SOME OBSERVATIONS ON MENTAL DEFICIENTS.

BY

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Like probably many other school medical officers I have tried to find some certain method of differentiating between mental deficient, dull and backward, and normal children. Partly with this object and partly because it is of interest to see how local results compare with those in other centres and with those for the country at large, I have analysed my experiences with our Coventry children from various aspects.

Taking first physical conditions: Nutrition (as estimated by height and weight) shows a marked deterioration among mental deficient as a whole. At seven years of age the average weight is 4 lbs. below that of the normal child in Coventry; this defect steadily increases until at 14 years the average is 13 lbs. below the same normal.

In height the distinction is not so marked. The curve for the whole special school shows that the average is about $\frac{1}{4}$ -in. below the normal.

Dull and backward children, on the other hand, show no such defect. Curiously enough, in Coventry the curve of average weights for these children shows about 2 lbs. to the good for all ages. The curve for their heights is practically the same as that for normal children.

With regard to defective vision: 33 per cent. of the children in our special school have a defect of 6/12 or worse. This compares very unfavourably with the 7.5 per cent. found among normal children. In only 2 cases out of 20 cases of defective sight are there corneal opacities to account for it. The most common defect is astigmatism, with or without other errors of refraction.

Defective hearing is present in 6.5 per cent. as compared with 2 per cent. among normal children. All these cases are due to otitis media or intra pharyngeal obstruction of some sort; there being no cases of int. auditory deafness. Comparing dull and backward children with these, I find 25 per cent. with defective vision and a high percentage, viz., 13 per cent. with defective hearing. One may note here a remark by Dr. Hamer in the Annual Report of the Chief Medical Officer for

1918. On page 109 he says "The special incidence upon the children classed as mental deficient of defects of the sense organs raises the question whether, if these defects could be prevented, fewer children would need to be relegated to the special schools." I think the answer is in the negative. Certainly in our own schools, where all but one or two with defective vision have had their refraction corrected with glasses, although there has been some improvement in their work afterwards, not one of them has proved to be less obviously mentally deficient. The answer to a similar question asked with regard to dull and backward children would, I think, be in the affirmative. I have no evidence of this, however, as my work among these children has been too recent to show any results.

Among other physical defects in our mental deficient I do not find stigmata of degeneration at all common with the exception of the high arched palate with irregular teeth; this occurs in very many cases. I mention this because I think it is a common idea that stigmata of degeneration are common among mental deficient. It is certainly not so in Coventry, and Burt states that it is not so in London except in such cases as Mongols, Cretins, Hydrocephalics, etc.

I am inclined to consider the narrow palate, &c., coupled with a copious flow of saliva, as a point to be considered in weighing evidence for mental deficiency. Malnutrition is a very common and marked feature, 14 out of 61 cases (23 per cent.) being marked as puny. Defective articulation occurs in 16 per cent., marked nervousness (such that, although I am frequently among them, I find it difficult to get them to answer questions) in 8 per cent., and suspected phthisis in 5 per cent. A large number (16 per cent.) show evidence of want of muscular tone, such as scoliosis, kyphosis, flat feet, etc.

Family History.—In 34 out of 61 cases there is a family history of insanity, mental deficiency, epilepsy, or alcoholism. As in 19 out of the 61 cases no family history has been obtained, this proportion, in all probability, should be considerably higher.

Mental Characteristics.—Estimated by the Binet-Simon tests the average amount of retardation at the special school is $5\frac{2}{3}$ years. This shows a marked difference between the mental deficient and the backward child, whose retardation is seldom,

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I think, more than 2 years by these tests. I was inclined to think, from general impressions, that our children at the special school made very little mental growth. I find, however, in plotting out the mental ages for the whole school with their actual age, that the resulting curve shows a very fair mental growth. It shows in passing from the age of 7 years to that of 16 years a growth of between 4 and 5 years. This curve is steepest between the ages of 7 and 11. This agrees almost exactly with what Burt, the Psychologist to the London County Council, found in the special schools which he investigated. He found that the average retardation was 5 years, and that on an average mental defectives made half a year's progress mentally during each year of physical growth. He also points out that this mental growth slows down towards the end of school life, and, in many cases, seems to reach its limit at about 13 or 14 years of age.

A word with regard to the Binet-Simon tests. They give, of course, by no means a diagnosis of mental deficiency, though they are a useful help towards such diagnosis. When used by the same examiner on the same child or set of children at intervals they are, I think, most useful as an index of mental growth. I say when used by the same examiner because the questions allow such latitude in the amount of hint or help which may be given to the child that I do not think one man's results may be compared with another's. They are tests of intelligence and not of educational ability; two things which are not synonymous.

I have examined our children, therefore, in an attempt to estimate their educational ability and progress. For this the two subjects reading and number were investigated. For reading I have divided them into 5 grades, starting from a knowledge of some of the letters as Grade I., and working up to ability to read simple story books as Grade V.; this last being the highest point to which even the most advanced children have reached. The resulting curve shows a steady rise throughout school life, but at the age of 16 shows that the average has only reached a position midway between Grades IV. and V. This position is practically that of Standard I. in the ordinary infants' school, where it would be the work of children of 7 years of age. That is to say, that whereas the child at the special school aged 15 or 16 shows in general intelligence a retardation of 5 years, in reading he shows a retardation of 8 or 9 years.

For number I have divided them into three grades, starting from those with no knowledge of number and ending with those who can do simple money sums, this again being the highest level to which any of our children have reached. The resulting curve does not start to rise at all until we come to children of 9 years of age. It then rises slowly, but in the end only reached my Grade II. (ability to do simple addition and subtraction) at the age of 15 or 16. This is practically the position of children of 6 years of age in the ordinary infants' school. Thus in number mental defectives are even more behindhand than in reading.

I would like to enlarge somewhat on this matter of the difference between general intelligence and educational ability. Five years ago when I first started to use the Binet-Simon tests I was inclined to use them as a mechanical method of diagnosis: so much retardation—so much mental deficiency. It soon became obvious, however, that this would not work. Where one found 4 or 5 years retardation there were usually other indications, such as irrelevancy, inattention, or some characteristic described by the parent which left one in no doubt as to the diagnosis. The difficulty was where one found a retardation of about 2 or even 3 years and no other signs. I confess that at that time I invariably sent such children back to the ordinary school as being merely dull and backward. During the last 18 months, however, I have seen several such cases, and have become impressed with the reiterated statements of their teachers that the children in question seemed quite ineducable as far as reading, writing, or number were concerned. I began to consider, therefore, whether this inability to read might not, even when accompanied by a fair measure of general intelligence, be a definite sign of mental deficiency. One boy of 11 years with a retardation of less than 2 years, but unable to read words of more than 2 or three letters, and with only the most elementary knowledge of number, I have, after watching for several months, certified for the Special School. The case had to be taken to court before the parents could be persuaded to send him there, but since admission his conduct has fully justified my diagnosis; incidentally he has told us sufficient about his sister for us to consider that she is also mentally deficient. I am keeping under observation several children of 8 or 9 years old with the same inability to learn the

ordinary school subjects, coupled with only a small retardation in general intelligence, and am strongly of opinion now that they will prove to be really mentally deficient. Of course in such cases I have excluded such conditions as irregularity of attendance at school, defective sight or hearing, word-blindness, or word-deafness.

May I quote what Burt found on this matter of educational attainments; he says: "It is obvious that the amount of retardation in educational attainments is far greater than that in general ability; children in special schools are characterised more by backwardness in school work than by defective intelligence. Defective intelligence is usually accompanied by extremely defective attainments; but defective attainments are by no means an invariable index of equal defect in intelligence."

I think in the past too much attention has been given to the question of general intelligence; as far as I know all the published tests deal solely with this aspect of deficiency. It is just where we need so much help, however, i.e., with the difficult borderline cases, that such tests fail to assist; but it is just here that tests of educational ability seem to promise us some of the help we need. At present there are no standardised tests for such examination, but I gather from Burt's book that it is a question on which he is at present engaged.

LASTLY, MORAL STATISTICS.—These at present cannot be measured, but there is no doubt of the fact that the morals of children in a special school are on a lower plane than those of the normal child. It is seldom that I go into the special school without hearing of some such fault as that of a child has been systematically tormenting or even maltreating another. Only recently two boys set on another on his way home, tore his collar to bits and tore his coat into two; sometimes a case of stealing; sometimes of ill-temper; sometimes that for days a whole class has been quarrelling among themselves. Turning to more detailed numbers I find that 25 out of our 61 children are noted as having in a marked degree some characteristic showing impairment of moral sense. The most common of these are untruthfulness and stealing. Untruthfulness seems to be almost a characteristic of mental deficient. I am told there are only two children in the whole school who could be depended on to tell the truth where a lie would apparently be to their advantage; but in this estimate I have only counted those as untruthful where the lying seems

to be a marked and deliberate characteristic. Other defects are spitefulness, bad temper, cruelty to animals and immorality. This last is apparently open and troublesome in character.

This impairment of moral sense becomes more marked as the children become older. It shows itself about the time of puberty. During the last year we have had two boys and a girl at our special school who, until the age of 14, had been docile and not markedly below the average intelligence of their fellow scholars, but who at about that age began to deteriorate markedly in intelligence, which in each case became so low that they could not be given a mental age by the Binet-Simon tests, while their conduct became such that they had to be excluded from school as detrimental to the other children. From being docile and obedient in school they became aggressive and disobedient; at home they were unmanageable, both the boys struck their parents and one of them stayed out all night. In the case of the girl there was a probable syphilitic family history and I even thought that she was possibly a case of G.P.I.; this suggestion, however, was not accepted by the Medical Officer of the Poor Law Infirmary to which she was admitted. In the case of the two boys there was apparently nothing physical to explain this change in behaviour.

Here, in this question of conduct, I think we have another aid to diagnosis in the borderline cases. For instance: a short time ago I certified a boy of nine years of age, only two years retarded, and able to read words of one or two syllables, chiefly on account of his conduct. He was subject to fits of uncontrollable temper at home, such that he tore his clothes and beat his head against the wall when thwarted, he also had the habit of occasionally straying away from home for the whole day. On more than one occasion his mother had had to apply to the police to find him. His teacher, and curiously enough his mother, also, was convinced of his mental deficiency. I admit, however, that his admission was of the nature of an experiment and I have really admitted him for observation; there being at present no special class for backward children in Coventry.

Our great aid, however, to diagnosis in these difficult borderline cases should come from the formation of special classes for dull and backward children, here not only could children be more frequently and fully observed, but being segregated it would be much easier to get defects of vision

and hearing attended to, and so rule them out of court as possible causes of the backwardness. One point is, I think, important with regard to these classes. The teachers must in some way have special training. I confess that I find even the best head teachers of very little help in deciding on a child's mentality. Either they regard backwardness pure and simple as mental deficiency or else they consider that they can spot a deficient by something in his appearance, by a peculiar expression of the eyes, for instance.

To summarise briefly, mental deficient while at school are, as a class, characterised by physical defects, by a deviation of about 5 years from the normal standard of intelligence, by a more marked inability to assimilate the ordinary subjects of elementary education and by impairment of moral sense.

Dull and backward children, as far as I know, are characterised by a deviation below the normal intelligence of from $1\frac{1}{2}$ to $2\frac{1}{2}$ years and by defects of the sense organs.

I would like to say rather more on the question of conduct. If one compares the writing of say Binet and Simon with the papers which were read at the C.A.M.D. Conference in November last, one cannot help being struck by a change of attitude towards the question of mental deficiency. The earlier writers apparently regarded the actual retardation in mental ability as the essential deficiency and thought that if suitable methods of teaching and training could be devised this defect could to a large extent be remedied so that at any rate a certain number of defectives could be turned out into the world as fairly normal citizens. Dr. Eichholz in his evidence before the Royal Commission stated that from 40 to 50 per cent. could be sufficiently educated to return to the ordinary elementary school. It is interesting to note that in a paper which he read before the London Head Teachers early in 1919 he had reduced this number to 25 per cent. The view taken at the Conference, however, was that the mental defect was really only an index of the real defect, which was one of conduct. Dr. Auden in his paper compared the mental defect with the estimation of CO_2 in the atmosphere in which case, although a danger in itself, its chief value is as an index of the more dangerous organic matters present. He further stated that if he found a child in the special school who had become fit to return

to the ordinary elementary school he should consider that he had made a mistake in diagnosis. This, I may say, is a conclusion I had come to before hearing his address.

This question of conduct has been brought home to us in Coventry during the last year by several cases who have been brought up by Police Court Missioners, rescue workers, &c., or who have appeared in the police court and been referred to the Mental Deficiency Committee. Some of them had passed through the Special School, but being superficially intelligent it had not been considered necessary to notify them to the Mental Deficiency Committee. I may say that in view of these cases we have now made it a routine measure in Coventry to notify to the Mental Deficiency Committee all children as they leave the Special School.

In the Coventry School Report for 1918 I analysed the after histories of the 115 children who had passed through our special school. I found that 36 only of them were doing satisfactory work. Some of the others could not work of course because they had not the ability. Many of them, however, were not working because they would not, at any rate without more supervision than could be given. With regard to these numbers it must be remembered that at that time war conditions still existed, under which it was much easier for a defective to obtain employment. Another point too should be mentioned. It has been stated that as they grow older the work of defectives becomes more unreliable, they tend more and more to become casual rather than continuous workers.

As evidence of this view that the thing that matters in mental defectives is the conduct of the person affected rather than the limitation in intelligence or educational attainments, we have the Birmingham scheme for dealing with criminals. This scheme has been initiated on the grounds that a very large percentage of crime is due primarily to mental deficiency for which treatment rather than punishment is required. All persons therefore committing crimes who in themselves or their acts suggest the possibility of mental deficiency as the cause are now examined by a medical expert. So far more than 18 per cent. have been found to be mentally deficient and have been dealt with under the Mental Deficiency Act, while over 12 per cent. have been found of unsound mind.

If this view of the importance of conduct be accepted I think two things follow. First, that all

special schools be residential; and secondly, that all M.D.'s for some years at least after leaving the special school should be maintained in an institution. With regard to the residential school. At the day school school children are only under discipline for 4 or 5 hours a day; for the rest of the time they either wander about uncontrolled or are under the unwise discipline of their parents. Unfortunately, the parents, who feel their responsibility, very frequently take the view that corporal punishment is the form of discipline required, but since, in many cases, these children are unable to associate cause and effect the result of such methods is merely to make them sullen and sly. It is at any rate reasonable, I think, to hope that if these children could constantly be under trained disciplinarians from the age of 7 to 16, some of these irregularities of conduct might be expected to be minimised. Briefly, the special school should be regarded, primarily, as a training centre rather than an educational one. I understand that at Bradford the authorities are contemplating converting their day schools into residential ones. The question of sending all children who have passed through a special school to an institution is equally important. Firstly, they would not be able to harm either themselves or others; they would not be able to give rise to illegitimate children, or to contract and disseminate venereal disease; they would not appear in the police courts or the casual wards of workhouses and would thus save national expense. Secondly, their labour could be made of use to the community. Many of these defectives can work if under adequate supervision. Where their work is casual and intermittent their value to the community is small or even a minus quantity, but were it utilised in a well directed colony or community it may well be that such a community could be more than self-supporting. Thirdly, and most importantly, they would not be able to propagate their species and *ipso facto* their defect.

I suppose we are all agreed beyond a shadow of doubt that mental deficiency is hereditary, and probably most of us consider that in all probability this hereditary follows mendelian lines. This being so, the defect can never be wiped out by any form of training. In fact, to this extent, the special school is even a danger from the fact that it gives the impression to the public and to educational and other authorities, that the child, having gained a certain amount of education, has

become fit (with or without a biennial visit to the home of some kind of inspector) to be allowed to take his place as a free citizen. No matter how highly trained a mental deficient may become, his gametes apparently will remain unaltered, and among his descendants there is almost bound to be one or more who will suffer from some mental defect, even imbecility or idiocy should the other progenitor be of an equally bad strain, or should his environment be particularly bad. Even were all mental defectives segregated in this way, it would necessarily take generations to stamp out the defect. For it must be remembered that we are only thus dealing with those in whom mental deficiency is dominant; true they are those who possibly have a double dose of defect, but still there are those in whom the defect is recessive, who are superficially normal but in whose descendants mental weakness is likely crop out.

The City of Bradford has already started such colonies; one for men and one for women. All children are notified to the Mental Deficiency Committee on leaving the special school and practically all go straightway to one of these colonies. Only under very special circumstances is a child placed under guardianship. The men do gardening, fowl keeping, basket and mat making; the women laundry work and sewing. I understand that these colonies have been running for about two years, and their school medical officer told me that in five years' time he thought they would be self-supporting.

I think this plan might be followed with great advantage all over the country. It would probably not be necessary to keep all defectives in such colonies permanently, but at any rate it would be a wise proceeding to send them there as a routine measure for say five or six years. This would not only give them a much longer training in manual work, but would carry them through the period of adolescence, which would, in the great majority of cases, enable a definite decision to be made as to whether or not there was sufficient moral impairment to render it advisable for them to be detained permanently at that or some other institution. It should be remembered that it has been stated that between fifteen and twenty is the age for recruiting into the criminal classes.

The Mental Deficiency Act of 1913 makes provision, or at any rate gives instructions, for sending certain defectives to institutions. My point is that

it should be the rule that defectives go to an institution, and only under special circumstances should exceptions be made.

It seems to me that in starting with special schools we have started at the wrong end. Segregation should come first, it being by far the most important factor in the elimination of these strains of defect which exist in such large numbers throughout the country. Having segregated them, then by all means train and educate them as highly as possible, both for their own happiness and for the sake of their value to the community at large.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.

SPECIAL COUNCIL MEETING.

A Special Meeting of the Council was held at the house of the Society on Friday, June 4th, 1920. The President (Prof. H. R. Kenwood) took the chair, and there were present Drs. Snell, Cates, G. F. Buchan, Kaye, Porter, Kirkhope, Stevens, Evans, Herbert Jones, Kerr, Hislop, Ridley Bailey, Lyster, Howarth, Joseph, Sanders, and Prof. A. Bostock Hill.

The Minutes of the last Council Meeting having been read and approved, apologies for absence were reported from Drs. A. K. Chalmers, Naylor Barlow, and Caldwell Smith.

Correspondence.—(1) A letter was read from the Foreign Office, conveying the wish of the Austrian Department of Public Health to be supplied with exchange copies of the Society's journal, and asking for any reply to the proposal to be returned through the Secretary of State for Foreign Affairs. *Agreed:* That the exchange be sanctioned.

(2) From the British Medical Association inviting the Society to nominate two representatives on a deputation which may shortly be received by the Minister of Health in reference to Superannuation of Medical Officers of Health. *Agreed:* That the President and Dr. Buchan be nominated to represent the Society.

(3) From Dr. E. H. Snell, Hon. Sec. Midland Branch, enclosing a letter from Dr. Philip Boobbyer, in reference to the recent decision of the National Association of Local Government Officers to become a Trade Union.

Agreed: To defer consideration of the points raised by Dr. Boobbyer until further information is available.

(4) From Dr. E. H. Marcus Milligan, school medical officer for Bath, asking the Society to watch the interests of public health officials in regard to the new taxation of motor cars, and, if possible, to secure relief for those medical officers who provide their own means of locomotion in consideration of a fixed allowance. *Agreed:* That the Executive Secretary should bring this letter to the notice of the B.M.A. committee now negotiating with the Ministry of Transport, on behalf of the whole profession.

The Council then proceeded to consider the Interim Report recently submitted to the Ministry of Health by the Consultative Council on Medical and Allied Services. After a prolonged discussion it was decided to refer the report to a Special Committee consisting of the President, the Editor (Dr. Lyster), and Drs. Porter, Ridley Bailey, Joseph, G. F. Buchan, Cates, Snell, and Herbert Jones, with instructions to consider the recommendations in detail, and to report thereon to the Council of the Society.

It was agreed that the Special Committee should meet on June 18th, at 2.30 p.m., and that, if necessary, a further meeting should be held the following day.

The Council then adjourned.

ORDINARY MEETING.

An Ordinary Meeting was held at the house of the Society, on Friday, May 28th, 1920.

The President (Prof. H. R. Kenwood) was in the chair, and amongst those present were: Drs. Tubb-Thomas, Ashkenny, Bygott, Kirkhope, Ellis, Veitch Clark, Shinnie, Sanders, Fenton, Ewart, and Mr. W. Whitaker, F.R.S.

The minutes of the last ordinary meeting having been read and adopted, the following candidates were elected to membership:—

Beggs, Samuel Thomas, Major R.A.M.C., M.D. Belf., D.P.H.; Blake, Mabel Nellie, M.B., Ch.B. Glasg.; Borland, Vynne, M.B., Ch.B., B.Sc. Glasg., D.P.H.; Bunting, Dora Elizabeth Lidgett, M.D. Lond. (State Med.), B.S., D.P.H. Camb.; Craig, James, M.B., C.M. Edin., M.R.C.S.; Crowe, John Tabuteau, L.M.S., S.A.; Cruickshank, Mary Walker (Mrs.), M.B., Ch.B. Aberd.; Dean, Henry James, L.R.C.P. & S.I., L.S.A.; Delmege, James Anthony, O.B.E.,