

THE ROLE OF ART EDUCATION
IN THE LIFE OF THE AUTISTIC CHILD

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ABSTRACT

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Eight autistic boys, ages eight to seventeen, were involved in an experimental study in which expression in the visual arts was evaluated as a means of communication and as an intermediary in the process of cognitive development in autistic children.

The methodology of the study involved observation of the children as they engaged in the creative experience, with particular attention being paid to factors, such as the effect of the teacher's presence and changes in the patterns produced; the art products were evaluated according to, among other criteria, their aesthetic and expressive qualities, and indications of artistic growth. All observations were made over a period of six months.

The theoretical framework of the study is based on Piaget's theory of development, which states that children move from a sensory-motor to a symbolic level of interaction with the world; and Lowenfeld's study pertaining to the stages of development in children's art.

The results reveal that through an intensive social interaction between child and teacher, and a narrowing of stimuli, significant artistic and mental growth occurs. This study underlines the dynamics of art education as representing an essential language for learning in the lives of autistic children.

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I dedicate this thesis to all those children who have chosen silence as a mode of existence.

A potential for inner richness and complex structures of mind may lie buried behind their not doing or being. Of these, the signs may be only liminal or subliminal; hard to recognize and even harder to understand. Despite the difficulties, "let us never hold in low opinion, nor underestimate the power of determination, nor desert those, who, on weighing the question: to be or not to be, elect not to be. They may do so only until such time as we have helped them find the courage to be", (Bettelheim, 1967, p. 152).

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CHAPTER I

INTRODUCTION AND THEORETICAL BACKGROUND

1.1. Introduction

The purpose of this experimental and descriptive study was to assess the influence of Art Education upon the perceptual, mental, emotional and social development of the autistic child.

The subjects of this study were eight boys, between the ages of eight and seventeen. All had been diagnosed 'autistic' by experienced psychiatrists; in addition, one of the children was deaf, and another had schizophrenic tendencies. These children attend 'Giant-Step-School', an after-school program of music and speech therapy conducted in a church basement in Pointe Claire, Quebec, and held in the afternoon from three to six o'clock, after the children had been released from their regular programs in either the Bedford School, Miriam School, or the Douglas Hospital, all of which are schools for intellectually and emotionally handicapped children.

The children exhibited behavior that denotes severely impaired social relationships within the peer group. All exhibited the stereotyped behavior of rocking, spinning, screaming, and laughing, had extreme language and communicative difficulties, apparently lacking language as a communicative tool and all showed a desire to remain in a state of stasis.

This study involved working with these children individually for 120 minutes every second day for a period of six months, and projected the art experience as the educational goal; that is, each child was to be involved in drawing activities as an expressive mode of communication with the self and with the other.

Limitations to this study included the inability to work with very young autistic children, those between the ages of three and six, as only a very few are known to the Quebec Society of Autistic Children (of which I am a member). The experiment would have been more conclusive had this been possible.

1.2. Background to the Study

As predicted in 1900 by Ellen Key, a Swedish sociologist, we find ourselves in the midst of the 'century of the child', a time in which the welfare of children has become the concern of society. Out of this new awareness, there has evolved a general recognition of the needs of the emotionally disturbed child. An important development of this shift in public sentiment was the instruction issued in 1975 by the Department of Social Affairs in Quebec, that hospitals and institutions for the mentally handicapped should limit admission of children under the age of six to those requiring constant medical attention. Mental retardation alone could no longer be considered sufficient cause for institutionalization. The government took this step so that as many children as possible could grow up in the kind of family atmosphere and educational setting that institutions cannot provide.

(Until the 19th Century, disabled children were generally regarded as deviant, and the future life style of children was often determined by the extent to which they were perceived as different from the norm. This life-style often included mistreatment, rejection, isolation, and at times exploitation (Wolfensberger, 1972).

Infant stimulation programs and special schools are developing now throughout the province, but to date, the services that they provide are regarded as a privilege, and not a right.

The new Education Act, Bill 9 (June 23, 1978; Assemblée Nationale du Québec), guarantees the right of all children between the ages of six and sixteen to attend school. During a conference dealing with the problems involved in the education of the autistic child, Minister of Education Camille Laurin maintained that "everyone has a right to education and the handicapped more so, since they are penalized by nature. It's up to us, the system, to compensate for this." (Gazette, Montreal, May 23, 1981).

Does this mean that children who had traditionally been completely excluded from public education and automatically placed into institutions, will soon have a chance for an appropriate education at public expense? According to Wolfensberger (1972), the goal of education is to encourage the developmentally disabled child to develop and maintain a life style similar to that of the average child in the mainstream of the population, to develop 'within the limits of their potentials' (Thompson, 1976). These sentiments find support in the U.S.A.; according to Public Law No. 94-142, a handicapped child should be educated in 'the

least restrictive environment possible' (Kappelman and Ackerman, 1977, p. 269).

The primary concern in educating autistic children is to offer them the possibility of experiencing themselves as human beings, alive and responsive to other humans, and capable, through communication and interpersonal relationships of growth and development. The educational experience is aimed at fostering and supporting a normal developmental process, rather than correcting a psychopathological condition (Deslauriers and Carlson, 1969).

Rutter believes that progress can be made if education is based on the following understanding: that a) the autistic child is educable; b) the autistic child's unique learning disability is due to basic cognitive deficits in information processing; c) such deficits can be compensated for, in part, by carefully structured educational programs with specified developmental reinforcing stimuli; d) the educational program for the autistic child is feasible; and in the long run less costly than institutional care; e) provision of appropriate educational programs for the autistic child is not a manifestation of public generosity but rather a reflection that the autistic child, too, has a clear right to an appropriate education (Gallagher, 1973).

With this in mind, Rutter (1970) suggests three major aims of education for the autistic child, specifically preventing the development of secondary handicaps; finding approaches to education that circumvent the primary handicaps, and finally

finding techniques to aid in the development of the functions involved in the primary handicaps.

As Camille Laurin has pointed out, the establishment of an educational system for autistic children based on such goals is "up to us"; are we, as educators, ready to shoulder such a responsibility?

1.3. Possibilities of Art and Art Education for Autistic Children

It is of little importance to the purpose of my study to discuss whether autism is an intellectual, social, or emotional disorder, or whether it is a cognitive dysfunction or an affective disturbance. More important in the present context are those characteristics of autistic children which categorize them as exceptional. Once children have been so classified, our task is to create an environment for them completely different from the one they abandoned in despair, a new environment into which they can enter as living human beings, an environment of colour, form and texture. It must be a place in which they are not made to fear failure, where there is no single answer to a problem, where a trial and error method of problem-solving is encouraged, and where the children can proceed at their own rate, and create according to their own needs and capacities.

The essential interaction between autistic children and their environment can be realized through artistic experience. "Where 'art' ends and 'life' begins is not easy to discern, but the dividing line is less important than the interactive dynamics between them and the processes that help each define the other" (Battcock, 1973, p. 178).

What is art?

It is not the crayon in the hands of the children that creates art. Rather, it is what the children do with the medium that counts, what they communicate about themselves and about nature, and how they experiment with colour, form, or texture. Through the imaginative reconstruction of experience, present thoughts and visions are revealed and new ones formed.

Art can be defined as an objectification of an individual perception of the world. The child's artistic process involves, firstly, perception, and secondly, an identification of the perception through various media, including movement, paint and speech. Through this process, children not only communicate a general insight to others; they clarify ambiguities for themselves as a necessary precondition for communication. In order for children to be able to say, "this is what I see" (or think, or feel), they must first recognize themselves as a separate thinking entity (Cohen, 1969). Lowenfeld supports this thesis by maintaining that "man learns through his senses. The ability to feel, hear, smell, and taste, provides the means by which an interaction between man and his environment takes place" (1970, p. 4). According to Dewey, "man not only lives in but through an environment. It's basic need is to come to terms with this environment, to attain equilibrium and grow" (in Eisner, 1966,

p. 8). The pictures that children draw are much more than just markings on paper, for through these markings is expressed the children's whole present self. Each drawing, then, reflects the feelings, intellectual capacity, physical development, perceptual awareness, creative involvement, aesthetic taste, and even the social development of the individual children. For them, art and play are primarily means of expression and communication. "Painting, drawing, or constructing is a constant process of assimilation and projection; taking in through the senses a vast amount of information, mixing it up with the psychological self, and putting in to a new form of elements that seem to suit aesthetic needs of the child at the time" (Lowenfeld 1970, p. 4). Jung stated in 1937 that "creativity is in fact one of the five primary instincts in man; that our daily experience confirms that there is in man a fundamental need to make forms" (p. 14). It seems that the discovery of children's art paralleled, or perhaps, was a consequence of the discovery that children are human beings with their own personalities and their own particular modes of acting. It is a great mistake to think of children's art as merely one step toward the development of mature adult art. Children's art must be considered as a distinct thing in itself (Cizek, 1921, Viola, 1942). Once it's time is past, it will never come again. Piaget claims that "the young child spontaneously externalizes his personality and his inter-individual experiences thanks to the various means of expression at his command, such as drawing, modelling, symbolic games, singing," but that "without an appropriate art education

which will succeed in cultivating these means of expression and in encouraging these first manifestations of aesthetic creation, the actions of adults and the restraint of school and family life have the effect in most cases of checking and thwarting such tendencies instead of enriching them" (Piaget, 1953, p. 22). Piaget also holds that "art education, more than any other form of education must not be content with the external transmission and passive acceptance of a ready-made truth or ideal. It must above all train that aesthetic spontaneity and creative ability which already manifest their presence in the young child. Beauty like truth, is of value only when re-created by those who discover it" (Piaget, 1953, p. 23). The visual arts deal with an aspect of human consciousness that no other field addresses: the aesthetic contemplation of visual form (Eisner 1972). Through concentrating our attention on the aesthetic aspect of social development, we will be able to appreciate art as another language for learning.

What do children learn when they paint, draw, or make other kinds of visual images? According to Eisner (1978), perhaps the first thing very young children learn is that they can, in fact, create images with various kinds of material and that this activity can provide them with an intrinsic form of satisfaction, which stems from the feeling that through the creation of an identifiable new entity out of base material, they have been able to alter the world, that is, to make themselves a part of it. After creating a new image, the children next learn of its symbolic power, its ability to call forth other ideas, or stand for

other things. Langer (1953, p. 47), calls this a 'symbolic transformation', which implies that the roots of symbol formation are conceptual before they become public, or used as a means of communication.

The process of image making also requires the making of judgements. In learning how to draw or paint, children must make choices that initiate change. By separating the important from the unimportant, by arranging and rearranging forms, the child evaluates decisions and refines concepts. These kinds of learning, through the art experience, sponsor the growth of the child's special relationship to the world. For example, according to Alschuler and Hattwick (1947), there exists a significant relationship between what children draw and how they behave socially.

Growth is a gradual process. It cannot be hurried, or imposed by force from without, for it comes from within the child.

1.4. What can Art Education do for Autistic Children?

This study proposes that an education through art can provide autistic children with an environment, in which, first, their need for competency, recognition and praise can be reinforced with positive feedback; second, they can be given an opportunity to freely make decisions between available alternatives, such as colour or form, limited only by their own construct system; third, they can alter their world by creating signs and symbols as a form of communication with the self and the 'other'; and finally they can reduce their own tension level

during the creative process.

As Lowenfeld (1975, p. 61) suggests, the definition of creativity depends upon who is doing the defining. Creativity, in this study with autistic children, shall be defined as any expressive act outside the state of sameness. "Children do not have to be skillful in order to be creative, but in any form of creation there are degrees of emotional freedom: freedom to explore and experiment, and freedom to get involved" (1975, p. 41).

"Art is the most genuine expression of living with health. A healthy society lives art . . . the most neurotic state we can reach is when we do not have art any more or when only an elite group can participate in artistic activity" (Paul Knill, 1977).

"We, as teachers of art, shall be artists of communication, taking away, step by step, the supporting devices as the child achieves self-confidence, to tackle more and more demanding processes, including eventually 'working and living' (Seyd, 1977, p. 8).

1.5. What is Autism?

In 1968, the American Psychiatric Association published a major revision of the Diagnostic and Statistical Manual of Mental Disorders (APA, 1968), known as DSM-II. The revised manual attempts to develop a new diagnostic scheme, one that could be used throughout the world, encouraging thereby, a universal un-

derstanding of the variety and prevalence of mental disorders (Davids, 1973). In the past, these diagnostic manuals, and the diagnostic labels which they prescribe, have often complicated the efforts of non-medical professionals working with disturbed children. While the section in the DSM-II dealing with 'Behavior Disorders of Childhood and Adolescence' is the only one devoted exclusively to children, certain other types of childhood disorders are discussed in the section dealing with transient situational disturbances, psychosis, neurosis, and personality disorders. In the major section on psychosis, there is a subdivision termed 'Schizophrenia, childhood type', a term used when schizophrenic symptoms appear before puberty.

Today the term autism as used by the National Society of Autistic Children (NSAC) includes those children who, from early developmental stages, that is, before the age of 30 months, (Rutter, 1978, American Psychiatric Ass. 1980), evidence a severe disorder of communication and behavior which is manifested in a limited ability to understand, learn, communicate, and participate in social relationships.

Infantile Autism (so termed by Kanner in 1943) is not as rare a condition as it was once believed to be (Kernberg, 1979). Ritvo et al (1976) reported that in 1966 Lotter found 4.5 autistic children per 10,000, with a proportion of 3.5 - 4.1 boys to one girl (confirmed by Rutter and Lockyer, 1967; Werry, 1979). Autistic children are said to be increasing in number by 400 - 500 each year (Reported in House of Commons Debate on Autistic Children on May 23rd, 1969). Still today, 'Infantile Autism'

remains one of the most dramatic, devastating and puzzling kinds of abnormal psychosocial developments (Magrab, 1976). Rimland (1964) states that autism deserves the status of a separate and unique diagnostic category. Ferster presented a thesis, in 1961, arguing that autism, like any other behavioral phenomenon, is best understood within the framework of a social-learning theory; the autistic children are not seen as qualitatively different from the normal ones; rather, they are distinguished from the normal children only by the relative frequency of occurrence of all the performances in their repertoire (in: Hermelin and O'Connor, 1970).

For the purpose of this study, we will adopt Kanner's (1943) originally formulated criteria for the identification of the autistic children. Some of these criteria are included in the following behavioral characteristics delineated by NSAC in 1973 (Magrab, 1976).

1. Severely impaired speech or complete absence of speech.

Half of the children appear mute, producing no recognizable words. Instead their vocal output involves mostly vowel sounds such as "o", "e", screeching, and tongue-clicking (Lovaas, 1966). The other half is echolalic; that is, they echo the speech of others either immediately or after a delay, giving the impression of non-related and inappropriate speech. (Confirmed by Rimland, 1978; Bartak et al, 1975; 1977).

2. Impaired or complete relatedness and social inaccessibility to other children, parents, and adults, with inability to imitate. According to Kanner (1943) and Rimland (1964), the failure to imitate is due to deficiencies in the child's self-awareness and verbal communicative ability. The lack of facial expression, hand movements and bodily gestures gives the impression of woodenness when the autistic child is engaged in social interaction (Wing, 1976).

3. Extreme distress for no discernible reason due to minor changes in the environment.

This anxiety stems from the inability to form valid reality constructs (Goldfarb and Mintz, 1969). The significance of any environmental changes are not understood by the autistic children. They have a desire to live in a static world, in which they can maintain and restore their need for sameness in behavior and environment. The autistic children are unable to derive meaning from their experiences. This perceptual inaccessibility, this inability to think in terms of concepts, symbols, analogies or abstractions, is manifested in self-imposed isolation from all external stimulation (Rimland, 1978). It has been noted that autistic children seem to want to escape from all teaching situations when the demand upon their attention becomes too great (Carr, 1977).

4. Lack of intellectual development or retardation in certain areas.

Systematic research has suggested that language as communication is uniquely and intrinsically related to the development of a child's thought, play activities, social and emotional development, and learning (Rutter and Martin, 1980).

5.a. Repetitive and peculiar use of toys and objects in an inappropriate manner.

Autistic children have a preference of the proximal senses -touch, taste, smell - over the distal senses of vision and hearing. For example, the autistic child would rather smell and taste a toy than role-play with it (Schopler, 1976). The registration of perception tends to depend on feedback from the child's own motor responses (Piaget, 1954). In addition, the children's tolerance for perceptual stimulation is greater if they spontaneously initiate the receptivity.

b. Repetitive and peculiar body motions.

This category includes such activities as incessant rocking, spinning of objects, such as plates and strings, twirling, flapping hands, or gazing, in general, self-stimulating behavior. They might walk with a peculiar gait, dangle their fingers limply, or demonstrate an inability to perform certain gross and/or fine motor activities, such as an inability to hold a pencil correctly.

6. Unusual reaction to perceptual stimuli.

The children seem not to hear certain sounds and overreact to others. Typical behavior includes visual avoidance or unusual staring and poor eye contact.

7. Onset of disorder before birth, at birth, or apparent normal early development followed by deterioration in functioning.

8. Hyperactivity or passivity.

Children might have severe aggressive tantrums during which they might cry hysterically, scratch and bite.

9. Apparent insensitivity to pain.

Children may exhibit self-destructive or self-mutilative tendencies through head-banging and scratching.

The inability of autistic children to communicate with their peers or with adults, their inability to use objects not only functionally but also symbolically, and their difficulty in using meta-communicative aspects of language in order to communicate effectively makes autistic children distinct from and more severely impaired than the retarded children (Konstantareas, 1977). Their language incapacities are directly linked to the way in which they perceive their world (Menyuk, 1978). According to Rutter and Schopler (1978), the autistic children's problems range far beyond their difficulty with language; autism may be primarily a pervasive cognitive deficit, with language difficulty its most central aspect.

In order to understand the pattern of cognitive abilities and deficiencies in processing information, characteristic of autistic children, we turn now to Piaget's stages of cognitive development in the 'normal child'. Piaget's theory is employed here as a frame of reference, even though he has been criticized for blocking development into stages according to age .

1.6. Theories of Cognitive and Artistic Developmental Stages.

1.6.1. Piaget's Stages of Cognitive Development.

Just as Freud has broadened our understanding of the emotional growth of children, so Piaget has contributed to a better understanding of their intellectual development. Representative of the radical departure that his psychological theory has made from the past is the fact that the processes of thinking, knowing, perceiving, remembering, recognizing, abstracting, generalizing are now all included under one term: cognition, which refers to all the intellectual activities of the mind (Pulaski, 1971).

According to Piaget's developmental psychology, a baby is not be considered a passive, helpless infant, but an active and curious organism, reaching out, experimenting, and receiving new information both from his own body and from the external environment.

Through 'adaptation' (Piaget, 1975) the child develops the ability to organize his various sensations and experiences.

This developmental process actually consists of two processes

which are carried on continuously in all living organisms. The first of these, assimilation, is the process through which one incorporates people, things, ideas, customs, and tastes into one's own activity.

Assimilation is continuously balanced by 'accommodation', which is the process through which one reaches out and adjusts to new and changing conditions in the environment, enabling one's preexisting behavior to modify and thereby cope with new information.

The process through which assimilation and accommodation are regulated in order to maintain a state of internal balance, Piaget calls equilibration. This protects the organism from being overwhelmed by new and incomprehensible information (Pulaski, 1971). "Development is a progressive equilibration from a lesser to a higher state of equilibrium" (Piaget, 1967, Six Psychological Studies, p.3) This psychological theory has been based on established principles of biological homeostasis. Canon (1932), in describing how the organism does not seek a static balance, introduced the concept of dynamic equilibrium or equilibration.

What stimulates the children to achieve higher stages of cognitive development? Why, and how, do they learn?

- a) As children grow and mature, their minds become increasingly alert and active. Piaget holds that thought precedes language (Piaget and Inhelder, 1969; Konstantareas, 1977).
- b) The child's sensory-motor activities refer to learning based on information received through physical exploration and sensory stimulation. (Piaget insists that children must do their own learning). If children have never learned through experience, they must go back and explore the rich world of childhood through touching, climbing, and tasting, before settling down to books full of meaningless symbols.
- c) Through social interaction and transmission, a form of learning takes place which depends on verbal instruction and the experience of a social or cultural environment as a process of education. The individual contributes to the socialization structure as much as he receives from it. Even in the case of transmissions, in which the subject appears more passive, such as the reception of teaching in school, social action is ineffective without an active assimilation by the child, which presupposes adequate operatory structures (Piaget and Inhelder, 1969, p. 156).

Children will move through certain intellectual stages as they grow older, and seek to attain equilibrium through maturation, experience, and social transmission.

Piaget's Stages of Development.

The first stage (0-2) in the infant's development of intelligence, which may last as long as two years, is defined as the sensory-motor period and involves the development of the abilities needed to construct and reconstruct objects.

At birth, says Piaget, the infant is locked in egocentrism (Piaget and Inhelder, 1969, p. 13), a state in which he is aware only of his immediate experience. In time, he is able to conceive of the notion of object constancy or permanence, an intellectual achievement of the sensory-motor period in which the baby learns that objects and people exist independently of his perception of them. This stage marks the beginning of the child's search for vanished objects, or people.

The second mental stage, approximately between the ages of 2 and 7, is called preoperational reasoning, and is defined as the process needed to integrate symbolic function within the ability to represent things.

This process is characterized by the development of perceptual constancy and of representation through drawings, language, dreams, and symbolic play. At this stage, the child begins to use symbols to represent objects not actually present (without, as yet, being able to distinguish between inner experience and external factors). Also, at this stage children believe that names are as much a part of an object as colour and form until they can distinguish between words and symbols and recognize that they are arbitrary designations. Intuitive thinking begins to develop during this period but the

child is still unable to grasp a problem as a whole and cannot combine imaginary representations.

During the third mental stage, approximately between the ages of 7 and 11, Piaget believes that the child evolves a process of concrete operation. This can be defined as the ability to think about things and work out relations among different classes of things. Children are at this stage, able to classify and systematize objects; however, their thought processes are still 'concrete', and incapable of handling abstract ideas.

The final mental stage delineated by Piaget, approximately between the ages of 12 and 15, is referred to as formal operations, and is defined as the process that enables the adolescent to think about his thoughts, create ideals and reason realistically about the future. He thinks in a logical way, though 'ignorant' of the rules of logic. It is a sign of mental maturity to be able to construct good metaphors, for their construction demands an eye for both concrete and abstract resemblances. The concreteness of childhood thought supports the possibility of abstraction about the world of reality, and recognition of the abstract bonds that cement human relationships. (Flavell, 1963; Furth and Wachs, 1975; Piaget and Inhelder, 1969; Pulaski, 1971).

In the context of Piaget's theory (Piaget, 1954), social development is understood to involve a progressive loss of egocentrism or, alternatively, an increasing awareness of others and their perception of the world. Investigators of

language (Bates, 1976; Lock, 1978) have translated this aspect of social development into the child's development of the 'intention' to communicate, a mode of behavior in which children intentionally communicate their needs and wants.

Children move from a sensory-motor level of interaction with the world to a symbolic level, at which they communicate through word, sign, or gesture to an object, person, or event (Piaget, 1954). The symbolic level of communication is related to other aspects of symbolic functioning such as pretend play and conceptual thought.

Unlike other children, autistic children cannot leave their egocentric stance; they lack the feeling of being a self with an inner constancy that will survive outer change. They fail to attain the last stage of sensory-motor development in which the constancy of objects, or people, is acquired through conceptual thought (Kugelman, 1970).

The autistic child's use of symbols is limited; a disability which mainly involves a deficiency in coding, extracting, or organizing incoming information (Hermelin, 1970). This disability affects language, non-verbal communication and other aspects of egocentric and social activity (Wing, 1976).

The severity of the autistic condition is not uniform in all children (Wolff and Chess, 1964). In order for the autistic children to function in their own affected and unaffected pattern, and for real learning to take place, they must be able to attain a normal state of integration.

1.6.2. Lowenfeld's Stages of Artistic Development.

Lowenfeld's and Piaget's, theories of cognitive and artistic developmental stages have been, when rigidly interpreted, sources of great controversy; but they are most useful, not to label or categorize the individual children, nor to divide them into part mind and part body, for as Dewey has noted, "children cannot be artificially carved into neat categories" (in Eisner: *Educating Artistic Vision*, 1972, p. 8), but rather as guides for understanding children's growth.

Lowenfeld's theory of artistic development was presented in his book *Creative and Mental Growth* (1948). (The term 'mental growth' is here used to mean the growing power to perceive, and to understand what one perceives. Combined with this, because one cannot really separate them, is the power to form concepts, especially spatial concepts, in the context of children's drawings). Lowenfeld sees art activity as a vehicle for facilitating the growth of children. 'The child was paramount, the art instrumental'. According to Lowenfeld, copying and using coloring books are acts which stifle the child's growth, while imitation is seen as useful as a means to an end, but not as an end in itself. Through direct experiences with tactile, visual, and audile phenomena, children will develop their imaginative and perceptual powers.

Lowenfeld claims that as children change, so does their art. Growth in art is continuous and stages are typical midpoints in the course of development. His general view implies that the children must pass through one stage before they are ready or able to perform at the next level of artistic development.

Lowenfeld (Lowenfeld and Brittain, 1970, pp. 89-290).

lists these stages as follows:

- Stage I is called the scribbling stage (2-4 years) and is characterized by a gradual change from random marks to those that are more directed. Colour takes a subordinate role in this stage.
- Stage II is called pre-schematic (4-7 years) and is characterized by a gradual discovery of a relationship between the way a thing is represented, and the thing itself. There is no order in spatial representation and relationships are constructed according to emotional significance.
- Stage III is called the schematic stage (7-9 years). Here the child develops a definite form concept, and objects are arranged on a baseline.
- Stage IV is that of dawning realism, also called the gang age (9-11 years). The drawings still symbolize rather than represent objects. Drawings are more detailed, smaller in size, and children tend to hide their work from adults.

Stage V is the pseudo-realistic stage, or the stage of reasoning (11-13 years). This is characterized by a more greatly developed individualism and a desire to experiment with three-dimensional representation, and attempts at perspective drawing.

Stage VI is called the stage of decision, the crisis of adolescence (13-17 years). In this stage, Lowenfeld distinguishes between the 'haptic' child and the 'visual' child. Lowenfeld's theory is that haptically minded children tend to produce drawings that represent the feeling they undergo as a result of perception rather than representations of their perception of total visual stimuli. Lowenfeld feels that these differences were not caused by a person's physical visual ability but rather by psychological factors.

Weaknesses in the structure of Lowenfeld's thesis are outlined here by the following critics:

Rhoda Kellogg: "My primary objection to Lowenfeld's categories is that I do not think the haptic and visual aspects of art can be separated meaningfully. All art is based in physical movement and visual awareness together. The haptic aspects, which Lowenfeld calls subjective, may be found universally in child art, as may the visual aspects. (Kellogg, 1970, p. 149)

June McFee: 'The levels of development postulated by Lowenfeld's theory are too narrow in range, and do not include all the dimensions of art behavior'. (in: Barkan, Research Monograph No. 2, 1966.)

David Ecker: 'My quarrel centers on the logical error of presenting certain preselected facts of child growth and development as criteria to guide the teacher's evaluation of child growth and development'. (in: Barkan, Research Monograph No. 2, 1966.)

Dale Harris: 'From a psychologist's viewpoint, Lowenfeld's dual personality types may be overly simple, and his analysis of perception technically inadequate.' (in: Barkan, Research Monograph No. 2, 1966.)

Richard Bassett: 'One cannot put everyone into one of the two categories (haptic, visual) as Lowenfeld does. Most of the products seem to lie somewhere in between.' (in: Barkan, Research Monograph No. 2, 1966.)

Elliot Eisner: 'Although Lowenfeld's work represents one of the most extensive efforts to classify and analyze children's art, it contains numerous assertions that lack adequate documentation. Whether copying or tracing are in fact detrimental to the child's artistic growth is still not known . . . whether creative ability is generic or specific is as yet undetermined; yet Lowenfeld implies strongly that it is generic. (E.W. Eisner and D. Ecker: Readings in Art Education, Blaisdell Publishing Comp., 1966.)

Harold J. McWhinnie: 'Victor Lowenfeld was indeed an evangelist in the best sense of the word, because his evangelism was based upon significant scholarship . . . however, it may have been this evangelistic spirit which caused him, at times, to oversimplify, to overgeneralize and to overlook what was problematical, even while employing the vigorous research methodology which he did.' (Harold J. McWhinnie: Studies in Art Education. A Journal of Issues and Research in Art Education, Vol.14, No. 1, Fall 1972, p. 12.)

Manuel Barkan: Concludes that 'Lowenfeld's position in this regard had both historical significance and operational validity when he first formulated it. The social and educational scene of the forties needed it . . . ; since then, conceptions of knowledge, learning and society itself have changed.' (Manuel Barkan: Studies in Art Education. A Journal of Issues and Research in Art Education, vol.14 No. 1, Fall 1972, p. 12.)

In short, Lowenfeld's critics all seem to agree with McWhinnie's observation that Lowenfeld tended to "oversimplify, to overgeneralize and to overlook", their primary objections being to his separation of haptic and visual and to the narrowness of his categorization of children. And yet all would probably agree with Brittain's view that, 'Lowenfeld's greatest contribution to art education lies not in his research, or even in his writings, as such, but may possibly lie in the service that he has performed for art education by making it more visible as an area concerned with the development of human

behavior. (Brittain, Research Monograph No. 2, p.23, 1966.)

Because of Lowenfeld's humanness, his sense of social justice, and his role as a social engineer, his ideas have new meaning for the 1970; and any criticism on his ideas can only serve to honor his service and memory'. (Ecker, in Barkan: Research Monograph No. 2. Curriculum Problems in Art Education, p. 3, 1966.)

Despite these criticisms, and any new developments in art education, Lowenfeld remains to date a leading authority in the field, and his stages of artistic development remain a valuable guide.

CHAPTER II

STATEMENT OF PROBLEM, HYPOTHESES, AND
METHODOLOGY UPON WHICH THE STUDY IS BASED2.1. Problem

Having described the nature of autism, and selected the theories of Piaget and Lowenfeld as a theoretical framework, we now move on to a consideration of the benefit of art education to autistic children.

All children, impaired or not, go through developmental stages, intellectually, as described by Piaget, and artistically (Lowenfeld, 1970; Kellogg, 1970; Lansing, 1969). Because each child must be regarded as an individual, it is impossible to predict conclusively, without a thorough assessment, what the effect of autism will be in each case. However, it is generally recognized that the autistic handicapping condition often disguises a child's true abilities and potentialities, and that this may result in inappropriate educational placement and approach.

This study concentrated on finding and identifying dormant and blocked creative capacities in autistic children providing them with an environment in which time does not stand still, and where stasis gives way to innovation. It can be assumed

that, if children have never been able to learn through experience, they must go back and explore the self and the environment anew by touching, tasting, listening, and reacting.

2.2 Hypotheses

If man learns through his senses, the artistic process must involve perception and identification of this perception. It can therefore be hypothesized that the tolerance of autistic children for perceptual stimulation would be greater if they spontaneously were able to identify and translate this input into a visual form. Given this new non-verbal experience, the use of colour, crayon, and paper would appear to them in a new light, and would lead to the development of an attention span of greater extent than they are normally able to sustain. During this process the children should experience little frustration, and their self-expression should be experienced through the artwork as a communication with the self and with the observer.

Part of this study is to verify one of the criteria for identification of autistic children, namely, that they lack eye contact, and exhibit unusual staring and visual avoidance. But, throughout this study, we will see changes in this behavioral pattern, and through direct confrontation with the art product, the children will, in time, learn to overcome these traits.

One often finds that verbal language, whether oral or written, is beset with rules and conventions, that its use is frequently inhibiting rather than liberating (Feldman, 1970), and that the practice of the visual arts is, in comparison, much less influenced by rules; therefore, it can also be hypothesized that when the autistic children are in the art learning process, in which there are fewer abstract rules and pressures, their lack of speech as a communicative tool is less inhibiting, and the potential for action is increased; thus art becomes another language for learning.

The intellectual activities of the mind - knowing, thinking, perceiving, remembering, recognizing, abstracting, generalizing - are cognitive functions learned through experience, imitation, and immediate environment. If the inability of autistic children to imitate and copy is a result of a lack of personal experience and socialization (Kanner, 1943), we can further hypothesize that after an intensive relationship between a resource person, such as a teacher or parent, and the child, the "autist" would be capable of imitating line drawings executed by the teacher, and would also be capable of copying existing designs. As a function of this relationship, imitation will be considered as a means to an end, but not as an end in itself. Copying should be seen as a positive vehicle for facilitating learning (Eisner, 1972), a view which is contrary to Lowenfeld's statement (1954): Never let a child copy, copying being detrimental to the child's artistic growth.

Due to the deficiency of autistic children in the coding, extracting and organizing of incoming information, the art produced by these children is likely to be of a repetitious nature, with narrow variations, and with limited use of line, form, and colour, changing only when stimuli change, and the presence and input of the teacher (social transmission) is likely to be of great importance to any change that does take place. This implies that if the resource person were absent, there would be an absence of motivation, and that the children would remain in a state of stasis arrested at a fixed stage of motor development.

2.3. Methodology

The room in which the study took place provided certain stimuli as it contained two baby cribs, toys, water pipes running horizontally and vertically along the walls, a sink with hot and cold running water, a door to a tiny washroom with a strong smell of disinfectant, and a few stacked children's tables and chairs.

For the 'art encounter', two tables were moved into the center of the small room with two chairs placed in such a position that teacher and child could face one another.

Coloured crayons, pencils, ballpoint pens, and felt pens, were placed on one table, while the white, grey and manilla paper rested on the other table. This physical arrangement remained the same during the six month study, to assure the child a stable, unchanging environment.

At the beginning of each art period, the teacher walked into the common room, took one child by his hand, led him into the 'art room', and showed him where and how to sit down. The teacher then took her position opposite the child, so as to make eye contact possible; and together they explored the different materials by touching, handling, and smelling, that is by experimenting. Then the child made his own choice of material and began the art process.

The bulk of this study involves descriptive observation of the creative process, including the child's choice of media, behavior, and characteristic patterns with chosen materials. (The creative process is defined within this study as the basic drive towards growth and self expression.)

The assessment has been formulated taking into account the teacher's knowledge of the autistic handicap, and the fact that fifty percent of the children in this test group had never experienced a drawing process before. Evaluation of the art products has been conducted according to the following criteria: technical skill, aesthetic and expressive qualities, imagination, and indication of artistic growth, using the following scale: 1 - excellent; 2 - very good; 3 - good; 4 - fair; and 5 - poor. This evaluation was undertaken by myself and an assistant.

The observations in this study will focus upon a) the stimulating and motivating effect of the teacher's presence; b) the communication between the student and the teacher, the

peer group, and through the art language itself; c) the child's frustration tolerance, calculable through observation of the frequency that the child 'gave up', and the manner in which he treated the art product; d) The changes in patterns produced by the child from the beginning to the end of the art encounter; e) and finally copying and imitating, either by direct method or by transformation of the image.

Non-parametric statistical tests have been used in order to determine the degree of significance of a) the colour selection, including black, red, and a combination of other colours; b) the elements of design used during the art process; c) the attention span, recorded in minutes; d) the frequency of eye contact; and e) typical and atypical behavior.

These graphs have been analysed, employing a cut-off score of thirty percent as the level of significant difference (Siegel, 1956).

CHAPTER III

AN ACCOUNT OF THE STUDY

3.1. Informal Account of Initial Impressions of the Autistic Children

I shall begin with an account of my initial impressions of "Giant-Steps", and of certain characteristics of my relationship with particular children, and their relationship to the world of art. We shall then examine results of the observations conducted during the period from September 1981 to April 1982.

The routine was always the same; the scene, however, changed slightly each day. Every time that I arrived at Giant Steps, and the heavy wooden door with its round wrought-iron handles closed behind me, I entered a world totally different from the one that I have known, a world in which life proclaims itself with harsh screeches, and silence, broken, perhaps, by the "tip-tip-tip" of a leather string, leaves a stronger impression than any deafening pitch or shrill.

On the first day, I entered, looked around the room, and discovered little bundles of children crouched along the walls of the common room - staring at the ceiling, rocking their bodies back and forth, spinning 'their thread'.

There was David, eight years of age, with an unearthly smile and gentle features. Patrick, nine years of age, handsome and strong looking, pulled a multicoloured string, inch by inch, out of his mouth, twirled it over and over again, and finally stuffed all forty inches of string back into his mouth. He never swallowed it; he never vomitted. This was Patrick's routine, and his alone. Robbie, eight years of age, the only one capable of breaking the silence, did so with loud screeching noise when he runs in circles - hitting, biting, and pushing anything around him. Then there was tall, handsome, dark haired Howard, fifteen years of age, with large warm eyes and braces on his teeth. Howard looked so much like any happy boy, but perhaps did not know the meaning of happiness. He laughed and fluttered his wings like a newborn bird, ready to fly, and every part of his body strained to obey his will. He threw a ball towards me, and I threw it back to him, and this reciprocation constituted our relationship - a giver, and a receiver, his turn, my turn.

My eyes moved around the room and discovered Collin, twelve years of age, hiding under a sheet torn from a carton. He peeked from underneath only for seconds - and then his eyes vanished again and with them, any connection between he and I. Collin is deaf, as well as autistic, two powerful handicaps to overcome.

I noticed a shadow moving slowly along the perimeter of the room, a somber shadow; his back was stooped, his arms hung limply from his shoulders, his feet dragged. This was John, fifteen years of age, living in a world of his own, a high fence built around it. Communication with John seemed, at first, to be an impossibility.

Lorenzo, 8 years of age, sat on a chair playing with a puzzle. His bright yellow turtleneck sweater highlighted a strikingly handsome face with large, brown, questioning eyes.

A few weeks later Kenny, sixteen years of age, arrived and joined our group. Kenny has been diagnosed as having schizophrenic tendencies as well as autism, and was on medication (Haldal 6mg), which seemed to have left him in a state of blank nothingness. His pale beautiful face was crowned by blond, curly hair; his eyes were red and sad. However he repeated every simple word one said to him; and he could write as well.

This was the scene I entered and which encompassed me for over six months. But what seemed so hopeless, so gloomy, in the beginning, was to change wonderfully, and become joyful.

3.2. Daily Routine

The routine remained the same at all times. Every day I took a child by the hand and we walked together into our little 'art room'. There was never any resistance from the children, all were willing to go with me. Together we found our chairs;

together we sat down, and waited, stared, rocked, until the moment was right to begin a new relationship with the art material.

We picked up a felt pen, smelt it, looked at it, wrote with it, and then put it down. Another crayon, or brush, or pencil was handled in the same way. All of the children spent most of their time smelling the crayons. One favorite pastime involved unwrapping every crayon first, 'disrobing' the waxy mass of its paper coating, and then smelling it without actually using it as a drawing tool. After the crayon had been handled it was placed back into the crayon box, a routine I observed all children to follow. No one ever left a drawing tool on the table; and if one rolled onto the floor, it was picked up immediately and returned to the crayon box.

Some children took great pleasure in eating every crayon they touched. They masticated with great haste, until their mouths were filled with a colourful mush of wax and paper. At first, only three of eight children enjoyed looking, feeling, and using crayons.

3.3. Attention span Figure I

On the average, the children's initial attention span was approximately five to fifteen minutes in duration; this remained constant for the first three weeks, then increased to approximately twenty minutes. As the children became more accustomed to the routine of sitting down at the table, their

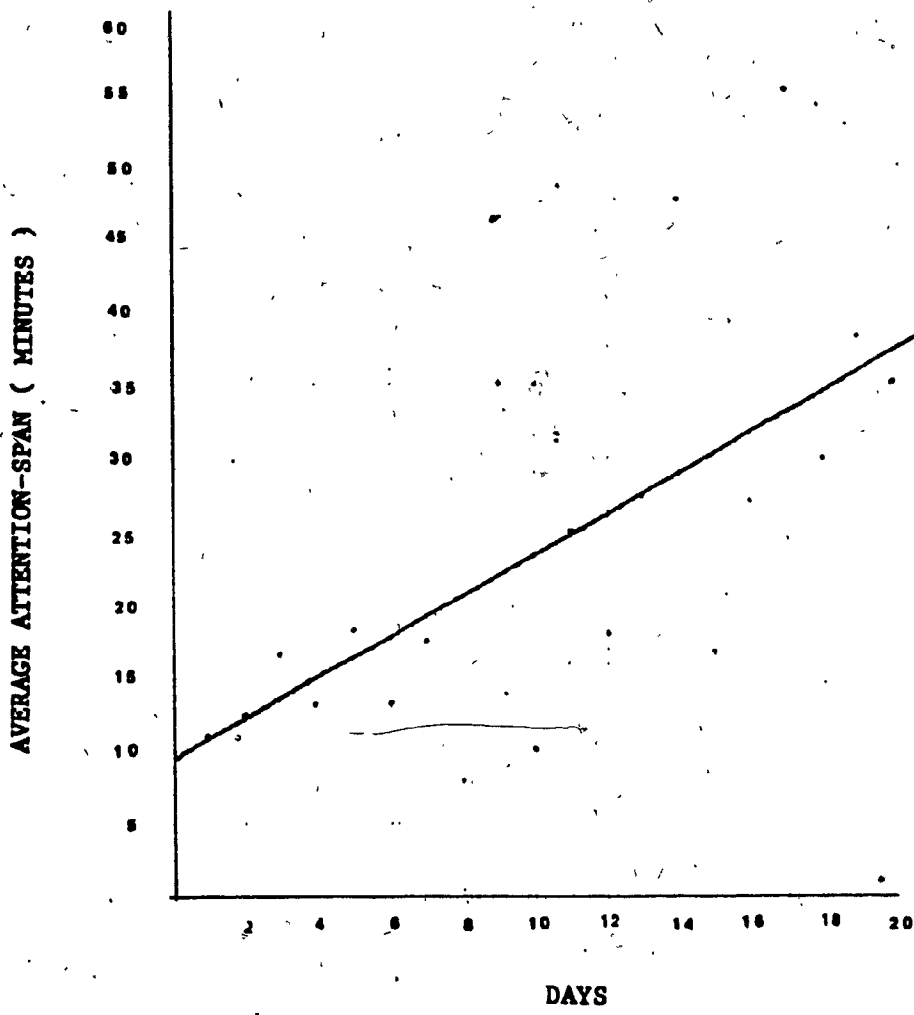


Figure 1: Attention Span*

attention span increased, and one child was able to maintain concentration in a single session for seventy-five minutes. One child stayed arrested at ten minutes, while all of the other children exceeded thirty and even sixty minutes towards the end of the art encounter. It was surprising to observe that only two children gave up in despair (both destroyed the paper they had been working on), but this only occurred twice in six months; most of the children behaved in a calm manner and treated the art product as if it were a part of themselves. The drawing papers were placed neatly one on top of another, corners evenly mitered. Once I hid a drawing from a child so that it would not be destroyed; and the child searched for it until it was found. He then started to work on it again.

3.4. Eye contact Figure 2

During the first stages of our encounter only one child was able to look into my eyes for support. When the children began to trust me and my presence, eye contact was established with one child after another, and by the end of six months, all of the children communicated through their eyes.

3.5. Behavior, Figures 3 and 4

Throughout the six month period of the study, a daily record was kept of the typical and atypical behavior of the children involved. According to this record, from the very first day, all of the children were willing to go with me into

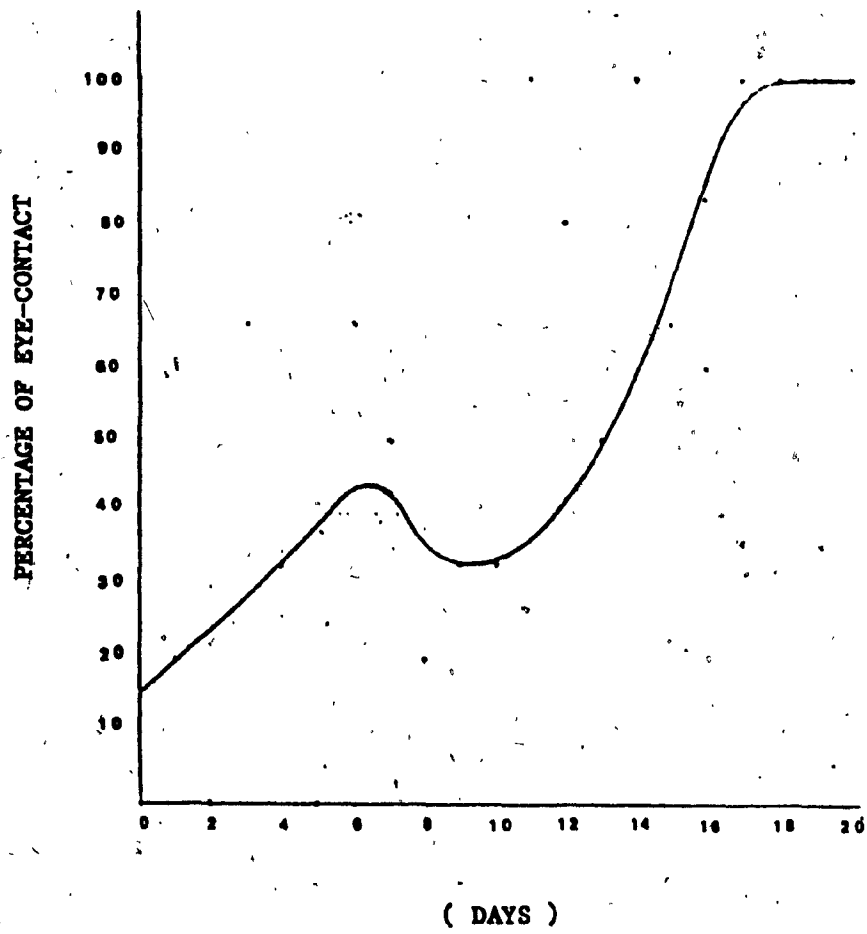


Figure 2: Eye Contact

AVERAGE PERCENTAGE OF POSITIVE AND NEGATIVE BEHAVIOR

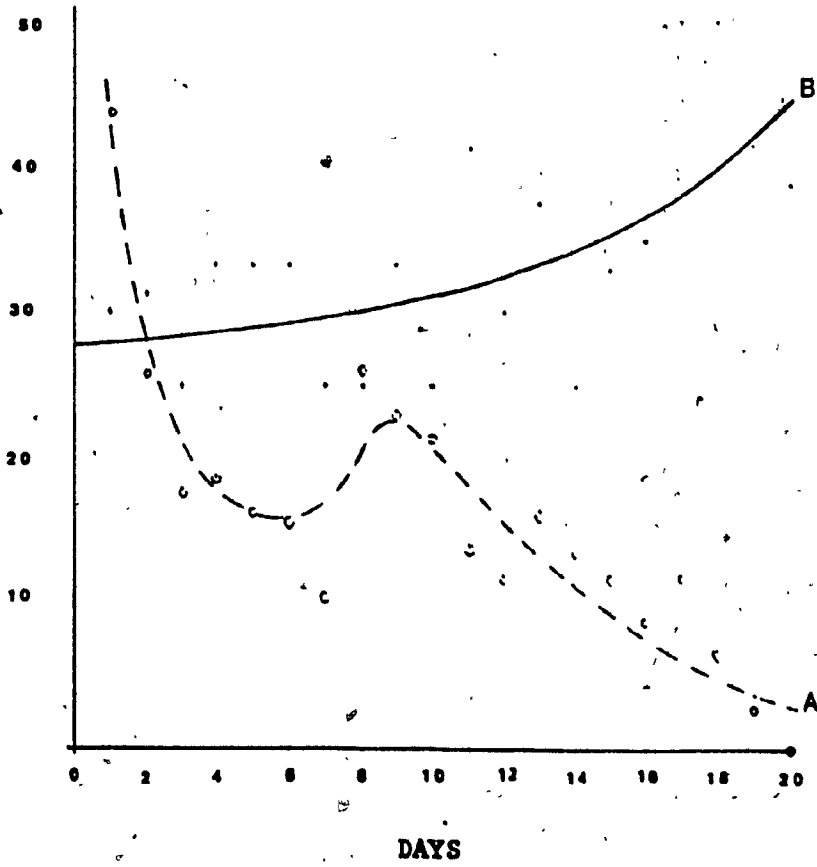


Figure 3: Behaviour

A - NEGATIVE
B - POSITIVE

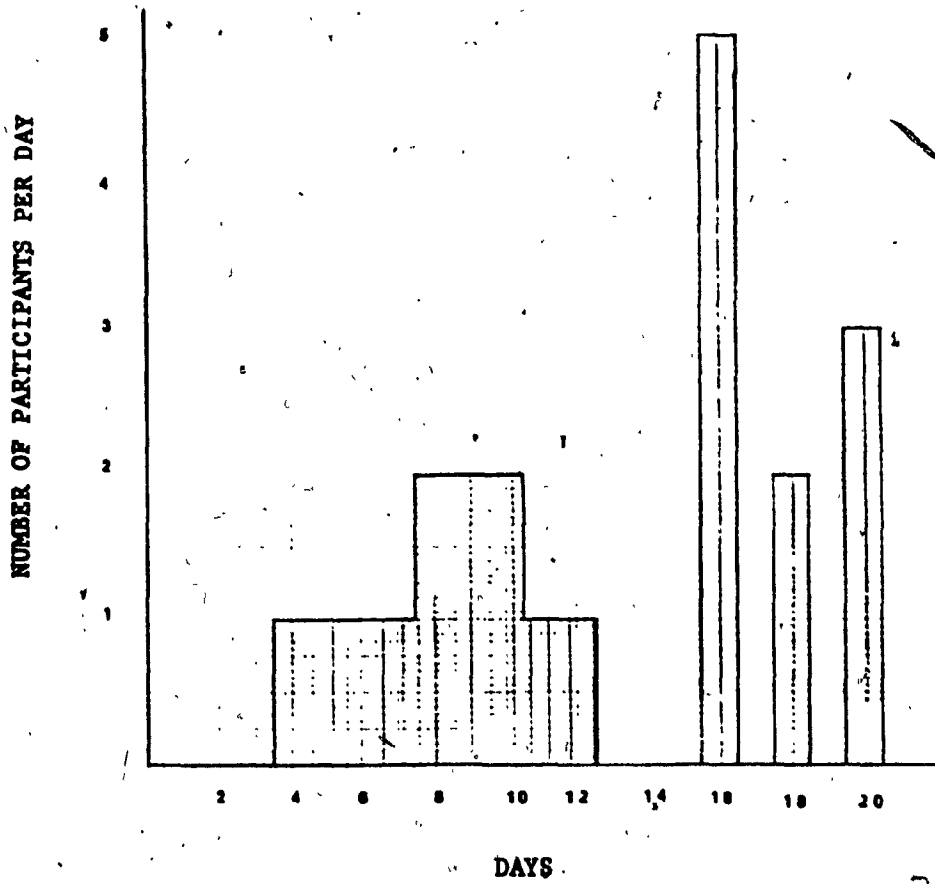


Figure 4 : Atypical behavior

the 'art room' without hesitation, but then engaged in spinning, rocking, staring, biting, howling, pushing and screaming; all were restless and had to lie down after ten minutes of activity. A distinct change was observed in this regard, from totally passive, to more responsive behavior and the almost complete abandonment of these passive traits. On the last day, only one child was observed pushing, a mode of behavior that had become infrequent. During the six month observation period, two children started to sing, three children embraced me and sat on my lap, one child touched my face, one child rubbed his face against mine and emitted, at the same time, a long protracted 'o' sound.

After five months, I observed the first 'relationship' between peers, though only through eye contact, when one child joined another during the art process. On our last day together, three children interacted by gathering around the drawing table; one pushed the other off his chair, sat down and started drawing. During this meeting a bond was formed; not through the use of language, but through the drawing process and the incredible eye contact between the four of us.

3.6. Motivation

None of the children, with one occasional exception, engaged in a drawing process unless stimulated through teacher/student contact. With the absence of this relationship, drawing did not commence.

3.7. Imitation

As noted earlier, autistic children generally exhibit an inability to imitate; nevertheless, three out of eight children imitated my line drawings; the other five children made no such attempt. It is interesting to note here that when I drew vertical lines from the top to the bottom of the page, the children, sitting opposite me, imitated the same vertical line from the bottom to the top (Drawings 6, 7-9). We created flowers, strawberries, people, fish and water together in this fashion. (Drawings 21, 26, 28, 32, 34, 35).

After imitating my drawings for awhile, most children explored their own capabilities, drawing lines and images, and after completion, always looked to me for approval. When we encountered any 'dead end', I led the drawing exercise again, until the children felt secure enough to draw on their own.

Favorite themes for imitation included fish, water, and people. We established eye contact and I pronounced the word fish, very clearly. The sound was then repeated as well as the autistic children were able, before a symbol of fish was drawn. We repeated this process with the word water, moving our arms like waves, until some children were able to draw water, using wavy lines (Drawings 31-33).

3.8. Copying

Copying through the observation of the images in the environment was noticed in four out of eight children. They copied with seeming pleasure the huge tree and the animals painted on the walls of our room. Also certain drawings were made of dolls and toys selected from the toy box (Drawing 38). One child picked up a hard cover book by Leger, then scanned through it, page after page, before selecting two paintings, and making use of them through individual interpretation and conceptualization, (Drawing 52).

3.9. Colour Choice Figure 5

Black was the colour preferred by all children, followed (in order of preference) by red, orange, brown, green, purple, blue, and white. Even when I put a coloured crayon into a child's hand, it would be placed back into the crayon box and a black one chosen instead. As usual, all crayons were handled and smelled before use.

Three of the eight children often executed line drawings in red ink pen, but after apparent completion, covered every mark with black or brown wax crayon without leaving a trace of the original creation (Drawings 39, 41). Three out of eight children selected their own colours very carefully; the remaining five stayed arrested in using either black or red.

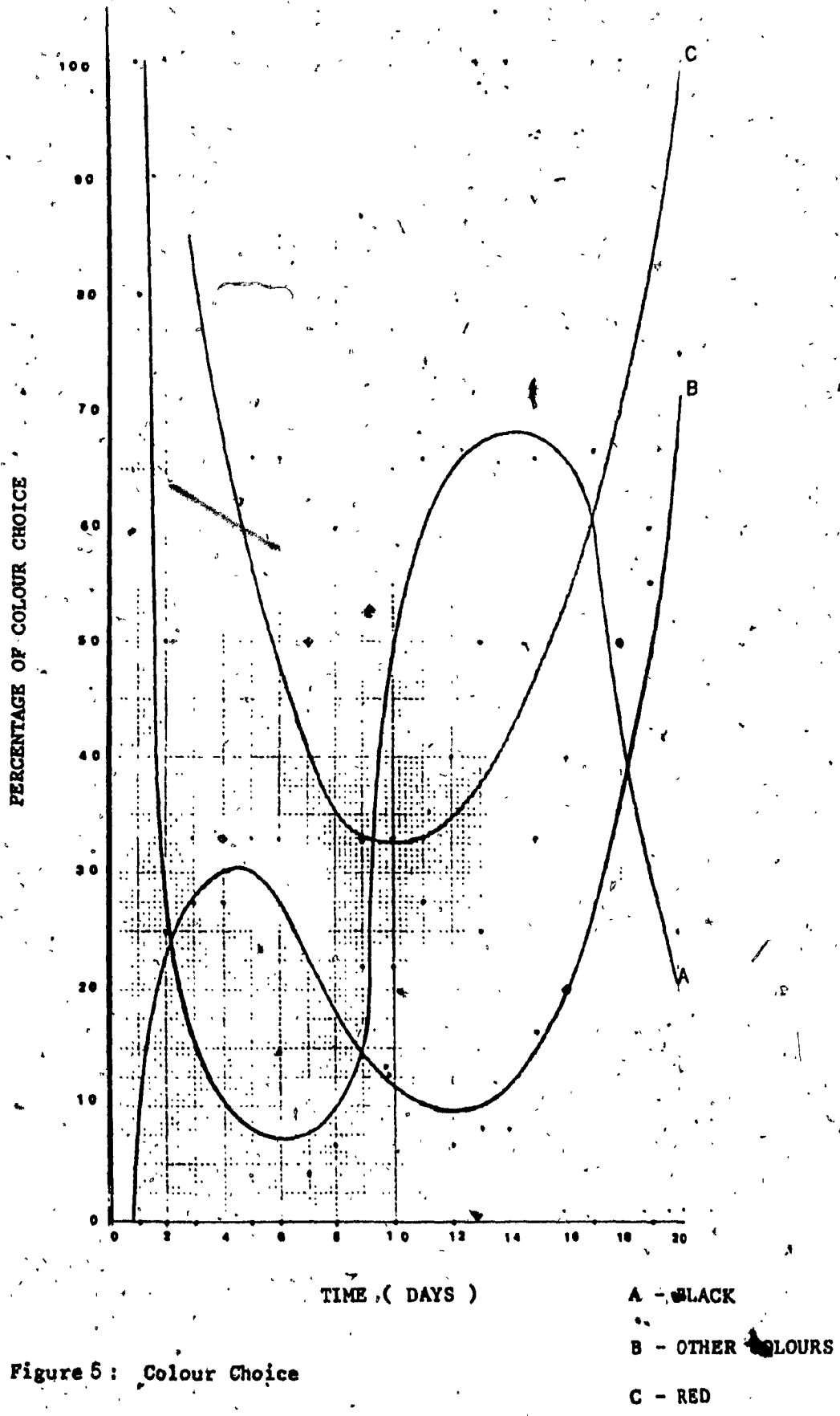


Figure 5: Colour Choice

- A - BLACK
- B - OTHER COLOURS
- C - RED

3.10. Elements of Design Figure 6

The elements of design used by the children during the test period ranged from basic dots, scribbles or random lines, vertical, horizontal, diagonal and curved lines, spiral, and 'Greek Key' design, to either ovular, circular, square, triangular, or rectangular shapes. For the purpose of this report, the following groupings have been devised:

Pattern A - dots & scribbles

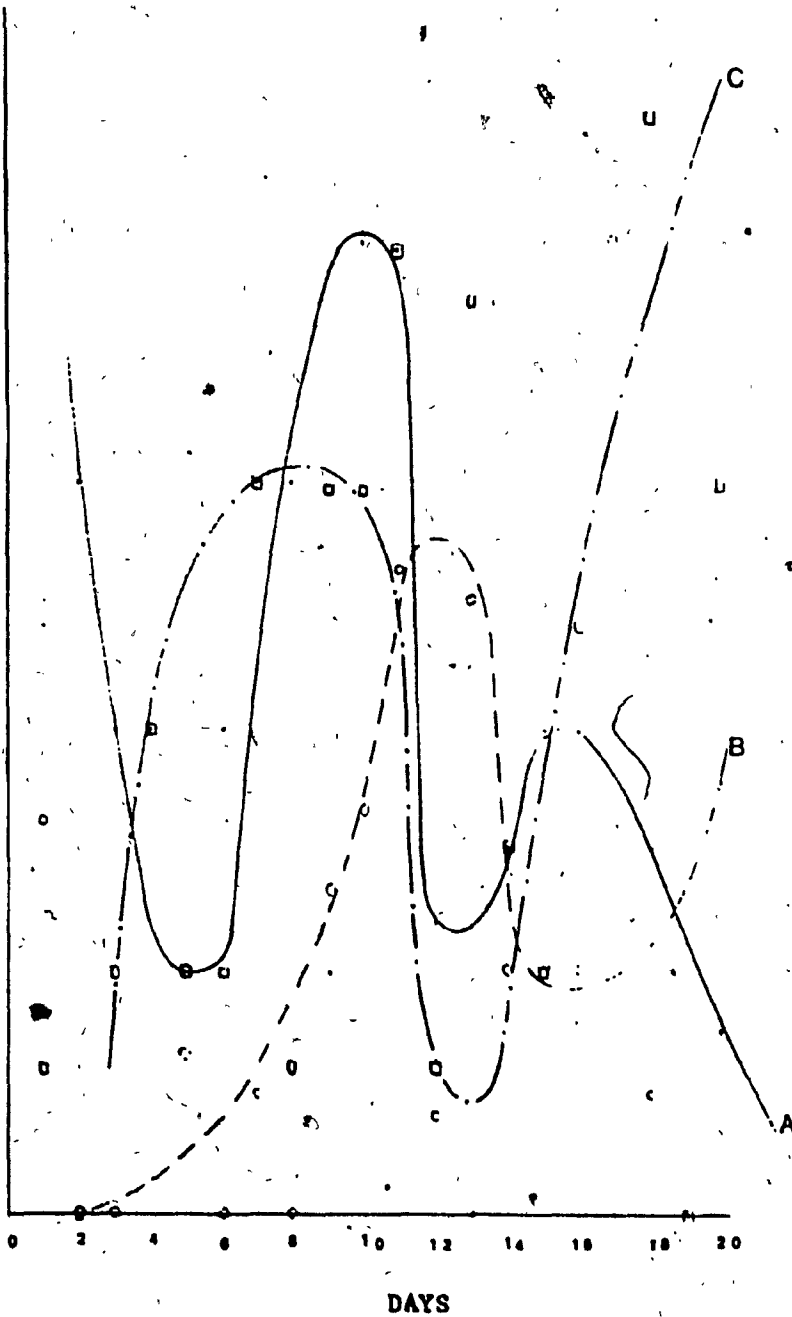
Pattern B - lines

Pattern C - shapes

Pattern D - three dimensional patterns

Pattern A: All children engaged in using dots and scribbles; but only one child stayed arrested at this level. Often the repetition of dots was executed to the rhythm of particular music, either audible or imagined (Drawings 53, 54). Scribbles (multiple line crossings) were used impulsively and vigorously at times of discomfort, restlessness and anxiety, or as an expression of exultation or rejoicing. The child used the pen in an upright position clenched between his fingers,

AVERAGE PERCENTAGE OF ELEMENTS OF DESIGN



- A - DOTS & SCRIBBLES
- B - LINES
- C - SHAPES

Figure 6: Elements of Design

and in this tight position scratched through thick layers of paper; tearing, pulling and pushing the pen in seemingly random direction. These scribbles or dots were never named. (Drawings 1, 2, 3, 4, 55).

Pattern B: Seven out of eight children were observed to go through Pattern B using single lines, multiple lines, or spiral lines as separate entities, without employing them for the formation of shapes. (Drawings 6-9).

Pattern C: Single crossed lines were observed in the work of six out of eight children. This pattern led to imperfect circles, and to perfect circles. These circles (signs) advanced to become symbols of sun, face, fish, flower, and the self; sometimes without being visually representative. (Drawings 5, 7, 12, 13; 4, 29, 47).

Combining lines for the creation of geometric designs, was observed by four out of eight children; often in a combination of various shapes, building units of many diagrams. These aggregates were named house, truck, rabbit, people.

(Drawings 10, 11, 16, 17, 18, 19, 20, 30, 48, 49, 50, 51).

Pattern D: Only one child advanced to a three dimensional representation in the form of a single line drawing, a symbol of "metro station", in which he included the names of every station in Montreal's Metro System (from memory). (Drawings 43-46).

3.11. The Art Products

Lowenfeld's stages of art development were used as frame of reference in the classification of the art products, which appear on the following pages. These drawings have been selected as the most representative of all those executed by the children over the six month study period.

3.11.1. Scribbling Stage (Drawings 1-5): (Approximate chronological age, two-to-four).

Drawing 1 A pen was used to make definite radiating lines with forceful movements, scratching through six layers of paper. A very powerful drawing, both physically and aesthetically; (boy, age 8).

Drawing 2 Multiple diagonal lines crossed with multiple vertical lines in the center of the paper; (boy, age 15).

- Drawing 3 Covering the whole page are inherent multi-lined crossings along with implied circular shapes; (boy, age 10).
- Drawing 4 A combination of disordered scribbles and a closed form with appended lines was repeated several times. The naming of these scribbles, "cookies", illustrated an important step in the development of abstract thought; (boy, age 8).
- Drawing 5 Single crossed circles were used in the first drawing of a human; (boy, age 8).

Colour, during the scribbling stage, played a subordinate role, only black and red being employed.

3.11.2. Preschematic Stage (Drawings 6-12): (Approximate chronological age four-to-seven).

- Drawings 6-9 Marks and scribbles show that they have lost their relationship to bodily movement. The lines are more controlled and exhibit a greater feeling for order; (boys, age 8 and 15).
- Drawing 10 A balanced aggregate, composed of four equal diagrams, was connected with black crayon; (boy, age 15).

Drawing 11 An aggregate made with four rectangles, divided by a zigzag line in a diagonal direction; (boy, age 8).

Drawing 12 Sun with loop rays and center marks representing a face. A drawing in orange (copied from sun painting on the wall); (boy, 12).

3.11.3. The Human Schema (Drawings 13-24)

Drawings 13-14 A multitude of lines and scribbles with a dominant human figure, displaying sign of neck and arms and repetition of buttons. Space was well used; (boy, age 8).

Drawing 15 Human with "Head-Top-Markings", arms extending from the head, indication of feet; (boy, age 8).

Drawing 16 Face aggregates with markings, drawn with swift arm movements; (boy, age 17).

Drawing 17 Family group: Father, Mother, Self. Similarity of elongated figures is greater than any differentiation; (boy, age 17).

Drawings 18-19 House-Tree-Person set on an invisible baseline; (boys, ages 15 & 17).

Drawing 20 Radial humans (male and female) without body, limbs diverging.

Drawing 21 Human, imitation drawing by same boy, age 15.

Drawings 22-24 Person, placed on baseline, displays a cropped shape of an arm to accommodate the self-constructed boundary.

Person constructed of geometrical shapes. A boy's first attempt in drawing a humanoid form.

Drawing displaying himself skiing. The experience is recalled in detail.

(All three drawings by boy, age 12.)

3.11.4. Early Pictorialism From Preschematic To Schematic Stage.

3.11.4.1. Vegetation: Trees and Flowers.(Drawings 25-30)

Drawing 25 Tree with swings. Well balanced circle form on baseline; (boy, age 12).

Drawing 26 Tree schema similar to radial image; (boy, age 15).

Drawings 27-28 Trees, copied from those on the wall. Images show divided branches reaching upwards. Rabbit was copied from a toy animal; (boy, age 15).

Drawing 29 Flower in the image of a sun; (boy, age 15).

Drawing 30 Well balanced circle composition of sun, flowers, and tree; (boy, age 12).

3.11.4.2. Animal Schema (Drawings 31-42)

- Drawings 31, 33 Fish and water, drawn from memory.
- Drawing 32 Fish and water, drawn through imitation; (same boy, age 15).
- Drawings 34-35 Imitation drawings, (boy, age 15).
- Drawing 36 Imitation drawing extended to create animal shapes; (boy, age 9).
- Drawing 37 Drawing of animal, shape, on right hand side of paper; (boy, age 8).
- Drawing 38 Drawing of toy animals and doll copied from toy models. Black crayon was used to unite all separate shapes; (boy, age 12).
- Drawing 39 Big purple bird, well spaced on the paper, was created by drawing the contour first, the beak and eye were added later; (boy, age 12).
- Drawing 40 Expressive animal of uncertain species placed in the center of the paper; (boy, age 12).
- Drawing 41 A beautiful line drawing in red ink, covered up with brown crayon. A well thought-out composition of beast, or human? An excellent composition, space well used; (boy, age 12).
- Drawing 42 A drawing of a bird (copied from the wall), shows good control of eye-hand movement; (boy, age 12).

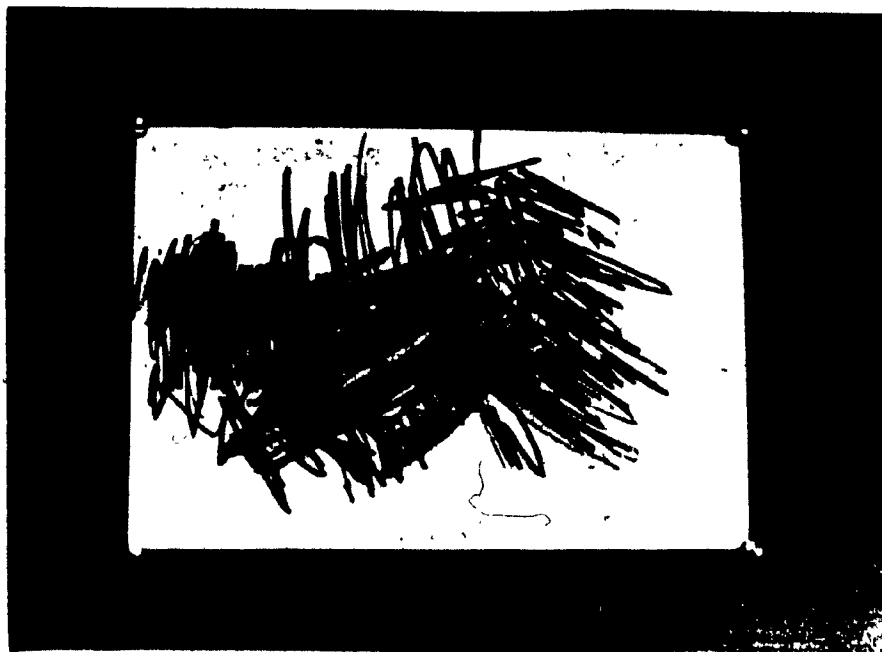
3.11.5. Representation of Space (Drawings 43-46)

Preschematic pencil drawing of tadpole people with representational drawings of distance explaining perspective of metro stations.

Drawing 46 displays the remarkable memory of this child. Child displayed no concept of the human figure, but showed skill at representing perspective.

3.11.6. All the children's drawings were collected throughout the study, and, at the end of six months, the drawings were evaluated according to the criteria outlined in the methodology, with the following results:

- a). technical skill: 3.85 pts. (good-to-fair)
- b). aesthetic and expressive qualities: 2.83 pts. (very good-to-good)
- c). imagination: 3.00 pts. (good)
- d). indication of growth: 2.85 pts. (very good-to-good).



COLOURED PICTURES
Images en couleur



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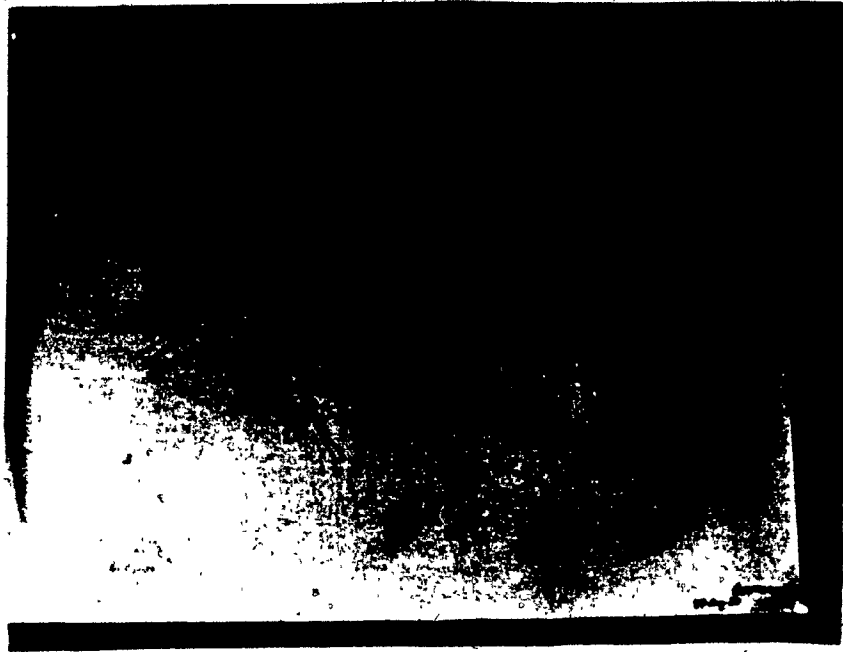


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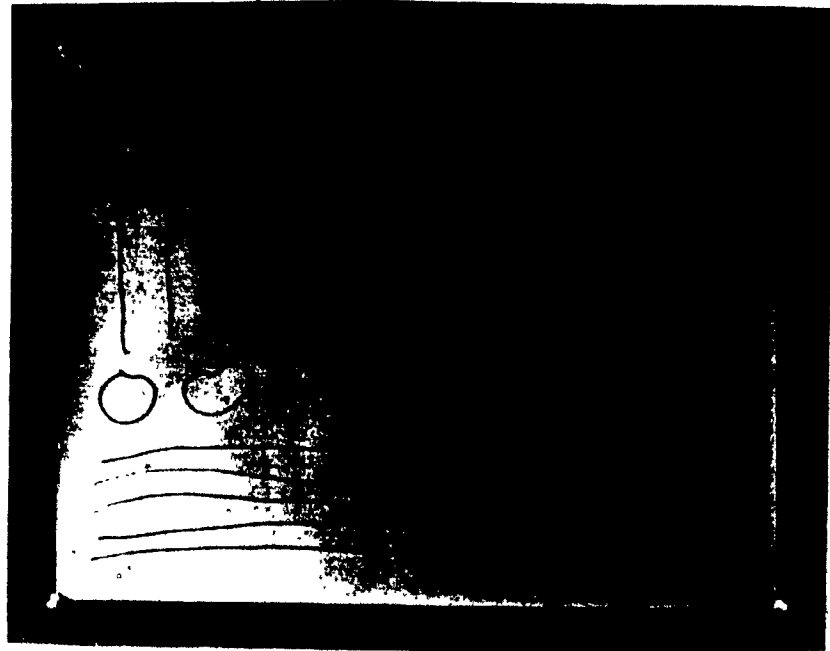


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COLOURED PICTURES
Images en couleur

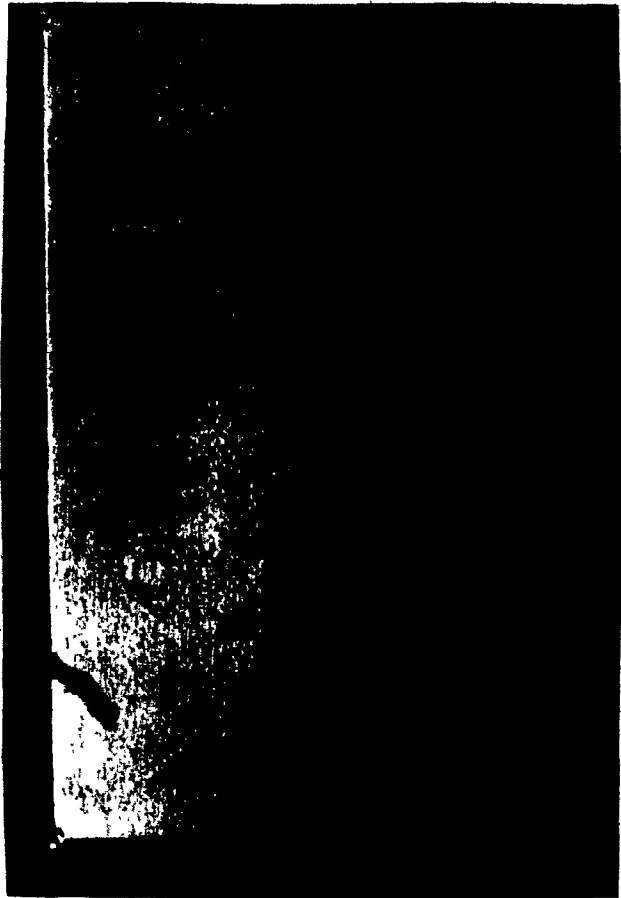


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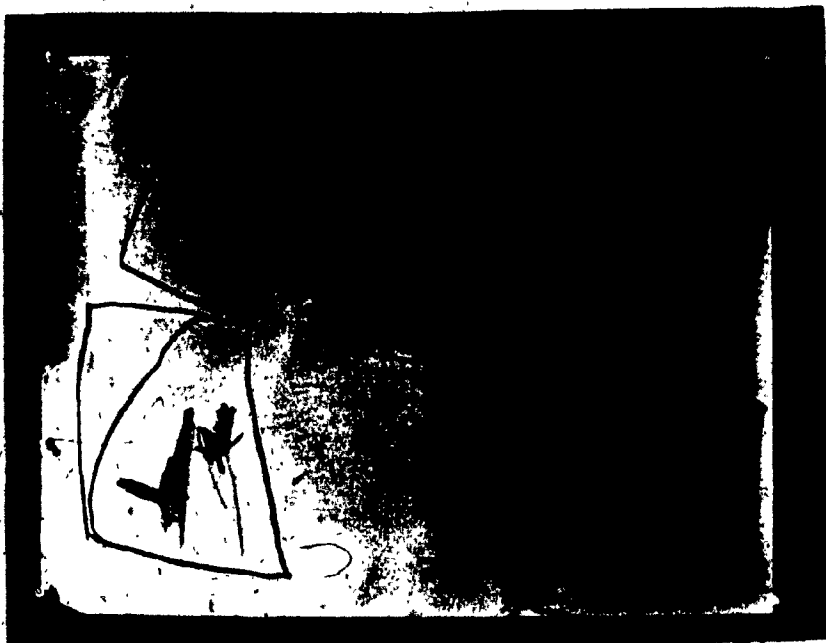
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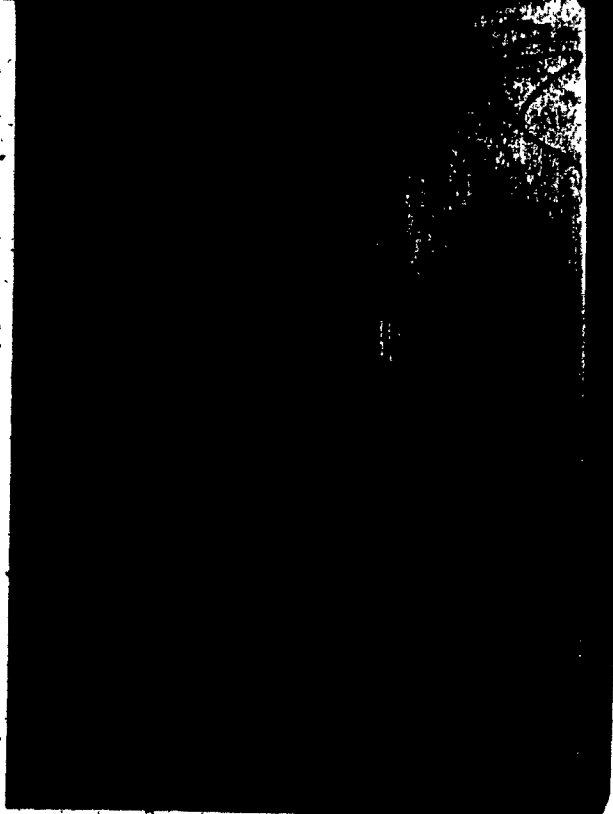


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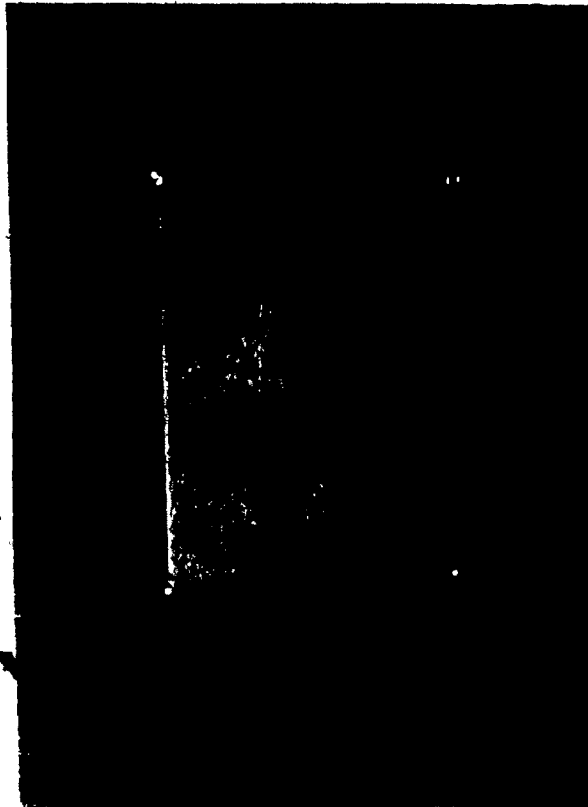


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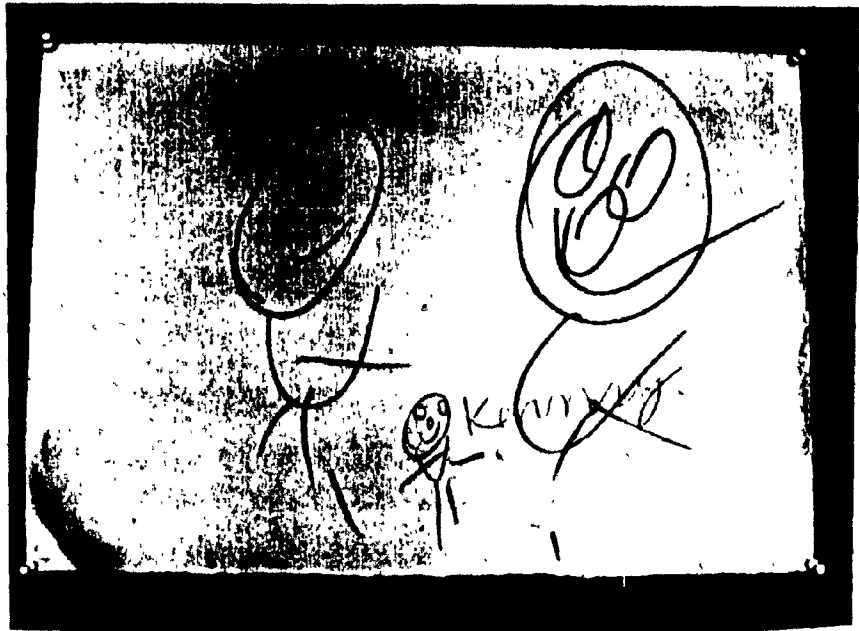


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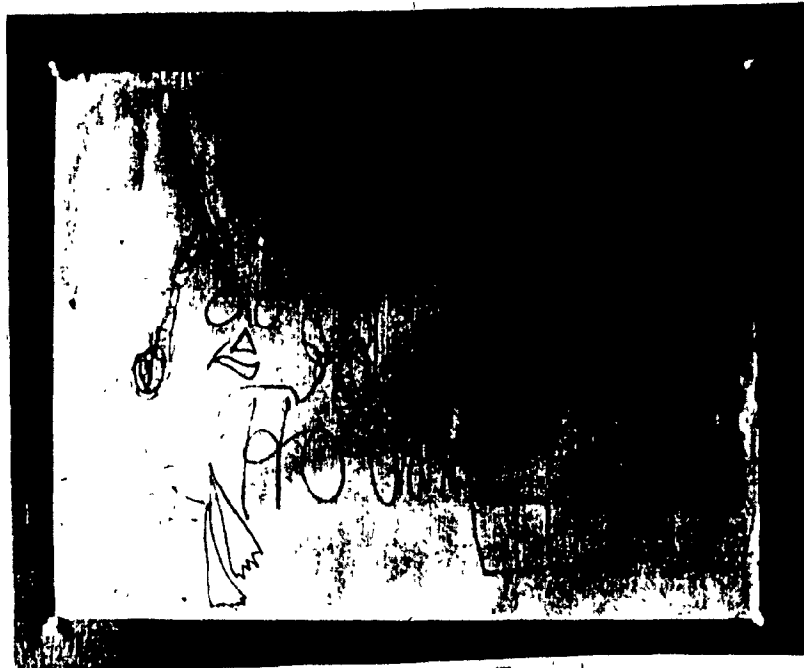
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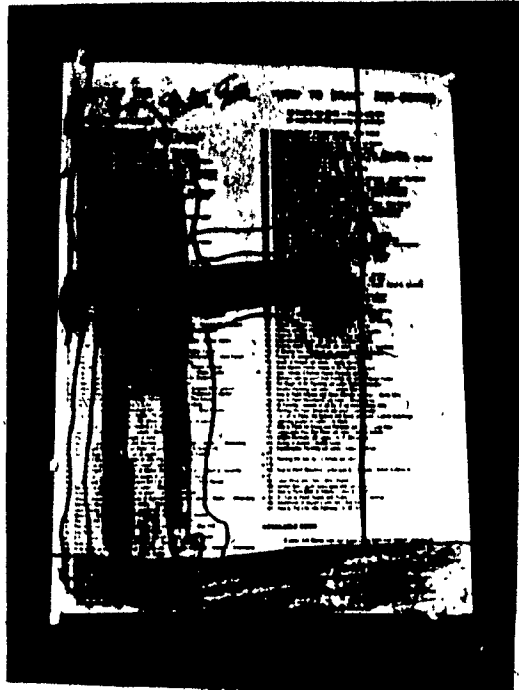


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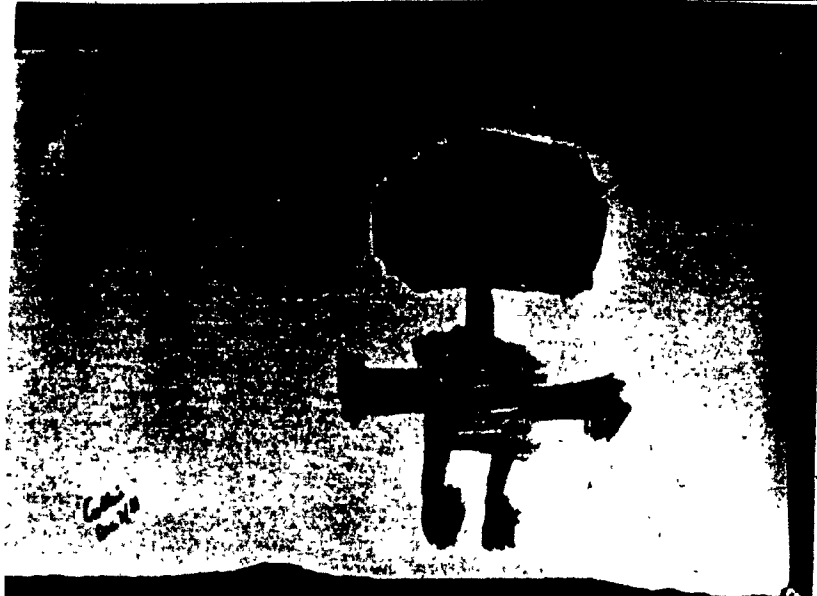


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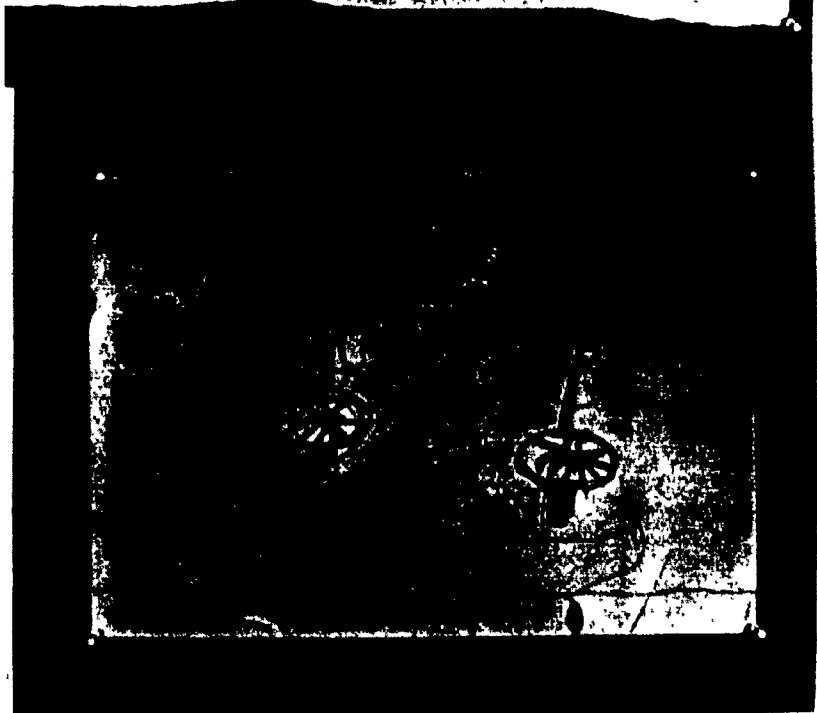
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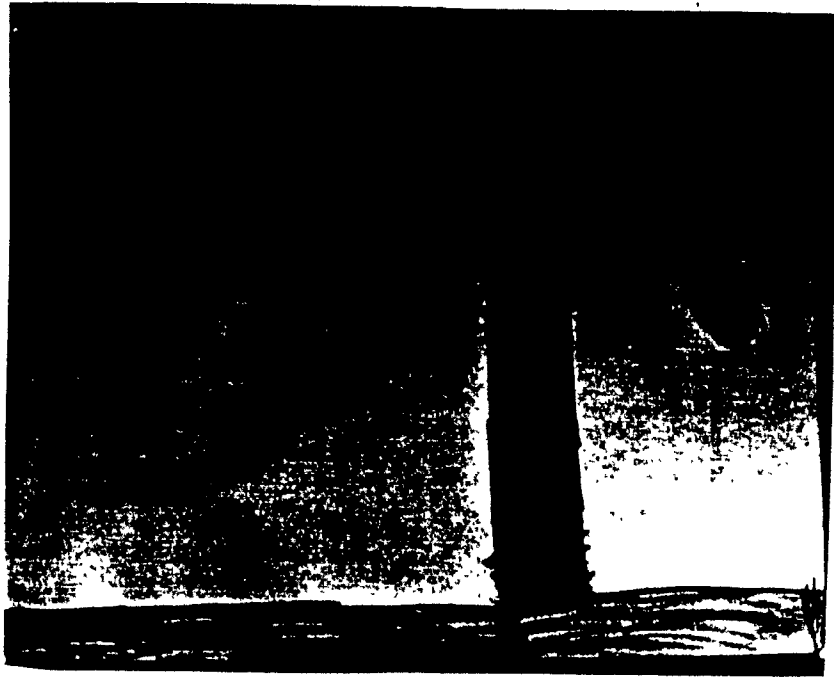


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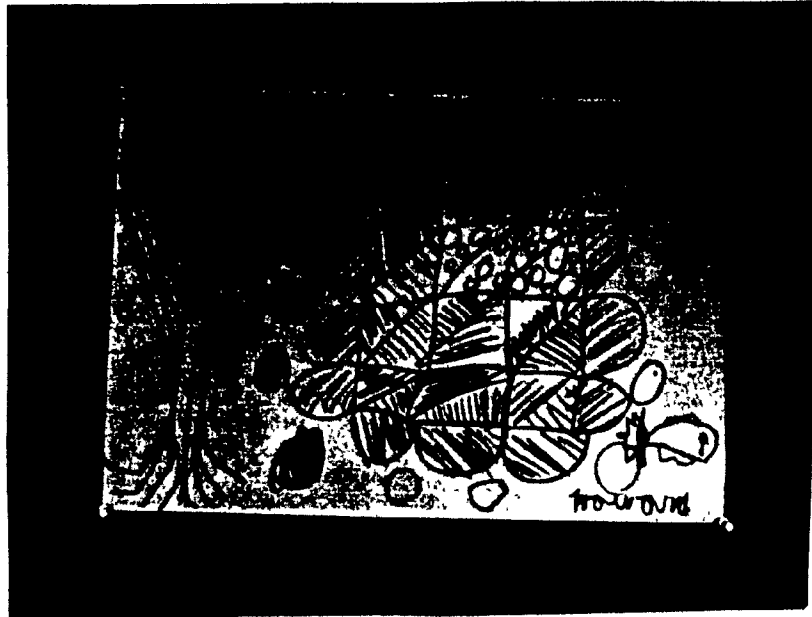


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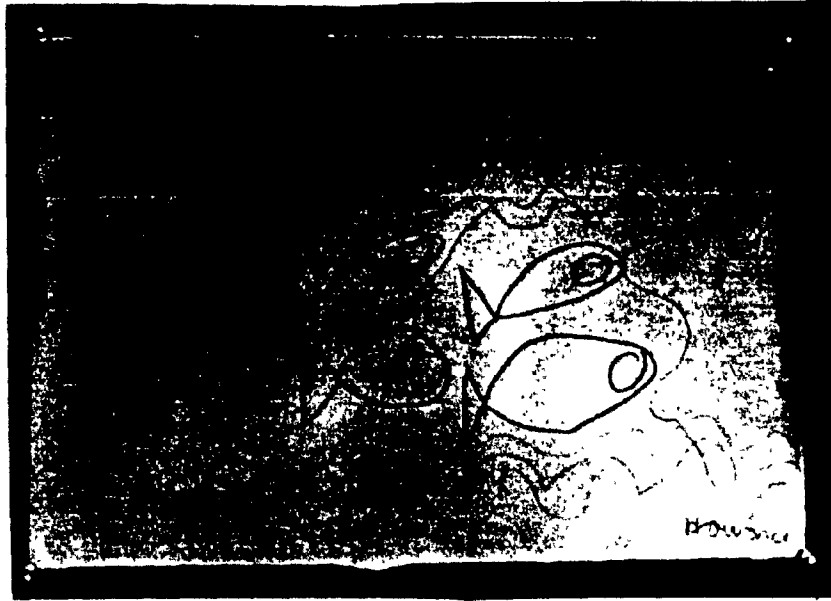
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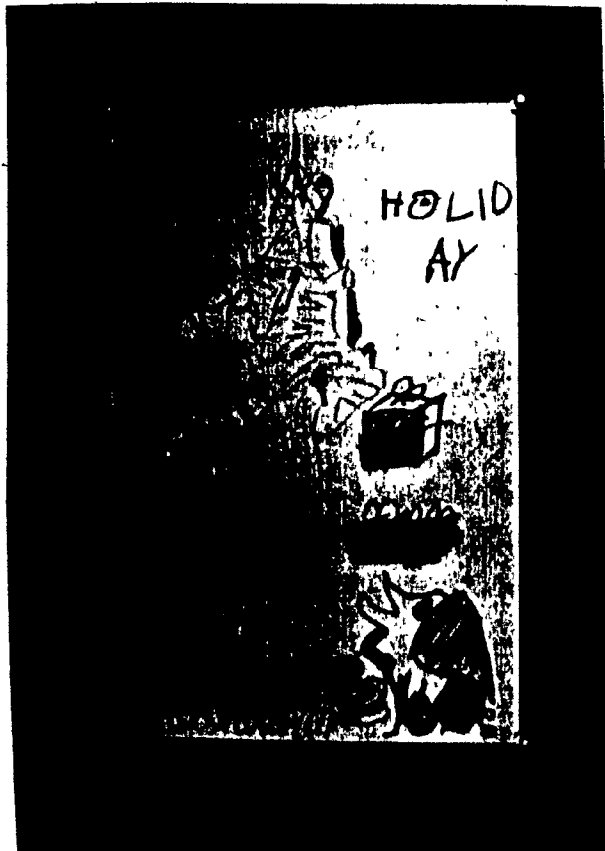
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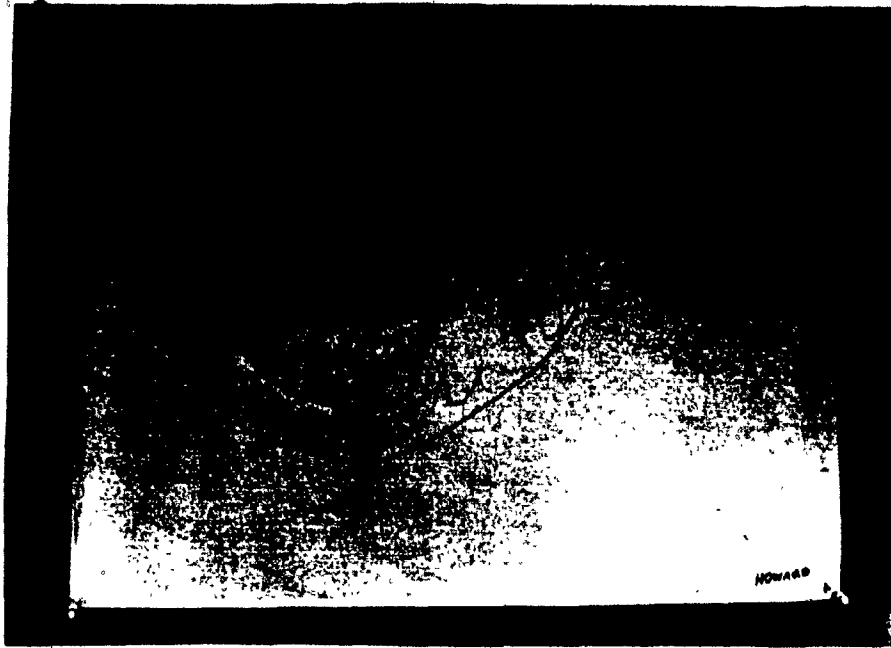


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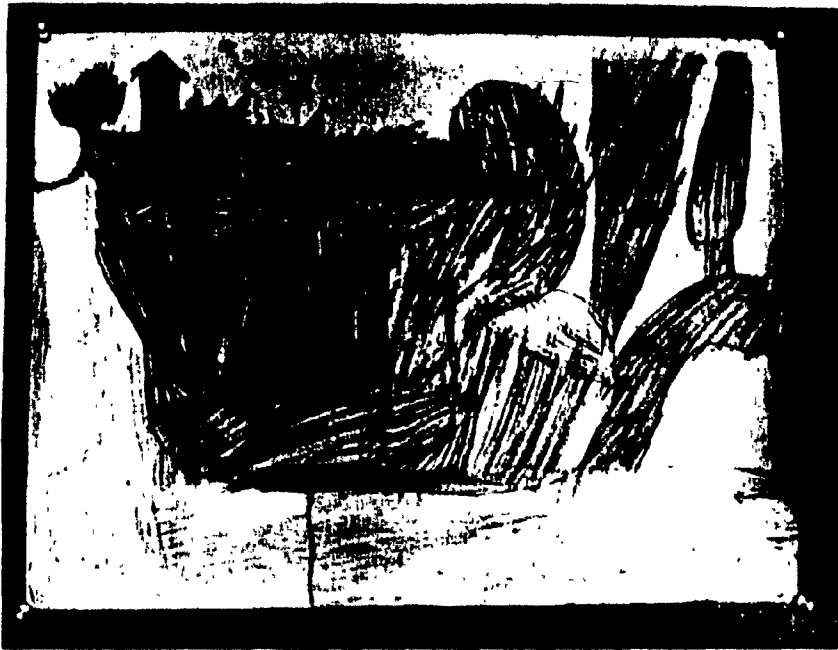


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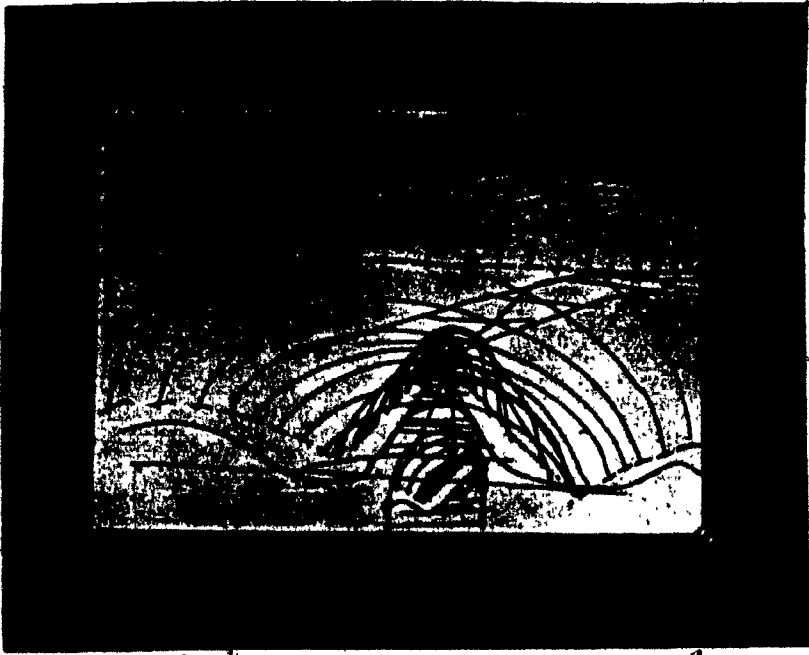


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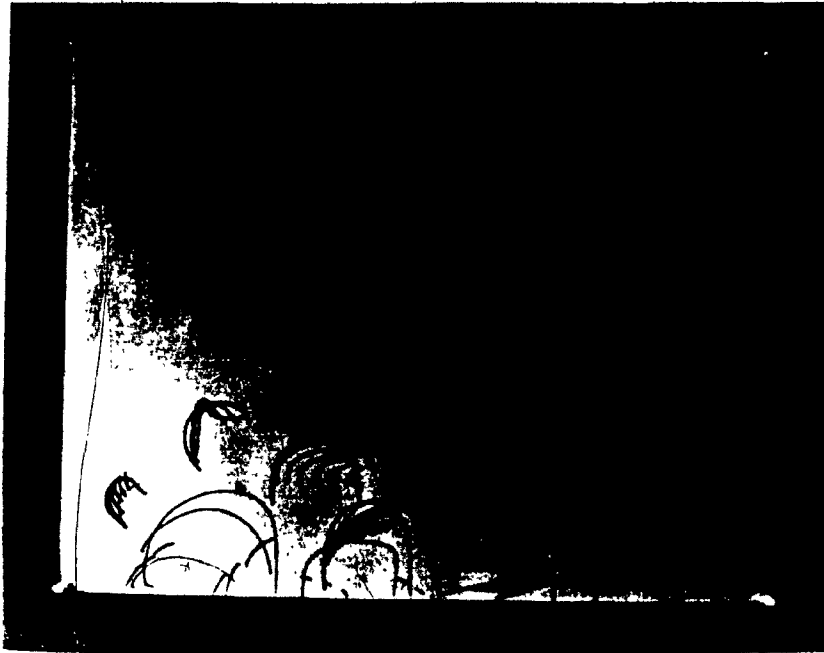


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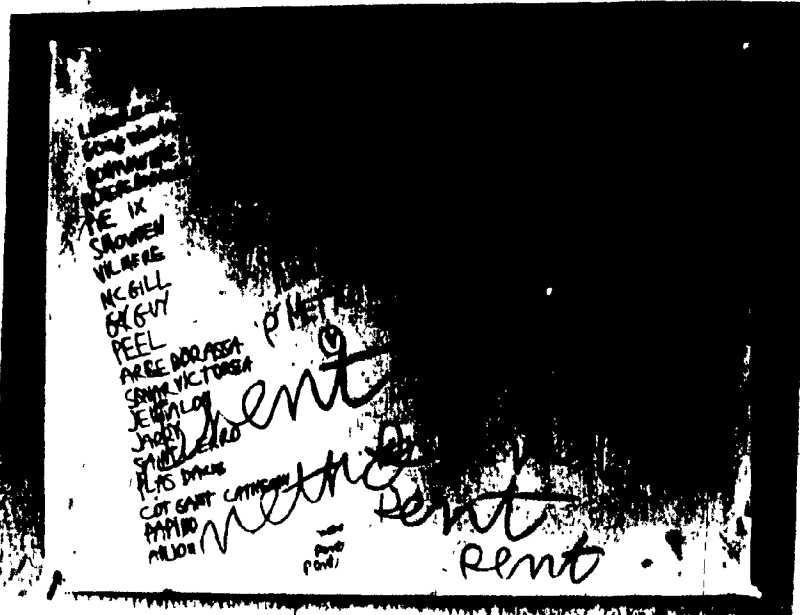


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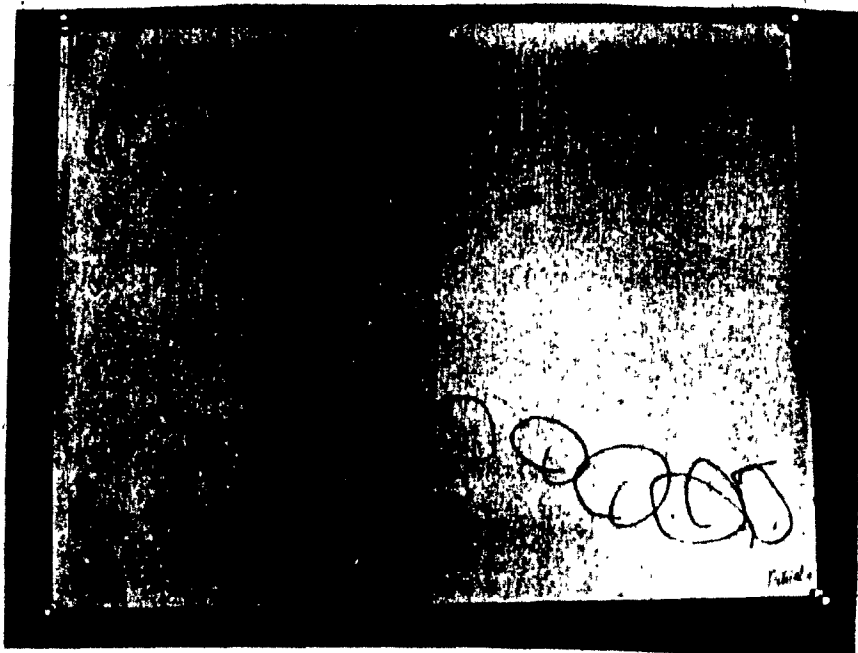
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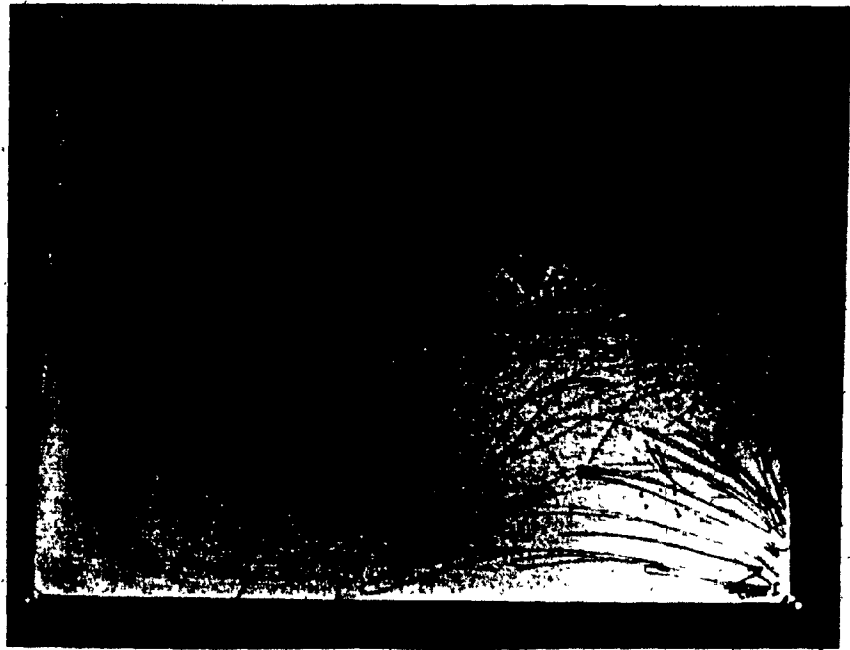
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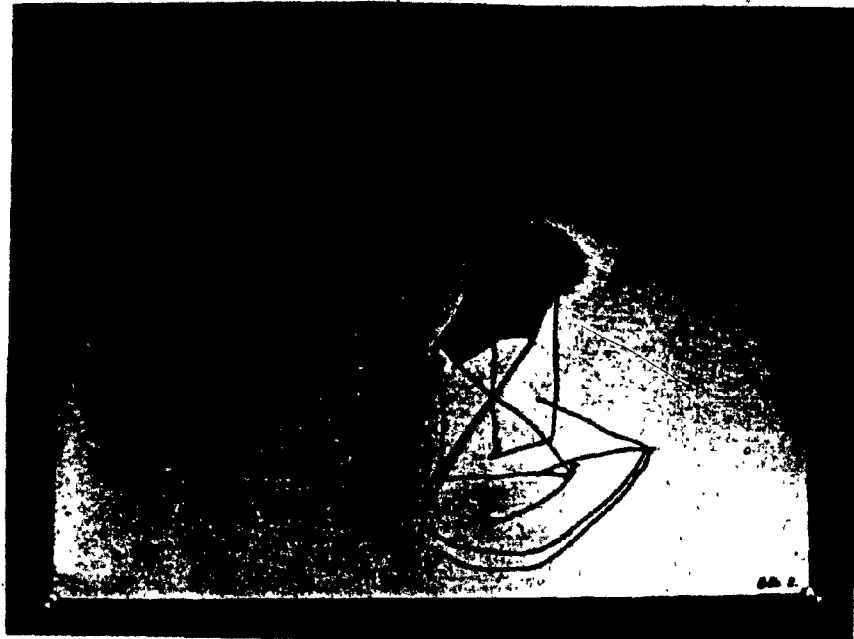
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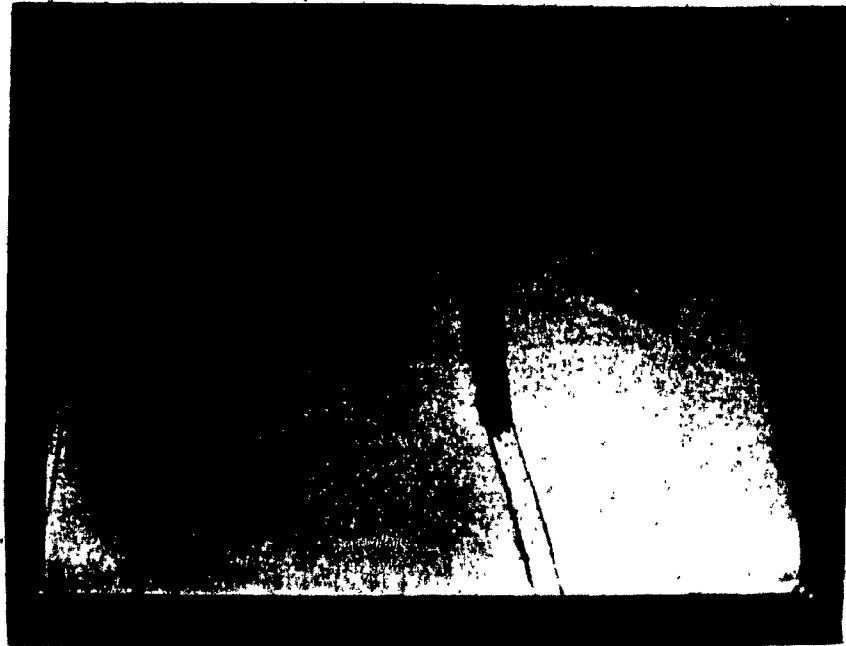
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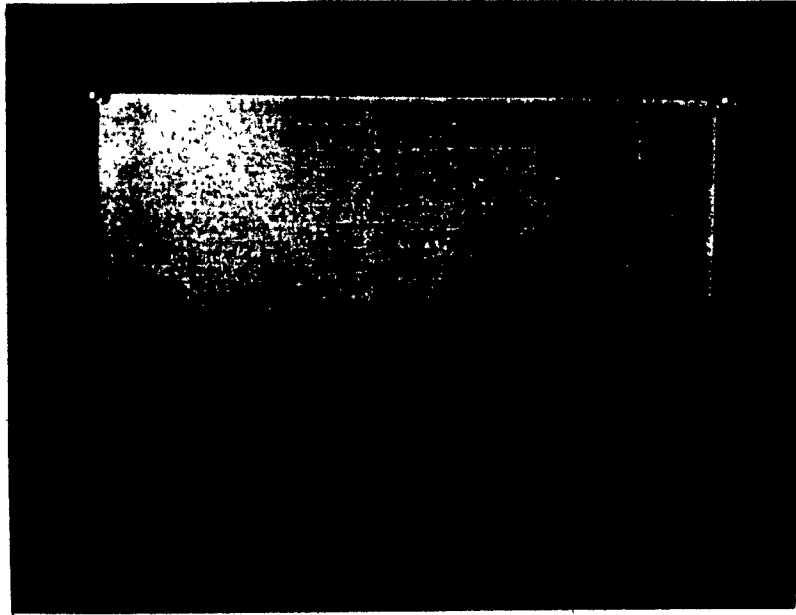


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CHAPTER IV

DISCUSSION OF RESULTS

Before moving on to a discussion of the cognitive and artistic development of the subjects of this study, it is essential that we first consider the nature and possible causes of the perceptual deficiencies characteristic of autistic children, in order to establish a context for that discussion.

4.1. Learning Through the Senses

As noted earlier, autistic children are known to display a deficiency in coding, extracting, or organizing incoming information (Hermélin, 1970). The children see without seeing, hear without hearing. Perceptual inconsistency is considered to be one of the five main criteria employed by the National Society of Autistic Children in defining the syndrome of autism (Schopler, 1978, Webster, 1981).

Piaget and Inhelder (1956), as well as Lowenfeld (1966), emphasize the relationship between tactile and visual perception. The child is said to establish a representative schema which acts as a kind of referent between vision and touch. The ability to hold a visual image involves, primarily, the ability to perceive, encode and reproduce these relationships. Susan

Langer (1953, p. 75), states that the forms of direct perception made by the eye "are our most primitive instruments of intelligence."

The eyes are said to be constantly moving as they scan and inspect the details of the visual world. The movements of the eyes play an important role in visual perception. Eye movements are necessary for a physiological reason: "detailed visual information can be obtained only through the fovea, the small central area of the retina that has the highest concentration of photoreceptors. Therefore the eyes must move in order to provide information about objects. The eye movement muscles under the control of the brain, aim the eyes at points of interest" (Noton, 1971, p. 219). This would explain the inability of autistic children to see; since the eyes are constantly arrested at the level of staring, eye movement is not controlled.

Seeing is much more difficult for autistic children than it is for 'normal' children; self-stimulation activities such as staring, spinning or rocking create a safe fortress into which no one can enter. The eyes are open, but they cannot see.

Perceiving and imagining, like all other activities, involve choice. There is generally more to see than we can look at and more to learn than we can listen to. Perceptual choice has been studied, among others, by Ulric Neisser (1982, p. 45), who calls it "selective attention". While we are looking at

one event, we see very little of others; even if they are equally present to the eye. We are largely responsible for what we come to know.

"What the eyes do is to feed the brain with information coded into neural activity" (Gregory, 1966, p. 7). The brain acts on this incoming neural activity by selecting and organizing it according to the maturity, experience, and expectations of the child. "Perception seems to be a matter of looking up information that has been stored about objects and how they behave in various situation. The retinal image does little more than select the 'relevant stored data'. This selection is rather like looking up entries in an encyclopedia: behavior is determined by the contents of the entry rather than by the stimulus that provoked the search. We can think of perception as being essentially the selection of the most appropriate stored hypothesis" (Gregory, 1966, p.7).

If this general account of perception as essentially a reference system is correct, and if it is also correct that individual perceptual learning is important for the association of non-optical properties of objects (hard, soft, heavy, light, hot, cold,) and images perceived through the eye, it would seem, that, indeed, autistic children's deficiency of perception and coding is due to a lack of "conscious experience" (Neisser, 1968).

Piaget accounts for this 'innate-versus-acquired' problem by distinguishing between perception, which is the quick, imme-

mediate view of the stimulus one gets at first glance, and perceptual activity which involves experience, judgment, and correction of distorted first impressions. Both are involved in the perceptual act, which consists of a series of encounters and this may account for error in perception. 'Perception transmits messages describing the world as it is seen but intelligence decodes them'. (Piaget, 1954).

Autistic children, isolated (by choice) from any external stimulation, scan the environment without 'conscious experience', because 'their vision has been used primarily for survival' (Malone, 1967).

In order to compensate for a deficiency in perception (visual experience), autistic children must draw on the more chemical senses of smell and taste, and the mechanical sense of touch transmitted by the skin. This process was observed in all the children involved in this study. Smell, taste, and skin contact were achieved in multiple ways: all paper, all crayons, pens, and pencils, and often the finished art product, were smelled, and often tasted, with great intensity. It seemed as if fumes from these materials were inhaled to give a certain sensory stimulus to the children.

Since all the children involved in this study were non-verbal to a greater or lesser degree, it is difficult to know what the sensation of smell really meant to them. It is hard to describe an odor except by comparison with a more familiar one. This form of sense perception may be identifiable with that of the animal world, rather than that of man. "For man,

the sense of smell may perhaps have become less essential as a life-and-death organ than it is for lower animals" (Amoore, 1964, p. 74).

The autistic children's experience of pleasure through the sensations of touching, handling, sniffing and biting became visible through the 'smiles' I observed during the first few months. It may have been a kind of "physiological smile" (Piaget and Inhelder, 1969. p. 23) without any external indication. But as time went on, the 'smiles' and the sparkle in the children's eyes became more obvious and clearly seemed to be responses to visual stimulation looking at and touching a toy animal or a doll, or seeing the researcher coming into the room to be with them, elicited this response. These smiles then became 'instruments of satisfaction', as well as the loving touches and face rubbings that we exchanged in later months.

"The surface of the body contains many free nerve endings, which are believed to mediate different types of sensations . . . the 'fiber spectrum', from the largest nerve fibers to the smallest, seems to be correlated with the following spectrum of sensations: kinesthetic, touch, pressure, sting, warmth, cold, and deep pain, . . . other factors, such as the spatial and temporal properties of the neuronal activity, are also recognized as significant. Two findings provide evidence for the existence of dissociable receptor systems . . . , which result in sequential loss of sensation (Held & Richards, 1972, pp. 44-45). This statement would explain 'head-banging', a

behavior that was observed several times in the early weeks of this study. Head-banging has been seen as 'an act of self injury' because the children were excessively upset or enraged' (Webster, 1981, p.6).

A review of sensual perception in autistic children would be incomplete without mentioning their apparent unresponsiveness to auditory stimuli. This perceptual deficiency often encourages a suspicion that the child is deaf or lacking in intelligence. During the six month period of my study I have observed the children's behavior to auditory stimulation and have noticed, at times; no response at all to my verbal request or, at other times, children covering up their ears with their hands, pretending not to hear, but in fact listening to the sounds of their own heart-beat and the contractions of their muscles resulting from body movements. I have also noticed children tapping their fingers on the table in a rhythm to the distant sounds of music (either audible or imagined).

It has been reported by Hermelin and O'Connor (1970) regarding vision and hearing, that though they may both be impaired, auditory discrimination of speech and non-speech sounds seem to be particularly poor.

Perception is regarded as the outcome of the nervous system's processing of the information that comes to it through the senses. Observations made in this study suggest that, in autistic children, the chemical senses of taste and smell, and the mechanical sense of touch are superior to visual and auditory senses.

4.2. Behavior

Behavior is, to a great extent, the result of our perception of the world; therefore, weakness in perception will result in impaired behavior.

The autistic children's unique law of movement reveals self-interest, not social interest, and a desire to attain personal superiority rather than social power. Through a retreat from society, they find the best possible way to avoid failure in socialization. Along with this self-consciousness and lack of social interest, we may say that they lack courage, and self confidence. A threat to a particular child's lifestyle seems a threat to his life itself. In order to survive, they seem to see no other choice than to retain the trained safeguard of retreat (Adlerian approach to the problem of isolation. Dr. Kurt Adler; Conference on Adlerian Psychology, May 1982, Montreal).

4.2.1. Typical Behavior

As the weeks and months passed, and the children's perception increased, and their behavior changed, as negative trends, (rocking, spinning, staring, howling, biting, screaming, sleeping, thumb sucking, toilet routine) diminished in frequency and, finally, almost became extinct, the positive traits (smiling, singing, being happy) blossomed. To evaluate Figure 3 (which was based on the daily records of behavioral patterns), it should be explained that the negative trait curve

(---) is more accurate than the positive trait curve (—), because more samples of behavioral characteristics were used in determining the outcome. The negative curve shows a sharp decrease in the first three months, then increases again, until it finally drops to a minimum. The positive curve shows a slow increase from approximately twenty eight percent to almost fifty percent of the children's behavioral pattern.

According to previous literature on the 'normal' behavior of autistic children, one would have expected a somewhat different outcome than the one presented here.

4.2.2. Atypical Behavior

Atypical positive behavior was observed in the form of (1) children sitting comfortably on the teacher's lap, (2) children playing with the teacher's long hair, (3) children looking into the mirror for an extended period of time, (4) children embracing the teacher, (5) children taking the teacher's hand for guidance, (6) children singing, (7) children caressing the teacher's face, arms and hands, (8) children running and greeting the teacher, (9) two and later three children interacting through eye contact in a non-verbal language during the art process.

As is visible in Figure 4, days two to four witnessed no atypical behavior; on days four to eight one child behaved atypically; on days eight to ten two children, on days ten to twelve only one child, and on day sixteen an increase to five

children. These results lead to the conclusion that the average number of children displaying atypical behavior rests with two-and-a-half out of eight children.

This atypical emotional behavior represents a considerable improvement over the behavior which has become to be expected of them, that is, visual avoidance, unusual staring, poor eye contact, lack of facial expression, and social inaccessibility.

4.3. Eye contact

Through the improvements in the behavior patterns, eye contact increased from twenty percent of the children in the beginning of the test period to one hundred percent at the end of this time (see recorded eye contact in Figure 2).

This outcome came as a great surprise since theories by Rimland (1964) and Kanner (1943, 1944) describe 'autistic aloneness', characterized by staring into space, and a total disinterest in people as major dysfunctions in the behavior of autistic children.

4.4. Attention span

The attention span of the children increased from an average of eleven minutes at the start of the test period to thirty-five minutes at its close (see Figure 1). This amelioration encourages treatment and signals hope for autistic children in their 'autistic aloneness' and weakness in interpersonal skills.

It is of great importance to note here that the majority of the curves show a sharp decline in performance at the midpoint of the test period. This is due to the fact that the children were not involved in any stimulating activity for a period of approximately five to six weeks during Christmas vacation; and after their return had to renew contact with people and art material.

This fact seems to suggest that for the autistic children, learning and change can only take place through intense external stimulation in social interaction between student/teacher and student/student.

It could not reasonably be claimed that the changes observed in the children during a period of six months were due to the art intervention alone; much of the improvement was certainly the result of the efforts of the staff at the 'Giant-Steps-School'. Nevertheless, it is true that the children responded to the art education experience in a way that is uncharacteristic of autistic children, and the evidence suggests that this was of benefit to the children involved in the study.

4.5. Learning Through the Art Process.

According to Piaget and Inhelder (1969 p. 32) perceptual-motor training can compensate, to a certain degree, for any observed deficits in perception. The child must go back and experience consciously the sensory-motor developmental stage in

order to develop necessary perceptual processes. "The sensory-motor development imposes a coordination between the visual and the tactile kinesthetic sensations, which are necessary to build acts of intelligence".

Carl Jung observed that "often the hands know how to solve a riddle with which the intellect has wrestled in vain" (Tuby, 1977). This statement seems an appropriate introduction to the following discussion of the art process in children who are labelled 'autistic' and are stereotyped, fixed, and expected to play a role defined by outsiders. If art is a way of dealing with life (Arnheim, 1966), in what particular fashion does it do so?

The experience of this study suggests that, had individual autistic children been given a chance, at an early age, to experience muscular movements for the production of visual images, their intellectual growth might have been less stifled. Through confrontation with the visual image, these children might have learned more about themselves and their places in the environment.

For a child to survive, sleep is a physiological requirement; for a child to grow mentally, it has to live. Living means experimenting, and experimenting means moving about. Without movement, there is no learning. For autistic children, who have lived in isolation, confined within self-erected boundaries, learning by 'moving about' has been restricted. Lowenfeld (1970, p. 151) argues: "No art expression is possible without self-identification with the experience expressed as

well as with the art material by which it is expressed . . . the art materials are controlled, manipulated, and modified by one individual, and the completed project is his."

In order for the autistic children in this study to move about, it was necessary for someone to wait and watch, and when 'the time was right', to motivate the child to act. They then would take a crayon, and with hard pounding motions bang impulsively onto the paper. In the beginning, this experience was only visual for the observer; it took many weeks before the child looked at the paper and internalized the result of this primary experience with the art material. Through this experience, the art product had become a tool of communication with the self and with the 'other'.

As the weeks passed, dots turned into scribbles executed with determination and concentration. It became evident that even grasping a crayon or pencil for longer periods of time was a great achievement for the autistic children. Hand fluttering was then used to relieve the pain. (drawings 43-45).

According to Lowenfeld (1970, p. 123), scribbling is a natural part of the total development of children, ages 2-4, which reflects physiological and psychological growth and not representational intent. Scribbling falls into three main categories: (a) disordered scribbles, (b) controlled scribbles, and (c) named scribbles.

Each scribble stage lasts for about six months (p. 126). Observations, during the test period, suggest that autistic children between the ages of eight and seventeen pass through these artistic developmental stages in a much shorter period of time.

Given a chance to experience the kinesthetic motions involved in scribbling, the autistic children were very soon able to conquer the space on the sheet of paper, and from this experience, derived a feeling of achievement and worth.

In order for the children to know the environment, they have to distinguish among objects seen, sounds heard, materials felt, and people encountered. All of these elements can be encompassed in the art process. The child sees the crayon, hears the sound they make on the paper, feels the crayon, and appreciates the human contact.

After long periods of making marks and dots with energetic scribbling motions, the children gradually became able to make circular shapes. The circle, or mandala, has been of interest to psychologists for many years. According to Carl Jung, the mandala is unavoidable because it is unequivocally encoded in our nervous system and uniquely suited to resolve our existential dilemmas. Rhoda Kellogg proclaims the circle to be a natural out-growth of a drawing sequence through which all normal, and abnormal, children pass; a sequence marked by a search for order and harmony (Gardner, 1980, p. 43). Uhlin

(1972, p. 26) sees the circle as the simplest 'gestalt' form which suggests egocentricity in autism from a lack of motor reference in time and space.

No matter which interpretation is used to determine the meaning of the circle, the fact remains, that the children in this study repeated this form over and over again, either as a single or a more complex entity, with or without naming it.

This repetition may express a desire to escape into a world in which the children felt more secure, or it may be seen as an attempt to insure mastery over the new form.

4.6. The Circle as Symbol of Communication

The autistic children communicated the desire for food through a symbolic representation of a circle. This circular shape, identified as 'cookie', became a repetitious pattern for many months. (Drawing 47)

Langer (1941, p. 51) states that "a picture is an image, created for the first time out of things that are not imaginal, but quite realistic; . . . that a drawing becomes a symbol for the articulation of feelings; . . . in this sense, the form is immediately given to perception. Like speech, that is physically nothing but little buzzy sounds, it is filled with its meaning, and its meaning is a reality." This reality is only an internal representation before it is made public.

The first act of communication evolved through the drawing of a circle. This sign was then incorporated into hand-eye gestures demonstrating the act of eating; the circle became a

symbol of food. Through verbal interaction (by stuttering the word 'cookie') the symbol was internalized and could be interpreted as communicating several different messages: (a) the child was hungry; (b) the child wanted to eat cookies; (c) the child demonstrated assimilation of circle (round shape) to cookie (round shape), referring to any cookie. Through the perception of these images in their drawings, and subsequent naming of them, the autistic children demonstrated a capacity for imaginative thought. This shift from kinesthetic emphasis to an interest in mental imagery is significant, in that the relationship between drawing and image had been comprehended.

In the same way, the circle had been identified (verbally) with the self, admitting, therefore, the existence of a self. The circle had also been recognized as a representation of someone with whom the children identified (father, mother, friend, teacher, drawing 5).

In Piagetian terms, the development of symbols is dependent upon full completion of all the stages of sensory-motor development; but according to Kugelman (1970) autistic children fail to attain the last stage of sensory-motor development in which a sense of constancy of objects is acquired through conceptual thought.

From the evidence presented, it would seem that autistic children possess a basic requisite of symbolic behavior, in particular, the ability to form internal images, and that through the act of drawing, the internal image is made public and acts as a tool of communication directed to the self and

the other. It is through this interacting process, and through the constant imitation and assimilation of concrete experiences that the autistic children acquire knowledge and adjust their concepts. "Without the constant interaction with the environment, a child loses the stimulation and reference upon which both visual and verbal learning grow" (Brittain, 1979, p. 69).

4.7. Imitating and Copying as an Art Learning Process

The experience with the autistic children confirms the hypothesis that autistic children will benefit from imitative drawings because (a) they are involved in a learning experience which is totally new to them, (b) they are engaged in spontaneous sensory-motor activities in which the eyes, brain, and hands are incorporated, (c) they are producing aesthetically and artistically valuable drawings, (d) and because they are engaged in a human relationship with the teacher.

During the art process with the children, imitation and copying of lines, shapes, and images was introduced as a means to an end, rather than as an end in itself. It was felt, at the beginning of the activities, that some children were not ready (emotionally) to venture into the independent creation of original drawings. They seemed to need the comfort of an interpersonal relationship to feel secure in this new adventure. When working with autistic children, how they actually begin to draw is of little importance; what is important is that they do involve themselves in a drawing process and end up with a product that is pleasing to them.

A. Imitation (Drawings 6, 7, 23, 29, 30, 31, 32)

'Imitation', the copying of the example of another, is related to the word 'mimic', which means to copy closely. It is quite possible that, at the beginning of this experiment, imitation meant nothing but mimicking; the children made the motion of drawing, but without personal interest and without actual internalization of the process. However, as time went on, it became evident that the autistic children who participated in this experiment were able to perceive and, eventually, differentiate between vertical and horizontal strokes. Gesell claims that "indeed the crudest kind of imitation drawing is hardly above the level of mimetic gesture" (1926, p. 24).

Though imitation may not normally be considered a creative act, it might, in autistic children, be a first step in the creative process. Since the autistic children in this study had been labelled as inadequate in imitation, encouraging the process of imitation and copying obviously represented a great challenge.

It can be argued that imitating and copying can, in fact, be detrimental to the normal child's growth and self identification. This has been debated by Lowenfeld (1964) who says that a child should never be encouraged to copy, that copying adult-made images merely frustrates the child's own creative ability, and that the child may become dependent in his thinking and rely upon others for his thoughts and expressions. This view may be, in part, applicable to autistic children, but for the purpose of education through art, the

view of Wilson and Eisner may be valid. Wilson's (1966) view is that 'copying can become an asset rather than a dependency', a view shared by Eisner (1972, p. 161) "imitation can be seen as a positive vehicle for learning, in which technical and artistic problems can be resolved".

Granted, the danger of the autistic children developing dependency definitely existed. But it was worth taking the chance that the child's creative experience would be enriched through making imitation a tool for learning. Piaget sees this process as a play activity, which, in his words, is an "indispensable step in the child's cognitive development. Play is the child's way of assimilating the reality of the world around him, and bridges the gap between sensory-motor experience and the emergence of representative or symbolic thought". (Pulaski, 1971, p. 97).

B. Copying

"It is apparent that imitative drawings represent an earlier and simpler form of psychomotor control than does copying from a model" (Gesell, 1926, p. 24).

Based on the evidence of this study, it seems clear that the majority of the children involved were capable of imitating drawings immediately after confrontation with the model, were not able to reproduce a model after it had been removed, would retreat to their internal image of a human figure, after the model had been removed, (perhaps due to the fact that humans are not drawn from life (Kellogg, 1970), but according to an

internalized image that is repeated whenever the human figure is drawn), and were capable of imitating and copying at a basic level (like echoing words). Therefore, imitation can be considered as a way of learning, one that most autistic children can handle under professional guidance.

Copying from a model took place after many months, when the autistic children, after discovering the paintings on the wall of our 'art room', engaged in line drawings that were, at times, coloured afterwards (Drawings 25, 36, 37, 38). 'Models can be viewed as helpful guides rather than dictatorial masters, for solving problems and overcoming obstacles' (Arnheim, 1979). Models then, serve as a stimulus, helping the child, who lacks either imagination or skill, to express what he wants to express. The model is used as a point of departure and point of reference only.

Besides copying animals and dolls (Drawings 34, 36-38), the autistic children were also involved in drawing the human figure, and called it Mama, Daddy, the name of a friend, or their own name. Even though people have been a favored subject matter of the autistic children, their drawings show a lack of detail and unrealistic body proportions. (Drawings 11-21). This may be explained by the autistic children's deficiency in 'conceptual maturity' (Goodenough, 1926, Harris, 1963).

Moving the eyes back and forth, from model to paper, using the hands (often both, or switching from right hand to left hand) to make visual the whole perceived gestalt or the part

that is of relevance to the child, teaches the child perceptual and motor skills, and encourages thought and organizational skills as well.

4.8. The Meaning of Colour

The chart of colours, Figure 5, (the colours were freely chosen by the children at all times), clearly shows a decline in the use of black, from one hundred percent to ten percent of the children using it; but shows an incline again (after Christmas vacation) to sixty eight percent, followed by a drop to twenty percent at the end of the six month period.

Red was a favorite colour, used by eighty percent of the children during its peak period, but then declined to thirty-five percent during the period that the use of black increased again (Christmas time). However, it rose to be a favorite again towards the end of the six months.

Whereas other colours (orange, brown, yellow, green, and purple), were never used at the beginning, their use increased until almost parallel with the red curve, it decreased after Christmas. The use of these colours inclined again to seventy percent at the end of six months.

These results would seem to indicate that the choice of colours used by these autistic children was determined partly by their personal needs and moods, but primarily by their social interrelationships.

It became evident that about fifty percent of the children employed the crayon (or pen) in a motoric fashion as a stick or tool, rather than as an expression of feeling. "Colour plays a decidedly subordinate role in the scribbling stage, and may even lead to the activity of playing with crayons, rather than using them as a drawing tool" (Kisner, 1972, p. 32). This view can be confirmed by the children's activity of lining up the crayons and then removing the paper, one by one, without really using them for drawing.

Arnheim (1965, p. 272) writes that "all visual appearance is produced by colour and brightness", which suggests that the autistic children used colour only to make visual what was invisible before; to create lines or boundaries with a crayon where blank space was before.

The colour most preferred was black. The explanation for this seems to rest on the fact that black creates the sharpest contrast against the white paper.

According to Alschuler and Hattwick (1966) black has been found to be a favorite colour to be used as overlay, and it also has been most persistently sought and used by children with intense anxieties and fears. As far as autistic children are concerned, Alschuler and Hattwick may be correct in making this statement; but I would not accept this point of view in regard to non-autistic children. Black was also used by the more artistically advanced children, who demonstrated more awareness of colour, form and line than the others, and used the black crayon for boundaries, contours, and single line

drawings. "Boundaries that determine shape derive from the capacity of the eye to distinguish between areas of different brightness and colour" (Arnheim, 1965, p. 272). (Drawings 10, 12, 21, 22, 23, 36, 41, 43).

As we have observed, red was another favorite colour chosen by the autistic children. Red is described by Arnheim as passionate, stimulating and exciting. This is confirmed by Alschuler and Hattwick, who hold that red is the most emotionally toned of all the colours: It is a preferred colour during the early preschool years when children are naturally functioning on an impulsive level. Interest in red decreases and interest in the cooler colours (green - blue - purple) increases as children outgrow the impulsive stage (1966, p. 123).

This theory does not quite hold for this particular group of autistic children. Black remained a favorite, even though its use decreased, and red was used according to the moods of the children. As the weeks passed, a variety of warm and cool colours was used; orange became another favorite. These colours were mostly used to concentrically fill in separate geometrical shapes.

Some children found similarities between a crayon and the colour of a piece of clothing that they, or the researcher, were wearing, and pointed towards the object, thereby showing a desire to communicate. To be able to correlate colours in the drawing with those of a model seemed an important accomplish-

ment, for this signified that the children were learning to find some logical order in their environment and were establishing concrete relationships with things around them.

4.9. Art as Experience

In the beginning there is no image. Face to face with a blank piece of paper, every child is equal. Marks and lines are made, which at first may seem chaotic, but as they become more fluent and are rendered with greater ease, an order becomes apparent. Through the retention of some features, absence of others, and addition of new ones a desired change has come about in the visual product of the autistic children. If creativity is defined as 'the ability to make many unique associations in a playful, open way' (Wallach and Kagan, 1965), then, indeed, the autistic children proved to be creative. The result of this creativity challenges the hypotheses that "the autistic children find no profit in any new experience, because the affective quality of this experience remains beyond their awareness" (Deslaurier and Carlson, 1969, p. 81).

The six month period with the group of eight autistic children witnessed a movement from passivity to expressive activity, and the development of competence in imagination, (compare drawings 1 with 15, and 7 with 26-29) aesthetic and expressive quality; in general, a good indication of the children's artistic growth was observed. Technical skills have

rated only good to fair, which leads one to believe that only through increased drawing experience and constant confrontation with the art product will the autistic's drawing skill improve.

The art products that appear to be but random scribbles suggest that the mind of the autistic children had not, at the time of the study developed beyond elementary experiences and thoughts. Lowenfeld argues that "if we find a child of seven who has never done anything but scribble, we must assume that this child is not functioning at the level normal for children of his age" (1970, p. 139).

Indeed, this study involved children of seven, nine, and even fifteen or sixteen years of age, whose only means of expression was through the scribbling process. However, changes did occur; haphazard scribbling (Drawings 1, 4) was transformed into the creation of recognizable objects (Drawings 15, 37); and from total passivity into forcefully controlled scribbles (Drawing 2). In the hands and the eyes of these special children who tried so hard to express themselves was reflected the joy of creative achievement.

"It is not the content that becomes the important consideration in children's drawings, but the way in which children portray this content. A child will draw and paint from what he is. His feelings, desires, thoughts and his explorations" (Lowenfeld, 1970, p. 97).

One child, who involved himself in constant explorations, was only twelve years old. Aside from being autistic, he is also deaf. It seemed that all his energy, all his sensitivity

had been focused on the visual world. Through transformation and amplification in his use of schematic patterns, he has communicated an expansion of the self and a need to find a logical order in his environment (Drawings 24, 41, 48-52).

'The ability to recognize and re-create certain regular patterns has been found in children who are otherwise isolated'. (Gardner, 1980), is referring to Nadia an autistic child, who at the age of three, suddenly displayed an extraordinary capacity for drawing. (See Selfe, 1977, for further information on Nadia).

This exceptionally gifted child showed fluency in representation, created a great many varieties of sizes and shapes, and always stopped to observe his own progress; he was always self-analytical.

Other startling results came from a sixteen year old boy, who proved that he could see and think in detail and in three-dimensional space by creating his 'metro-stations' (Drawings 43-46). Through this cognitive process, in which he used mental images and perception, as well as words, he recorded his experience on paper. "Representation of perspective implies operational, or, at least, conscious coordination between object and subject; or in other words, a recognition of the fact that they both occupy the same projective space extending beyond the object and including the observer himself" (Piaget, in Lansing, 1966, p. 37). Though he was the only child capable of drawing in perspective, he also remained the only one, whose repetitious drawings of the human figure did

not improve with age, nor with experience; he did not appear to reveal any percept nor concept of a living person (Drawings 16-18, 43).

One child expressed his creativity in a most remarkable fashion: through the tearing of paper. Out of a regular twelve by twenty four inch sheet of paper he would create a single long strip by tearing concentrically from the outer edge until he reached the center, and he accomplished this without looking as he tore. In this way he managed to transform the paper into one continuous strip, one hundred and eighty inches long.

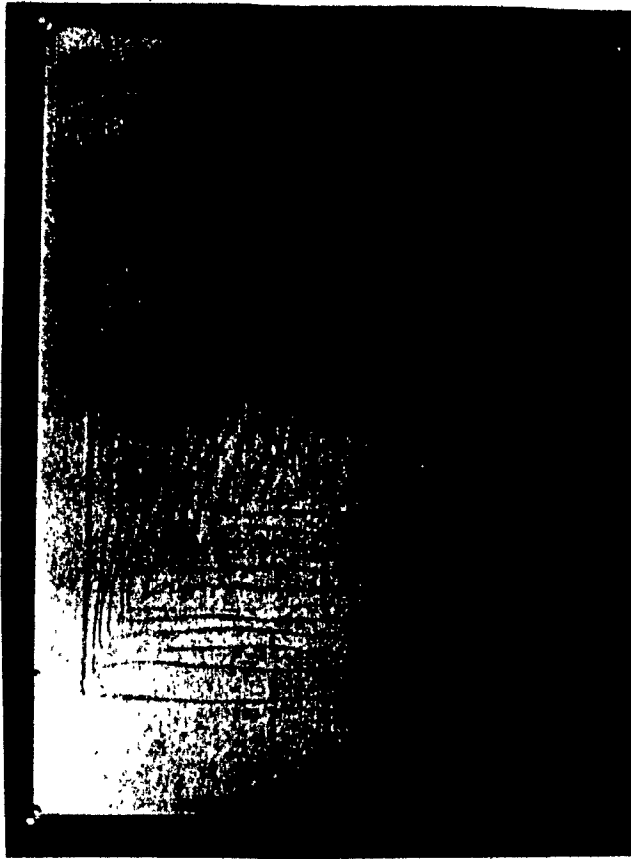
(Picture 56). This activity has also been described by Bettelheim (1971), who reports that an autistic child in his care used the paper strips to connect a buggy to a bedpost for the purpose of creating a boundary that separated the world of the child from the rest of the environment. But this interpretation was not reinforced during the art process at 'Giant Steps'. The child tore the paper and then placed it underneath the table.

The question remains: is artistic learning an automatic consequence of age and maturation or is it an acquired ability?

With reference to the handicaps of the autistic children it seems that only through intense involvement with the art material, and constant learning experience, could the autistic children become artistically creative. This acquired ability, therefore, cannot be related to the chronological age of the child.

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CHAPTER V

CONCLUSION

At the outset of this study, it was hypothesized that when autistic children engaged in the art education experience, a) their tolerance for perceptual stimuli would increase, b) they would, through direct confrontation with the art product, overcome negative behavior traits, c) they would, through a close relationship with the teacher, develop the ability to imitate and copy other drawings and designs, and d) their lack of communicative skills would be less inhibiting in the art education experience than in learning environments requiring verbal communication. After reviewing the results of this study in the light of the previous literature on the subject, it is now possible to conclude that, indeed, art can become another language for learning in the life of autistic children.

This hypotheses was verified through the following observations recorded during the art education process: (a) eye contact improved from twenty eight percent to one hundred percent; (b) attention span advanced from an average of eleven minutes to thirty-five minutes; (c) atypical positive behavior blossomed as destructive negative behavior became almost extinct and; (d) changes in drawing patterns (from sign to symbol) demonstrated a shift from kinesthetic emphasis to an interest in mental imagery.

In addition to the observed changes in behavior and art work, imitation and copying from a model were identified as educational tools that foster sensitivity and perception, and encourage eye-hand coordination.

This study also revealed that without intensive, consistent, and predictable social interaction between teacher and student, together with a narrowing of stimuli, there can be no stimulation nor motivation for the children to engage in any art activity. Evidence for this statement lies in the fact that during the Christmas vacation all progress was interrupted and all former ameliorations in behavior and creativity suffered greatly: negative traits became apparent again; children lacked motivation; eye contact had to be reestablished; the art product changed in colour and form, and scribbles reappeared, along with the use of the colour black. Only after the relationship between the children and the researcher had been restored, did the children again show signs of progress in behavior and creativity.

The remarkable transformation in the autistic children occurred within a timespan of only six months, suggesting, very strongly, that art education has, indeed, an important place in the life of autistic children, as long as the educational experiences are kept in equilibrium with the child's level of development.

"Your children are not your children.
They are the sons and daughters
of life's longing for itself,
they come through you
but not from you.

And though they are with you
yet they belong not to you.
You may give them your love
but not your thoughts.

You may home their bodies
but not their souls,
for their souls dwell in the house of
tomorrow,
which you cannot visit,
not even in your dreams.

You may strive to be like them,
but seek not to make them like you.
For life goes not backward
nor carries with yesterday."

Kahlil Gibran.

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