

EDITORIAL

Dyslexia

The recently published Report of the Committee of Inquiry into the teaching of reading in schools (Bullock Report; see Department of Education & Science, 1975) discussed the large number of children who experience considerable difficulty in mastering reading, and concluded that 'there is a rather smaller group of children who experienced a difficulty in learning to read that cannot be accounted for by limited ability or by emotional or extraneous factors. The term "dyslexic" is commonly applied to those children. We believe that this term serves little useful purpose other than to draw attention to the fact that the problem of these children can be chronic and severe. It is not susceptible to precise operational definition; nor does it indicate any clearly defined course of treatment.'

Three years earlier, the Advisory Committee on Handicapped Children had reported to the Secretary of State for Education that 'the term "dyslexia" has been very loosely used in educational contents, and we do not consider it can usefully be employed for educational purposes. In particular, we cannot attach any scientific meaning to the term "acute dyslexia" and we are sceptical of the view that a "specific syndrome of developmental dyslexia" has been identified' (Department of Education & Science, 1972). This conclusion was loudly attacked by the growing lobby of parents of dyslexic children, and the same fate undoubtedly awaits the conclusions in the Bullock Report. What, then, are the controversies surrounding the concept of dyslexia which give rise to such heated argument?

The first problem is that of definition. Without agreement on this, fuller investigations are doomed to failure. The World Foundation of Neurology's Research Group on Developmental Dyslexia defines it as 'a disorder manifested by difficulty in learning to read, despite conventional instruction, adequate intelligence and sociocultural opportunity. It is dependent upon fundamental cognitive disabilities which are frequently of constitutional origin' (Critchley, 1970). This type of definition is a negative rather than a positive one (Reid, 1968), in that once all children whose reading difficulty is associated with one of the major groups of factors presumably underlying the condition, the remaining ragbag is termed dyslexic. The above definition is a very rich clinical description of cases which undoubtedly exist, but in its present form it cannot be transformed into an operational definition which can be used in identifying groups of children for further study.

The core concept underlying most writing on dyslexia is that of severe underachievement. It has become customary to differentiate between those children who, irrespective of their ability, are at the bottom end of a continuum of reading attainment (*backward* readers), and those who are *under-achieving* in relation to their general level of intelligence (*retarded* readers). Dyslexia is sometimes regarded as a particular subcategory of reading retardation.

Underachievement is, in many ways, a simple, attractive and common-sense notion. Unfortunately, there are many statistical pit-falls between the concept and its operationalization. Foremost among these is the effect of regression (Thorndike, 1963). If one simply subtracts a reading age from a mental age, the resulting figure is statistically biased so that very bright children are automatically seen to be underachieving, whilst very dull children appear to be overachieving. To avoid this statistical nonsense, sophisticated data analysis techniques have to be employed, and this has rarely been done in reading research (Yule, 1967; Yule *et al.*, 1974). However, these techniques allow one to predict a reading age for any child knowing his age and intelligence. To the extent that the child's observed reading age falls below that which is predicted, the child can be said to be underachieving. At extreme degrees of underachievement, the child is said to have specific reading retardation (Rutter & Yule, 1973). The question is then: are dyslexia and specific reading retardation synonymous?

In the past ten years, a series of epidemiological studies has been carried out on the Isle of Wight and in London which bears on this question. At the age of 10–11 years, a child was classified as reading-retarded if his reading age was at least 2 years 4 months below the age predicted. This definition gave a prevalence estimate of 3.7%. The rate was found to be three times higher in inner London.

Reading retardation was found to be three times commoner in boys than in girls. In the Isle of Wight studies reading retardation was found to be associated with considerable difficulties in arithmetic, and even more so with spelling difficulties, delay in the development of language and concurrent language immaturities, clumsiness, right–left confusion, and with a strong family history of reading difficulties. As with all epidemiological studies, there was no association between left-handedness or mixed handedness and specific reading retardation. Thus it can be argued that most of the features of dyslexia are to be found in a carefully defined and identified group of retarded readers. But is there a dyslexic syndrome which is qualitatively different from other forms of specific reading retardation?

In the Isle of Wight study it was observed that the various dyslexic symptoms did not cluster to form discrete syndromes. No support was forthcoming for a single dyslexic syndrome (Rutter, 1969) and this is in agreement with other large-scale studies (Clark, 1970; Naidoo, 1972).

What was confirmed was that children with specific reading retardation are qualitatively different as a group from children with severe degrees of reading backwardness. At the age of 10 reading retardation seemed to be more closely related to difficulties with all aspects of language, whereas the backward readers showed much more diffuse and generalized learning problems. At the age of 14, at follow-up, it was found that the retarded readers had made even less progress than the less intelligent group of backward readers (Yule, 1973). By then, their particular difficulties with spelling were becoming even more pronounced.

The findings of these epidemiological investigations in many ways parallel the changing ideas of those who apply the label dyslexia in more clinical settings. Originally, the term was used to describe a very specific and qualitatively inexplicable inability to read words – so-called ‘word-blindness’. In recent years, the emphasis on mechanisms underlying the disability has shifted from considering a visuo-spatial deficit to be primary to implicating language functions. Some investigators emphasize the children’s difficulties with auditory–phonic decoding tasks (Boder, 1971), while others lay heavier emphasis on the bizarre spelling errors which seem to persist into adult life (Miles, 1974). Both views are consistent with the hypothesis that language difficulties are the unifying factor underlying specific reading retardation.

The question of the constitutional component in reading retardation is still very much open. As always, the problem is to disentangle genetically transmitted predispositions from socially transmitted disadvantages. Clearly, both operate simultaneously, but the evidence for there being any simple mode of biological inheritance is very scanty. By contrast, there is mounting evidence for social transmission in that a family history of reading retardation is much commoner in children from large families. Moreover, it is known that children’s reading attainment varies both according to the area of the country in which they live, and with the amount of interest their parents take in academic matters (Davie *et al.*, 1972). These observations, together with the finding of a greater prevalence of specific reading retardation in inner London than the Isle of Wight, point strongly to the relatively greater importance of social and environmental factors in the aetiology of reading retardation.

The era of applying the label ‘dyslexic’ is rapidly drawing to a close. The label has served its function in drawing attention to children who have great difficulty in mastering the arts of reading, writing and spelling, but its continued use invokes emotions which often prevent rational discussion and scientific investigation. Future studies of the closely related, but not identical, concept of specific reading retardation will have to concentrate on a number of issues. (1) There is a need to obtain even fuller clinical descriptions of children with this handicapping condition. (2) The interrelationship between specific reading retardation and psychiatric disorder will have to be examined further. At present, it looks as if reading failure precedes behavioural disturbance, but this needs clarifying.

(3) Most urgently of all, remedial techniques need to be applied and evaluated. Now that groups can be reliably identified, one can anticipate that the next decade will witness a dramatic increase in our understanding of what used to be termed dyslexia.

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