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## DULL AND BACKWARD CHILDREN.\*

By A. F. TREGOLD, L.R.C.P.Lond., M.R.C.S.Eng.,  
*Consulting Physician to the National Association for the Feeble-minded. Medical  
Expert to the Royal Commission on the Feeble-Minded, etc.*

### INTRODUCTORY.

CHILDREN differ greatly in their mental capacity, and, leaving out of consideration those who are definitely defective, the elementary school population may be divided into three groups. Firstly, there are those of average intelligence, who compose the majority. Secondly, there are those who are particularly bright. Thirdly, there are those who are so dull that the acquirement of school knowledge is extremely difficult, and in consequence they are backward in their work. With the gradual raising of the standard of modern requirements and with the resulting tightening up of the educational curriculum, these backward children are beginning to attract attention. Not only are they a source of considerable worry to the teacher, and to some extent subversive of school discipline, but the results, from an educational point of view, are often far from satisfactory. Although such children may leave school from Standard VI, their actual acquirements are frequently such as would disgrace a child in Standard III. It is not to be wondered at, therefore, that inspectors, teachers, and managers should be beginning to ask whether we are on the right lines in dealing with this class.

*Number.*—It is first of all desirable to have some idea as to their number.

In Brighton, Dr. Duncan Forbes found that 13·9 per cent. of boys and 11·3 per cent. of girls, or a total of 12·6 per cent. of all the

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children examined, came within this category. In Staffordshire Dr. Reid, the school medical officer for the county, estimates them at about 5 per cent. of the school population. In the county of Surrey, Dr. Jones finds that 6·4 per cent. of boys and 4·5 per cent. of girls, or a total of 5·5 per cent. of the children examined, are dull and backward. In the borough of Guildford, Dr. Pierce finds the total number to be 4 per cent. In Somersetshire I found that the proportion varied from 5 per cent. in some schools to as much as 15 to 20 per cent. in others. It is an interesting fact that in all the districts examined the proportion of backward boys is higher than that of girls.

It is quite clear from these figures that the ratio of dull and backward children is a very varying one, and unfortunately the data available is so fragmentary that no accurate estimation is at present possible. The majority of the reports of school medical officers make no allusion to the subject whatever. The tendency is probably rather to under- than to over-estimate the number, and I think that we shall not be far wrong in saying that about 10 per cent. of the elementary school population of the country come within this category. This would correspond to between 500,000 and 600,000 dull and backward children in England and Wales at the present time.

#### CAUSES : MENTAL DEVELOPMENT.

The essential characteristic common to these children is their inability to progress in school. Such inability, however, may be due to totally different causes, and in order to make this clear I propose to place before you a few facts regarding development. School progress indicates mental evolution, and this is the result of growth and development of the brain. The weight of the brain at birth is roughly 11 oz. During the first year it increases nearly threefold, to 30 oz., and it continues to grow until middle age is reached, when it attains its maximum weight of about 48 oz. The weight increase during school age is naturally less than at the earlier periods, for mental evolution at this time is more a matter of the development of cells, of the elaboration of their processes, and of the increased complexity of their connections than of gross increase in size. Nevertheless considerable increase does take place, especially in boys. Thus, the average weight of the male brain at seven years is 40 oz., whilst at fourteen years it is 46 oz. The weight of the female brain at seven years is practically the

same as the male, but by the age of fourteen, instead of increasing 6 oz., it has only gained  $\frac{1}{2}$  oz. I think we see here the explanation of the greater prevalence of dull and backward boys. In order to reach the average standard a much greater growth is necessary, and this, for various reasons, does not take place.

This growth and development of the brain is the result of two factors—heredity and environment. By virtue of heredity the brain-cells are endowed with an inherent tendency to develop; the surroundings, using this word in its widest sense, may encourage or retard this development. With regard to the former there is not the slightest doubt that the innate developmental capacity of the brain-cells varies greatly in different individuals. In some the potentiality is very great, in others it is comparatively small. This seems to be particularly the case with certain regions of the brain, and in consequence we have striking differences in family aptitudes. There are some families the members of which evince a marked predilection for intellectual pursuits, there are others of which the members are born soldiers or travellers, and there are others with a special bent for mechanical work of some kind or other, and with but little proclivity for book study. These differences are clearly inherited, and the point I wish to insist upon, because I believe far too little importance is attached to it by the educationalist, is that each individual comes into the world with a varying potentiality of development, and with an innate tendency for that development to take place more readily along certain lines than along others.

As we have seen, however, the brain undergoes an enormous growth between birth and the end of the school period, and there is not the slightest doubt that during this time the nature of the environment must exert a very considerable influence. In saying this I do not mean that the environment can supply faculty of which the rudiment is non-existent, or that it can to any great extent modify the course of the inherited tendencies. These things it cannot do, but it can certainly afford or withhold the opportunity for the development of those tendencies. The environment can, in short, encourage or discourage mental evolution.

There are two external factors in particular which have an important influence upon brain development, namely (1) the general state of health of the body and (2) the impressions reaching the brain through the special senses. The brain, like every other organ—indeed, more than any other organ—requires an adequate supply of food, and this it receives through the blood. If, in consequence of improper or insufficient feeding, of defective warmth and impure air,

or of insanitary conditions generally, the health of the body should become impaired, then the nutrition of the brain may be so interfered with as to hinder mental development. The same result may follow in a still more pronounced degree if some definite debilitating disease is present, such, for instance, as tuberculosis, and I have often noticed the mental retardation which occurs after one of the acute illnesses of childhood. But, in addition to food, the stimulation of the brain-cells by sensory impressions is necessary to development, and hence we find that defects of hearing or vision may also play an important part in hindering the evolution of the mind. The same result follows, of course, from the absence of school instruction.

#### VARIETIES OF DULL AND BACKWARD CHILDREN.

It is seen, therefore, that mental evolution is dependent upon heredity and environment, and in agreement with this we find that backward schoolchildren are divisible into two main groups, namely those of (1) innate dulness, and (2) acquired dulness. The problems presented by these respective groups are so different that it is necessary to consider them separately.

GROUP I: *Innate dulness*.—These children are usually sturdy, well grown, and in good physical health, but they have no capacity for book-learning, and the teacher finds the greatest difficulty in teaching them the most elementary abstract rules. Occasionally they may shine in some one particular subject, but this is exceptional, and in most instances there is the greatest distaste and inability for all kinds of school work. They are the children who, in former years, spent most of their time in a corner of the classroom, decorated with a sugar-loaf cap and a slate, on which was inscribed the word "Dunce." In my experience they are commoner in country villages than in towns, and they are often the descendants of generations of agricultural labourers, who have done excellent work with their hands, but very little with their heads. I have seen instances where children, parents, uncles and aunts all belonged to the same type, and there is no doubt that in very many cases the failing is a family one—it is, in fact, inherited.

At the present time we are hearing a great deal about mental deficiency. Everyone—school doctor, inspector, and teacher—is on the look-out for it, and rightly so. The result is that these children often fall victims to the quest. But they are by no means mentally defective. The term "mental defect," in my opinion, should be

restricted to those persons who are so lacking in general mental capacity, in common sense, that they are incapable of subsisting by their own unaided efforts. No doubt book-learning is a valuable asset under present-day conditions, but it is not essential, and there are very many individuals who, although scholastically dunces, have yet sufficient aptitudes of other kinds, and, in particular, sufficient common sense, not only to take care of their interests, but to achieve a considerable degree of success in a humbler walk of life. We must remember that the human mind is compounded of many faculties, and it would be just as logical to say that you or I were mentally defective because we had no taste for music or the fine arts, or were devoid of religious feeling, as it is to so stigmatise these children because their minds do not run to intellectual pursuits.

As a matter of fact you will find that these children have all their wits about them out of school; not only can they hold their own, but they are often the leaders of the playground. One child of this kind whom I recently saw, a girl, aged 12 years, who was in Standard V, told me that David was the son of Goliath, and that he married Rebeceah. She could give me no information about India, except that it was a country somewhere. She could write a passable hand, but her spelling was bad, and her arithmetic execrable. And yet she was by no means a fool in other matters. She could clean out a room, could wash and dress the younger children, and could cook the dinner with very little help. I have little doubt that, unless her father apprentices her to a dress-maker or a typewriting agency, she will make an excellent domestic servant.

It is quite evident that our present methods of dealing with dull children of this type leave very much to be desired. We spend years in the attempt to cram them with knowledge which they cannot assimilate, and we neglect to supply them with the training suited to their capacity. During their school course, or during the latter part of it at all events, they make no progress, but simply mark time, and at the age of fourteen years, after much expenditure of the teacher's time, patience and often temper, and of the rate-payers' money, they enter the world with their natural aptitudes for the most part undeveloped.

What is the remedy? Two things are essential for the proper education of this class. Firstly, a modification of the school curriculum to suit their natural aptitudes, and secondly, more individual instruction. With regard to the former there is no

doubt that some improvement has taken place in recent years, but there is still room for improvement, and I would strongly advocate the giving of more time to practical and manual work. The spending of time in modelling, fretwork, carpentry, leather and metal work, sewing, mending, washing, ironing and cooking, to mention a few subjects, would not only do much to develop manual dexterity, and so enhance the prospects of the youth or girl in after life, but it would develop their neatness, patience and industry, and stimulate their general mental evolution in a way which no mere book-learning or abstract teaching could do. We are too apt to lose sight of the fact that the systematic performance of manual tasks exerts an enormous influence upon general brain development, and this is particularly so in the case of the children we are now considering.

The need for more individual instruction is equally great, and it is obvious that no backward child can hope to receive anything like adequate attention in a class consisting of 100 or even 50 pupils; the weakest must inevitably go to the wall.

The solution of the difficulty lies in the establishment of special classes to suit these children. I am of the opinion that every school should be equipped with a class-room under the charge, not of the junior teacher, but of a specially qualified and experienced instructor. Such a class should not be called a "special" one, because this term is now officially associated with the mentally defective. It is better to call it a "practical" or "auxiliary" class. It would naturally form the sorting-place for those mild cases of feeble-mindedness which present difficulty in diagnosis. I may mention that, during the last year or two, Dr. Duncan Forbes, at Brighton, and Dr. Meredith Richards, at Croydon, have each started classes of this kind, and so far with decidedly encouraging results.

GROUP II: *Acquired dulness*.—We now pass on to consider those children whose backwardness is not the result of innate dulness, but of defective cerebral nutrition caused by an adverse environment. For purposes of description I think it is convenient to divide them into three classes.

*Class A* consists of those children who are backward through defective function or lack of opportunity. By this I mean that in consequence of irregular school attendance they are not only behind their compeers in scholastic knowledge, but the avenues of this knowledge, owing to disuse, are not so readily permeable. The condition is not so common in these days of the vigilant attendance officer, and it rapidly disappears under regular tuition. I merely mention it because I have known such children classed as defective.

*Class B* is very similar, except that here the backwardness arises from some partial blocking of the sensory avenues, such as defective vision or hearing, and it disappears upon removal of the cause.

*Class C* is the largest and most important, and consists of those children whose mental development has been hindered by malnutrition or disease. Such children are usually thin, pale and ill-nourished, and present a striking contrast to the sturdy youth who is hereditarily dull. Very often marked anæmia is present, and a certain proportion of them suffer from chronic catarrhs, tubercular glands, or other serious disease. They differ mentally, as well as physically, from the innately dull, because in these children we are now considering the inertia extends beyond the school. They are dull in the playground and the street, and generally lacking in that vitality and spontaneity which is so characteristic of healthy childhood. This condition is commoner in the towns than in the country, and most cases will be found to come from bad homes or the slums. Here, again, there is a very close resemblance to mental defect; indeed, these are the cases of so-called mental defect which become "cured," for the condition is only temporary, and as the bodily health improves so does that of the mind, and the child who has been dull, vacant and inert, astonishes everybody by suddenly waking up.

There is one other variety of dulness, which may be referred to here, which arises in children who have previously been unusually bright and intelligent. It is the result of over-pressure. I do not think that the elementary school curriculum is at all likely to injure normal children. But all children are not normal. Some of the most intelligent have a nervous system which is lacking in durability, and their very brightness only lures to disaster. In addition to ordinary school work, an ambitious father may be providing them with special lessons. The result is a nervous breakdown, a condition of neurasthenia, with mental hebetude and complete inability for work. In most cases, under proper treatment, complete recovery takes place, but not in all, and if disaster is to be averted, the education and daily life of such a child should be prescribed with the greatest care.

It is quite clear that children suffering from acquired dulness require totally different management from those in whom the dulness is inborn. We are here dealing with a disorder of the brain which is secondary to disorder or disease of the body, and until this latter has been remedied, education, even in a "practical"

class, will not only be useless, but may be positively harmful. For education means stimulation of the cortical cells, and they are already stimulated beyond their nutritional capacity. The first essential, therefore, is the treatment of the body by wholesome and adequate food, sleep, pure air, and appropriate medicines. I do not intend to discuss the questions as to by whom and by what means this should be provided; all that I desire to point out is that, until these things have been provided, attempts at education are not merely useless, but harmful.

In most cases, therefore, the child should be excluded from school until he is in a condition to profit therefrom. In some cases where the condition is slight, and it is not desirable that the child should be altogether deprived of the advantages of discipline and method which result from school attendance, I recommend that he should go in the mornings only. But I must confess that this prescription, although valuable for the child, is not favourably received by the teacher with an eye on his attendance percentages.

#### MEDICAL INSPECTION OF SCHOOL-CHILDREN.

I have now placed before you a short account of the chief types of dull and backward children, together with what I conceive to be the best methods of dealing with them. The point I desire to emphasise is that school-children differ enormously, by reason of their heredity and their surroundings, in their capacity to profit by instruction, and that consequently, instead of vainly attempting to make the child fit the syllabus, we should make the syllabus fit the child. This can only be accomplished by a greater latitude in the application of the curriculum and by much more individual instruction.

If we desire to do the best for each child, the first step is, of course, to endeavour to ascertain the degree of mental capacity and the nature of the hereditary bias. This brings us to the medical inspection of school-children. There cannot be the slightest question that this is a step in the right direction. The recognition of early disease, of conditions of bodily defect, ill-health, and malnutrition—if followed by their proper treatment—will undoubtedly do much to improve the physique of our future citizens. The mere compilation of anthropometrical data, which may be utilised for future reference, may be of incalculable advantage to the nation. But in one respect medical inspection, as at present conducted, is distinctly disappointing. The prime concern of the educationalist



after all is with mind. It is true that we must not neglect the body, and it is gratifying to see that we are now paying more attention to physical instruction; but it is the mind which the teacher is chiefly called upon to develop. This being so, it seems to me matter for great regret that, whilst so much attention is being given to bodily conditions, so little attention is bestowed upon the condition and capacity of the mind. From the point of view of education these conditions of the body derive their chief importance from the effect they have in modifying mental development, and in hardly any of the reports of school medical officers does one find the slightest attempt to correlate these two. As a matter of fact, beyond an often cursory reference to the number of mental defectives, it is the exception to find any reference to the number and condition of the dull and backward children or to the matter of intelligence at all.

I think this is a great defect. Until the school medical officer concerns himself much more with mental conditions than he does at present, and until the physician and the pedagogue work together at this matter hand in hand, we shall never get the best results either from medical inspection or from education.

Increased attention of this kind would probably mean a considerably increased staff, but it would be well repaid by increased national efficiency. For the ideal of a nation, from the point of view of education, must be, not the greatest good of the greatest number, but the greatest development of each individual.