provides from its nature a greater degree of physical health, which is what the organism requires. For just as in most cases there is a tendency to concentrate too much on physical education of the child making it an end in itself instead of the means to higher mental development, so at the later age of adolescence there is a similar tendency on the part of the individual himself to disregard the physical for the mental.

In both instances alike natural proclivities, if present in excess, should be restrained, or at least made the vehicle of higher co-ordinated brain growth. The child, naturally anxious for physical exertions of all sorts—a savage—is little apt to register the impressions of muscular co-ordination unless trained to do so; while the adolescent, tumultuous amidst the new powers of mind developed, or rather awakened within him by reason of his physical growth, and consequently, increased range of receptive and perceptive powers, is prone to let the extraneous, physical world without go by in oblivion, so engrossed is he in the new mysteries of life within himself.

That the physical requires attention at this as much as at the earlier period of life is evident by the appearance at this age of many so-called automatisms, or excessive and uncontrolled actions, which, if allowed to persist, become fixed—in the case of the body producing often deformities; in the case of the brain, obsessions.

Even in later life certain frames of mind occur approaching melancholia, or its reverse mania—not severe enough to be

called such but which, if studied attentively, are allied to these conditions, both in the mental state and its physical manifestations.

It is a truism to say that the weary, bored man needs exercise, that the overworked anæmic shop girl needs further stimulation, new sensations—but how often is it seriously attempted? But that is not all, or even the most important requirement. What both need is a physical or mental stimulus which will arouse “attention.”

Weariness and boredom in civilised life of to-day come rather from monotony than overwork. Indeed, one of the chief causes of so-called fatigue to-day is in reality exactly the opposite—under employment of mind, and the consequent fatigue, the expression of unused and aberrant excessive mental energy.

If persisted in the condition becomes permanent, atrophy of power of concentration takes place, requiring many weeks and months of endeavour to recall it.

Attention implies expenditure of energy. The easiest and pleasantest way of arousing it, and controlling it when aroused, is by definite, purposely graduated movements of the body or the brain. Physical exercise and brain exercise should go together. In a properly adjusted combination of the two, viz., willed graduated movements under the direct and careful application of the attention, combined with some equally definite and willed use of mental powers—such as many writers, especially in America, have advocated—lies the alleviation of what is popularly known as “nerves.”

# Dust of School Room Floors.

By DR. HERMANN PETERS (Brunn).\*

In the erection of new school buildings great attention is now being paid on all sides to the demands of hygiene, sufficient light, air, and proper ventilation.

It was interesting to ascertain through bacteriological experiment whether these influences had affected the bacteria of the dust in the schoolrooms.

Two schools were selected. An old one, a private house, which was later converted into a school building, and which must necessarily leave much to be desired from a hygienic point of view. The other school was a new one, built in 1906, where hygienic considerations had received every care. The experiments were, in both cases, conducted on one of the schoolrooms and the gymnasium hall.

In the old school the contents of the room were 284.16 cubic metres; with a class of 60, giving each child 4.73 cubic metres of air. There are four windows, each 2.40 metres high and 1.33 metres wide, with louvred panes. The flooring is made of long boards prepared with dustless oil. The room has a stove, and for artificial lighting Auer's light. The gymnasium is 262.30 cubic metres, and has three windows.

The fifth classroom of the new school is 266 cubic metres, the children number 57, so that each child has 4.66 cubic metres of air. There are four windows, each 2.5 by 1.20 metres, with louvred panes. There are besides fresh air shafts. It has a central heating by hot water tubes (Rock's system). The flooring is of hard boards—not oiled. Artificial lighting in use is diffused Auer light. The gymnasium is 819 cubic metres, with eight windows.

The following experiments were carried out. The dust collected from the flooring was examined for cultures and injected into guinea pigs, both subcutaneously and intraperitoneally. Agar plates were placed for an hour during lessons in different parts of the room. The experiments were carried on during fourteen days in the autumn in cloudy,

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\* From the Allgemeine Wiener medizinische Zeitung.

rainy weather, at a time when colds were very prevalent in the town. The rooms were neither aired nor dusted before the dust was collected.

Two loopfuls of the dust were transferred to liquid agar and plated. The particles of dust made the counting of the organisms difficult, so that later on the dust was mixed with equal parts of sterilised salt solution; this was well shaken and filtered; 30 cubic centimetres of the filtrate was plated on agar or gelatine. The organisms were counted and their varieties determined after twenty-four hours. In one experiment a larger quantity of the dust was treated with antiformin, and the sediment examined for tubercle bacilli. This experiment was not repeated, as there was no adequate solution of the dust in the antiformin.

As the table shows, the number of organisms was, on the whole, not very high, although, as we have said, the weather was cloudy and rainy, and thus much dirt must have been brought into the rooms, which were neither aired nor swept. In nearly every case there were fewer organisms in the old school than in the new.

Date		Old School	New School
23.11	Agar	1,075	1,488
24.11	Agar	660-700	700-800
25.11	Agar	784-800	935-1,000
29.11	Gelatine	1,045	756
30.11	Agar	255-300	50-70
1.12	{ Agar	200	300
	{ Gelatine	1,102	1,334
2.12	Agar	800	1,192
3.12	Gelatine	1,624	1,890
6.12	Agar	216	325
7.12	{ Agar.	915	1,798
	{ Gelatine	1,812	2,362
10.12	Agar	1,320	2,408

In the determination of the organisms the same kind were always found; various sarcinae, mesentericus, subtilis, *B. fluorescens*, some moulds, and other varieties common in the air.

In the single experiment with antiformin treatment of the dust for tubercle bacilli none was found. The plates used during lessons showed the same organisms, but the numbers varied according to the place where they had been collected. In the new school the numbers found in plates from a seat were 3,400, floor 3,300, chest 2,400, whilst on the teacher's seat



the number was only 1,070. In the gymnasium hall of this school all the plates showed about the same numbers, 550 to 600.

In the schoolrooms of the old school the number on the plates was about 2,300 to 2,400. In the gymnasium hall there were some slight differences. The plates at the window and stove showed 300, and those at the clothes'-props 500.

The inoculated animals remained well and gained weight. They were killed six to eight weeks later and their organs found to be quite normal. To some extent these experiments agree with the culture observations, although too much stress must not be laid upon the former as they were only carried out once.

The cultures are of great value as they were repeated for several days, and yet no pathogenic organisms were found.

It is of interest that the number of organisms was almost invariably less in the old school than in the new. This must be, without doubt, attributed to the use of dustless oil, which makes the boards smoother, and leaves less cracks and joins for the dust to collect in.

Our experiments show that bacteriologically the dust in an old and in a new school showed no great differences. We may conclude that even under not quite favourable hygienic conditions excellent sanitary results can be obtained by proper sanitary method—cleanliness, airing of the rooms, and use of some preparation to the floors.

# Review of the Methods Employed or Available for the Treatment of Defects.\*

No plan of treatment for the various defects and diseases found on examination of the school children has as yet been established in Portsmouth other than the system of notifying the parents of existing defects in their children, and requesting them to obtain the necessary treatment.

Although some good has been accomplished, I cannot say that I am impressed by the value of the results obtained by this method, nor do I consider it advisable to continue on the same lines with a system which so palpably shows more or less ineffective working for good results, and which is devoid of proper administrative power, by which means only can good value be obtained in this special branch of the department.

A perusal of the following facts will make my meaning clear. In the year 1909, out of a total of 1,815 cases recommended for treatment, 604 received treatment, leaving 1,211 cases. Of these latter, 653 received no treatment, there being no record obtainable of the remaining 558.

In the year 1910, out of a total of 1,752 cases recommended for treatment, 381 received treatment, leaving 1,371 cases. Of these 1,371 cases, 900 received no treatment, there being no record obtainable of the remaining 471.

Apart from the percentage of children receiving treatment, any system which, in two years, will enable 1,029 cases out of a total of 3,567 to pass out of sight without any record being available, and to further allow 1,553 to remain without receiving treatment, is at once and for all time futile and worthless.

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\* From the Report for 1910 of Dr. Victor J. Blake, School Medical Officer to the Portsmouth Education Committee.

The ultimate end and object of school medical inspection is the prevention and alleviation of disease. Before methods can be adopted to deal with this problem, the work of medical inspection must first be thoroughly consolidated and perfected. This, I think, I can reasonably claim, has been accomplished in Portsmouth.

Also the requirements of the area have to be ascertained, i.e., the number of children suffering from defects and ailments: the character and degree of these, and the help to be obtained from local existing agencies in dealing with these. After two years and four months' work in this area, I am prepared to submit a statement of the requirements of the area, and need not burden you with them in this report—a statement which can be furnished at any time to a Committee dealing with the matter.

The question then remains that, having obtained these factors, and having obtained the residue to be treated, how the authority "can supplement or render the existing agencies more effective, or devise such measures as will stop the enrolment of child recruits in the great army of the physically unfit, and thus diminish the burden which the maintenance of that army imposes on the nation." (Chief Medical Officer Board of Education.)

This, in my opinion, necessitates the provision of a simple and effective organisation which shall deal with matters not only relating to the treatment of defects themselves, but with matters relating to the general administration of school medical service work.

The need of a separate office and clerical assistance at the present time is a great handicap in the requisite administration of affairs—especially as with increased staff and increasing work the details become daily more intricate and searching.

The whole of the work at present requires centralising, and I think the only satisfactory solution will be found to be the establishment of a School Clinic in a central position, preferably by means of purchasing or renting a small house and converting the same into the necessary offices and rooms, which School Clinic shall be in character:

- (1) Administrative.
- (2) Advisory.
- (3) Remedial.

## (1) ADMINISTRATIVE.

This will perform a dual function.

- (a) By providing the necessary central offices for the work of the School Medical Officer in connection with the storage of cards for medical inspection, clerical work in connection with same, and for all general details associated with the various branches in the administration of this work.
- (b) By centralising what may be termed the outside spheres of the work of Medical Inspection which, at present, from lack of offices, are not dealt with, or if so, in only a very inefficient manner.

The following phases of school life would then be properly organised :

- (1) All Attendance Officers would present for examination on certain days all cases absent from school without sufficient or valid reason, or without evidence of medical attention if absent on the excuse of illness.
- (2) Cases excluded from school on account of verminous condition would not be permitted to return to school without first presenting themselves at the School Clinic, and satisfying the School Medical Officer that they were in a fit condition to be re-admitted.
- (3) All cases of ringworm absent from school would be made to report themselves regularly to see that they were receiving treatment apart from any so treated at the Clinic, and no case would be allowed to return to school without first satisfying the School Medical Officer by microscopical examination that he or she was free from infection.
- (4) No case of infectious disease would be permitted to return to school without having first satisfied the School Medical Officer that he or she was free from infection.
- (5) Head Teachers would submit any suspicious cases of skin or other disease for advice.

- (6) All cases requiring further examination than that afforded by ordinary inspection at school would attend for a more detailed examination at the Clinic, i.e., lung (examination of sputum), ringworm (microscopic examination), kidney (examination of urine), syringing of ears (for use of aural speculum).
- (7) All cases which at medical inspection have been notified for treatment, and have failed to secure this within a reasonable time, would be made to attend the Clinic, and pressure brought to bear upon the parents to obtain the necessary treatment such as the provision of glasses, treatment of tonsils and adenoids, etc., where these parents are known to be able to afford treatment.

By this means a proper grip would be established upon such important details, preventing leakage in many ways, and lacking now only through want of proper centralised control from a central office.

(2) ADVISORY.

- (a) Many parents would avail themselves of the opportunity of seeking advice as to the proper course to pursue in many cases, apart from any treatment being provided for them.
  - (1) Re provision of tickets for hospital or eye treatment.
  - (2) Re convalescent homes or sanatoria.
  - (3) Re mental or physically defective children.
  - (4) Re examination of children for blind and deaf schools.
- (b) In cases ordered to obtain treatment, and told to return within a week to report as to what has been done, this would enable the School Medical Officer to insist more strongly on the treatment being obtained, and to see that some steps had been taken in this direction, either by calling in medical practitioners, or making use of hospitals, dispensaries, etc.

These functions of a School Clinic, embodying as they do a central office for clerical, administrative, and advisory work,

seem to me to be an absolute necessity for the future efficient and proper working of the department, apart from the next point to be considered, viz. :

### (3) REMEDIAL TREATMENT.

In presenting this branch of the Clinic, it is necessary to discuss :

(a) The class of defects met with under three broad headings. These fall naturally into :

(1) Special cases and conditions—

(a) Refraction work (eyes).

(b) Tonsils and adenoids. Mastoid disease.

(c) Dental work.

(2) Ordinary diseases met with, such as bronchitis, infectious disease, nervous diseases (such as St. Vitus' dance), heart disease, which are generally attended to by general practitioners.

(3) A class of cases generally known as minor ailments, such as skin diseases, including ring-worm, sore eyes, discharging ears, sore heads, verminous cases, etc.

Class 2 may be eliminated as requiring attention at a School Clinic except in so far as has been mentioned before—in supervising and seeing that such cases obtained the required and necessary treatment.

This leaves the group of cases known as :

(1) Special cases.

(2) Minor ailments

which therefore need to be dealt with.

It may here be asked, but why need a School Clinic when there exist such local agencies as the Eye and Ear Infirmary, and the Royal Portsmouth Hospital, which can be utilised for treatment.

My answer is (1) that these hospitals, and their out-patient departments especially, are already taxed to their utmost in dealing with the general diseases incident to the civil members of so large a community as Portsmouth, and would be more than overtaxed by dealing with the large numbers of children

found defective during School Medical Inspection, a great number of whom have already endeavoured to obtain tickets for treatment there.

(2) The authorities and staff of these hospitals themselves discountenance the treatment of school children, contending that the Local Education Authority, who provide education, free meals, etc., for the children, and who, through the Board of Education, now have School Medical Inspection instituted, should provide for the treatment of those children found defective themselves.

(3) Because, during the time since School Medical Inspection was commenced here, viz.: September, 1908, these agencies have been, and are, totally unable to cope with the demand for treatment of the children who require it, and, furthermore, that there is a large class of cases who require a type of treatment for which hospitals were never intended, and for which they should not be asked to treat, nor could be expected to cater for.

The large proportion of children shown previously in the report who have had no treatment of any kind, cannot be explained wholly on the ground of "indifference of the parents." It is the daily experience of the School Medical Officers to have children, and parents of children willing to obtain treatment, but unable to do so on account of poverty, and inability to obtain hospital treatment.

The establishment of a School Clinic should be solely for the very purpose of supplying treatment for the needs and wants of the necessitous poor—those who from circumstances of life are in low water, and unable to provide the means by which their children can be attended to. In this way the School Clinic would be a means of assistance to the hospitals by relieving them of an unnecessary burden; to the general practitioners themselves by safeguarding their interests in dealing simply with those who financially are of no service to them; and also of benefit to them by the fact that many cases—whose parents are able to afford treatment—are being, and will be constantly brought to them for treatment by the insistence and notices of the School Medical Officers to these parents to obtain the required treatment.

## A Class for Intermediate Children.\*

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The Brighton Education Committee adopted the suggestion made in 1909 by its medical officers to establish a special class for children intermediate between backward and mentally defective. This was opened last April, for 25-30 boys between the ages of 11 and 12 at the Richmond Street Boys' School.

A circular was sent to the head teachers of six schools, drawing attention to the proposed new class; the teachers were asked to select for examination by the school doctor such boys as they thought would benefit by the proposed training.

All boys entered on these lists were then medically examined, and 30 were chosen for the class. A few of these were selected, as it was desirable that their mental condition should be ascertained more exactly over a period of prolonged observation.

A letter was written to the parents, pointing out the backwardness of the child, and the advantages to be gained by entering the child in the practical class. The parents expressed themselves in almost all instances as being very glad to avail themselves of the offer.

Arrangements were made for the use of a special room in Richmond Street School; this was fitted up partly for manual and partly for ordinary school work. The arrangements and the details of the curriculum were completed by Mr. Mulrenan, the head master, in conjunction with Mr. Walter, an assistant appointed especially for the class. A great deal of care has been taken to prevent any stigma falling upon the boys in the class. For this reason it is known as a "practical" not a "special" class. The boys of this class join with the others at prayers, opening and closing of school sessions, scripture, and play. A monthly report is sent home to the parents, detailing the conduct of the boy and his progress.

Manual work of some kind forms about one-half of the training. As far as possible all subjects are taught in a

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\* From the Annual Report for 1910 by Dr. Duncan Forbes and Dr. J. Lambert.



practical manner, and combined with manual work. The aim of the class is to "make the curriculum fit the boy," and owing to the smaller number in the class, for some individuals, modification of the training can be introduced without disturbing the routine of the class as a whole. The development of the powers of observation and initiative is an important part of the training. The average age of the class at the commencement was 12 1-12th; this is somewhat high, and one would prefer in establishing other classes to make the average age 10.

The average ability of the class was that of Standard II.; a few were incapable of work above Standard I.—one or two of these were found to be mentally defective after subsequent examinations.

The class started with 27 boys, and now contains that number; one boy left the district, one was removed owing to definite mental deficiency, and one, a constant truant, was sent back to his former school; three boys were admitted in place of these. The average attendance has been 25.5 out of 27; the boys have attended well; most of the absences have been due to illness.

The work done throughout the year has been encouraging, more especially the manual portion, which is readily taken up by the boys; with the exception of three or four cases, there has been general improvement. The class has been of use as an observation centre for certain mental cases, enabling a more definite diagnosis to be given of the degree of deficiency. There are at present in the class one or two high-grade mental defectives, and it may be necessary to draft these into the special school.

The scheme of work and time-tables (supplied by the head master) are given below. It will be noted that half an hour daily is devoted to physical exercises and games; this was considered advisable, as most of the boys in attendance come from poor districts, and are markedly below the average height and weight; they do not, as a rule, display the activity and energy of the normal child, and hence any training tending to the development of these qualities is advantageous.

One of the most noticeable features of this group of children, while in the *ordinary* elementary school classes, is the apathy with which they regard most of their lessons. They take no interest in a lesson of which they understand nothing; they become resigned to repeated correction by their teacher; and after being a source of annoyance to the teacher and a drag on the remainder of the class, they are

generally left to get on as best as they may, ignored by the teacher, who cannot spare time for them if his class is to progress at a normal rate.

A child of this group generally passes through the school career, and leaves at 14, having done little or *no manual work*; the usual system is that manual work is only done by boys in the upper standards; as these boys of the intermediate class never get beyond Standard III. or Standard IV., they lose the training which would be of most value to them in their work after 14, and which would appeal to and rouse their interest during school life.

It is interesting to notice that the children in the practical class display far more interest in their work, and show much less apathy than formerly, when they were the outcasts of other classes.

#### SCHEME OF WORK.

*Important.*—Every subject, wherever possible, is taught practically and in manual form.

Arithmetic	Simple exercises in mental and written work, including practical work in money, length, weight, capacity, time. All numbers to be small.
Reading	Good, simple, continuous stories. One Geography and one History Reader. Spelling.
Writing	Copy books, simple dictation and composition.
Geography and History	The world generally, taught by clay modelling, reading, and pictures.
Singing	Voice training. Simple songs
Object Lessons	Nature study of plant, animal, and insect life. Common things: air, water, etc. Hygiene, ventilation, food, etc. This subject experimental where possible.
Drill	Half-hour each day. Official course of exercises and organised games.
Drawing and Manual Work	Includes clay modelling and work in cardboard, paper, and wood.

It is necessary to point out that the work in arithmetic, geography and object lessons is largely of a manual nature, Plasticene clay being frequently used.

The experiment and the method of teaching has been favourably commented upon by H.M. Inspector; it undoubtedly owes its initial success to the personal care and supervision of the head master, Mr. Mulrenan, and the carrying out of the scheme by Mr. Walter.

An experiment is at present being made at Hanover Terrace Girls' School, where 25 of the intermediate and very backward types have been formed into a special class, and have received special instruction from the head teacher, Miss Baker, in such subjects as reading, writing, and practical arithmetic, and are distributed among other classes for training in domestic work, needlework, nature study, and object lessons. Practical lessons are given in such matters as the hygiene of the body. It is proposed to teach these children especially *home management and infant care* in as practical a way as possible. A new teacher has just been appointed for the special supervision of this class. The average age of the class is about 12, and the average mental capacity Standard II.-III.

# Medical Inspection in Ayrshire.

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## VERMINOUS CHILDREN.

It is too early to gauge the results of medical inspection Dr. Macdonald remarks, but there is already much improvement in cleanliness of head and of body. This is something positive which can be put to the credit of medical inspection. When a verminous child is found at school he recommends that the house be inspected, "and if found dirty and the other inmates verminous, as is usually the case, the whole family be removed to reception or isolated rooms until the house and clothing of the persons of the household be thoroughly disinfected and cleansed."

## THE OVERCLOTHED.

Dr. J. King Patrick, the Medical Inspector for the schools in the Northern district (all the school boards in this area have now joined in the scheme), remarks:—

"It is somewhat difficult to judge of the true character of the clothing in a routine inspection, as the parents, being notified that the inspection will take place, take care to have their children 'got up' for the occasion. On the occasion of surprise visits to the schools marked difference is often noticed with regard to cleanliness and state of clothing. Clothing may be deficient in respect to cleanliness, suitability, and state of repair, and quite often young children are overburdened with a mass of clothing altogether in excess of their requirements. This is most often the case of children who are regarded by their parents as 'delicate,' or who are convalescing from some form of chest affection. It is just in these cases that the baneful effect of overclothing is most to be feared, as the weight of clothes impedes respiratory action and interferes with the proper discharge of the functions of the skin. The parents so clothe their children that they may not catch cold, little realising that the procedure they adopt is the one best calculated to make the child liable to chill. The

state of the child's clothing is often a very sure index of the capacity of the mother. Among the routine children examined 373 were found to have no boots. It must be remembered that the figures refer to the whole year, and that the most of those found were in the summer. It is certainly desirable that all children should wear boots in the winter, and in the summer also some protection should be given for the feet. I think that at any time the absence of boots is no more serious than the presence of boots in bad repair. In fact, I think I would be inclined to prefer no boots to bad boots."

#### OVERWORKING THE SCHOOLROOM.

In the Kilmarnock district Dr. Stevens finds that :

"A few schools are used as churches on Sunday, which is a practice to be deprecated. It is a serious menace to the health of the children. The scholars instead of entering a fresh room on the Monday, when the dust has had time to settle, enter one which has been tenanted by all sorts of people the day before—some coming from infected houses and some with infection on them.

"In some small remote country schools of the barn and cottage type sanitary conveniences are necessarily primitive, but only care and attention are required to prevent any nuisance.

"With regard to lavatory accommodation, this is on the whole good, but some quite large schools provide neither soap nor towels. How are children to become inculcated with the principles of personal cleanliness unless they have appliances at school for keeping their hands and faces clean? Think of the result of a sewing class where the girls take up their white work with dirty hands!"

#### MALNUTRITION.

In the Ayr and Carrick district Dr. Wm. Barr found among his 2,645 children examined, 113 cases of malnutrition.

"This number 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 enquired 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 a growing organism 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 establishment of soup kitchens would be of great benefit, and already in some schools children can have a plate of soup for a small sum."

#### SPECIAL CLASSES FOR HIGH MYOPIA.

Dr. W. F. Brown, in the Burgh of Ayr, has made a special enquiry into children with severe eye defects.

"In reporting on those children who have such deficient sight that they are unable to take advantage of the ordinary school education offered them, and yet who are not fit subjects for a blind school, I beg to state that on May 18th I visited several schools in Glasgow, including Dovehill and St. George's Road Schools, where I learned that the methods there adopted for dealing with such children were Braille reading and writing, taught under the supervision of a visiting teacher. In fact, the teaching is such as is carried on in the ordinary blind school.

"Under the London County Council special arrangements have been made for dealing with such children, due chiefly to the efforts of Mr. Bishop Harman. Indeed, the special classes referred to are the only classes of the kind in the world. I know of no other place where they are conducted. I had the great advantage of Mr. Harman's personal advice and guidance in looking into this matter, and to him I owe my best thanks. I must confess that I was much impressed with the good work done and the results obtained.

"I may state that most eye surgeons to whom I have spoken are impressed with the value of such special teaching and the necessity of insisting on the danger of ordinary education in such cases. Then, as often happens, such children are excluded from educational advantages. These special classes, while providing for their education, yet prevent all work likely to be dangerous to their eyes."

# The First International Congress on Child Study.

HELD AT BRUSSELS AUGUST 12TH-18TH.

There was much of interest to educationists at this Congress; unfortunately the attendance was not sufficiently representative to justify the term international. Professor de Sanctis, Dr. Hoesch-Ernst, Dr. T. Smith, of Clarke University, were almost the only non-Belgian visitors of well-established reputation. The Congress was, indeed, an enthusiastic gathering of Belgian school-teachers and educationists. The members of the Congress met with a most cordial reception, *vins d'honneur* and the rest, at Brussels, Antwerp, and Charleroi. Indeed, the receptions were on so magnificent a scale at Antwerp that our correspondent protests that it was difficult to see any work. Dr. Joteyko's laboratory at Brussels was transferred to the exhibition. At Antwerp facilities were given for visiting the elementary and secondary schools, and for an inspection of Professor Schuyten's laboratory.

Among the interesting features was a demonstration of rhythmical gymnastics for children based on the Jaques-Dalcroze system by Mdlle. Rose Guillaume. The method is, perhaps, better adapted for ensuring grace and flexibility than for the correction of physical defects and unhappy postures. At all events such faults were exhibited by many of those who took part in the display. Considerable excitement was shown in the discussion of Dr. Van Wayenburg's paper on "Fatigue." Dr. Van Wayenburg asserted that the "threshold of twoness" in æsthesiometry was pure chance dependent on the areas being supplied by more than one spinal segment; when these overlap "twoness" can occur at short or long distances; "twoness" does not occur when there is no overlapping. The challenge was taken up by several speakers, who claimed that æsthesiometry had given wonderful results; others maintained that the conclusions were quite untrustworthy. There was some little difficulty in

following that discussion, because, although not more than three persons spoke at the same time, each of them used a different language. Mr. J. Gray, in his paper on "Anthropometry and Aptitude," drew attention to his revolving mirror for the measurement of the persistence of perceptions due to colour images. When the revolutions reach a certain rate the colours fuse; the rate varies in different persons, and is an index of mental character. Dr. Hoesch-Ernst doubted whether the test could be applied to children, whilst Professor de Sanctis considered that the correlation was a spurious one. Professor de Sanctis's own paper on "Abnormal Children" dealt chiefly with the diagnosis by the tests he has devised. Apart from these he said there were certain practical methods of ready application and considerable value. A test of the child's knowledge and powers of application combined with its past history and a brief physiological examination would differentiate the abnormal child. Good results were also obtained by the psychological analysis outlined by Sommer and Ferrari. One of the most valuable papers sent in was Dr. Spearman's "On the Correlation between Aptitudes." Dr. Spearman pointed out that as investigation proceeded the problem had been discovered as one of extreme difficulty. Unfortunately many investigators had not yet arrived at that stage, and so much of their work was wasted. Statisticians without psychology were even more dangerous than psychologists without statistics. Psychologists have now discarded "general intelligence," still believed in by statisticians and amateurs; for the psychologist, however, "the individual of greatest general intelligence was surely he who happens to excel in the greatest number of performances." A brief and useful résumé of 25 papers was presented to the members of the Congress, but not all of these were read. Some were of much value, and we hope to refer to them when they are published in full.



# The English Section at the International Hygiene Exhibition at Dresden

Although English exhibitors have been handicapped in comparison with those from other countries by the absence of official support, the resultant collection, whilst small, is well worthy of the country, and reflects great credit on the industry and persuasive skill of Dr. Armit, the secretary of the English section. The exhibits cover the whole range of hygiene.

Infant care is exceptionally complete under the auspices of the St. Marylebone General Dispensary, the Birmingham Infants' Health Society, and the St. Pancras School for Mothers. This section attracted considerable attention, and the demonstrations by the skilled representatives of the St. Marylebone Dispensary were generally welcomed. Under schools and school hygiene is classed a very full series of photographs illustrating all phases of school life in London—work, rest and play, medical inspection and treatment in the Deptford and other clinics, open-air schools, and special schools for the defective. The arrangement of the myopia classes attracted, perhaps, the greatest attention. The Sheffield and Bradford and Arlington open-air schools sent characteristic photographs, while Treloar's Cripple Home and College, at Alton, provided an exhibit of photographs and apparatus which attracted the notice of all medical visitors.

The tuberculosis section showed fully the arrangements for controlling the disease by means of dispensaries, hospitals, and sanatoria. Under the latter the development of the idea of work, and the control of the self-infection of the patient which has been generally adopted after the lead of the Frimley sanatorium, can be followed by a series of photographs and designs.

Manchester supplies an exhibit showing the care taken to ensue the purity of the food supplies of the county. Liverpool and some private architects fully illustrate the latest ideas in town planning. Whilst the exhibits for Glasgow, Liverpool, and London in tropical medicine, and especially the remarkable collection of the Imperial Cancer Research Fund alone are worth the journeying to Dresden.

## FROM FAR AND NEAR.

CLEANSING OF FLOORS.—During the year experiments have been carried out in the treatment of school floors with various dustless oils. These oils have been applied to the laboratory and to the gymnasium at the Pupil Teacher Centre, to certain classrooms at Bow Street Council School, and the Crofts Council School.

The following objections may be made to the use of these preparations :—

- (1) The increased slipperiness of the floors results in people falling. This statement is true, but falls will not occur if people learn to walk properly.
- (2) The clothing of the children becomes dirty if they sit on the floor; teachers' dresses will also become dirty if they come in contact with the oily surface. With reference to the soiling of the children's clothing, it would perhaps be as well not to apply oil to the floors of babies' rooms. The second objection is not of much importance, for skirts should be worn short enough to avoid their touching the floor.
- (3) Oiled floors become dark, and in that way a certain amount of reflected light is lost in the room. This may be an important objection in schools situated in dark streets.
- (4) The dirty appearance of oiled floors has been noticed and commented on unfavourably, unless oils of a very pale colour be used. This is certainly of importance from the educational point of view, as children seeing dark and apparently dirty floors in school may think that floors at home should be of the same colour.

The question really resolves itself into one of expense. It is certainly preferable to wash the floors at least twice a term (as is done in some other towns) instead of four times a year, which is the practice in Sheffield. This would entail very considerable additional expense in labour. With regard to the oiled floor the preparation is applied at the beginning of each term and afterwards only requires to be wiped over with a wet cloth. The dust falls and is prevented from rising again by the oily surface from which it is periodically removed. In other words the dust, instead of being inhaled by the children, remains entangled on the oily surface of the floor.

This statement is borne out by the small amount of dust found on shelves, pictures, etc., in rooms the floors of which have been treated with an oily preparation.

By the kindness of Dr. J. Martin Beattie, Professor of Pathology in the university, I have been able to carry out some bacteriological examinations of the air in certain classrooms.

Gelatine plates were exposed for six minutes in

(a) A classroom, the floor of which had been treated with oil.

(b) A classroom where oil had not been used.

Plates were exposed whilst the children were at rest, and other plates when the children were walking round the room.

It was found that the number of colonies of bacteria (each of which represented a particle of dust) growing on the different plates were as follows:—

(a) Room with oiled floor (children walking round the room) ... .. 60

(b) Room with untreated floor (children walking round the room) ... .. 270

This is a rough test, but it shows conclusively that the amount of dust thrown up when children move about is very much less with oiled floors than is the case, under the same conditions, with untreated floors.

I recommend that the experiments with dustless oils be extended in certain schools during the year. I also consider that the untreated floors should be scrubbed more frequently; especially does this refer to babies' rooms.—*Dr. Ralph P. Williams' Report to the Sheffield Education Committee, 1910.*

THE SCHOOL AMBULANCE.—An ambulance for first aid was recently placed in one of the schools by one of the managers. The headmaster, in thanking him for the box, assured the donor that it was really very useful, but he did not intend it to be used. He would put the key in his pocket—as an ambulance was too dangerous. “If I were to apply arnica to a bruise and some eruption broke out, or some splints to a fracture which was, perhaps, already compound or became so on the journey, suppose I did my best with a wound and yet it became poisoned, or if I gave some simple medicine to a child taken ill, which turned out to be the commencement of something serious, who would be blamed but the master, and by the very parents who would have every consideration for a quack? If the child had to remain in bed, if he were lamed for life, or if, unfortunately, he were to die, a suit would be

brought against me. I should have all kinds of worries, perhaps lose the case. The ambulance box will remain closed.

“You say that the parents are not all so absurd. Well, I tell you it would be always the headmaster’s fault. It would have been nothing if it had been left alone—the child was ill because he was made to swallow something—the child is deformed because the bandage was put on all wrong. No, we have trouble enough without that.

“No, I will not even put a cold water compress on a sprain, for if the child is later on attacked by white swelling I shall always be blamed.

“No, I shall not mind explaining to the children the use and advantages of the ambulance box in cases of accident. But that’s the only way I shall touch it.”—*Dr. Courgey in La Medecine Scolaire.*

**BOY SCOUT SCHOOLS.**—In Barry, the enthusiasm for “Boy Scouting” has been made use of to secure the attendance of these boys at three evening schools. The Scouts, who number about 200, are most punctual and regular under their patrol leaders and scout masters.

They are taught “investigation,” which is really useful knowledge, such as surveying and measuring, etc., history and geography, singing, and “health talks,” given by medical men. These include:—

1. Structure of the body.
2. Disease—how spread.
3. Nature and variety of food and drink: digestive organs.
4. Respiration: Value of open-air breathing exercises. Schafer’s method of restoration of the apparently drowned.
5. Circulatory organs: Bleeding from arteries and veins, etc.
6. Personal hygiene. The care of the body, the hair, teeth; clothing, baths, etc.
7. Hygiene of the home. Soils. Buildings, drains, sewage, water supply, etc.
8. Germs. Infectious diseases.
9. Minor ailments, burns, etc.

In addition to this course, the boys are given lectures by prominent townsmen, often with an optical lantern.—*Dr. W. Lloyd Edwards’ Annual Report for 1910 to Barry Education Committee.*

## Correspondence.

### Woolwich District Invalid Children's Committee and Ringworm.

SIR,—Few people, I think, realise the distress there is amongst children on account of ringworm, and how little there is being done to remedy this. So far as I am aware, the Miller Hospital is the only place that children can attend for the X-ray treatment, and there only two cases per week are treated. I should like to give the following cases as examples:—

Case No. 1.—R. F., a little lame girl, aged 7, started with ringworm in April. She was excluded from school. Her mother tried her best to cure the ringworm, but without success; consequently, by the end of June her sister and two brothers were infected. A letter was then sent to the Education Officer asking if they could be sent to the Miller Hospital for X-ray treatment. A reply came saying the children should have the necessary cards, but owing to the number of cases waiting treatment it would be some time before an appointment could be made. On August 24th Mrs. F. reported she had not heard anything from the L.C.C., and she was told she would not hear until the holidays were over, and then no doubt when she did hear she would have to take the children one at a time. This she said was impossible. She cannot get anyone to go in and look after the children, as they are afraid of getting the ringworm, and when she left the three children the other day to do some shopping she returned to find her front room in flames. Her eldest boy had played with the matches. Poor woman, she said it was really terrible, as the children being away from school so long were getting out of hand.

Case No. 2.—F. K., aged 9, suffers badly from epileptic fits, and has hardly been able to attend school at all. He was a little better in March, so his mother sent him to school, but after a fortnight only he started with ringworm, and has had it ever since. Florence, the younger, sister, caught the ringworm from Fred; both are now away from school, and are likely to be, unless someone takes the matter up. In the case of Fred and Florence, the exclusion from school is not the worst point. Their father has been out of work for some time, and, if at school, they would have free dinners, but as they are excluded they have, of course, to go hungry.

Case No. 3.—L. M. has been absent from school two years on account of ringworm.

If you have space to insert this in your next issue I shall be very glad, and I hope all who read it will do their utmost to press for a School Clinic in every borough.

Yours faithfully,

H. E. GRINLING.

## REVIEWS.

### The Deaf Child, a Manual for Teachers and School Doctors.

By JAMES KERR LOVE, M.D. Bristol: John Wright and Sons, Ltd. 1911. Pp. 192.

Dr. Kerr Love is, of all his profession, the man most entitled to write upon the subject of the deaf child. His book is an attempt (as he modestly describes it) to introduce the scientific method into the study of deafness in children, and, as a result of this, it lays down a clinical basis—the only safe foundation—for the application of clinical methods. In his introductory chapter the author sketches the history of deaf education, dividing it into three periods: a sporadic, from the time of Benet towards the end of the sixteenth century; a systematic, from 1760 to our own time, and a clinical period, which is just beginning. Chapter II. deals briefly with the physiology of hearing, and the causes of deafness; and Chapter III. more fully with the operation of the language centres in normal and abnormal children. This chapter is one of the most important in the book, as it forms a powerful argument for the oral system, and for the early education of the deaf child. Deafness in the school child forms the subject of Chapter IV., and we are glad to note that Dr. Kerr Love insists upon the human voice as the only test of practical value in dealing with school children. Chapter V. gives an interesting account of the present condition of the education of the deaf, doubly valuable because the reader knows that Dr. Kerr Love speaks only of what he has seen and knows. In discussing our own country he recurs to what he endeavoured to bring out in his introductory chapter, viz., the neglect of the deaf child by the medical profession, and the rise of the institution for the education of the deaf child, and writes thereon at greater length. Whilst he fully appreciates and praises the magnificent work done by the institutions for the deaf in the past, he points out that there is yet no *general* movement for the transference of deaf children from institutions to day schools. This will be, however, the inevitable outcome of progress in deaf education. Throughout this

chapter one is gradually brought to the opinion that the day-school system is, and must be, the better. It is pleasant to those who work under the London County Council to find how Dr. Kerr Love appreciates the work of the deaf schools under the control of that body. The London County Council arrangements, he says, show that it is possible to educate the majority of deaf children efficiently without taking them from their homes, that this efficient system costs less than the institution system, and that the results at Oak Lodge and Anerley, where the London deaf complete their education, are amongst the best in the kingdom. Chapter VI. deals with methods of education, in which the needs of British schools are so discussed as to convince the reader that the postulates laid down are right. Chapter VII. very briefly touches upon the surgical and educational treatment of deaf children, and Chapter VIII. is devoted to lip-reading. The book concludes with three appendices: upon the capacity of the deaf for higher education, the condition of the eyes in the deaf child, and stammering and cleft palate.

One seldom meets with a book in which so much information, so much sound, logical reasoning, and so much carefully arranged personal experience is contained in so small a number of pages. Dr. Kerr Love has given to the medical profession, the educationist, and to the legislator, a book which, if taken rightly and acted upon, should bring about enormous improvements in the condition of the deaf child throughout the world.

MACLEOD YEARSLEY.

### Hygiene and Public Health.

By SIR ARTHUR WHITELEGGE and SIR GEORGE NEWMAN.

London: Cassell and Co., Ltd. 8s. 6d. net.

There is nothing to say about the twelfth edition of a text book except that merit does occasionally meet its due reward even in this imperfect world. The chapter on schools and school hygiene naturally attracts our first attention. A very clear account is given of the main features to be regarded in school building, and of the chief regulations prescribed by the Board of Education. The *plenum system* of ventilation, we are glad to see, receives no recommendation. The useful memorandum issued in 1909 on the closure of schools is given; perhaps attention might have been drawn to the unfairness of not compensating local authorities for the loss of grant when closure is enforced. In measles epidemics unprotected children, it is advised, should be excluded within nine or ten

days of the first attendance of the initial case. In connection with this the authors fix the lowest age limit of school attendance at five years. If anything this errs by being too low; from every point of view, children should not be sent into schoolrooms before six or seven years. Pneumonia is now included among the specific diseases, but it is a pity no place has been found there for the venereal diseases and for rheumatic fever. We must demur to the view that phthisis is rare among Jews. The authors consider that little reliance should be placed upon the tubercular nature of the majority of the cases certified as deaths from *tabes mesenterica* and tubercular meningitis, and they rightly urge that these death certificates must not be regarded as evidence of the extreme prevalence of tubercular disease. Nothing is said, however, as to the evidence brought forward in the last few years as to the prevalence of the tubercle bacillus amongst children: Hamburger (Vienna) with his 94 per cent., Nothmann, 84.5 per cent.; Ito (Japan) 48 per cent, and others with an equally high percentage of positive reactions with Von Pirquet's test. Of course, presence of bacillus and tuberculosis must not be regarded as like terms. But the figures do rather lend support to some of Sir Almroth Wright's apparent paradoxes. We would rather like to have had the opinions of eminent public health authorities like the authors on the situation. The chapter on factories and workshops gives, as was to be expected, full abstracts of the regulations and laws. The questions of leadless glaze and of zinc oxide as a substitute for lead paint are not discussed, nor do we find any mention of the recommendations of the recent report of the departmental committee on the use of lead in the potteries. But we must not forget that space is limited, and this revised edition, containing a great deal of new matter, preserves the pleasant and convenient format of the earlier editions. From the title page no one would learn that one of the authors is H.M. Chief Inspector of Factories, and the other the chief medical officer of the Board of Education. Of course, authors and publishers can but submit to official regulations, however pedantic.

### The Prevention of Dental Caries.

By J. SIM WALLACE, D.Sc., M.D., L.D.S. London: The Dental Record, 1s. 6d. net.

The lamentable condition of the teeth of school children, revealed by medical inspection, has brought the question of



the prevention of dental decay into great prominence. So much so, that Dr. Wheatley, at the recent meeting of the British Medical Association, claimed that there was no other problem in public health the solution of which would do so much for the physique of the nation. The researches of a number of dentists, of whom G. V. Black, W. D. Miller, and J. Sim Wallace are the most prominent, lead the latter to say that :—

“The pathology of the disease and the nature of the immediate or exciting cause is definitely and accurately known, and, fortunately, beyond the limits of controversy. It is now universally admitted that dental caries results directly from the fermentation of carbohydrates in the crevices of or between teeth.”

Although, perhaps, other dentists might be easily found who would lay more stress upon Dr. Wallace's antecedent causes, viz., the shape and arrangement of the teeth, and their relation to the gums, and perhaps even defend the thesis that certain individuals have teeth more predisposed to caries than others, yet in focussing attention upon one factor which is easily tackled Dr. Wallace is doing a most admirable work. The dentists of the new school, teaching as they do an entirely novel system of dietetics, are, perhaps, inclined to be over hasty with their medical colleagues. The views set forth are the product of the last few years; they are, by Dr. Wallace's confession, only set forth clearly in one text book of Dental Surgery (J. F. Colyer), and some time must necessarily elapse before the medical profession, as a whole, has absorbed them, and a much longer time before the general public has been convinced. The difficulties of convincing the public will be realised when the revolutionary character of the suggestion is considered in detail. Thus in infant feeding, on weaning, the giving of bread and milk, milk puddings, and such like soft foods, is to be forbidden; instead, we have toast to gnaw, rusks, milk puddings made solid, fish, and chicken, and as soon as the temporary molars are erupted three solid meals a day of substances requiring mastication, so arranged as to end always with some fibrous cleansing food, such as an apple or other hard fruit. The extension of this diet to older children and to adults will evidently forbid the conclusion of breakfast with bread and marmalade, of lunch with soft bread and cheese, and of dinner with cooked sweets. In fact, to a very large extent, the customary meals of the people of this country will require rearranging. Such a revolution must be the work of time, and the originators of

it must not become impatient if progress is slow. Again, in considering the artificial cleansing of the mouth we find that antiseptics have a very limited use, that the toothbrush may be positively harmful, and that tooth powders are only of use to keep the teeth white. In fact, we gather that all these artificial methods are to be used mainly from the point of view of ordinary cleanliness, and that for the prevention of decay we must rely upon a properly arranged diet.

The eminent simplicity and good sense of this last-named principle make it certain that the campaign, revolutionary though it is, will ultimately be successful, and the outstanding question is the best method of placing the now ascertained facts of dental hygiene before the medical profession and the public. A step was taken at the British Medical Association this year in holding a joint meeting of the Dental and Public Health Sections to discuss the question. It appears, however, that the attendance of the Medical Officers of Health was poor. This is greatly to be deplored, for the medical service of the country, more particularly in their capacity as school medical officers, can do more, perhaps, than any others to extend the knowledge of dental hygiene to the people at large. It is to be hoped that some effort will be made to have these new views expounded at the medical schools. The present-day student of medicine is being taught to pay an increasing attention to the existence of dental decay or disease. It seems even more important that he should learn of the possibility of preventing these conditions. Dr. Wallace's book should be in the hands of every medical man, more especially of every school medical officer. It is, unfortunately, rather too technical to be properly appreciated by those without some medical knowledge; but if these will take the trouble to read it (it extends to only 45 pages) they will at least understand the idea of the diet suggested, and something of the reasons put forward.—R. C. E.

### **Lateral Curvature of the Spine and Flat Foot.**

By J. S. KELLETT SMITH, F.R.C.S. Bristol: John Wright and Sons.

Spinal curvatures are a constantly recurring theme in school inspection, and the vast majority of curvatures found in school children are slight in degree. So that this book, which sets out frankly to discuss the causation and treatment of these slight cases, and ignores the severer deformities, is attacking a subject which is of great importance to school doctors. It

cannot be said that the author has quite stuck to his intention. Thus in the section on occurrence the proportion of cases of lateral curvature in the sexes is given as seven females to one male; this is the proportion found in orthopoedic clinics among the severe cases. School statistics all show that the slighter cases are equally common in boys and girls. In analysing the nature of the deformity, and in illustrating the creeping exercises, the author also figures cases of high-grade scoliosis.

In discussing causation Mr. Kellett Smith falls into the usual error of terming those attitudes which are thought to assist in causing lateral curvature "bad" or "faulty." To call such universal attitudes as the old stand-at-ease position and lying upon one side "faulty" is evidently absurd. It is the habitual use of the same attitude that is bad or faulty. As the author himself says: "The attitude of erect spine is an extremely trying one to maintain for any considerable time, and the greater part of our lives is spent with the spine in a curved position." What we have to see to is that the curves assumed are not always the same ones. A careful and well-illustrated examination is made of the curves produced by many habits of standing, sitting, writing, lying, riding, violin playing, carrying, etc.; this is not only useful in itself, but will be found a great assistance to the readers in considering the importance of other attitudes in the case of any individual child. The section upon exercises for spinal curvatures is brief, clear, and pays a proper attention to the importance of the initial position before any exercise is carried out; it also includes a short account of Klapp's creeping exercises, which are so far comparatively unknown in this country. The last sections give a short but clear and straightforward account of flat foot and weak ankles, in which we are specially glad to see the author differentiating between the two conditions. The book is well printed, and the illustrations (for the most part original) are particularly good. It is a small work which should certainly be useful to school inspectors and to medical men in general.—R. C. E.

# Abstracts from Current Literature

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## MEDICAL INSPECTION IN FRANCE.

Dr. Albert Mathieu, writing in *L'Hygiene Scolaire*, admits that there is some ground for the pessimistic views held by many as to the establishment of a system of medical inspection in France. "There is little doubt but that some of the committees formed in the provinces to promote public hygiene are only the painted cloth façade of a non-existent building." Still, one must not be unduly depressed; there are plenty of earnest people willing to work for school hygiene, only they require some finding. The parents of the children must be approached and their interest stimulated, and pressure brought to bear upon the Government. Medical inspection is suffering from the general Ministerial instability. In the Chamber and in the Senate there is a strong group of men working for the views of the Ligue. As soon as Parliament has a little time to give to other subjects than the Budget it will have to consider the Bills introduced by M. Doumerque and M. Ferdinand Buisson on Medical Inspection and by M. Lachaud on Physical Education.

## INDEPENDENCE DAY TETANUS.

A year ago we had occasion to refer to the annual trail of disaster following the glorious Fourth of July celebration, and as this national holiday just passed has left in its trail, like bloody war, death and destruction, it is opportune to again call attention to the stupendous holocaust. During the past ten years more than 35,000 people have been killed and injured from accidents resulting from the Fourth of July celebrations. True patriotism should be encouraged, but Independence Day should not be made a day of licensed lawlessness, a day of rough rowdiness, a day of peril to life, limb and property, a day of noise, nuisance and destruction—features too anarchistic to do credit to our national intelligence or to reflect a genuine spirit of true patriotism. When called to an accident resulting from celebrating the Glorious Fourth, the physician's first duty is to inject anti-tetanic serum containing 1,500 units. In the treatment of the disease, experience places the minimum dose of serum at 15,000 units and the maximum at 30,000 units at such injections, which should be given at intervals of six to twelve hours. The number of injections required to effect a cure range as high as twenty-five, though the average, perhaps, does not exceed eight or ten. The prompt employment of a preventive dose of serum (1,500 units) in all cases should be made obligatory. All gunpowder, toy pistol and fire cracker wounds, street, field, stable, wire fence, rusty nail,

and kindred wounds should probably be classed as suspicious, and the physician who fails to promptly administer 1,500 units of anti-tetanic serum is derelict in his duty to his patient, to the family, and to the profession.—*Pediatrics*. August, 1911.

#### A CLASS EPIDEMIC OF DIPHTHERIA.

On August 25th, 1910, a child was notified as suffering from diphtheria; another case occurred a few days later, but was not notified. The school doctor held an inquiry on September 6th, when it was found there had been several absences on account of sore throat. Up till September 14th there were three cases of diphtheria in the class, and it was resolved to close the class for a week. The class-room was disinfected, and as there had lately been an increase in diphtheria in Berlin and for other reasons it was resolved to make a bacteriological examination of all the children when the class reassembled. On September 23rd, among forty-six girls there were three with diphtheria, who were excluded. On September 26th, among forty-nine girls there were another four with diphtheria bacilli; on September 26th, another two among forty-six. A swab from the teacher's throat was negative. These nine children and the two children known to be suffering from diphtheria were re-examined; swabs were taken from each child until three successive examinations were negative. The last swabs were taken on November 4th-5th. Dr. R. Schultz, who describes the epidemic, believes that a systematic examination in all class epidemics should be carried out early, but if practised as soon as one case is notified there would be a great deal of useless work. He advises bacteriological examination when (1) there are several cases in a class in quick succession; (2) when there are several cases of sore throat; (3) distinction must be drawn between times of epidemic and normal periods. The class should be closed for a short time, 2-3 days, and the diphtheria carriers excluded. These should be re-examined about once a week.—*Zeitschrift für Schulgesundheitspflege*, No. 7, 1911, p. 545.

#### THE EXPERIMENTAL STUDY OF GENERAL INTELLIGENCE.

Mr. Cyril Burt thus concludes his valuable study:—

“General intelligence exists, is definable, and can be measured. It can be most readily measured by tests of the higher and more complex levels of mental activity. It may be defined as *all-round innate mental efficiency*; for excellence at these tests and at tests like them proves to be the expression of a mental property neither merely specialised nor merely acquired, but something all-pervading, something inherited, something inborn. Lastly, we may have no hesitation in assuming that such a capacity exists; for its basis may be pictured as a tendency to integration in the structure of the central nervous system; and hence that child will be the most generally intelligent who inherits a brain which has been through-out laid down for development along the most systematic lines.

“These conclusions are, it is true, still largely hypothetical. But they form a hypothesis which is founded upon experiment. And by experiment alone can they be firmly established, fully extended, or finally overthrown.”—*Child Study*. October, 1911.

### THE DANGERS OF THE CINEMATOGRAPH FOR CHILDREN.

Parents and teachers cannot be unconcerned about the popularity the cinematograph theatre has for the children. In Jena, out of 1,050 children, 524 children had visited it during a period of five weeks; some of the children went two or three times a week, and some remained two or three hours in the theatre. The glittering and zigzagging of the films are harmful to the eyes, the retina having to be so rapidly reacting to an ever-changing series. Pains in the eyes and shunning of light are natural consequences; nystagnus has been noticed. The air in these theatres is usually bad, since there are continuous performances daily from three o'clock till late at night. The performances are nearly always unsuitable for children. Sensational and crude melodramas, murders and other crimes are constant features; the funny scenes showing the humours of drunkenness are not exactly suitable for children. Coarse love scenes, where dressing up and undressing are prominent and suggestive are likely to do much harm. Dr. Götze gives instances of the harm done to the child visitors at these shows. He concludes: "There is no doubt that we must regard the cinematograph, with its prevalent sensational, crime-loving programme and its glorification of the criminal on a level with the Nick Carter and Sherlock Holmes type of fiction, as dangerous material for the child mind."—*Zeitschrift für Kinderforschung*. September, 1911.

### HOW OUR CHILDREN WRITE.

Shockingly, from every point of view, maintains Ernst Kranzow. The letters are ugly, if not illegible, whilst more serious are the crippling attitudes of the hand and body. The cause does not, however, lie in the posture of the trunk in writing, as is frequently maintained. It is the faulty position of the hand that leads to faulty posture. The crumpled-up hand and crooked fingers hide the writing from the child. Hence he moves his eyes sideways to see the paper, and the result is the distorted head and back. We must then start with the proper position of the hand. The hand must be supported on the tips of ring and little fingers, so as to leave a clear space under the hand; the wrist hangs quite free in the air, and the forearm rests on the writing table. The fingers (ring and little) support the hand, but take no part in the movements of writing, but they prevent any bending of the other three fingers, and thereby any masking of the paper. Great care must be taken at the beginning to get the correct position of the hand—the rest will follow. Not only will the position be correct, but the calligraphy will be clear and beautiful. The article is illustrated by photographs showing the "correct" and "incorrect" movements of the hand, "bad" and "good" writing.—*Zeitschrift für Schulgesundheitspflege*. September, 1911.

### HYGIENE TEACHING IN THE PUBLIC NORMAL SCHOOLS OF THE UNITED STATES.

Mr. A. Heche gives a report based upon a questionnaire addressed to 191 schools, and to which 84 answers were obtained. The summary is:—

One-half of the 84 schools give either no hygiene at all or else

none aside from that given incidentally in connection with physiology. Nine schools give neither physiology nor hygiene, and those giving physiology devote so little time to it (usually one-half or one-third of a year) that very little can be accomplished in hygiene. A good proportion of the instructors in physiology and hygiene in these same schools have university or college degrees, and are probably capable of doing better work than their present allotment of time permits. Forty-two schools giving hygiene courses separate from physiology do not do this work at the expense of physiology, but by adding courses in personal hygiene, school hygiene, school and home sanitation, prophylaxis, clinical psychology, sex hygiene. Mental hygiene is receiving scarcely any attention. Comparatively little is being done with the problem of sex hygiene in the way of direct instruction, and the normal schools are not making the best of their opportunity to train teachers who can use nature study and biology as an approach to this subject. Fifty per cent. of the schools give domestic-science courses in which some effort is made to emphasize and exemplify the hygienic aspect, and the number is rapidly increasing. In the field of practical hygiene nearly two-thirds of the schools are aware of conditions that ought not exist. Inadequate ventilation, improper lighting, poor boarding and rooming places, and overpressure are the chief conditions of injury to health. Twenty-five per cent. of the schools do not have gymnasiums in charge of physical directors. Medical inspection is being rapidly adopted, but very few of our normal schools are training student teachers to observe and to make preliminary tests of children. Athletics and recreation do not receive the emphasis they should in a majority of schools. Only one school at present attempts to train special teachers of hygiene.—*Journal of Educational Psychology*. October, 1911.

#### THE STATISTICS OF INFANTILE PARALYSIS.

Dr. C. B. Hodgetts, as a result of replies received from 316 doctors, gives the histories of 658 cases that occurred in Canada during twelve months. Out of 521 cases, 293 were males, 235 females. He gives the following comparative table of age periods:—

	Canada.	Boston.	New York.
From birth to 12 months inclusive	23	44	62
1 year old	69	93	221
2 years old	105	121	180
3 " "	66	90	106
4 " "	62	60	63
5 " "	39	32	28
6 to 10 years inclusive	92	98	47
1 to 20 years inclusive	55	46	19
21 to 30 years inclusive	29	21	2
31 to 65 years inclusive	14	10	1

As regards seasons 76 per cent. of the cases occurred in August, September, and October; the winter months had fewest cases. There were 46 deaths, a case mortality of seven per cent.—*Pediatrics*. September, 1911.

# Official Publications, &c.

## MANCHESTER GRAMMAR SCHOOL.

### ANNUAL MEDICAL REPORT.

Dr. Alfred A. Mumford gives a general comparison of the physical stamina of the whole school during the last five years with the years 1881-1886:—

“ I find there has been a remarkable gain in nearly all directions, especially as regards height and weight, amounting to more than one inch in height between the ages of 13 and 16, and to an average increase of more than four pounds in weight. At the age of 16 the boys are  $1\frac{1}{2}$  inches taller and 8 lbs. heavier than a generation ago. The improvement is less marked at 17 and 18 years of age, and disappears in those who stay till 19. These calculations are based on over 6,000 measurements.” (See the table on page 659.)

The chief reasons for this change are ascribed to “ the steady diminution of postponement of early infectious disease in childhood,” and the increased attention given to athletics and physical exercise.

“ Other causes of the general improvement in physique are the better housing, the increased knowledge and use of foods, and a greater insight into the meaning of parental responsibility as regards health, which is certainly affecting a considerable number of homes in the present day. During the medical examination of boys on their entrance to the school, I have many illustrations of this in my conversations with parents, who have been glad to have their attention drawn to any imperfection or weakness in time to have them remedied.

“ I have, however, to record that there are also quite a considerable number who either do not realise their obligations, or who, for some other reason, neglect their opportunities of rendering the school life of the boys under their guardianship more efficient. This is particularly the case where I have to report the neglect of treatment of decaying teeth.”

The Manchester Grammar School receives a considerable number of scholarship children from the Public Elementary Schools. Comparison based on 250 cases show that “ though the ‘ free scholar ’ was slightly smaller at 11, 12, and 13, yet by the age of 14 he had equalled his companions in height, and in some cases surpassed him.”

Dr. Mumford urges that boys should come to the city at 13 years of age, and should remain there at least four years if any real benefit is to be obtained.



*Summary of Differences in Physical Development of the boys at the Manchester Grammar School during a period 1881-86, as compared with a period 1905-10.*

Age	Height in inches.		Weight in lbs.		Chest girth in inches.		Forearm in inches.		Upper arm in inches.	
	1881-86	1905-10	1881-86	1905-10	1881-86	1905-10	1881-86	1905-10	1881-86	1905-10
10-11	53.2	52.94	65.3	65.59	24.9	24.68	7.63	7.61	7.81	7.60
		-0.26		+0.29		-0.22		-0.02		-0.21
11-12	54.38	54.99	69.28	72.05	25.21	25.38	7.79	7.79	7.99	7.91
		+0.61		+2.77		+0.17		equal		-0.08
12-13	55.94	56.70	74.4	77.3	25.92	25.93	7.96	7.99	8.27	8.11
		+0.76		+2.9		+0.01		+0.03		-0.16
13-14	57.77	58.84	81.01	85.47	26.72	27.05	8.28	8.29	8.63	8.49
		+1.07		+4.46		+0.33		+0.01		-0.14
14-15	59.82	61.08	89.99	95.15	27.71	28.17	8.63	8.69	9.1	8.97
		+1.26		+5.16		+0.46		+0.06		-0.13
15-16	62.16	63.4	101.41	105.9	29.26	29.56	9.08	9.09	9.67	9.48
		+1.24		+4.49		+0.30		+0.01		-0.19
16-17	63.84	65.35	109.65	117.9	30.06	30.91	9.413	9.53	10.19	10.13
		+1.51		+8.25		+0.85		+0.117		-0.06
17-18	65.88	66.47	119.36	124.84	31.3	31.85	9.80	9.79	10.76	10.47
		+0.59		+5.48		+0.55		-0.01		-0.29

A plus sign indicates an improvement. A minus sign a deterioration. Averages only are compared. Ages 9-10 18-19, and 19-20 left out, as the figures are too few to afford very reliable results. These figures are to be found in the detailed analyses.

## MEDICAL INSPECTION OF SCHOOL CHILDREN IN THE HAGUE.

Dr. J. J. Pigeaud, in his report for 1910 on the Medical Inspection of School Children in the Hague district (the Hague and Scheveningen), states that he has at length been able to carry into effect his idea of making education of the mothers an essential feature of medical inspection. Lectures, etc., to mothers could not secure the requisite attendance and interest. The only method is to discuss her children with each mother individually.

In the first place, a general visit of inspection is made to the school, and the sight and hearing of newcomers tested. Later on all the children attend with their mothers (or, if that is impossible, with female relatives) at the office of the School Medical Officer. There, by means of various questions and inquiries, some idea is obtained about the child and its family circumstances. If the child requires to be kept under observation the particulars of the case are recorded on a card. The remaining children pass. Where advice is needed it is given immediately. The children receiving a card, i.e., under observation, are required to attend some months later (in the same school year) at the office of the medical officer, accompanied by their mothers, for further examination, and in order to see whether the advice given has been properly carried out. The examination of the children is thus made a basis for educating the mothers in the proper rearing of their children. In most cases the mothers attend.

In the Hague schools, out of 2,823 pupils 1,438 showed deviations from the normal in a more or less serious degree. Some had more than one defect. Of 470 children in Scheveningen, 211 received a card. Twenty-five per cent. of the children were scrofulous, with considerable anæmia. Tuberculosis manifest, 9 cases, suspected 42. Oxyuris and ascaris 46 (mothers' complaints), 25 children were mentally deficient. Quite abnormal tendencies were complained of in two cases. Enuresis existed in 134 cases. There were several cases of vulvovaginitis, some non-infectious; 188 cases of squint, and 178 of myopia, astigmatism or hypermetropia, 150 children were more or less deaf. Most of these had adenoids (total adenoids, 620). Otorrhea, 50 cases. Only one or two cases of bad teeth; 154 children showed a tendency to scoliosis. The results as to pediculosis are untrustworthy, the mothers taking care the children are clean when attending for examination at the office. (Female teachers are more observant than male teachers in this respect.)

Not only mothers, but teachers of both sexes are frequent callers during the medical officer's consultation hours. This is very valuable, as the teachers are often able to give useful particulars, and in turn they learn, quite by the way, many things in connection with school hygiene.

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