

EDITORIAL

The current status of childhood autism¹

In 1943 Kanner published his first paper on the pattern of abnormal behaviour he called early infantile autism.

Kanner considered the essential features of the syndrome to be profound lack of affective contact with others and an intense desire for the preservation of sameness (Kanner & Eisenberg, 1956). He also emphasized the characteristic abnormalities of language, and the fascination with objects in contrast to the aloofness and indifference to people, especially other children. He noted the presence of isolated skills despite retarded development in other areas, and from this he inferred that the children had good cognitive potential, although he gave no results of psychological testing. At first he thought the syndrome was always present from birth, but later he observed children in whom there had been 1 or 2 years of apparently normal development before the onset of the abnormal behaviour (Kanner & Eisenberg, 1956). Hence, many workers now use the term *childhood* rather than *infantile* autism.

Kanner excluded children in whom there was evidence of organic abnormality. He believed the syndrome was specific, and separate from other conditions found in childhood, though it might be classifiable within the group of schizophrenias (Kanner, 1949). In his clinical practice he noted a marked tendency for the parents of autistic children to be above average in intelligence and occupational achievement. He also said that the majority of them were cold and rigid in personality and in their relations with their children (Kanner, 1949). He therefore suggested that the cause lay in the parents' abnormal methods of child-rearing, or the inheritance of the parents' personality traits in an extreme form, or a combination of these factors (Kanner, 1954).

In the 35 years since Kanner first wrote on the syndrome, many facts have been established concerning autistic children and their development in adolescence and adult life (Lotter, 1966, 1967, 1974; DeMyer *et al.* 1973; Rutter, 1970, 1971; Wing, 1976). There have also been advances in knowledge of the early development of language and social communication in normal children. Now, childhood autism has to be seen within the context of child development and, in consequence, the whole view of the problem has changed.

Interest in language development is no longer confined to the onset of speech. The importance of comprehension as well as expression, and the close relationship between speech and non-verbal methods of communication, including vocal intonation, gesture, facial expression, eye contact and bodily movement, are beginning to be recognized. Non-verbal communication precedes and merges into the development of speech in normal babies. Two-way 'conversations' between infants and their mothers begin around the age of 2 months (Schaffer, 1974; Trevarthen, 1974).

There is strong evidence that the autistic child's language problem is not simply absence or abnormality of executive speech. Bartak *et al.* (1975), Cox *et al.* (1975), and Wing (1969, 1971), from studies comparing autistic with other handicapped children, have shown that the former are as limited in non-verbal as they are in verbal communication and have marked problems in the comprehension as well as the use of all forms of language. Ricks (1975) found that the normal babies he observed all had in common certain sounds they used to express the emotions of eager anticipation, frustration, pleasurable surprise and happy greeting. The parents were able to identify the emotions expressed by their own child and other normal babies. The pre-verbal autistic children he examined, on the other hand, expressed the same emotions, but each used his own idiosyncratic sounds peculiar to himself, different from those used by normal babies and other autistic children. His own parents could recognize his meaning, but the other parents taking part in the study could not. (It is worth

¹ Address for correspondence: Dr Lorna Wing, MRC Social Psychiatry Unit, Institute of Psychiatry, De Crespigny Park, Denmark Hill, London SE5 8AF.

noting that the parents of the autistic children had no trouble in interpreting the sounds made by normal babies.) Absence of social communication is one of the earliest abnormalities noticed in autistic children and may be due to inability to interpret and to use non-verbal signals (Newson, 1977).

Ricks & Wing (1975) suggested that the normal baby, from birth, seeks out new experiences and attempts to understand them by a process of association and classification. The tentative schemes of classification (concepts) undergo continual modification. The process becomes much more efficient, the concepts formed more elaborate, and the associations more complex with the development of symbolic language in the second year of life.

From retrospective descriptions of the early behaviour of autistic children it seems likely that they lack the capacity, apparently in-built in the normal baby, to explore and to try to make sense of experiences. One important aspect of this problem is an inability to take part in two-way social interactions. Another is a severe impairment of imagination and creativity, and a marked tendency to engage in repetitive, stereotyped activities instead of developing the pretend play and lively interest in new experiences and ideas seen in normal children.

The absence or severe impairment of these fundamental cognitive skills affects the development of symbolic language. Many autistic children remain mute, and those who do learn to talk use speech in a concrete, literal, repetitive way, mainly in order to gratify needs, rather than for the pleasure of exchanging ideas and information. The special skills found in some of the children, such as dexterity in fitting and assembly tasks, mathematical calculations, remembering the words and music of songs, or absolute musical pitch, are of the kind that depend on visuo-spatial ability or rote memory and do not require complex reasoning (Hermelin, 1976). Approximately 70–80% of children with the behaviour described by Kanner are mildly or severely mentally retarded, even on non-verbal skills, and those who are of normal intelligence have difficulty in using their skills unless they can follow a regular routine (Rutter, 1970).

As different series of autistic children have been followed into adult life (DeMyer *et al.* 1973; Lotter, 1974; Rutter, 1970) and as techniques of neurological examination have improved, it has become clear that 30–40% have various kinds of identifiable organic abnormalities, some of which, for example epilepsy, may not be manifested until late childhood or adolescence. There seems little reason to postulate a psychological, emotional cause of autism even where no direct evidence of organic abnormality can be found, since time, or new advances in knowledge, may reveal organic pathology where none was previously detected.

From the results of their twin study, Folstein & Rutter (1977) postulated that autism may be due to a genetic cause, or to acquired organic pathology, or to brain damage in a child who is vulnerable because of an inherited cognitive defect which, on its own, would impair language development. It appears that autism can result from a variety of different organic causes, all of which, presumably, affect the relevant areas or functions of the brain, whatever else they may damage in addition.

Controlled studies comparing parents of autistic and of other handicapped children have shown no specific abnormalities of personality or child-rearing methods in the former (Cox *et al.* 1975; DeMyer *et al.* 1973; Pitfield & Oppenheim, 1964). The tendency for parents to be of above average intelligence and attainment appears to be confined to the most typically autistic children (Lotter, 1967). It may be that classic autism occurs in a child who would have been of high intelligence had he not been handicapped. In addition to the cognitive impairment postulated by Folstein and Rutter, he may have inherited certain skills, giving him his isolated abilities, and the capacity for intense, single-minded concentration on a narrow range of activities. Another child with a less favourable inheritance, though with the same underlying pathology, might show general retardation with autistic features, but no special skills.

The possibility that autism may be a form of schizophrenia has been explored in detail by Kolvin and his colleagues (Kolvin, 1971; Kolvin *et al.* 1971 *a–e*). They found marked differences between the conditions they referred to as childhood psychoses of early onset, including autism, and the very rare syndrome of childhood schizophrenia, which closely resembles the adult illness and has an onset after 5 years of age.

The autistic syndrome occurs in 4–5 in every 10000 children (Lotter, 1966; Wing *et al.* 1976). However, absence or severe impairment of the ability to seek out and make sense of new experiences is not confined to children with the typical Kanner's syndrome. The present author has observed it in many, though not all, profoundly retarded children. It is also found, in partial form, in children with abnormal social interaction and repetitive speech on bizarre themes, who may be diagnosed as 'psychotic'. The exact relationship between autism, other forms of early childhood psychosis, and mental retardation is, as yet, unclear. An epidemiological study of a complete population of retarded and psychotic children is needed as the first step in investigating this problem (Wing & Gould, 1978).

The prognosis for an autistic child is closely related to level of intelligence (DeMyer *et al.* 1973; Lotter, 1974; Rutter, 1970). There is, as yet, no treatment known that can affect the underlying impairments; but techniques of education, including, but by no means limited to, behaviour modification, can help to minimize behaviour problems and encourage the development of useful skills (Bartak & Rutter, 1973; Elgar & Wing, 1969; Everard, 1976; Hemsley & Howlin, 1976; Rutter & Bartak, 1973; Schopler, 1976). A small proportion of autistic children do become independent, though eccentric, as adults, but most will need shelter and protection all their lives (Rutter, 1970).

Many of Kanner's original ideas have needed change or modification. His view that impairment of affective contact is a major aspect of the syndrome is still accepted, but, instead of seeing it as an emotional abnormality in a child of normal intelligence, some workers are now considering it to be a consequence of a defect in the cognitive skills underlying the development of social communication, symbolic language and complex verbal reasoning. Nevertheless, no one can deny the brilliance of Kanner's initial insight, which has led to so much work of relevance to child development in general, as well as to autistic children in particular.

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REFERENCES

- Bartak, L. & Rutter, M. (1973). Special educational treatment of autistic children – Part 1. *Journal of Child Psychology and Psychiatry* 14, 161–179.
- Bartak, L., Rutter, M. & Cox, A. (1975). A comparative study of infantile autism and specific developmental receptive language disorder. I. The children. *British Journal of Psychiatry* 126, 127–145.
- Cox, A., Rutter, M., Newman, S. & Bartak, L. (1975). A comparative study of infantile autism and specific developmental language disorder. II. Parental characteristics. *British Journal of Psychiatry* 126, 146–159.
- DeMyer, M. K., Barton, S., DeMyer, W. E., Norton, J. A., Allen, J. & Steele, R. (1973). Prognosis in autism: a follow-up study. *Journal of Autism and Childhood Schizophrenia* 3, 199–246.
- Elgar, S. & Wing, L. (1969). *Teaching Autistic Children*. College of Special Education & NSAC: London.
- Everard, M. P. (ed.) (1976). *An Approach to Teaching Autistic Children*. Pergamon: Oxford.
- Folstein, S. & Rutter, M. (1977). Genetic influences and infantile autism. *Nature* 125, 726–728.
- Hemsley, R. & Howlin, P. (1976). Management of behaviour problems. In *An Approach to Teaching Autistic Children* (ed. M. P. Everard), pp. 53–78. Pergamon: Oxford.
- Hermelin, B. (1976). Coding and the sense modalities. In *Early Childhood Autism* (2nd edn) (ed. L. Wing), pp. 135–168. Pergamon: Oxford.
- Kanner, L. (1943). Autistic disturbances of affective contact. *Nervous Child* 2, 217–250.
- Kanner, L. (1949). Problems of nosology and psychodynamics in early childhood autism. *American Journal of Orthopsychiatry* 19, 416–426.
- Kanner, L. (1954). To what extent is early childhood autism determined by constitutional inadequacies? *Proceedings of the Association for Research in Nervous and Mental Diseases* 33, 378–385.
- Kanner, L. & Eisenberg, L. (1956). Early infantile autism 1943–1955. *American Journal of Orthopsychiatry* 26, 55–65.
- Kolvin, I. (1971). Studies in the childhood psychoses: I. Diagnostic criteria and classification. *British Journal of Psychiatry* 118, 381–384.
- Kolvin, I., Garside, R. F. & Kidd, J. S. H. (1971 a). Parental personality and attitude and childhood psychoses. *British Journal of Psychiatry* 118, 403–406.
- Kolvin, I., Humphrey, M. & McNay, A. (1971 b). Cognitive factors in childhood psychoses. *British Journal of Psychiatry* 118, 415–421.
- Kolvin, I., Ounsted, C., Humphrey, M. & McNay, A. (1971 c). The phenomenology of childhood psychoses. *British Journal of Psychiatry* 118, 385–395.
- Kolvin, I., Ounsted, C., Richardson, L. & Garside, R. F. (1971 d). The family and social background in childhood psychoses. *British Journal of Psychiatry* 118, 396–402.
- Kolvin, I., Ounsted, C. & Roth, M. (1971 e). Cerebral dysfunction and childhood psychosis. *British Journal of Psychiatry* 118, 407–414.
- Lotter, V. (1966). Epidemiology of autistic conditions in young children. I. Prevalence. *Social Psychiatry* 1, 124–137.
- Lotter, V. (1967). Epidemiology of autistic conditions in young children. II. Some characteristics of the parents and children. *Social Psychiatry* 1, 163–173.
- Lotter, V. (1974). Factors related to outcome in autistic children. *Journal of Autism and Childhood Schizophrenia* 4, 263–277.
- Newson, E. (1977). Diagnosis and early problems of autistic children. *Communication* 11, 43–48.
- Pitfield, M. & Oppenheim, A. N. (1964). Child rearing attitudes of mothers of psychotic children. *Journal of Child Psychology and Psychiatry* 5, 51–57.
- Ricks, D. M. (1975). Vocal communication in pre-verbal

- normal and autistic children. In *Language, Cognitive Deficits and Retardation* (ed. N. O'Connor), pp. 75–80. Butterworths: London.
- Ricks, D. M. & Wing, L. (1975). Language, communication and the use of symbols in normal and autistic children. *Journal of Autism and Childhood Schizophrenia* 3, 191–221.
- Rutter, M. (1970). Autistic children: infancy to adulthood. *Seminars in Psychiatry* 2, 435–450.
- Rutter, M. (ed.) (1971). *Infantile Autism: Concepts, Characteristics and Treatment*. Churchill: London.
- Rutter, M. & Bartak, L. (1973). Special educational treatment of autistic children: a comparative study. II. Follow-up findings and implications for services. *Journal of Child Psychology and Psychiatry* 14, 241–270.
- Schaffer, H. R. (1974). Early social behaviour and the study of reciprocity. *Bulletin of the British Psychological Society* 27, 209–216.
- Schopler, E. (1976). Towards reducing behaviour problems in autistic children. In *Early Childhood Autism* (2nd edn) (ed. L. Wing), pp. 221–246. Pergamon: Oxford.
- Trevarthen, C. (1974). Conversations with a two-month old. *New Scientist* 62, 230–235.
- Wing, L. (1969). The handicaps of autistic children – a comparative study. *Journal of Child Psychology and Psychiatry* 10, 1–40.
- Wing, L. (1971). Perceptual and language development in autistic children: a comparative study. In *Infantile Autism: Concepts, Characteristics and Treatment* (ed. M. Rutter), pp. 173–197. Churchill: London.
- Wing, L. (ed.) (1976). *Early Childhood Autism* (2nd edn). Pergamon: Oxford.
- Wing, L. & Gould, J. (1978). Early childhood psychoses: epidemiology, relation to mental retardation, and classification. *Journal of Autism and Childhood Schizophrenia* (in the press).
- Wing, L., Yeates, S. R., Brierley, L. M. & Gould, J. (1976). The prevalence of early childhood autism: comparison of administrative and epidemiological studies. *Psychological Medicine* 6, 89–100.