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Autism, Asperger's syndrome and semantic-pragmatic disorder: Where are the boundaries?

D. V. M. Bishop
Department of Psychology, University of Manchester

ABSTRACT

The diagnostic criteria for autism have been refined and made more objective since Kanner first described the syndrome, so there is now reasonable consistency in how this diagnosis is applied. However, many children do not meet these criteria, yet show some of the features of autism. Where language development is impaired, such children tend to be classed as cases of developmental dysphasia (or specific language impairment) whereas those who learn to talk at the normal age may be diagnosed as having Asperger's syndrome. It is argued that rather than thinking in terms of rigid diagnostic categories, we should recognise that the core syndrome of autism shades into other milder forms of disorder in which language or non-verbal behaviour may be disproportionately impaired.

Key words: autism, Asperger's syndrome, semantic-pragmatic disorder.

Christopher, aged 4 years, has been referred to a multidisciplinary child development centre because of concern about his failure to develop normal language and social behaviour. He is seen by a paediatric neurologist, a child psychiatrist, a speech therapist and a psychologist. At the case conference, the paediatric neurologist proposes that the child has developmental dysphasia, on the grounds that his comprehension is poor and his expressive language abnormal, but hearing is adequate, ability to do non-verbal tasks such as copying or jigsaw puzzles is good, and there are no neurological signs.

The psychologist, however, thinks that the child is autistic because, as well as having a language problem, his social behaviour is poorly developed: he does not play well with other children and lacks warmth in his relationships with his parents. The child psychiatrist argues that the child's social and language abnormalities are not severe enough to warrant a diagnosis of infantile autism: he does initiate communication with others, makes eye contact and enjoys rough and tumble play, but he tends to get rejected by other children because he wants them to participate in his repetitive activities and is insensitive to their needs. Christopher can produce long and complicated sentences, but his responses to questions are often inappropriate, and he often asks

questions of others while disregarding the answers he receives. The psychiatrist suggests a diagnosis of Asperger's syndrome.

The speech therapist states that an analysis of Christopher's language shows that it is phonologically and grammatically normal, but there are many abnormalities in the way in which language is used, and comprehension in conversational contexts is poor. She suggests that this is a case of semantic-pragmatic disorder. The psychologist responds that semantic-pragmatic disorder is just another name for autism. A visiting American paediatrician is asked to comment on the case. She examines Christopher carefully and proposes that this is a case of PDDNOS (pervasive developmental disorder not otherwise specified).

This scenario is fictional, but illustrates the confusion that surrounds the use of diagnostic terminology in the area where neurology, psychology, psychiatry and speech therapy converge. This paper aims to examine the different diagnostic labels that are in current use, to consider how far they are applied with any consistency, how far they overlap, and whether existing terminology is adequate to account for the range of disorders encountered.

THE NATURE AND PURPOSE OF THE DIAGNOSTIC EXERCISE

The reader may at this point wonder whether such questions are important. Does it actually *matter* what label we attach to a child? Surely the important thing is to identify problems and work out how to overcome them. Before considering various diagnostic categories, it is necessary to answer these concerns and give some justification for using diagnostic labels at all.

There has been much criticism of the 'medical model' approach to developmental disorders as unhelpful at best and counterproductive at worst. Once we attach a label to a child, we are likely to have stereotyped expectations and to lose sight of his or her individuality. Furthermore, we may treat the label as an explanation. Having decided that the label 'autistic' applies to Christopher because he has problems relating to others we then find ourselves saying: 'Christopher can't relate to people because he is autistic'. However real though these drawbacks are, we abandon diagnostic labels at our peril. Without them we have no means of generalising from past experience to plan for treatment or to give a prognosis.

This was well illustrated in an exchange reported in Hansard a few years ago. A Member of Parliament who was keen to press for more provision for special help for children with reading difficulties asked the relevant powers that be how many children in his part of the country were

dyslexic. 'We don't believe in labelling children, so we do not keep such figures' came back the reply. Diagnostic categories also provide a structure for gathering information in a clinical setting and are vital if we want to conduct research into the likely causes and appropriate means of treating various disorders. This is not to say that we should adopt an uncritical approach to the labels currently in use. We need to regard them as a useful way of summarising information, but be alert to the possibility of improvement. I shall argue that in the case of disorders such as autism, we may find it necessary to move away from a strictly categorical syndrome-based approach. Finally, one should beware of reifying labels and treating them as explanatory concepts.

DEVELOPMENT OF THE CONCEPT OF AUTISM

Kanner's Account of the Syndrome

In Kanner's (1943) first account of autism, he stated that the condition he described 'differs. markedly and uniquely from anything reported so far'. In this paper, he did not attempt to specify strictly defined diagnostic criteria, but presented detailed case histories of eight boys and three girls, noting the following characteristic features:

1. Inability to relate to people, including members of the child's own family, from the beginning of life.

2. Failure to develop speech or abnormal, largely non-communicative use of language in those who did speak. Pronoun reversal was observed in all children who could speak (eight cases), and echolalia, obsessive questioning and ritualistic use of language in several.

3. Abnormal responses to environmental objects and events, such as food, loud noises and moving objects. Kanner viewed the child's behaviour as governed by an anxiously obsessive desire for the maintenance of sameness, which led to a limitation in the variety of spontaneous activity.

4. Good cognitive potential with excellent rote memory and normal performance on the non-verbal Seguin form board test.

5. Normal physical status. Several children were clumsy in gait but all had good fine muscle coordination.

Many psychiatrists found that the clinical picture described by Kanner fitted puzzling cases they had observed in their own clinics, but progress in documenting and understanding autism did not follow smoothly. Kanner *(1965)* complained of two related trends in child psychiatry. Some child psychiatrists did not accept that autism was a distinctive syndrome, and suggested it was fruitless to draw sharp dividing boundaries between autism and other types of atypical development.

Others accepted that autism was a syndrome, but applied this fashionable diagnosis far too widely. '...it became a habit to dilute the original concept of infantile autism by diagnosing it in many disparate conditions which show one or another isolated symptom found as a part feature of the overall syndrome. Almost overnight, the country seemed to be populated by a multitude of autistic children.' Wing (1976) noted that yet others interpreted Kanner's summary of the features of his syndrome far too narrowly, so that autism would not be diagnosed unless the child showed no sign of awareness of other people, despite the fact that none of Kanner's own cases was this severely impaired.

To add to the confusion, there was a continuing argument as to how far autism corresponded to an early form of schizophrenia, a debate -that was not helped by the fact that there was little agreement as to the nature and diagnosis of schizophrenia itself.

Specification of Diagnostic Criteria

Rutter (1978a) documented the chaos that reigned *for* some years after Kanner's early report, with a wealth of terminology (e.g. infantile autism, childhood psychosis, childhood schizophrenia) being applied inconsistently to children who had some or all of the clinical features of Kanner's early cases.

Rutter discussed the question of how far autism could be regarded as a syndrome and how it related to other conditions. He concluded that, although there were still many unsettled questions, in order to avoid ambiguity, investigators should adopt the following criteria in relation to behaviour before 5 years of age to define childhood autism:

1. Onset before the age of 30 months.
2. Impaired social development which has a number of special characteristics and is out of keeping with the child's intellectual development.
3. Delayed and deviant language development which also has certain defined features and which is out of keeping with the child's intellectual level.
4. Insistence on sameness, as shown by stereotyped play patterns, abnormal preoccupations or resistance to change.

Unlike Kanner, who made a clear distinction between intellectual retardation and autism, Rutter argued that these were not mutually exclusive diagnoses. Using conventional IQ tests to classify children, it was found that most children who fitted the criteria of autism were also intellectually retarded. Although this might seem at odds with Kanner' S original report, it must be remembered that he based his judgement of good intellectual potential on the fact that children had good rote memory and ability to do formboard puzzles.

Later studies found that many autistic children possessed these skills while remaining very limited in other areas of functioning. The extent of intellectual retardation associated with autism will affect management and prognosis, but IQ level is not nowadays regarded as a factor in deciding whether or not the child should be diagnosed autistic.

Rutter noted that these diagnostic criteria left many unresolved issues, in particular the question of whether there were distinct subtypes of autism, and how to classify children who showed some but not all of the features of autism, but on the basis of a review of research he made a strong case for supporting the proposed criteria as the best available for defining the syndrome of autism in a valid and meaningful way. Although his diagnostic criteria have not been without their critics (Waterhouse, Fein, Nath & Snyder, 1987), they have been widely adopted and formed the basis for the third edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-III) published by the American Psychiatric Association in 1980, and revised as DSM-III-R in 1987.

In the latest revision, the term 'autistic disorder' replaced 'infantile autism', in recognition both of the fact that some autistic disorders first appear in childhood, and that as autistic individuals mature into adulthood, the term 'infantile autism' is increasingly inappropriate.

Variability in the Interpretation of Diagnostic Criteria

This clarification of diagnostic criteria was widely welcomed as a step forward in enabling researchers to select children with common characteristics and to communicate with one another with some confidence that the same condition was being referred to. Nevertheless, points of difficulty remained when trying to apply them.

The first was that the language used to describe symptoms requires subjective interpretation. Consider the following description of qualitative impairment in reciprocal social interaction:

> In infancy these deficiencies may be manifested by a failure to cuddle, by lack of eye contact and facial responsiveness, and by indifference or aversion to affection and physical contact... Adults may be treated as interchangeable, or the child may cling mechanically to a specific person. (DSM-III-R)

Does this mean that the child is not autistic if he makes approaches to other people, appears to enjoy a cuddle or uses eye contact? Several authors have shown that there are many children who have a sustained impairment of social relationships but who do not physically withdraw from people and may, for instance, respond favourably to being tickled (Rutter, 1 978a; Mundy, Sigman, Ungerer & Sherman, 1986; Volkmar, Cohen & Paul, 1986).

To achieve more consistency in diagnosis, it is crucial that we distinguish between abnormalities that must be present for a diagnosis of autism to be made, and behaviours that are characteristic, but not invariable features of autism. In DSM-I1I-R, the criteria for autistic disorder have been so specified that presence of one or two more normal social or communicative behaviours, such as making eye-contact or enjoying a cuddle, does *not* preclude the diagnosis if other aspects of reciprocal social interaction (e.g. imitation, social play or ability to make peer relationships) are clearly abnormal.

Changes in the Clinical Picture with Age

Quite apart from problems in deciding what behaviours constitute necessary and sufficient diagnostic features, disagreements may arise when there is a failure to appreciate how the clinical picture may change with age. Rutter (1978a) explicitly stated that the diagnosis should be based on behaviour before 5 years of age, and the DSM-III-R description given above specifically mentions that this is how social impairment presents in infancy. In his original account, Kanner (1943) documented how autistic children change as they grow older:

> Between the ages of 5 and 6 years, they gradually abandon the echolalia and learn spontaneously to use personal pronouns with adequate reference. Language becomes more communicative, at first in the sense of a question-and-answer exercise, and then in the sense of greater spontaneity of sentence formation. Food is accepted without difficulty. Noises and motions are tolerated more than previously. The panic tantrums subside. The repetitiousness assumes the form of obsessive preoccupations. Contact with a limited number of people is established in a twofold way: people are included in the child's world to the extent to which they satisfy his needs, answer his obsessive questions, teach him how to read and to do things.

This changing clinical picture can be puzzling for the professional who has been taught that the autistic child has a profound impairment of social relationships and language difficulties, and is then confronted with a 10 year old who, while socially and linguistically odd, does try to make friends, seeks out others and engages readily in conversation with them. In DSM-IlI-R, the changing clinical picture is emphasised, with more examples being given of abnormal behaviours characteristic of older children.

Lack of an ontogenetic perspective can be very confusing for parents as well as professionals. A mother who has been told that her 3-year-old child has autism, and that this is an incurable condition, may misinterpret this as indicating that she can expect no change whatsoever in her child's abilities or behaviour. People with such beliefs are particularly likely to become converts to unconventional treatment approaches whose proponents exploit the fact that the parents expect no change, and so are ready to attribute any that does occur to the treatment.

THE BORDERLANDS OF AUTISM

Three reasons for lack of agreement over the diagnosis of autism have been considered: use of different diagnostic criteria, subjectivity of the symptoms used as diagnostic criteria and changes in the clinical picture with age. Recognition of these difficulties and attempts to overcome them have undoubtedly led to much greater consensus in how the diagnostic label is applied. However, although specification of clear-cut diagnostic criteria has made it easier for different observers to agree on which children are autistic, we are left with the problem of how to classify the child who is clearly abnormal, has some autistic characteristics, yet does not meet the criteria for autism or any other disorder.

There is no doubt that such children exist. Virtually every symptom characteristic of autism can be observed in children who do not fit this diagnostic category. Rutter (1966) searched the Maudsley hospital records over a 9-year period to locate all pre-pubescent children who had been given an unequivocal diagnosis of child psychosis, schizophrenic syndrome of childhood or infantile autism, and compared case-notes of this 'psychotic' group with those of a clinically heterogeneous control group consisting of non-psychotic children attending the same department, matched on age and measured intelligence.

The frequency of various symptoms was compared for the two groups and, as might be expected, the frequency of abnormalities in interpersonal relationships, speech and ritualistic and compulsive phenomena was greater for the psychotic than for the non-psychotic group. However, all types of abnormal behaviour observed in the psychotic group were also found in the non-psychotic children, e.g. echolalia in 29 out of 63 psychotic children and 19 out of 63 non-psychotic children; pronoun reversal in 19 psychotic and 8 non-psychotic children; abnormal attachments in 26 psychotic and 12 non-psychotic children.

Rutter concluded that the differences between the groups lay largely in the patterning of symptoms and to some extent in their severity. In an epidemiological study, Gillberg (1984) found that while cases of autism were fairly easy to recognise using Rutter's criteria, many other children were identified as having 'autistic traits'.

Subtypes at Pervasive DevelopmentaI Disorder

The American Psychiatric Association (1980) recognised the existence of cases which resemble autism but failed to meet the diagnostic criteria for this condition. Concerns about classification of such cases were addressed in the 1987 revision of DSM-I1I. In DSM-III-R 'pervasive developmental disorder' encompasses all disorders in which there is qualitative

impairment in the development of (1) reciprocal social interaction, (2) communication (verbal and non-verbal) and (3) imaginative activity.

Autistic disorder corresponds to a severe form of pervasive developmental disorder with onset in infancy or childhood, in which severe social and communicative impairments are associated with a markedly restricted repertoire of activities and interests. However, it is recognised that pervasive developmental disorder can occur in less severe and prototypical form, in which case the label pervasive developmental disorder not otherwise specified (PDDNOS) is applied.

Asperger's Syndrome

In the UK, pervasive developmental disorder is not widely used, but the diagnosis 'Asperger's syndrome' has become popular to refer to individuals with some autistic features who do not fit all the criteria for autism (Tantam, 1988). Asperger's account of this syndrome was written 1 year after Kanner's original publication, but was much less well known. The children described by Asperger were characterised by pedantic and stereotyped speech, clumsiness, obsessional interests and deficient social behaviour. Wing popularised his work in a paper published in 1981, and noted that there were many similarities between Asperger's syndrome and Kanner's syndrome, making it difficult to tell if they were describing the same condition at different levels of severity, or distinct disorders.

The most popular view seems to be that 'Asperger's syndrome' is a synonym for autism of a less severe kind (Schopler, *1985).* However, there do seem to be some merits in retaining the term. First, there is still debate as to how far Asperger's syndrome does overlap with autism (Nagy & Szatmari, 1986; Szatmari, Bartolucci, Finalyson & Krames, 1986; Rutter & Schopler, 1987). Second, the prognosis for Asperger's syndrome is considerably better than for classic autism. For this reason, several specialists (e.g. Wing, 1981; Howlin, 1987) have advocated using the term 'Asperger's syndrome', while accepting that differences from autism may well prove to be only a matter of degree.

Tantam (1988) argued that without such a category these children are left in a diagnostic limbo, and their problems consequently go unrecognised and uncatered for because their deficits are not deemed severe or widespread enough to be termed 'autistic'. The numbers of affected children are not negligible: Gillberg and Gillberg (1989) found that Asperger's syndrome was about five times as common as autism. Another practical reason for retaining the term 'Asperger 's syndrome' is that it may be a more acceptable diagnosis for parents and professionals, many of whom have a stereotyped view of autism based on the clinical picture in young children (Wing, 1986).

Relationship between Autism and Developmental Language Disorder

Language abnormalities are a central symptom of autism. This raises the question, then, of how distinct is autism from developmental language disorder? Churchill (1972) proposed that there was no qualitative distinction between 'developmental aphasia' and autism, and that they differed only in degree. Wing (1976) argued that while it is easy enough to recognise children who have the classic syndrome described by Kanner and to differentiate these from an equally classic case of developmental receptive language disorder, the borderlines of these conditions are not at all clear.

> If children with these problems could be arranged in an orderly series, starting from the most autistic child at one end and extending to the child who most clearly had nothing but a developmental receptive speech disorder at the other, to say where the dividing line should be drawn would need the judgement of Solomon.

This issue was addressed in a series of studies by Bartak and his colleagues (Bartak, Rutter & Cox, *1975,* 1977). They started out by collecting from a range of special schools and hospital units a sample of children with severe problems in understanding spoken language, excluding any with significant hearing loss or low non-verbal intelligence. These were then subdivided according to Rutter's criteria into 19 who fitted the definition of infantile autism and 23 who clearly did not, and who were referred to as the 'developmental receptive aphasic' group.

This study confirmed that it is possible to have a severe receptive language disorder without necessarily being autistic, and thus indicated that the social and behavioural impairments of autistic children cannot be simply explained away as secondary to impaired understanding of spoken language. It also emphasised the wide-ranging nature of the communicative problems of autistic children, which extended to non-verbal as well as verbal communication. Kanner's view that autistic children had adequate language competence whereas aphasic children did not was not borne out in this study.

On the contrary, autistic children had more severe and more extensive communicative problems than did aphasic children. Whereas the 'aphasic' children were characterised by immature language, the autistic children were much more likely to show deviant features, such as echolalia, pronoun reversal, stereotyped utterances and metaphorical language. However, although language characteristics differentiated the autistic group from the aphasic group, there were some children who could not be classified in either group because their behaviour and language fell between these two categories.

In reviewing these studies, Rutter (1978b) concluded that while there were major differences between developmental receptive aphasia and

infantile autism in severity, range and nature of language problems, as well as in behavioural terms, the existence of cases who were intermediate between the two conditions emphasised the difficulty of drawing a sharp boundary. Also, he noted that with the dysphasic as well as the autistic group the more 'autistic-like' the language, the more 'autistic-like' was the behaviour, indicating that degrees of autism can be talked about in children who do not have the full syndrome. Furthermore, Rutter pointed out that autism and language difficulties tend to segregate in the same families, concluding that 'there are important functional links between autism and at least some cases of "dysphasia"'.

This latter quote is illuminating in its implication that developmental dysphasia may not be a unitary condition. The diagnosis of 'developmental dysphasia' has traditionally been made by exclusion: in effect this is a default category that is applied to children whose language difficulties cannot be encompassed under another diagnostic heading. According to Bishop and Rosenbloom (1987), the term 'developmental dysphasia' is misleading in implying there is a unitary condition with a single aetiology, and it would be preferable to talk more neutrally of 'specific developmental language disorders' and to aim to develop a subclassification of such disorders on the basis of positive linguistic and other characteristics.

It is widely recognised that there are many children with specific language disorders who are sociable and friendly, and show no evidence of the ritualistic and obsessional behaviour characteristic of autism. However, Bishop and Rosenbloom described one form of specific developmental language disorder, referred to as 'semantic-pragmatic disorder', that appeared to be an exception to this general rule. In this disorder, there is delayed early language development, but the child then develops fluent, complex speech with clear articulation.

Although receptive difficulties may dominate the clinical picture when the child is young, leading to a diagnosis of 'developmental receptive aphasia', as they develop, such children might improve considerably and do well on multiple-choice comprehension tests. Comprehension problems are still evident, however, in less structured situations, when the children tend to give over-literal or tangential responses. Unlike other language-impaired children, those with this language profile tended to have mild autistic features, but these were typically not severe enough or extensive enough to merit a diagnosis of autism.

These clinically based observations were offered tentative support from Rapin's (1987) preliminary account of a study of 3- to 5-year-old children identified as having autism or developmental language disorders. In this study, each child's disorder was categorised, first in terms of the type of language impairment observed, and second, in terms of whether or not the criteria for autism were met. Thus developmental language disorder

and autism were not regarded as mutually exclusive, and both conditions could be coded as present. Language disorders of children in this study were categorised according to the nosological framework of Rapin and Allen (1983), which includes a category of 'semantic-pragmatic syndrome'.

This overlaps substantially with Bishop and Rosenbloom's 'semantic-pragmatic disorder'. (Indeed, we followed the terminology of Rapin and Allen to avoid using alternative terms for similar conditions, although we were reluctant to use the word 'syndrome' with its suggestion of a diagnostic entity with clear-cut boundaries.) Rapin reported that semantic-pragmatic syndrome was commonly associated with autism, although language disorders in autistic children were not restricted to this kind. However, 7 out of 35 cases classified as having semantic-pragmatic syndrome did not meet criteria for diagnosis of autism, confirming that one can have this type of language disorder without the extensive social and behavioural abnormalities necessary for a diagnosis of autism.

What can we conclude about the relationship between autism and developmental language disorder? So long as 'developmental dysphasia' was regarded as a unitary condition diagnosed by exclusion, the picture was confusing, with some suggesting similarities with autism, and others finding marked differences. Recognition of the diverse nature of developmental language disorders opens a way forward.

In general, it is not helpful to treat specific developmental language disorder and autism as points on a continuum: most children with developmental language disorders have communication problems that are more circumscribed than those of autistic children, and which are not associated with any abnormalities of behaviour or sociability. However, there do appear to be some children who, while not fitting the diagnostic criteria for autism, show some autistic features in conjunction with language difficulties, and these are typically those with the clinical picture of semantic-pragmatic disorder. Because 'developmental dysphasia' is a diagnosis typically made by default, these children have been traditionally classified under this heading, but it is questionable whether this is expedient, because it leads to the use of a single label to encompass very different types of difficulty.

THE NOTION OF AN AUTISTIC CONTINUUM

The more studies are conducted into questions of diagnosis, the stronger becomes the impression that difficulties in recognising the boundaries of autism are not solely a consequence of the subjective and elusive nature of the symptoms. Rather, it seems that we are dealing with a disorder that has no clear boundaries. Wing (1988) has argued that rather than

thinking rigidly in terms of a discrete syndrome of autism, we should be aware that there is a continuum of autistic disorders.

She regards social impairment as the core symptom of such disorder. Children with this social impairment are characterised by a triad of deficits in social recognition, social communication and social understanding. In each of these domains, a wide range of severity of impairment is recognised. In the sphere of social communication, for instance, the severely impaired child may make no effort to initiate communication at all; the more moderately impaired children may use language to achieve some end, such as obtaining an object; the mildest form of impairment corresponds to subtle difficulties in recognising the needs of conversational partners.

Wing would regard a child as falling on the autistic continuum provided they showed this triad of social impairment, irrespective of other symptoms. However, she noted that impairments in other areas do tend to co-occur with the social triad, in particular repetitive and stereotyped activities, poor motor coordination and abnormal responses to sensory stimuli. As far as language is concerned, the child with the triad of social impairment will by definition be defective in the pragmatic aspects of language. In addition, problems with the more formal aspects of language (grammar, phonology) may be associated with the social impairments, but are not found in all cases.

In talking of an autistic continuum, we imply a single dimension, in which a condition such as Asperger's syndrome constitutes a milder form of the same underlying disorder that is seen in autism. However, clinical accounts suggest that conditions resembling autism do not differ just in terms of severity, but also in pattern of symptoms. Thus the label Asperger's syndrome is typically applied to clumsy children with circumscribed interests, whose early language development is not delayed, and who may have a verbal IQ well above performance IQ (Wing, 1981).

In contrast, language-impaired children fitting the picture of semantic-pragmatic disorder typically first present with delayed language development and evident comprehension problems, and have a marked IQ discrepancy in favour of performance IQ. To represent this situation adequately, we need not one but two dimensions, as shown in Figure 1. The value of thinking in terms of a two-dimensional continuum of disorder is that it allows us to retain the terminology and definitions appertaining to the

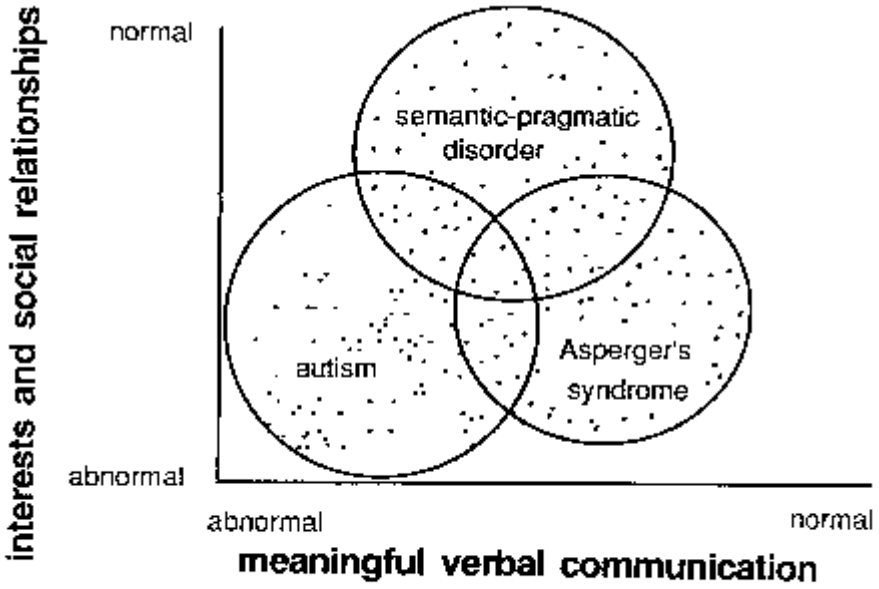

Figure 1: *Two-dimensional model of the autistic continuum.*

core syndrome, while appreciating relationships with other milder types of disorder (Wing, 1986). It also encourages us to develop a quantitative approach to evaluation of symptoms. For instance, rather than simply noting that social relationships are abnormal, we move towards assessing severity of impairment in different areas of functioning. In effect the aim shifts from trying to find more effective procedures for discriminating autistic from non-autistic children to devising objective means of measuring the constructs represented by the axes of Figure 1. This task is complicated by the fact that the clinical picture may change dramatically with age.

Nevertheless, it seems worth working towards a quantitative approach as this is likely to be more valuable in prognosis than reliance on categorical labels which encompass a wide range of severity.

The dimension labelled 'verbal communication' represents competence in those aspects of language concerned with meaning and use. If a further dimension corresponding to mastery of language form (grammar and phonology) was added then other types of language disorder could be depicted on the same diagram. It is postulated that a cluster of children would be found with pronounced deficits of language form, but relatively normal communicative competence and non-verbal skills, corresponding to the traditional category of 'developmental expressive aphasia', and that, at least in older children, this subset would be clearly delineated from semantic-pragmatic disorder. Children with autism would be variable on this dimension.

This model is only a theoretical device for depicting the range of disorders that has been described clinically and the relationships between them, and its validity remains to be demonstrated. Implicit in this model is the notion that traditional categories such as autism and Asperger's syndrome are not distinct disorders, hence the depiction of traditional categories as overlapping. One way to test this model is to adopt the research approach used by Bartak *et al.* (1975), in which children who are diagnosed as fitting different categories are compared to see how far they can be clearly distinguished.

However, it is important to recognise that our ability to detect qualitative differences between groups will depend on the variables we measure, and that superficial similarities between disorders may be misleading. Gillberg (1988), for example, noted that Rett syndrome, which has a distinctive course and clinical picture, was for many years not recognised as different from autism because many of the behavioural symptoms are similar. In the area of language, there are certain neurological disorders which are associated with verbal abnormalities that seem similar to semantic-pragmatic disorder, e.g. Williams' syndrome (Udwin, Yule & Martin, 1987) and hydrocephalus (Swisher & Pinsker, 1971). However, the author's hunch is that, when analysed in detail, the language profiles may prove to be alike only insofar as they all involve fluent and complex speech. We must probably await the development of more sophisticated assessment techniques before we can resolve this question.

Progress in classification, then, pursues a meandering course, with new developments arising both from the recognition of continuity between conditions previously regarded as different, and discovery of clear distinctions within pre-existing categories. Given the current uncertainties, how, then, should we react to the type of diagnostic dilemma posed at the start of this paper? Although we may question the extent to which the diagnostic labels in Figure 1 correspond to distinct syndromes, they nevertheless have utility as short-hand descriptions.

In the interests of clarity of communication, it would seem advisable to avoid using the diagnosis of autism except for children who do fit conventional diagnostic criteria (Rutter 1978a; American Psychiatric Association, 1987), but it is important to recognise that the diagnosis cannot be excluded without taking an early history, and is not ruled out just because a child shows interest in adults or makes eye contact. Where a child does not meet the diagnostic criteria for autism and does develop grammatical speech at the normal age, but has in mild to moderate form the triad of abnormalities described by Wing (1988), a diagnosis of Asperger's syndrome seems the most appropriate. Some psychiatrists use Asperger's syndrome more loosely to include any child of broadly normal intelligence with autistic features who does not meet criteria for autism, even if language is impaired. In effect, Asperger's syndrome then

becomes a synonym for the American category 'pervasive developmental disorder not otherwise specified'. The drawback in using the label this way is that it encompasses a wide range of children whose educational needs will be very variable.

The author would recommend using the term 'specific semantic-pragmatic disorder' for children who are not autistic but who initially present with a picture of language delay and receptive language impairment, and who then learn to speak clearly and in complex sentences, with semantic and pragmatic abnormalities becoming increasingly obvious as their verbal proficiency increases. Whereas at first they may be difficult to differentiate from other types of language-disordered child, the pattern of verbal deficits looks more distinctive as they grow older.

What of the accusation that 'semantic-pragmatic disorder' is just another term for autism? A great deal of confusion and controversy has surrounded this issue, not least because the claim that the two categories are synonymous can be interpreted in two ways.

The more extreme interpretation is that all children who have been diagnosed as having semantic-pragmatic disorder in fact meet conventional diagnostic criteria for autism. It is undoubtedly the case that the diagnosis of autism is not always made when it is appropriate, either because of a reluctance to use this negative label, or because of unawareness of how autism changes with age. Nevertheless, preliminary data from Rapin's (1987) study confirmed that a child could have a semantic-pragmatic language disorder without necessarily meeting criteria for autism.

This whole issue is further complicated by the fact that whereas Bishop and Rosenbloom (1987) restricted use of 'semantic-pragmatic disorder' to children with a specific language disorder who were *not* autistic, Rapin (1987) did not regard the two diagnoses as mutually exclusive. One could say that, in effect, she used the term 'semantic-pragmatic syndrome' to describe abnormalities on the horizontal axis of Figure 1, so that this syndrome could be found with or without the non-verbal social abnormalities characteristic of autism. This is a logically defensible position, but, obviously, misunderstanding will ensue if some people use the term as an alternative diagnosis to autism, whilst others regard the two labels as compatible. It is hoped that the designation *specific* semantic-pragmatic disorder for non-autistic children with this language profile will dispel some of the confusion.

There is an alternative interpretation of the claim that autism and semantic-pragmatic disorder are the same: this statement can be taken to mean simply that the two disorders are on a continuum and not qualitatively distinct. On this view, any disorder falling within the domain shown in Figure 1 can be regarded as 'autistic'. While it may be useful to

draw attention to commonalities between disorders, extension of terminology in this way is likely to cause more misunderstanding than clarification.

Finally, we should beware of abbreviating semantic-pragmatic disorder to SPD, as these initials are used by psychiatrists to refer to 'schizotypal personality disorder', a category whose relationship to autism is highly controversial (Nagy & Szatmari, 1986).

IMPLICATIONS FOR SPEECH AND LANGUAGE THERAPY

As conceptualizations of the nature of autism have changed, so have ideas about the nature of language impairment in autism. Kanner (1943) gave detailed descriptions of abnormalities of language use in autistic children, but regarded the inability to form social relationships as the primary problem, of which the language difficulties were symptomatic. Many psychiatrists took the view that although the autistic child failed to communicate, underlying language competence was intact. Rutter (1978b) has reviewed work challenging this position, and concluded that, although language deficiency cannot explain all the other symptoms, social and behavioural deficits of autism are accompanied by genuine impairments of language and communicative function.

As the conceptualisation of language deficits in autism has changed, so have attitudes towards the role of the speech therapist. So long as autism was seen as a purely affective disorder, speech therapy was seen as largely irrelevant, because the child was assumed to have normal language competence, even though this may not be expressed. Once the true severity of the language deficits in autistic children was appreciated, the position changed dramatically, and there was a massive drive for language training, with the hope that if the verbal difficulties could be overcome, other problems would resolve.

Now a more balanced position has been reached. It is recognised that autistic children have difficulties with language that are a valid focus for remediation, but it is clear that traditional approaches emphasising mastery of the formal properties of language are largely inappropriate: training children to speak is not going to bring about a transformation of their behaviour. The autistic child needs to learn not so much how to speak as how to use language socially to communicate. One still encounters those who regard speech therapy as inappropriate for children with a diagnosis of autism, but this attitude usually derives from a mistaken belief that speech therapists are only concerned with articulation training and grammatical drills.

Rutter *(1985)* has argued that it is not helpful to adopt a rigid response to diagnostic labels which assumes that because a child is diagnosed as

autistic, the only suitable educational placement is in a unit for autistic children. He argues that we need to consider the level and pattern of handicaps when deciding educational placement: some children may do well in a unit for language-impaired or mentally handicapped children or, with appropriate support, in a normal school. This flexible approach is especially appropriate as we come to recognise the broader spectrum of autistic problems, and increasingly encounter children with social and language impairments of disproportionate severity.

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Address correspondence to Dr D. Bishop, Department of Psychology, University of Manchester, Oxford Rd, Manchester M13 9PL.

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