

EARLY INFANTILE AUTISM: DIAGNOSIS, ETIOLOGY, AND TREATMENT

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An overview of the syndrome of early infantile autism (EIA) is presented which reveals a general state of confusion in the recent literature. Examination of the problem of diagnosis suggests the presence of significant amounts of organic dysfunction in many subjects who have been labeled as "autistic." The following diagnostic criteria are suggested: (a) lack of object relations, (b) lack of use of speech for communication, (c) maintenance of sameness via stereotypic behavior, and (d) lack of neurologic dysfunction. A study of the question of etiology disclosed that many articles emphasize the effects of either overstimulation or a lack of stimulation at early developmental stages, and discuss the importance of the intactness of the perceptual apparatus. This study again revealed the existence of two subgroups of autistic subjects who could be described as "organic" and "psychogenic." Evaluation of modes of treatment revealed few successful reports except when a very active, intrusive, and pleasant therapeutic approach was used. Hypotheses are proposed, from an ego-psychology point of view, on etiology and treatment.

The syndrome of early infantile autism (EIA) has stimulated much clinical and research interest in the last two decades, but the nature of its diagnosis and treatment remain in dispute. The syndrome was first distinguished and labeled in the seminal article published by Kanner in 1943. The present paper is restricted to studies subsequent to Kanner's, which have specifically attempted to deal with either autistic children or the cause of early infantile autism.

Since Kanner's initial labeling of the syndrome, there has been a wide spectrum of opinion as to the necessary criteria for its diagnosis. This spectrum includes a range within the work of Kanner himself. The initial article (Kanner, 1943) listed 12 diagnostic features which he felt to be characteristic of early infantile autism:

1. The autistic child is always aloof (as opposed to a withdrawal from established contact).
2. The autistic child looks normal, alert, and expressive.
3. Motor coordination seems normal with quick, skillful movements.

4. The child avoids eye contact and lacks visual or auditory responses to others; thus, the child appears to be deaf and blind to people.
5. There is no physical reaching out from infancy.
6. The child does not initiate sounds or gestures (e.g., waving "bye-bye").
7. There is a failure to use speech for purposes of communication.
8. The child has a marked facility with objects (in contrast to his response to people and to language).
9. Psychometric performance indicates that cognitive potentialities are masked by the basic disorder. The appeal of form boards and pegboards yielded evidence of normal or superior performance.
10. There is an obsessive desire to maintain sameness.
11. Bedwetting, thumbsucking, nailbiting, and masturbation are rarely associated with early infantile autism.
12. The rate of occurrence is less than 1% in the general population.

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However, the latest article by Kanner (Kanner & Eisenberg, 1956) on this topic

indicated that the major diagnostic characteristics of early infantile autism now are:

1. The lack of object relations.
2. The maintenance of sameness via stereotypic behavior.

Kanner's extended research on this syndrome revealed that all except these two major characteristics could be found in other types of childhood psychopathology.

DIFFERENTIAL DIAGNOSIS

Many theorists have felt it important to distinguish between childhood schizophrenia and early infantile autism. The differential diagnosis between the two is especially difficult since both types of children have poor object relations, poor contact with reality, and poor body images. However, although Kanner (1943) included early infantile autism under the diagnostic rubric of childhood psychosis, it appears clear that an essential difference between early infantile autism and childhood schizophrenia is that the former may be viewed as a developmental arrest or fixation, and the latter as a problem due to profound regression. Kanner himself stated that the object-relatedness of the EIA child differs from that of the schizophrenic child, in that there is "from the start an extreme autistic aloneness . . . [Kanner, 1943, p. 242]," whereas the schizophrenic child displays a "withdrawal" from previously formed relationships.

Although both EIA children and schizophrenic children display poor reality contact, the schizophrenic child manifests this deficit via an extremely vivid and distorted fantasy life, delusions, hallucinations, etc., while the EIA child displays a narrow focus of attention upon stereotypic physical activity (rocking, twiddling, slapping, screwing, rolling, etc.) to the exclusion of the rest of the external world. Thus, although both categories of children do display poor reality contact, schizophrenia appears to result from distraction due to a complex internal fantasy life, while early infantile autism appears to stem from an extremely barren fantasy life, combined with a focus upon an extremely restricted aspect of the external environment. This restricted focus may be viewed as the foundation for

Kanner's stereotypic maintenance of sameness, one of the two diagnostic characteristics of early infantile autism (Kanner & Eisenberg, 1956).

Moreover, the area of body image illustrates both a similarity and, at the same time, a difference between EIA children and schizophrenic children. Discussions of the problems of body image in schizophrenic children repeatedly emphasize the fact that these children experience the percepts or images of others as "blurring," "fusing," or "melting" (Despert, 1968; Mahler, 1968). The confusion experienced by these children has to do with *complete* images of themselves and others. On the other hand, EIA children have consistently been described as failing to experience either themselves or others as whole bodies. Instead, the EIA children have been noted for their lack of awareness of pain, for relating only to a part of another person's body (Kanner, 1943) if forced to relate, and, in general, for giving every evidence of failing to have achieved a complete body image for themselves or anyone else. Thus, it seems that the superficial similarity, in respect to body image, between childhood schizophrenia and early infantile autism, masks a qualitative difference, in that the former has a far better developed body image. The differential diagnosis between these two diagnostic categories is important for both theoretical and practical reasons in regard to treatment strategies and the use of therapeutic treatment time.

Rimland (1964) pointed out the following differences from childhood schizophrenia:

1. Presence of the syndrome from the beginning of life.
2. The lack of physical responsiveness.
3. Autistic aloneness.
4. Preservation of sameness.
5. Unusual capabilities in memory, music, and mechanical performance.
6. Good physical health and motor performance.

The first three of Rimland's differential diagnostic characteristics may be subsumed under the heading of lack of object relations, as all three focus upon the child's lack of awareness and responsiveness to human beings. His next two differential characteristics

deal with the EIA child's tendency to order the world into repetitive patterns, while the last point emphasizes the fact that the child must be free of any neurological, organic, or developmental impairment. Thus, in summary, it may be seen that Rimland's list of diagnostic characteristics is very similar to that presented by Kanner (1943) and Kanner and Eisenberg (1956), but where Rimland required that the syndrome be present "from birth," Kanner's criteria require only that the "detachment" be present "no later than the first year of life [Kanner & Eisenberg, 1956, p. 557]."

The above point, time of onset of pathology, is the sole feature used by Reiser (1963) to distinguish "infantile psychosis" (EIA) from childhood schizophrenia by means of the *difference* in the time of onset of pathology. He felt that the diagnostic category of childhood schizophrenia included both those children whose disordered behavior appeared after an initial period of normal development, and those cases where the pathology became evident past the age of 5 years. Thus, Reiser apparently agrees with Rimland's (1964) requirement that early infantile autism is a syndrome which must be present from birth, rather than allowing the year of "normal" development described by Kanner (1943).

Mahler's (1952, 1968) differentiation between autistic psychosis (early infantile autism) and symbiotic psychosis was based on the failure of the infantile ego, in autistic psychosis, to emotionally perceive the mother as the first representative of the outside world and reality. The failure of the EIA child to use the mother as the first representative of reality is seen as resulting in the distinctive features described by Mahler (1968):

1. An obsessive desire for the maintenance of sameness.
2. Lack of the *use* of speech for communication.
3. A stereotyped preoccupation with a few inanimate objects or action patterns toward which the EIA child shows the only signs of emotional attachment.

Thus, Mahler's (1952, 1968) differential diagnostic criteria may also be divided into the categories of (a) lack of object relations,

and (b) the EIA child's tendency to order the world into repetitive patterns, in the same manner as the criteria of Kanner (1943), Kanner and Eisenberg (1956), and Rimland (1964).

Starr (1954) described early infantile autism as a deficiency disease characterized by an inadequate, unstimulating, and excessively diluted mother-infant relationship. This diagnostic criterion focuses basically upon the characteristic of lack of object relations.

Anthony (1958) accepted the existence of childhood psychosis as a "basis for the investigation of autistic behavior," and he delineated two basic patterns of development. The first pattern is characterized by an "early onset with little or no upheaval." The second pattern is seen as containing a

period of normal development, followed by an episode of great turbulence subsiding into a withdrawn, regressed, and rigid period, and finally a phase of partial recovery at a lower level of functioning [Anthony, 1958, p. 213].

These two patterns are labeled as primary and secondary autism. Subsequent investigation revealed that the cases of primary autism were children who were "grossly understimulated" for any number of reasons, while the cases of secondary autism were "grossly overstimulated" with a major involvement of "gross cerebral disease." Anthony identified primary autism with the syndrome of early infantile autism as described by Kanner (1943), and ascribed the psychosis to the failure of the child to develop a self-protective ego barrier, due to a combination of a constitutionally "thick" barrier and an insensitive and unresponsive mother. Anthony agreed with Mahler (1952), Starr (1954), and Norman (1954) as to the etiologic importance of an unstimulating mother-infant relationship. Anthony dealt with the conflict of time of onset of pathology as a diagnostic criterion by agreeing that the syndrome of early infantile autism is present from birth, but he also suggested that gross cerebral disease or "profound regression" after an initial period of normal development (childhood schizophrenia) could result in a behavioral picture that was at least superficially identical with that of EIA or primary autism. However, Anthony does appear to agree with the ma-

majority of theorists in viewing early infantile autism and childhood schizophrenia as being on a continuum of pathology, with EIA being at the lowest extremity.

The Barrier Hypothesis (Bergman & Escalona, 1949; Freud, 1955) played a great role in Anthony's conceptualizations about early infantile autism, and he used the concept to explain the development or lack of development of a protective ego barrier.

Lack of object relations, the major diagnostic characteristic that Anthony (1958) focuses upon, is felt to stem from the presence of a "constitutionally abnormal" stimulus barrier that makes it difficult for the child to respond to stimuli from the external world. These conceptualizations are based upon the Barrier Hypothesis (Freud, 1955) which stated that "interposed between every organism and its environment (internal and external) is a stimulus barrier [Freud, 1955, p. 58]." It is hypothesized that the primary or constitutional barrier must be supplemented by a maternal barrier, which is eventually replaced by autonomous ego barrier modelled upon it, but more selective in its operation. Anthony used this Barrier Hypothesis to explain the development of object relations and reality contact in a manner very similar to Mahler's (1952, 1968) description of the movement from "normal Autism" to "normal symbiosis" via acknowledgement of the mother as the first representative of reality. Both the Barrier Hypothesis and Mahler's description of ego development emphasize the vital role of the mothering figure to the child's development of good object relations and reality contact.

Anthony's (1958) theoretical position vis-à-vis early infantile autism is very similar to that taken in a recent paper by Ornitz and Ritvo (1968). This later study views early infantile autism, "certain cases of childhood schizophrenia," the atypical child, symbiotic psychosis, and children with unusual sensitivities, as variants of a unitary disease. This unitary disease is felt to be delineated by subclusters of symptoms which are labeled as:

1. Disturbances of perception.
2. Disturbances of motor behavior.
3. Disturbances of relating.

4. Disturbances of language.

5. Disturbances of developmental rate and sequence.

The disturbances of perception are felt to be "fundamental" to the other aspects of the postulated disease, and to be manifested by early developmental failure to distinguish between self and environment, to imitate, and to modulate sensory input. Ornitz and Ritvo described early infantile autism as a "behavioral syndrome," and interpreted the symptomatology as being expressive of "underlying pathophysiology rather than being purposeful in the intrapsychic life of the child [Ornitz & Ritvo, 1968, p. 77]." Thus, these authors eschew any concept of a unitary syndrome of early infantile autism, and view EIA, certain cases of childhood schizophrenia, the atypical child, symbiotic psychosis, and children with unusual sensitivities, as the behavioral manifestations of various types of organic and developmental malfunctions that are caused by a breakdown of homeostatic regulation of sensory input. This breakdown results in a condition of perceptual inconstancy. Thus, Ornitz and Ritvo (1968) view all the above types of childhood psychopathology in the same way in which Anthony (1958) defined his concept of secondary autism.

Kanner's papers (Kanner, 1943; Kanner & Eisenberg, 1956; Kanner & Lesser, 1958) defined the syndrome of early infantile autism as a type of "psychotic illness heretofore undescribed" which should be differentiated from childhood schizophrenia "by virtue of detachment present no later than the first year of life, and from oligophrenia by the evidence of good intellectual potentialities [Kanner & Eisenberg, 1956, p. 557]."

Garcia and Sarvis (1964) "believe that autism is most usefully thought of as a reaction to an overwhelming inner or outer assault at a vulnerable developmental stage," and feel that a "basic paranoid attitude is the core of the autistic reaction [1964, p. 530]." Their study involved a series of "over 100 autistic children," but did not discover or propose any differential diagnostic characteristics. Instead, almost all types of "atypical" children seemed to be included under the category of EIA by these authors. No differ-

ences were seen among children whose etiology for their autistic behavior ranged from psychodynamic conflicts, to environmental conditions, to organic insult, to developmental and/or perceptual problems.

Green and Schechter (1957) used the term autistic to connote the inadequate interpersonal relatedness of the child which is felt to be demonstrated by the child's "lack of successful, meaningful, verbal communication, in spite of demonstrated linguistic and physiological capacity [Green & Schechter, 1957, p. 629]." This study involved blind children whose parents were described as interfering with and smothering their need for investigation and discovery of the outside world. This fact, in combination with the authors' description of the phenomenon of "shared autism" between parent and child, raises serious questions as to whether these children are similar to other children who have been placed under the rubric of EIA. Instead, the outstanding feature of this study seems to consist of a report on the deleterious effect of the "smothering symbiotic attitude of the mother" upon the development and functioning of perceptually handicapped children. These children appear to have been as "overwhelmed" as those reported in the previous study (Garcia & Sarvis, 1964), and more likely to meet the criteria for the category of secondary autism (Anthony, 1958) and/or symbiotic psychosis (Mahler, 1952, 1968), than the category of early infantile autism.

Polan and Spencer (1959) presented five case histories of early infantile autism and suggested that the

primary symptom of Early Infantile Autism is a lack of integration pervading all the behavior of the organism and manifesting itself in the distorted language, in the lack of social responsiveness, and in the lack of adaptability to environmental change [Polan & Spencer, 1959, p. 198].

Thus, the diagnostic characteristics focused upon by Polan and Spencer may be subsumed under the headings of lack of object relations, and the attempt to maintain sameness in the environment, similar to those headings offered by earlier theorists (Kanner, 1943; Kanner & Eisenberg, 1956; Mahler, 1952, 1968; Ornitz & Ritvo, 1968), although nothing is stated in regard to the question of time of onset of pathology.

Gordon (1961) described the "typical autistic" as a "good placid baby" who showed little interest in his new world, and showed a lack of response to the human voice. Gordon saw the autistic child as losing earlier acquired training and his speech as deteriorating to echolalia, or disappearing completely. Also, Gordon reported a compulsion to keep objects in the mouth, a preference for strong, acrid, or bitter flavors, and an intense need for rhythmic motion. Thus, this diagnostic description and Anthony's (1958) definition of secondary autism both describe the loss of previously acquired capacities.

Thus, an overall evaluation of the literature indicates a great deal of confusion as to those features vital to a differential diagnosis. However, this evaluation does indicate that there are at least two groups of children who are often labeled as being cases of early infantile autism. The first group, described by Anthony (1958) as primary autism, is seen as being grossly understimulated, and as having a "thick" ego protective barrier. The features of a lack of environmental stimulation or a thick ego protective barrier are also seen as important differential diagnostic characteristics for this group by Mahler (1952), Norman (1949), and Starr (1954). This type of dichotomy is in opposition to the position taken by Garcia and Sarvis (1964) and Ornitz and Ritvo (1968), as both sets of authors appear to view EIA as a behavioral syndrome, regardless of the etiology of the autistic behavior.

The second group, which Anthony (1958) has labeled as secondary autism, has been characterized by a "thin" or defective ego barrier, gross overstimulation, a normal period of development followed by regression (Anthony, 1958; Gordon, 1961; Reiser, 1963), and major involvement of gross cerebral disease (Anthony, 1958).

The other studies referred to above (Green & Schechter, 1957; Kanner, 1943; Kanner & Eisenberg, 1956; Kanner & Lesser, 1958; Rimland, 1964) all seem to refer to cases of primary autism, whereas Polan and Spencer (1959) appear to be discussing cases of secondary autism which have a number of organic factors present. Thus, it appears quite likely that there is an overlap of behavioral symptomatology between the groups of pri-

mary autism and secondary autism. This hypothesis is supported by a recent study (Ward & Handford, 1968)² which indicated that many features used by theorists for differential diagnosis of EIA failed to discriminate among groups of EIA subjects, retarded subjects, brain-damaged subjects, and schizophrenic subjects. The only features found by Ward and Handford (1968, see Footnote 2) which differentiated early infantile autism from the other diagnostic categories were

1. Lack of organic dysfunction.
2. Maintenance of sameness via stereotypic behavior.

This current evaluation indicates that the syndrome of early infantile autism is actually made up of at least two basic diagnostic types of children. One group consists of children who are lacking in object relations, demand maintenance of sameness in the environment, are physically healthy, and in whom the syndrome of early infantile autism has been present from birth. Anthony (1958) reported a great deal of psychopathology present in the families of these psychogenic autistic children.

The second group of children may be labeled as organic autistic—children who have histories of difficult prenatal and perinatal development, followed by numerous types of developmental and perceptual problems. These children are often reported to have had a period of normal development followed by regression. The families of this group of children are reported to manifest much less psychopathology than the families of the psychogenic autistic children (Anthony, 1958).

This evaluation is congruent with the findings of Goldfarb (1961), who found that the diagnostic category of childhood schizophrenia actually contained a group of organic schizophrenics as well as psychogenic schizophrenics. The differences in the presence of organic factors, and the pathology of the families (Anthony, 1958) revealed in cases of early infantile autism, seem parallel to those of Goldfarb for cases of childhood schizophrenia.

The consensus of the literature evaluated

² Ward, A. J., & Handford, H. A. Early Infantile Autism: syndrome, symptom, or wastebasket? Paper presented at the meeting of the Midwest Psychological Association, Chicago, May 2, 1968.

by this study suggests that the EIA child may be differentiated by the following criteria:

1. Lack of object relations from birth.
2. Lack of use of speech for communication.
3. Maintenance of sameness via stereotypic behavior.
4. Lack of neurologic or developmental dysfunction.

ETIOLOGY

Kanner (1943) ascribed the etiology of early infantile autism to an "emotional deprivation" resulting from the "Refrigeration" of the parents. These parents were all from the academic and professional communities, and their family life was characterized by obsessive meticulousness and intellectualization. Kanner felt that the lack of emotional spontaneity and warmth of these parents played a large role in the development of early infantile autism, and referred to the syndrome of "hospitalism" as an example of the biological effects which could result from a "total psychobiological disorder" (Kanner & Lesser, 1958).

Garcia and Sarvis (1964) take the position that "autism is most usefully thought of as a reaction to an overwhelming inner or outer assault at a vulnerable developmental stage [p. 530]." Their study reports a number of etiological variables gathered from a study of over 100 autistic children. These variables were broken down into the following categories:

1. Family characteristics specifically promoting autism.
2. Family psychodynamics enabling autism.
3. Circumstances (situations over which family has no control, such as father being drafted).
4. Assaults on the child, including maximum developmental insult and over- or under-reactivity of the perceptual apparatus.

All of the above etiological variables have to do with the amount of stimulation given to the child and/or the condition of the perceptual apparatus for handling this stimulation.

Green and Schecter (1957) take more of a psychodynamic etiological point of view than Garcia and Sarvis, but it is exactly the op-

posite position to that taken by Kanner (1943; Kanner & Eisenberg, 1956; Kanner & Lesser, 1958). Whereas Kanner views the etiology of early infantile autism as intimately determined by the "emotional coldness" of the parents, Green and Schecter speculate that the "child's need for investigation, communication, and contact with the outer world [are] frustrated by [the] smothering, symbiotic attitude of the mother [p. 642]." These authors go on to suggest that "autism is a severe and encrusted defense against unsatisfactory relatedness, and that this defense masquerades as the total psychosis [p. 644]." Thus, these authors postulate that early infantile autism stems from too much intrusion by the mother figure, rather than too little. In addition, Green and Schecter seem to feel that the condition of the perceptual apparatus plays a relatively minor role in the etiology of EIA. This position is highlighted when the authors state that "even in cases where there is a primary constitutional deficit," this merely acts as the "trigger for the vicious circle of anxious parental over-responsiveness [p. 645]."

An article by Polan and Spencer (1959) did not take an explicit position in regard to etiology, but did present a "Check List of Symptoms of Early Infantile Autism." This check list broke down symptoms into the following groups:

1. Language distortion.
2. Social withdrawal.
3. Activities' lack of integration.
4. Obsessiveness and nervousness.
5. Family characteristics.

Observation of the above symptom clusters indicates that they examine both the functioning of the perceptual apparatus, as well as psychogenic factors related to deviant styles of interpersonal relatedness. All cases reported in this study were slow to develop as far as the normal milestones of development—the infants talked late, and were essentially passive. The slow development of these subjects raises the question of whether their central nervous system had suffered any damage. Also, the passivity of these subjects agrees with Gordon's (1961) description of the typical autist, but not with the picture given

by Kanner of an active, intelligent child who refuses to acknowledge people.

A case history presented by Lewis and Van Ferney (1960) suggests the etiological importance of both emotional isolation and a temporary insult to the perceptual apparatus within the first 6 months of life.

Another case history presented by Loomis (1960) implicitly emphasized the etiological importance of both minimal brain damage and a home situation which does not demand that the child deal with reality.

The papers of both Anthony (1958) and Ornitz and Ritvo (1968) emphasize the etiological importance of a defective perceptual apparatus which often makes its presence known via a heightened awareness of sensory stimuli, heightened sensitivity, and irritability resulting in fearfulness and/or intolerance of various stimuli and experiences, or nonresponsiveness to various types of stimuli. This defective apparatus presents a distorted or unusual picture of reality to the child, and increases the difficulty of development of object relations and good reality contact. Anthony (1958) described this problem in his definition of the development of secondary autism, and Ornitz and Ritvo (1968) felt that problems of perceptual integration are the cause of the majority of cases of early infantile autism and other types of childhood psychosis. However, a basic difference in etiological conception is that Ornitz and Ritvo ascribe the development of EIA to an unknown "basic disease" which is manifested by a breakdown of homeostatic regulation of sensory input. This breakdown of homeostatic regulation is felt to result in a condition of perceptual inconstancy which then creates the behavioral manifestations labeled as early infantile autism.

Although Anthony (1958) acknowledged the importance of defective perceptual apparatus in the etiology of early infantile autism, he also attempted to understand the development and functioning of the autistic child from a psychoanalytic point of view. His investigation of early infantile autism revealed that the parents of primary cases of EIA have many more difficulties in interpersonal relationships than the parents of cases of secondary autism. The cases of secondary

autism indicated the presence of organic factors, and the majority of this group were found within the working class, while the majority of the cases of primary autism came from the professional classes and were low in the presence of organic factors. Finally, the parents of the secondary cases of early infantile autism were found to be better adjusted, warmer, more accepting, and less critical than the parents of primary EIA cases. Investigation revealed that the latter had displayed a "lack of sensitivity and responsiveness over and above the 'thick skin' of the child [Anthony, 1958, p. 218]."

In summary, it seems that the following questions are relevant to the attainment of a greater understanding of the etiology of early infantile autism:

1. What is the role of defective perceptual apparatus in the development of early infantile autism?
2. Is there a particular level of or type of stimulation which promotes the development of early infantile autism?
3. Is there a particular type of parent or of parental behavior which promotes the development of early infantile autism?
4. Is some particular combination of the above factors necessary to the development of early infantile autism, or is it a unitary phenomenon that occurs on a random basis regardless of all these factors?

TREATMENT

Evaluation of a representative sample of the literature on the treatment of early infantile autism reveals a general feeling of futility. This feeling is exemplified by such statements as "psychotherapy in general seems to be of little avail [Kanner & Eisenberg, 1956, p. 560]," "treatment has little, if any effect on the progress of the patient [p. 560]," and "none of the varieties of psychiatric treatment employed had any noticeable effect [Polan & Spencer, 1959, p. 198]," and "no form of psychiatric treatment has been known to alter the course of autism [Rimland, 1964, p. 17]."

Some clinicians have attempted to modify the behavior of autistic children by the use of

classical and instrumental conditioning techniques (Ferster & DeMyer, 1961; Gewirtz, 1961; Lovaas, Berberich, Perloff, & Schaeffer, 1966). Evaluation of the results obtained by these methods reveals a slow rate of symptom change.

This slow rate of symptom change is exemplified by Lovaas' report that 90,000 conditioning trials with oral reinforcement were needed to develop two words in the speech of an autistic child. Lovaas attempted to use learning theory principles to establish and modify the speech behavior of EIA children. Four steps were developed to establish imitation. First, the child was reinforced for all vocalization by a spoonful of food or by fondling. Inattentive, self-destructive, or noisy behavior which interfered with training was accompanied by a 5-second removal of all positive reinforcers, or by mild punishment including a loud stern "No," or a slap on the hand. When the child reached a level of about one verbal response every 5 seconds, and was visually fixating on the adult's mouth more than 50% of the time, the second step of the program, involving the acquisition of a temporal discrimination by the child, was begun. The adult emitted a vocal response on an average of every tenth second, and the child was reinforced only if he vocalized within 6 seconds after the adult's vocalization. The third step was begun when the frequency of the child's vocal responses within the 6-second interval had tripled its initial level. The third step required that the child match the adult's verbalization before receiving reinforcement. The fourth step was a repetition of Step 3, but with a new sound which had not been presented before. This program was conducted several days a week, for periods of from 2 to 7 hours per day. Lovaas himself stated: "One of the disadvantages of the program, . . . lies in the large amount of time which is consumed in accomplishing its ends [Lovaas, 1966, p. 145]."

Bettelheim (1967) made the point that this type of behavioral change does not appear to have affected the basic psychosis. This assertion appears tenable, in light of the fact that the focus of this treatment approach is upon the aberrant behavior of the child, rather than upon the features of poor object

relations, poor reality testing, or poor body image which are seen as being diagnostic of childhood psychosis. In addition, the lack of rigorous diagnostic criteria raises serious question as to the type of child involved in treatment by Lovaas. Although the behavioral modification approach does set firm limits and is very intrusive, little or no emphasis is put upon making this a pleasant experience for the child. This fact raises further questions as to the type of expectation produced in the child by such an approach. Finally, the lack of any outcome studies on those children involved in the behavioral modification programs leaves many unanswered questions as to the effectiveness of behavior modification as a treatment approach to early infantile autism.

The only approach which seems to have shown some partial effectiveness in promoting "human" responsiveness in cases of early infantile autism involves the presence of a warm, firm, spontaneous, and flexible human being. Several studies (Lewis & Van Ferney, 1960; Polan & Spencer, 1959; Schopler, 1962; Zaslów, 1967³) report significant behavioral change and increased responsiveness to people, following brief periods of play therapy. The EIA children were found to respond to "persistent verbal and physical stimulation [Lewis & Van Ferney, 1960, p. 11]." These authors felt that their success at attaining a change in the "autistic behavior" of a child diagnosed as displaying early infantile autism at 6 months, at least raised the question of the importance of providing a "warm relationship in the treatment." However, the validity of this inference is thrown into some question by the early developmental history of the authors' subject. This child had casts placed on both feet at the age of 3 months, and contracted otitis media at the age of 6 months, which resulted in an 8-day hospitalization. These two factors suggest that the child would be most accurately labeled as either a case of secondary autism (Anthony, 1958), or the type of autistic child referred

³ Zaslów, R. W. A psychogenic theory of the etiology of infantile autism and implications for treatment. Paper presented at the meeting of the Colorado State Psychological Association, San Diego, Colorado, January 1967.

to by Garcia and Sarvis (1964) or Ornitz and Ritvo (1968) that arrives at autistic behavior via a number of external environmental and developmental problems rather than via internal predilection present from birth. The use of casts at such early age has been shown to have a deleterious effect upon normal ego development (Friedman, Handford, & Settlege, 1964),⁴ and an inner ear infection at such an early age would seem likely to have a distorting effect upon the perception and integration of auditory stimuli. Thus, the most that can be asserted about this study is that one case of secondary autism has been shown to be responsive to a treatment regimen involving persistent verbal and physical stimulation.

Polan and Spencer (1959) reported that brief periods of play therapy with four cases of essentially secondary autism (Anthony, 1958) or organic autism produced positive therapeutic responses, although no basic changes in the autistic behavior were noted.

Schopler (1962) developed a treatment approach which relied, to a significant degree, upon bodily manipulations. The rationale for this focus of the treatment arose from Schopler's feeling that "some conception of body image is vital to an understanding of childhood schizophrenia or primary disorders of childhood [Schopler, 1962, p. 191]." He saw the body image of the child as being flexible and "subject to constant revision by various stimuli [Schopler, 1962, p. 193]." It was further hypothesized that the body image attained flexibility and adaptability from the stimulation gained through physical interaction with the environment. The preceding conceptions led Schopler to hypothesize that a lack of physical handling or stimulation caused a basic distortion in the development and integration of the body image. Data from a study by Wapner (1961)⁵ was used to suggest that bodily contact would "articulate and correct some distorted bodily feelings [Schop-

⁴ Friedman, C. J., Handford, A. H., & Settlege, C. Child psychologic development: The adverse effects of physical restraint. Paper presented at the meeting of the Regional American Psychiatric Association, Philadelphia, April 1964.

⁵ Wapner, S. Body image and pathological states. Unpublished symposium, Veterans' Administration Hospital, Houston, Texas, 1961.

ler, 1962, p. 197].” This theoretical point of view assumed that the EIA child’s defense functioned on more of a sensory level; hence, the concentration upon physical interaction.

Schopler (1962) used the above treatment approach with one EIA child for 30 sessions on a 3 session per week frequency level. The therapist sought an “optimum adaptational situation [Schopler, 1962, p. 194]” between himself and the child, with an emphasis upon what was happening in the immediate present. More attention and analysis were given to the reactions of the therapist than to those of the child. The therapist initiated body contact by holding the child, and attempted to turn this interaction into “a simple and pleasurable body game.” Schopler observed that this procedure seemed to help the child define his own bodily limits more clearly, and made it easier for him to distinguish himself from objects in the environment. The outstanding features of this treatment approach are again the emphasis upon an “intensive” therapeutic involvement, with the medium of therapeutic interaction being physical rather than verbal. Schopler delineates the tentative nature of his findings, and suggests appropriate future research.

Zaslow (1967, see Footnote 3) proposed a “rage reduction technique” as a therapeutic model for body interaction in the treatment of autistic children. This technique emphasized attainment of “tactile-kinesthetic mastery” in a manner that replicated the mother-infant holding position. The basic holding position of this technique was a horizontal one, in which the head and legs of the EIA child were cradled in the arms of the therapist. Whispering in the child’s ear and playful kissing of the face from ear to lips were used to stimulate smiling. The therapist attempted to gain “dominance” over the child’s bodily actions, and to redirect his behavior towards more meaningful affective contact. This goal was due to Zaslow’s feeling that early infantile autism is the most extreme example of the use of motoric resistance to express rage, and that “rage barriers maintain the condition of infantile autism [Zaslow, 1967, p. 11; see Footnote 3].” Zaslow felt that the effect of these procedures made the child more responsive to human control and so-

cialization. The tactile-kinesthetic modality is focused upon due to a feeling that it is the most fundamental level in the development of basic trust.

Two features are outstanding about this treatment approach; the most outstanding is the introduction of an intensive physical interaction between the therapist and the EIA child. This position is similar to that of Schopler (1962), and is in marked contrast to the negative position taken by Freud (1954) on this type of intensive therapeutic involvement. The second feature of this study is the emphasis placed upon dominance and “control” of the EIA child. It would seem that this emphasis would lead to a direct power struggle between the therapist and child, unless some provision were made for a gamelike approach such as the one suggested by Schopler (1962). Also, one wonders how attractive relating to people would appear to the EIA child after constant involvement in a physical dominance struggle.

Garcia and Sarvis (1964) felt that the “necessary attitude on the part of the therapist must be one of open-mindedness,” and indicated that the therapist “should always remain the representative of reality [Garcia & Sarvis, 1964, p. 534].” Loomis (1960) talked of the “need to be awfully patient, ingenious and stable,” and at the same time to “introduce tremendous flexibility and adaptability into our relationships with them [Loomis, 1960, p. 48].” Thus, both Garcia and Sarvis (1964) and Loomis (1960) attempted to deal with the treatment problem of the EIA child by offering stability and freedom at the same time. This is in contradistinction to the freedom of the psychoanalytic approach or the rigid “stability” of the treatment approaches proposed by Lovaas (1966) and Zaslow (1967, see Footnote 3).

Polan and Spencer (1959) emphasized the importance of a “warm, human relationship,” and of trying to “help these children come alive,” by being “real for them,” while O’Gorman (1967) talked of the importance of “stimulation” and an emphasis on teaching the patient “how to live.” Again, both of these studies emphasized the two-part treatment approach involving a warm stimulating human relationship in combination with a reality-

based structure of demand and expectation within it.

Waal (1955) described a treatment approach with one case that began by emphasizing "acceptance, empathy, anxiety-reducing fondling, and soothing [Waal, 1955, p. 443]." This approach then progressed to body stimulation and manipulation, which included "stroking and hugging" the patient as well as "really massaging this [his] stiff parts [Waal, 1955, p. 443]." The patient showed marked progress during this treatment. The author emphasized that the bodily stimulation and manipulation must be done "provokingly" in combination with interpretations as to the child's feelings. "Uninvolved objectivity and acceptance" and "truthfulness and warmth coupled with detachment" are labeled as requirements for the therapists. Waal felt that this technique resulted in a "bodily maturation and a break in the autistic withdrawal," but emphasized the importance of the "working-through of the fantasy production and symbolic material on a verbalized level [Waal, 1955, p. 444]." Thus, this treatment approach emphasized an increased level of stimulation provided by a warm, firm person who helped the child to gain an understanding and control of the new feelings which had been aroused.

Bettelheim (1967) claimed to have obtained good results from intensive, analytically oriented psychotherapy with autistic children. A "good outcome" of treatment of early infantile autism of 42% was reported, in contrast to the good outcome of 5% reported by Eisenberg (1956). In addition, Bettelheim reported a "poor outcome" of only 20%, as compared to the poor outcome of 73% reported by Eisenberg. However, Bettelheim did agree on the prognostic significance of the child's "willingness to speak" before the age of 5, although he reported a "meaningful improvement" in 57% of nonspeaking children, as compared to 3% by Eisenberg (1956). In regard to the question of the treatability of early infantile autism, the meaningfulness of Bettelheim's findings is very unclear, due to his failure to make a clear distinction among the diagnostic categories of early infantile autism, symbiotic psychosis, and childhood

schizophrenia. Bettelheim made a passing acknowledgement of the categories of primary autism and secondary autism, but did not deal with them in a definite manner in the setting up of treatment strategies. Thus, it may be said that Bettelheim uses the term autistic in a very broad and undifferentiated manner.

Although it is clear that Bettelheim's outcome figures do relate to the treatment of severely ego-disturbed children, it appears doubtful that they can be specifically applied to the syndrome of early infantile autism. However, Bettelheim's treatment approach concurs with those which emphasize the importance of warm human contact, but differs in its emphasis upon a complete freedom of behavior of the child. All of the previous treatment approaches mentioned have emphasized the importance of setting limits or reality boundaries, in addition to requiring the involvement of a warm, spontaneous human being.

Thus, this restricted perusal of the literature has failed to reveal any report of a well-controlled treatment program for the syndrome of early infantile autism that has attempted to deal with the problems of diagnosis, etiology, and treatment. All of the studies examined are open to severe question as to their rigor and clarity in one of these three areas.

As O'Gorman (1967) pointed out, one major reason that the treatment of early infantile autism has proved so difficult is the lack of clarity as to its etiology. Also, O'Gorman (1967) agreed with many other theorists, when he labeled, "early diagnosis and early treatment . . . prime concerns [p. 113]."

Thus, the available repertoire of therapeutic techniques found to be capable of attaining even limited progress with cases of early infantile autism is very small. However, the majority of cases which have reported some therapeutic progress have involved the therapist's use of a very active, intrusive, and pleasant approach, focusing upon increased physical stimulation in a pleasant but structured setting. Only the approaches described by Lovaas (1966, 1966) and Bettelheim (1967) disagree with this pattern.

DISCUSSION

The preceding review of the literature has suggested the following thoughts as to the etiology and function of the syndrome of early infantile autism. It seems that psychogenic early infantile autism may be viewed as more a deviant style of ego development that has resulted in the formation of what may be labeled as a behavioral ego, rather than a fragmentary body ego or body image. It is postulated that the behavioral ego is made up of those repetitive, stereotypic activities that the EIA child uses to control his environment. This level of functioning includes such activities as repetitive self-punitive behavior, the taking apart or assembling of mechanical toys or fixtures, the repetition of phrases or television commercials—anything which involves the use of the same set of complex behaviors to avoid the acknowledgement of outer reality.

It seems as if something has caused the EIA child to stop at the point of having experienced only a very small portion of the world around him. Within this small area of experience, the EIA child carries on the same activities of exploration, stimulation, and relaxation that occur in the infinitely larger area of experience available to the healthier child. These behaviors should be labeled as a type of ego function, because they seem to be the means by which the child achieves his desires, experiences, and stimulation. The EIA child guards these behaviors with the same care that the normal child guards his body. Interruption of these behavior sequences is responded to with a great deal of negative and fearful affect, whereas physical injury often elicits no observable affective response, and, many times, is completely ignored.

The behavioral ego is viewed as being representative of a successful adaptive position. This theoretical position is similar to one taken in a recent paper (Ruttenberg, 1968, p. 7)⁶ in regard to the function of EIA, which described it as "the lowest level that allows for long-term adaptation and survival [Ruttenberg, 1968, p. 7; see Footnote 6]."

⁶ Ruttenberg, B. A. A classification of the childhood psychoses. Paper presented at the meeting of the American Association of Psychiatric Clinics for Children, New York, November 8, 1968.

The EIA child has usually been quite successful in controlling his parents, attaining his desires without speaking, and in being the sole source of novelty and variation in his environment. He has succeeded in reducing reality to dimensions which he can comfortably handle.

Examination of the question of the etiology of early infantile autism leads to the hypothesis of a lack of novelty, and a lack of patterned stimulation in the environment in the child's early developmental history. The lack of an experience of a varied and stimulating patterned environment may have one of at least three basic causes. First, the child may have an abnormally high stimulus barrier due to some organic problem. Thus, he would not be aware of many stimuli in his environment, and would be thrown completely upon his own resources.

Second, the child may be hypersensitive to external stimuli due to some organic problem (Bergman & Escalona, 1949), and may attempt to withdraw from the painful impingement of external stimuli upon his faulty stimulus barrier. This reaction can result in a withdrawal from the world, which again leaves the child dependent upon his own scanty integrative resources.

Finally, the home environment may be so nonnurturing, unstimulating, and unpatterned (unpredictable) that the child has no recourse but to develop whatever patterns of behaviors he can organize by himself. This last category appears to contain those children for whom Kanner (1943) originally labeled the syndrome of early infantile autism. The lack of stimulation may result from either the physical absence or the psychological absence of a mothering figure.

This review suggests that early infantile autism is a syndrome that develops due to a lack of varying, novel, patterned stimulation in the child's early developmental history. Early infantile autism is viewed as a deviant style of ego development that has resulted in the formation of a behavioral ego. The behavioral ego is seen as being made up of those repetitive, stereotyped activities that the EIA child uses to maintain sameness in the environment. The intention and capacity to maintain sameness in the environment seems

to be the major feature that delineates early infantile autism from childhood schizophrenia (Ward & Handford, 1968; see Footnote 2).

Thus, the schizophrenic child is viewed as having no consistent, organized way of handling the world, due to his fragmentary body ego, while the EIA child has found a very consistent way of handling the world via his behavioral ego. It is hypothesized that the repetitive, stereotypic activities of the EIA child provide the novelty and variation in patterned stimulation which the child has been unable to gain from the world around him. The EIA child is seen as being totally deficient in body ego, with all the cathexis or emotional investment being directed towards the behavioral ego. The EIA child guards his stereotypic behavior in the same manner as healthier children guard their physical bodies.

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