

READING DISABILITY IN CHILDREN*

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Dyslexia, or reading disability, is a syndrome which is characterized by an inability to read properly even though the individual may have normal or superior intelligence.¹ By definition any hearing, visual or emotional defect is excluded as a cause of this condition. However, the very fact of such a disability leads to widespread emotional upset. 'Like a particle dropped into a super-

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saturated solution even a small disability can act as a nucleus round which other things crystalize' (*Lancet*²).

The inability to read, then, is no minor handicap. It has far-reaching emotional and mental effects, which are all the more unfortunate since the condition is remediable.

That dyslexia is not an uncommon condition is evidenced by the fact that the incidence is between 10% and 15% in American school children.³ Many

doctors, psychiatrists and educationalists have attributed this to the 'look and say' method of teaching reading. It is stated that in countries like Germany where the old phonic method is still used, this problem is a very minor one. While I feel there may be some truth in this statement, it is far from the whole truth; I believe there is a specific reading disability or syndrome. It may be true that more children are recognized with this condition because of the 'look and say' method, whereas formerly the minor degrees would catch up, or simply take a little longer to learn to read. Logically, it seems that the older (phonic) method is more sensible—after all, the child first learns about words and their meanings by hearing them from his mother's lips. Mankind itself got along without reading for a couple of million years and the use of the spoken word is an altogether older accomplishment than the use of the written word; so why not carry on logically from there with our teaching methods. I should like to repeat, however, that the method of teaching is only a contributing factor to reading difficulties.

This problem is far wider than is generally believed, and in this country many children are floundering with reading and emotional difficulties, the true nature of which is not recognized. Surely, if the incidence is 10% to 15% in American children, a similar percentage must be expected in our children; yet I have not come across a single article in South African medical literature, and have very rarely heard the subject discussed by teachers, psychologists or pediatricians, and certainly never by medical students.

Case finding usually depends on the teachers or parents but, as these children are often described as lazy or retarded, the true diagnosis is often completely missed. It behoves us, then, as doctors, to be the case finders—indeed with a knowledge and awareness of the syndrome one can make the diagnosis in the pre-school period.

There are many examples in the literature of intelligent children and even adults who could not read, or had learnt to read with the greatest difficulty. I have seen 6 cases in the past year, all mild; they had all been taught by the 'look and say' method, and I feel they probably would not have come to the doctor had they been taught by the old phonic method. Their progress would have been slower than that of the average child, but not so slow as to cause any alarm. The more severe cases, however, make no progress by any of the ordinary methods of teaching. John Hunter, according to Bakwin,³ did not learn to read until he was 17 years old.

SYMPTOMS

The reading disability is specific. The acquisition of reading skill lags behind the other scholastic achievements. It does not come up to the expectations ordinarily justified by the child's mental age. Terms used for it in the literature are strephosymbolia (twisted symbols), dyslexia, and congenital word-blindness. Orton¹ objected to the last term since, he says, the condition is not congenital and there is no blindness.

These children before they enter school are usually considered very bright, and Park⁴ vividly describes 2 children, John and Mary, who were veritable pre-

school geniuses. I cannot do better than quote his lucid description:

'Before Johnny entered school he was the talk of the neighbourhood, and a little wonder. At Sunday-school on festive days he recited long poems with nary a bobble. His intellect seemingly was without bounds. The multiplication table was 'duck soup'. Sure, he could rattle off the alphabet.

In short, Johnny had photographic ears. What he learned at his mother's knee was his for ever. It was the same way with the near-prodigy Mary. Before she saw the inside of a schoolroom, Mary played the piano at recitals; of course it was by ear—but she performed with delight. It appeared nothing was too difficult for Mary's auditory faculties to circumvent—and retain.

Folks said Johnny would be a Justice of the Supreme Court or a United States Senator. Mary indubitably was headed for top flight leadership in a world of women. How could they miss?

Chapter 2 finds Johnny and Mary starting to school. Kindergarten was a lot of fun. Then came First Grade, where the child is taught to distinguish words from certain combinations of letters—reading. Brace yourself! Johnny and Mary flunked.

Children of average mentality and below average IQs in their classes picked up reading soon enough. There were just no two ways about it, Johnny and Mary could not bridge the gap between the printed primer and their previous superior performance. Patient teachers couldn't impart the simple faculty to their nimble little brains; special tutors fell down. What in the world was the matter?

The detective student will say, "Why, that's simple. The kids need glasses. How in the world can you teach that C A T means cat when their eyes are completely out of focus because their vision is distorted?"

Shock Number 2. Johnny and Mary had their eyes examined. Expert oculists agreed that each tested out 20-20, which is perfect vision by medical standards.'

In their pre-school years these children enjoy being read to and show normal interest in letters and numbers. During the first couple of years at school they do not learn to read, but very often, as they are bright, they give the impression of being able to read because they make good use of their memory. The condition then may not be recognized in the kindergarten classes, and in the so-called progressive schools it may pass unrecognized for as long as 4 years.

Letters, syllables and whole words are often reversed. More commonly individual letters are written backward and sometimes upside down. In rare instances, the child may have mirror reading, i.e., can only read from right to left. He can copy well and will often make up the text from the pictures in the book.

Later on, subjects like history and geography are also affected, because the child can't use his text-book, or if he does manage to read, struggles so that he has no time to actually learn the work. While he may be good at arithmetic in the early classes, even this becomes impossible later on because he can't read.

Abnormalities in lateral dominance are common. Very many of these children are ambidextrous, but usually in a clumsy fashion, and mixed dominance such as right-handedness with left-footedness and left-eyedness are common.

Speech disturbances, too, are common and occur in about 50% of cases. Talking is often delayed, and stuttering, lisps, impure and cluttered speech, are frequent findings.

The condition often appears in families whose members show a high incidence of alteration in lateral dominance, speech disturbances and reading difficulty.

Emotional difficulties, as can be expected, very often form the most important part of this syndrome, and so

is very often the reason why the child is taken to the doctor. Downes and Schuman⁵ report some of the ways in which these emotional difficulties may manifest themselves. The most obvious thing about the child is that he hates being made to read, and may panic or stammer if he is given a reading test. Other distress signals, they note, are 'knee jerking, nail biting, paper tearing, face fussing, and hair pulling'. Again, he may use bad language, cheat, steal, destroy property, or bully. At home he does anything but read, preferring the radio, television, bird watching, telephoning his friends, or even helping with the washing up. He plays with younger children and prefers the company of the 'maid, the handyman and the not-so-nice children down the road'. His sense of being different, of having a gap in his faculties, may be very alarming to him. 'There seems to be a deep-seated, pervasive, terrifying kind of disunity in the world of a disabled reader.' He tends to be emotionally immature and knows it; and his school mates know it.

He may become solitary or enter with real gusto in the things he feels he can do well, such as athletics, drawing and mechanics. On the other hand, feeling inadequate and lacking expert help in overcoming his difficulty, he may become deeply discouraged. He comes to equate good reading, school success and high marks with parental approval and love. This anxiety for approval may be transferred in later life to his employer or to society. He may become a perfectionist, unwilling to risk a mistake, and his dread of making one may limit more and more the field in which he dare trust himself. Such a child makes no trouble for parent or teacher. 'He finally never makes any trouble, or anything else for that matter.'

The severity of this abnormality varies greatly. Some children are only mildly affected and they seem to improve rapidly. In others the abnormality is severe and may persist well into adolescence or even adult life. Boys are affected 4 times as often as girls. The age when the condition is first recognized depends on the alertness of the teacher and the concern of the parent; and on the doctor, especially if the child is brought to him for a specific complaint such as an emotional one. If the doctor finds in the history a story of speech difficulty, alteration in lateral dominance, and instances of other members of the family having had difficulties of language function, then he must be on the look-out for this syndrome. Special tests are available for young children, to test out reading ability, e.g. in recalling a row of pictures—the order in which they are memorized is important.

ETIOLOGY

Hinshelwood,⁶ in 1917, believed that specific reading-disability is caused by injury or faulty development of the left angular gyrus in right-handed persons. He stated that any condition diminishing the number of cortical cells within this area or interfering with the blood supply would lower the functional activity of the centre and hence would diminish the power of retention of the visual images of words and letters, which is an absolutely essential accomplishment of the act of reading.

Reading, speaking and writing is controlled, initiated or overseen largely, if not entirely, from one hemisphere of the brain. Any defect in the dominant half of the brain, however produced, is likely to result in extensive damage to the language function, while injury to the corresponding area in the other half of the brain generally gives no specific language-symptoms whatever. The brain hemisphere which has major control over the language function is also the hemisphere which controls handedness, eyedness and footedness. Although there are exceptions, it is the rule that in right-handed people the left hemisphere of the brain is the dominant one and *vice versa*.

Persons with a specific reading-defect have trouble or difficulty only in the complex function of word recognition. They are able to see and interpret objects correctly. Thus children with this condition can learn single letters. The difficulty is not of vision, but of comprehension.

In some instances the inability to read appears to be a manifestation of a developmental lag, similar to a delayed development in speech. These children may not begin to read until they are 10-15 years old, when they seem suddenly to acquire this ability without any special instruction. Some observers believe that the emotional disturbances antedate the reading difficulties, and then when parents and teachers bring pressure on these children they become anxious and insecure and react in the manner discussed above. This idea, however, cannot explain the great preponderance of boys over girls, the typical reversals, and the contrast between the disability to read words and the ability to read numbers and musical notes.

In the differential diagnosis one must exclude visual, hearing and mental defects. Children with severe visual defect, particularly with errors of refraction, may present with reading difficulties. Poor hearing, which leads to the hearing of blurred or indistinct sounds, produces a very similar picture. Cases of these kinds, of course, do not present the full syndrome.

MANAGEMENT AND TREATMENT

Early recognition of this condition is imperative because, as I have tried to point out, there may be far-reaching mental disturbances. Therapy is both educational and psychiatric, but one naturally must correct any co-existing visual or hearing defect. The parents should be taught to understand the nature of the disability, and when they are told they are often so relieved that their child is not mentally affected that this in itself helps the child enormously. One has to gain the child's confidence and restore its self-confidence. He should be assured that his intelligence is normal and that his inability to read is no evidence of stupidity. His success in other fields should be emphasized and applauded and any special ability encouraged. The teacher should be experienced and enthusiastic. One has to combine all three methods of teaching—visual, auditory and kinaesthetic. The method of kinaesthetic or motor discrimination is often neglected; here the pupil traces words, copies letters in their proper sequence, feels block letters, and feels the position of the

tongue and the lips while pronouncing words. The pupil's errors should be analysed and the teacher can then lay stress on the type of instruction which will help the individual pupil most. During this period the child's confidence is to be bolstered up at all times.

CONCLUSION

In this paper I have tried to show that reading disability is a specific defect and is part of a syndrome, which includes not only difficulty in reading, but also speech difficulties, alteration in lateral dominance and often a family history of language disorders. I have also emphasized that the emotional effects may be the presenting and often the most pressing problem of these cases.

In conclusion, I would like to quote once more from the *Lancet*:² 'It is unfortunate that such a mild and common deviation from the usual pattern should be

allowed to become the centre for a host of disabilities. A better understanding of the causes of backwardness in reading, and more skilled management of those who display it, might save much unnecessary trouble both for teachers and taught. It seems worth trying to discover these children early and give them the kind of help they need.'

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