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A STRUCTURAL ANALYSIS OF AFFECT AND COGNITION IN A PSYCHOTIC CHILD

by

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Abstract

A Structural Analysis of Affect and Cognition
in a Psychotic Child

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Eight psychotherapy sessions spaced over an eighteen month period in the treatment of a six year old psychotic boy were subjected to intensive scrutiny in an effort to validate three hypotheses:

1. The structure of cognition in childhood psychosis differs significantly from that found in normal development.
2. During the process of psychotherapy over time there will be significant changes in the interplay of cognition and affect.
3. These changes are specifiable as hierarchical stage-specific progressions which increasingly approach normative structures.

The data base consisted of reconstructed verbal transcripts produced immediately following every ninety minute psychotherapy session over eighteen months. The eight particular sessions selected for analysis from the more than two hundred available sessions were approximately equally spaced through the interval but were each chosen to fulfill the joint criteria of concurrence with significant events in the life of the child, and concurrence with significant affective changes.

Every reconstructed behavioral observation in each session was assessed for any affective or cognitive feature, both logical and infralogical, according to a three dimensional notational system. Affect was categorized as positive, sadness, anger or withdrawal. The logical component of cognition was categorized as sensory-motor, primary process, fantasy language, normal speech, each of which could be accompanied or not by animism. The infralogical component was named contact, and included the categories of confused, fantasy play, silent fantasy play, stereotyped play, body contact, reality contact, joint reality/fantasy contact and transient behavior. Interpretations and dissociative shifts were also noted.

To assess the reliability of the notational system, three judges were trained in its use, and independently coded three representative sessions (1, 4 and 7). Using the author's coding as a standard, the overall reliability was 95% and ranged from 94% to 97% over raters and sessions.

When the codings for the eight sessions were completed and intercompared, it was found that some categories were rarely utilized while others were nonsignificant variations of primary ones. Additionally, some categories such as animism, transient behaviors and silent fantasy play unaccompanied by cognition were invariant over the sessions. Accordingly, condensations were made in order to achieve a final set of categories which were then found to be related in natural developmental hierarchies. The final

categories for affect were binary (merging positive with sadness and anger with withdrawal), while those for cognition and contact were four fold: sensory-motor, primary process, fantasy language, and normal speech for the former; confused, fantasy play, reality and reality/ fantasy for the latter.

In session by session comparisons it was found that all steps of the hierarchy were present at the beginning of the eighteen months while by the end of the interval only the more developmentally mature categories remained. Orderly stages were discerned, as less mature categories disappeared in strict developmental order. The initial hypotheses were thus confirmed and support the applicability of stage-sequential models to childhood psychosis.

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"Grau, teurer Freund ist alle theorie
Und grim des Lebens goldner Baum."

"My worthy friend, grey are all theories
And green alone Life's golden tree."

Goethe
(Faust)

Theoretical issues constitute the conceptual soil in which the seeds of a thesis may germinate. Their growth and fruition, however, is in large measure contingent upon the quantity and quality of intellectual nurturance they receive. It has been my very good fortune that Dr. Gilbert Voyat has consistently provided that fertile ambience - in classes, conferences, supervisions, and conversations. To each of these contexts, he has brought a formidable combination of strengths - a capacity for persistent questioning, an insistence on conceptual clarity, a wealth of innovative and creative hypotheses, and an uncompromising scholarly dedication to excellence. No less has been his commitment to the intellectual confusion that generates curiosity and the disciplined freedom that underlies creativity. In the endless hours involved in the direct preparation of this work, he has given of himself gladly, unstintingly, and - I would insist - ever playfully. Indeed, it is his singular capacity to be engaged in a truly playful intellectual dialogue that has immeasurably sharpened

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"What we call the beginning is often the end
And to make an end is to make a beginning.
The end is where we start from...
We shall not cease from exploration
And the end of all our exploring
Will be to arrive where we started
And know the place for the first time."

T.S. Eliott
(The Four Quartets)

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CHAPTER I

INTRODUCTION:

Psychoanalytic formulations regarding psychotic states in childhood have frequently been conceptualized as a massive failure of the synthesizing, organizing function of the ego. Behaviorally, these children manifest insufficient distinctions of self from non-self, inner from outer reality, are frequently hyperaggressive, use language associatively, engage in stereotypic, compulsive behaviors, have little tolerance for frustration, and perceive the world as filled with persecutory objects. When they do turn to others, it tends to be for the satisfaction of immediate wants, rather than to establish social communication or an interpersonal relationship. Structural inferences drawn from these behaviors have stressed the fragmentation of intrapsychic self and object images and their related affect states, the general lack of differentiation and failures in reality testing, a disordered drive development in which aggressive features predominate, negative object relations and a failure to achieve libidinal object constancy, amidst the presence of overwhelming anxiety related to fears of annihilation.

Amongst psychoanalytic investigators of childhood psychosis, the work of Mahler and her colleagues has been exceedingly useful in providing a theoretical model by which this disorderly development may be studied; namely

the notion of the separation-individuation phase as an organizer of ego development, encompassing intrapsychic factors of ego integration, object relation, and drive development. As in many other psychodynamic formulations, the relationship with the mothering person is seen as primary. Emerging psychological structures develop out of an interactional matrix in which, normally, libidinal factors prevail over aggressive ones. While not discounting constitutional factors, Mahler views the psychotic child's inability to use the mother as a "beacon of orientation" around which his emerging sense of separate self is organized and defined as pathognomonic for the psychoses of childhood. The resulting cognitive distortions are seen to be secondary to the affective failures, and in the main dynamically based.

The normative cognitive viewpoint has been explicitly delineated in the body of Piaget's writings, and his views on the relationship between affect and cognition are also well known. While affect provides a motivational factor, and is a component of every cognitive act, its relationship to cognition is a functional one. It cannot alter the fundamental structure of cognition, although it may modify its expression. For Piaget, the primary aspect of psychic structure formation resides in the dual complementary processes of assimilation and accommodation, and the interaction of the subject on the objects in its environment. The interaction between "I-It", rather than the relationship of "I-Thou" is central to his theoretical exposition and

fundamental to his particular view of the means by which we come to both construct and apprehend the real. The reason for Piaget's neglect of the major role played by the mothering figure in the child's earliest development is a topic for speculation (Voyat, 1978). His theory is conflict free, except for those cognitive contradictions which evolve from the current level of structuration within the child.

The preceeding points constitute true areas of difference between theories. Both Anthony (1957) and Wolff (1976) have criticized Piaget's subsuming primary motivational factors under the "need to function," as, according to them, it neither accounts for the realm of individual differences, nor considers affects as structure building forces in the psychic economy. Wolff's query as to whether affective factors might modify the nature and content of cognitive structures (1976, p. 242) and thus alter the eventual course of the need to function is certainly an interesting one. Anthony (1957) seriously questioned Piaget's notion of affective schemas without conflict, and his notion that the stability of affects depended on the construction of reactive affective schemas, rather than the generalization of identifications. In his view, Piaget's analogous transfer theory was too simplistic to fully account for the development and vicissitudes of affect.

Further major theoretical differences emerge out of Piaget's inability to accept the notions of drive-related, dynamically unconscious forces which influence behavior,

repression, and affects or memories tied to unconscious representations. Greenspan (1978) has also criticized Piaget's unsatisfactory treatment of the issue of anxiety and the mechanism by which exclusion of specific content from consciousness occurs. According to Piaget, the unfolding of the stages follows an invariant sequence, while the completion of each stage and entry into the succeeding one entails a reorganization of the totality of thought. Thus while functional continuities obtain between stages, the stages themselves are structurally discontinuous with the preceeding ones. This notion is in direct contrast with fundamental psychoanalytic propositions, which stress the relative autonomy of both ego and superego functions, and the potential for structural regression under the impact of the drives.

While there are major differences between these two theories, there are also marked similarities, particularly in their general approach to understanding development. Both are biologically based, and accept the notion that some structures are present at birth in their nascent form which later acquire psychological meaning through an interaction with the environment. They both stress the formative nature of early development, and view later structures as emerging in an epigenetic unfolding that is determined by earlier ones. Development is traced through a variety of stages, and attempts are made to explain the nature of progressive differentiations and integrations. As Voyat (1978) has pointed

out, their approach to the study of development and their philosophical raison d'etre are not all that different.

Although Piaget did not study the cognitive features of psychotic thought in childhood, recent investigations have led to a consideration of qualitatively different structural hierarchies in psychotic children. In contradistinction to the usual cognitive progression, wherein functional continuities obtain within the context of a reorganized structure of totality, these children display a cognitive heterogeneity distinguished by discrepant modes of operating on reality. In particular, they appear to be unable to coordinate and compare two points of view, a primary accomplishment of the concrete operational period of thought. Experimental tasks which entailed the use of concepts of permanence and reversibility elicited major performance difficulties. At times, although the empirical requirements of a task were successfully completed, the child's accompanying verbalizations were totally asynchronous, and reminiscent of prelogical modes of thinking. Egocentric features of thought are present, particularly in the form of concretization, magical participation and nominal realism. These tendencies seemed to predispose these children towards identifying objects through their signifiers (personalized meanings), while they simultaneously failed to distinguish aspects of the real from the real. The quality of their responses indicates an inability to comprehend the obligatory strictures imposed by the normative understanding of laws of

logical necessity. They are seemingly unable to appreciate the implications of an objectified time, space, and causality and cannot apply these categories of the real in their execution of the experimenter's tasks. As Piaget has stated, rational thinking requires the internal stabilization of the principles of identity and causality. Identity, from a cognitive perspective, is contingent upon notions of reversibility and invariance despite apparent perceptual transformations. This capacity implies both an ability to exclude the irrelevant stimuli of a given situation and focus on the essentials, and an understanding of the laws of logical necessity. Rational causality, on the other hand, requires the acknowledgement of autonomous determinism in both the objective and interpersonal realms that lies beyond the highly distorting influences of the immediate needs of the self. Significantly, these children's inability to recognize and stabilize identities, both subjective and objective, appear to have precluded the attainment of notions of permanence and conservation appropriate to their chronological ages. Their frequently bizarre responses reveal the intrusion of affect laden symbolic associations, whose content is often related to primitive fantasies of self and mother, implying a structural interaction between affect and cognition whose substructure cannot be accounted for by cognitive factors alone.

Evidence from these recent inquiries tends to substantiate the hypothesis of a structure of thought in

childhood psychosis whose qualitatively different form and functioning may be determined by affective paradigms. The manifest dynamic features, particularly the absence of a cohesive self structure, suggest a point of origination during the formative years, wherein the foundation for all future development is constituted. I will now, therefore, present an overview of some basic psychoanalytic and Piagetian constructs. Although necessarily oversimplified and selective, this section of the discussion will highlight theoretical postulates that are relevant to this inquiry, and focus on specific hypotheses pertaining to the development of rational, or secondary process thought and the construction of a unified, socialized self.

Early Psychoanalytic Concepts:

A basic assumption of this clinical theory rests on the notion that all mental life is powered by the drives, motivational energic forces which are at the core of subsequent individual conflicts. Freud's initial statements regarding a possible structural model of the mind appear in Ch. VII of the Interpretation of Dreams (1900), with the division of the mind into Ucs., Pcs., and Cs. areas. These regions were characterized by their mode of functioning, designated as the primary and secondary processes. The primary process was characterized by its tendency to immediate energic discharge and the mobility of this energy, or cathexes (degree of energy attached to a mental representation or

process). It follows the dictates of the pleasure principle in its press for immediate gratification without regard for the demands of external reality, and its modes are through displacement and condensation. Primary process ideation, via its tendency to visual imagery and lack of distinction between internal and external perception of wished for objects was conceptualized as the locus of primitive ideation, i.e., the hallucinatory wishfulfillment that according to Freud was the origin of thought. Secondary process thinking in his formulation arose from the ineffectual aspects of primary process ideation: "The bitter experience of life must have changed this primitive thought-activity into a more expedient secondary one" (1900, p. 566), which comes to "inhibit and overlay" the primary process (1900, p. 603). Secondary process thought is characterized by bound energies, and regulated by the reality principle, wherein tension reduction through immediate discharge is replaced by the capacity to delay gratification in accord with the demands of external reality.

Freud's division of the drives into libidinal and aggressive ones (1920) presaged his major shift in 1923 to a structural theory of intrapsychic process, a notion further elaborated in great detail by the ego psychologists (Hartmann, Kris, and Loewenstein, 1946). The mind was divided into three component structures: id, ego, and superego, which were defined by their functioning. The id was considered to be the repository for instinctual energies, was characterized

by primary process functioning, and governed by the pleasure principle. The ego, conceptualized as differentiating out of the id under press of reality, functions in accord with the secondary process, and has the capacity to oppose the discharge of instinctual wishes through the mechanisms of defense. The superego, a later formation, functioned as the regulator of morality, and through the formation of the ego ideal governed self-esteem as well.

Freud's interest in the drives influenced his developmental model of infancy and childhood. Maturation determined the shifts in energies from one erogenous zone to another as the child passed through the various psychosexual stages (oral, anal, phallic-oedipal, genital), determining the locus of potential phase specific conflict.

Hartmann and Ego Psychology:

During the 1940's and 50's, the focus of psychoanalytic investigators turned increasingly towards an exploration of the origins of mental structures in childhood, the processes by which they were constituted, and the role of object relations in this construction. In part, this trend reflected Hartmann's hypotheses regarding "structures in the ego" (1964, p. xii), and Rapaport's attempts to develop a psychoanalytic theory of thinking. Increasingly, internalization with its component processes of incorporation, introjection, imitation and identification was viewed as the source of internal regulatory structuration, while the drives were

considered within the context of an evolving self and object world.

Hartmann's View:

Hartmann's theoretical expansion evolved out of Freud's consideration of the ego in his later writings, and the inherent explanatory limitations imposed by adhering solely to a drive theory of development. In his outstanding monograph (1939) Hartmann proposes the concept of adaptation, which is defined as "primarily a reciprocal relationship between the organism and the environment" (p. 29). This interactionalist perspective includes innate endowment, environmental factors, and the biologically determined ontogenetic unfolding of development. In a later work (1946) he distinguished maturation from development, reserving the former term for biological processes, and the latter for those processes which encompass both the biological and psychological realms. For Hartmann, there is no inherent conflict between nature and nurture, the biological and the psychological as "the psychological is not an 'antithesis' to the biological, but rather an essential part of it" (1946, p. 34). Development, according to Hartmann, proceeds along the lines of differentiation and integration, leading to progressive internalizations and increased intrapsychic structuralization. The ego, as a structure, is defined by its function: "it balances the psychic systems" (1948, p. 86). In his formulation, the ego and id were thought to develop from a common undifferentiated matrix, a marked departure

from Freud's conceptualization of the ego as developing out of the id due to the impact of external reality on the drives. The ego, as a structure, possesses its own inborn potentials, the apparatus of primary autonomy, i.e., perception, thought, language, motility, etc. These, Hartmann suggests, are the nuclei of the conflict-free sphere; that is, these functions may remain potentially free of conflict from id and later superego demands. In addition to accepting the notion of the fusion of drives, Hartmann suggested that the ego acquired additional energy for its functioning through the process of neutralization, "the change of both libidinal and aggressive energy away from the instinctual and towards a noninstinctual mode" (1939, p. 227). The energies acquired by the ego were thought to enable this structure to energize its primary aims of self preservation and adaptation.

In his developmental view, there was an interplay between object relations, neutralization of aggressive energy (Hartmann, Kris, and Loewenstein, 1949) and the development of psychic structure. Neutralized aggressive energy insured the development of libidinal object constancy, was the major source of countercathexis (repression), and was a necessary condition for the emergence of secondary process functioning. Most importantly, it enhanced and enlarged the sphere of autonomous functioning, hence was in itself structure building.

Hartmann clarified the distinction between the ego as a psychic system characterized by its functions from the self

and object representation, which are defined as intrasystemic units (Essays, p. 127). He also postulated the construction of an "inner world" (1939, p. 57), a concept later clarified and elaborated upon by Rapaport (1959), and more recently, Sandler and Rosenblatt (1962). In this formulation, he distinguished internalization as the basic process by which the ego builds this "inner world", a process which enhances its capacities for synthesis and adaptation. Internalization was later defined as that state which exists "when regulations that have taken place in interaction with the outside world are replaced by inner regulations" (Hartmann and Loewenstein, 1962).

The early development of object relations proceeds by way of projective and introjective mechanisms which foster self-object differentiations (1946) and initially establish the "bad" as external to the self. Prior to the formation of libidinal object constancy, affectively colored partial organizations exist in a state of "oscillation" (1939, p. 32). According to Hartmann, a successful resolution of the early developmental tasks is grounded in the notion of neutralization and the attainment of constancy, but still contingent upon the fate of the object relationship. The mothering figure, and the manner in which she enters into a relationship with the child, along with the quality of their mutual "fitting together" determines and constitutes the "average expectable environment" (1939, p. 29). This intimate interaction is further influenced by the family as a whole,

and the larger social context in which man exists, including "the influence of tradition and the survival of the works of man" (p. 30). In this manner, there "arises a network of identification and ideal formations which is of great significance for the forms and ways of adaptation" (p. 30).

Hartmann's conceptualizations of the stages of libidinal object constancy are scattered throughout many of his writings (1949, 1946, 1952) and is defined as a constant cathexis of a mental representation of the mother, regardless of need state. His argument proceeds from the premise that ego development and object relations unfold in an interactive, mutually reinforcing manner. Positively toned object relations will enhance the emerging ego's capacity for neutralization, and thus facilitate both internalization, through the process of identification, and structure formation. Development proceeds within the "average expectable environment" by way of the "fitting together" of mother and baby, which ensures the infant of an appropriate balance of gratification and "optimal frustration".

The initial phase of development was designated by Hartmann as the undifferentiated, or pre-objectal phase, during which the ego and id slowly differentiate from their common matrix. Differentiation proceeds via introjective and projective mechanisms, through which pleasure is relegated to the nascent self, and unpleasure to the other-than-self. This process marks the inception of the transition from the state of primary narcissism (all libido and

aggression concentrated on the self) to that of secondary narcissism. An additional force impelling differentiation at this time is the unpleasure that results from the original concentration of libido and aggression within the self; via mechanisms of projection, this energy is vested in external objects. Concurrently, the infant constructs a bodily self out of the myriad physical sensations that are experienced, which contribute to the formation of the body ego.

Intrapsychic developments during the first half of the first year of life, then, include the notion of merged "good" and "bad" self and object representations. The libidinal tie to the mother occupies a particularly important place in this conceptualization. Hartmann proposes that it is the gratifying nature of this relationship, in which libidinal factors outweigh aggressive ones, that permits the infant to identify with mother, thus ensuring neutralization and promoting further ego development.

A shift occurs during the second half of the first year of life, which is codetermined by physical, maturational, and cognitive changes occuring within the child. These advances allow postponement of immediate pleasure in favor of an anticipation of gratifying future events, and include the capacity for intentional, goal-directed behaviors which Hartmann regards as a "true ego function" (1952, p. 173). The child increasingly recognizes that the "good" and "bad" mother are the same person, and begins to display considerable

ambivalence in his behavior towards her. If the mother is capable of tolerating her toddler's hostility, this will facilitate further neutralization of aggression, and enable the child to transform action cathexes into internally represented object cathexes. With a continuing neutralization of both libido and aggression, but most importantly aggression, the child will develop constant self and object representations. Optimally, consolidation of libidinal constancy is paralleled by a similar cognitive process, in which the world of non-human objects is also endowed with permanence. During the third year of life, repression is instituted as the primary defense, and the self and object representations are further cathected with neutralized energies. The quality of object relation, concurrent ego status, and the development of integrated, neutralized self and object representations continue to interact and mutually determine further intrapsychic structuralization.

As the notion of neutralization is central in the processes of structuralization and the stabilization of defenses and object relations, Hartmann viewed psychosis as a potential outcome of the ego's inability to mediate between the drives and reality - a failure of neutralization (1953). He did not disregard the possible etiological role of hereditary factors, but believed them to be an insufficient explanation. In his view, constitutional deficits contributed to the general instability of defenses, and other related ego functions, as well as the capacity

for neutralization. Comparing failures of external reality testing in psychosis, and inner reality testing in neurosis, Hartmann notes that the actual situation is not always so dichotomous, for both aspects of reality testing frequently interact. He suggests that a study of the relationship between inner and outer reality testing might further our understanding of specific features of psychosis. Here, Hartmann had in mind the developmental role of action, and the part it plays in the development of these capacities. In his view, action is only reality syntonic when the child considers its relationship to his own inner and outer reality, along with its impact on others. The integration of perspectives - internal and external, self and other - is a major step in the child's acceptance of the reality principle. This formulation reflects Hartmann's awareness of Piaget's findings regarding the child's construction of reality and the means by which objects, in both the human and nonhuman sense are separated from the self. He conceptualized the psychotic difficulty with linguistic symbols as a developmental regression, described the confusions between the signifier and signified that ensued, but did not significantly develop this point. The observed heterogeneity of functioning, where some ego functions remained intact, was explained by the degree of secondary autonomy these functions had achieved prior to the pathological disorganization. Hartmann's emphasis on understanding ego functioning and intrasystemic conflict enlarged our

understanding of the genetic aspects of development. Although not a new idea in psychoanalytic theory, this view attempted to more specifically explain the nature of choices to conflict solution by exploring how earlier resolutions prefigured and influenced later ones. Moreover, by illuminating the genetic point of view, Hartmann foreshadowed and inspired several major theoretical and observational investigations of prestructural development.

Hartmann used Freud's 1911 paper as a point of departure for his essay on the nature of reality testing (1956). He agrees with the notion that gratification in fantasy (of whatever form) is (in infancy) inferior to that which obtains in the external world; hence the turn to reality in accord with the pleasure principle and the evolving cognitive apparatus. Hartmann expands Freud's formulations by not only including certain ego functions as active, independent variables from the beginnings of life, but also states that they are the basic components of the reality principle itself. Conceptually, he links the notion of increasing adaptation (the knowledge of reality and acting in accordance with it) to that of an innate, pre-adaptiveness through perception, memory, and motility.

The roots of reality are to be found in the own body and the relationship to significant others who leave a definitive mark upon the child's emerging ego capacities over the course of the developmental process. Hartmann is

in accord with Piaget and Rapaport regarding the change from an egocentric mode of thought to a more objectively perceived self in relation to others as an extremely important factor in the consolidation of reality testing. He also viewed the larger social structure as leaving a formative imprint, including collectively held distortions, as the growing child adapts to the belief systems of his cultural milieu.

In an interesting comment on the differences between knowledge of objective reality and the "real" world of immediate experiences with its multiple qualities, Hartmann elaborated on the activity of the organism: data of experience are assimilated, and their cathexis is integrated within a given internal structural organization. This integration includes more than a knowledge of facts, as the status of knowledge is changed as it becomes an integral part of our intrapsychic lives. Impairments in this aspect of knowing constitute significant pathology, and at their most extreme are part of the psychotic process (1956, p. 262).

Arieti's Contribution:

I will now turn to an overview of the work of Arieti (1974), whose work with adult schizophrenics and hypotheses regarding their affective and cognitive status have direct bearing upon this research. While there are clear structural differences between the psychotic child and schizophrenic adult, the similarities noted between their respective

thought processes are in many ways striking. Arieti conceptualizes the break with reality as inaugurated by a threshold phenomenon which sets in motion a "progressive teleologic regression"; that is, in an effort to cope with unbearable anxiety, the overburdened psyche regresses to earlier cognitive forms, and reintegrates at an earlier level of development. The precipitating event is always one which provides severe injury to an already fragile self structure, and substantially lowers whatever small self-regard may be present. Time as a conceptual category disappears, and is collapsed on itself, while the notion of a potentially hopeful future disappears. As anxiety mounts, it "resonates" with early unconscious childhood fears and experiences, particularly those in which the patient experienced important others as attacking his very core self. Under imminent threat of dissolution of the self, the internal attacks are concretized and externalized, thus projected onto a world then viewed as filled with persecutory objects. Cognitively, the regressive reintegration includes a loss of the abstract attitude, tendencies to concretization, and the emergence of primary process ideation in which a confusion of identities and "paleologic thought" patterns predominate. In his discussion of "paleologic" thought processes, Arieti has expanded upon the principle first postulated by von Domarus (1944): "Whereas the normal person accepts identity only on the basis of identical subjects, the paleologician accepts identity based upon

identical predicates." According to Arieti, this particular mode of thinking is both structured and internally consistent, although it follows associative, rather than Aristotelian laws. Thus, in paleological thinking, the identity of various predicates dictates their equivalence, whereas in normal cognition, similarities amongst objects lead to abstract classifications. Arieti distinguishes two main forms of identification by predicates - predicates of quality, and predicates involving spatial or temporal contiguities. Predicates of quality are those in which whole or partial attributes of objects are regarded as identical; therefore, "logically" the objects are identical. Similarly, events are classified by virtue of their having occurred at the same place or within the same temporal framework. Furthermore, the schizophrenic's attempts to grasp the meaning of objective phenomena leads to the formation of a "teleological causality" which arises as a paleological substitute for rules of deductive reasoning. Events are imbued with an egocentric (in Piaget's sense) logic similar to that employed by the preoperational child. Causes exist, but they are highly personalized, with malevolent intent ascribed to inanimate objects (which may be misperceived as animate) as readily as to other persons. The patient views himself as primary cause and central moving force insofar as all events have personal reference to himself. Linguistic forms are also distorted, deriving their meaning from the immediate perceptual or action context, as distinctions between the

signifier and the signified disappear. As qualities of objects are fused and confused by means of thinking in predicates, words frequently achieve an equivalence to the objects they would normally symbolize.

Arieti suggests that this particular mode of thinking may be observed in some primitive societies, or as a transient developmental phase in young children. While believing that this mode of thinking can account for the primary structural form of the schizophrenic thought process, the selection of a particular predicate (content) is determined by the relevant dynamic conflicts of the patient. While Arieti's work derives from his observations and treatment of adult schizophrenics, and his conceptualization rests upon a principle of regression, the active process of construction in the borderline psychotic child appears to lead towards an analogous end point - a structure of cognition qualitatively different from the normative one, in which a different set of rules from which one comprehends the world and operates on the real are established. The primary goals, for both child and adult, appear to serve similar defensive needs: to avoid unbearable anxiety, preserve the elements of a tenuous self-other bond, and avert the self-annihilating effects of overwhelming aggressive impulses.

Rapaport and Structure Formation:

Rapaport's contributions are numerous, and only those formulations relevant to the present research will be considered here. For one, Rapaport traced the origin of

Freud's notion of abiding structural aspects of the personality through his writings, and saw in this and the increasingly developmentally oriented view of the ego psychologists "the clearest demonstration of the systematic nature of psychoanalytic theory" (1960, p. 853-854). He noticed the potential parallels between Piaget's notions of hierarchical differentiation and integration of structures and those of psychoanalysis, and briefly considered the differential motivational perspectives of each.

Rapaport was extremely interested in the origins of the thought processes, and the development of cognition. Essentially in agreement with Freud, he believed the origins of thought to be motivated by drive pressures (hallucination of the need-satisfying object). He postulated that these instinctually dominated, undifferentiated "thoughts" were dominated by the primary process, constituting a "drive organization of memories" (1950, p. 317), while noting that primary process functioning continues throughout life. The secondary process arises with the impingement of the external world, and the imposition of delay. This delay is later turned into an internal control. Counter-cathexes (perhaps arising from maturation and the autonomous sphere) impose controls, and the drive energies prevented from discharge "structuralize to prevent or regulate their own discharge." Delays and controls result in the formation of partial drives, so that a particular idea no longer depends upon a single drive for its emergence into

consciousness. These two processes affect the drive organization of memories, and a new organization emerges. This new memory organization is composed of "frames of reference", organized around "conceptual, temporal, and spatial belongingness." The controlling countercathexes stabilize the differentiation of affect and idea, internal and external, freeing the organism from drive pressures and enhancing an orientation to reality. The result of this process, then, is the establishment of secondary process, and the ability to test reality by means of the new memory organization through memory traces cathected with minute amounts of energy. By implication, it is the stable memory frames of reference with their conceptual, temporal, and spatial organizations that are the guardians of reality testing. As the "memory frames of reference" are thought to "develop in the course of experience and thus correspond to the relationship patterns of reality..." he left unanswered the issue of what specific regulations and coordinations between the child and its environment conveyed a meaningful external reality. Rapaport perceived the two basic modes of thought as existing on a continuum, and having a course of hierarchic development similar to that postulated for motivations and defenses (1951, p. 240-241), a notion which implies a process of increasing structuralization. Further adaptation to the environment appears to be the consequence of increasing structuralization within the ego.

Rapaport's model for thinking was based on the theory

of attention cathexes, a model which Rapaport himself did not view as completed. He postulated an inborn form of attention cathexis, a specialized form of hypercathexis. Repeated cathexis of excitations (motivations, however intrapsychically represented) ensured their permanence and was in itself structuralizing as well as binding. For a thought to come into consciousness, it must be activated by the attention cathexes. At the same time, successive countercathectic organizations, initially derived from the drives, are progressively deinstinctualized. Rapaport seems to imply the development of increasingly organized hierarchy of cathected systems in which thinking is progressively distanced from the original instinctual impulse.

Rapaport draws an interesting analogy between the structures which regulate drive energies through counter-cathectic energy distributions (1953), and the relationship between abstractions and their concrete components. He suggests that building abstractions is an active process attained through the construction of a new hypercathectic organization which requires a focusing and concentration of the attention cathexes. The more drive dominated the thought processes become, the greater the "passivity" of the ego, and the greater the propensity for primary process ideation to emerge. He concludes by emphasizing the fundamental importance of the active-passive dimension in the balance between the drives and ego, and the establishing and maintenance of ego autonomy. He returned to this theme

in his 1957 paper; in this full discussion of the issues, it becomes clear that for Rapaport, the conversion of passive experiences into activity lies at the core of structural development.

For Rapaport, in a general sense, all learning may be looked upon as a process of structure formation (1959). The cognitive structures are defined as "both those quasi-permanent means which cognitive processes use and do not have to create de novo each time, and those quasi-permanent organizations of such means that are the framework for the individuals' cognitive processes" (1959, p. 631). Recently, Meissner (1973) as critiqued the murkiness of Rapaport's theorizing, primarily as it does not distinguish between learning and identification, nor view the structuralizing and internalizing effects of these processes as different in kind and degree. According to Meissner, these conceptualizations do not fully take into account the "problem of internalization."

Rapaport's preoccupation with the origins of structuralization and the capacity for reality testing led him to an interest in Piaget's theory of the construction of the real, as well as an awareness of the similarity between primary process thought and preoperational thinking in children. Like Piaget, he viewed the capacity for reflective awareness to be a central aspect of reality testing and the formation of judgments, regarding these as inseparable, interwoven processes. In a footnote to Freud's paper

"Negation" (1951, p. 344, footnote 18) he stated: "The most primitive predecessor of judgment attempted to decide by motor action what is 'me' and what is not 'me', that is, what is internal and what is external." Again, in another footnote, he defines "reflective awareness" as "a sub-species of the function that distinguishes imagery from hallucination and percept, thought from reality" (1951, p. 302, footnote 56). In primary process thinking, self-reflective awareness is minimized or completely absent, and ideation is infused with primitive drive derivatives. Thoughts then manifest the egocentric features of an earlier phase of development: participation, syncretism, transduction, and animism. Rapaport was particularly interested in the moment of transition in normal development from egocentric thinking to a mode which acknowledged the "relativity of qualities", and was dependent upon the "discovery of the relativity of the me." With Piaget, he viewed the organization of thought as undergoing a process of structural change, with increasing stability achieved as a result of the construction of notions of invariance. Self-awareness, then, was contingent not only on the relativity of the "me", or the distinction of "me/not me", internal/external, but also in the relationship between "me" and many other potential "me's" (1951, p. 724).

In his comments on Piaget's formulations proposing a link between the decline of egocentrism, increased reflective awareness, and socialization, Rapaport seems to be in

general agreement but finds Piaget's formulations of the origins of social relationship insufficient explanations. For Rapaport, socialization begins in the early undifferentiated relationship between mother and child, and is contingent upon the drive wish to retain the object. From this dyadic relationship, internal structure building proceeds by processes of introjection and identification through which aspects of the external features of the love objects are internalized. It is these dual processes that comprise the "foundations for socially shared thought" (1951, p. 725). The resultant organizations are maintained along a continuum between primary and secondary process, and evolve in a hierarchical manner as development proceeds. Thus, they remain ever vulnerable to potential interference from the drive organization of memories.

Like Piaget, Rapaport accords language, the vehicle of the socialization of the child, a prominent role in the ongoing differentiation between primary and secondary process thought. He has stated:

> "Intelligence, just because it undergoes a gradual process of socialization is enabled through the bond established by language between thoughts and words to make an increasing use of concepts, whereas autism, just because it remains individual is still tied to imagery, to organic activity, and even to organic movements. The mere fact, then, of telling one's thought, of telling it to others, or of keeping silence and telling it only to oneself must be of enormous importance to the fundamental structure and functioning of thought in general, and of child logic in particular" (1951, p. 158, footnote 16).

Anticipation is conceptualized in a similar manner, originating in the drive wish for the object, composed of

varying levels of motivations, and having a hierarchic ordering. Rapaport suggests that the "higher order" anticipations are less idiosyncratic, characterized by bound energy, and are more socially shared. He bases this on Hartmann's notions of automatization, but states that these higher order anticipations arise from the "permanence of objective necessity" (1951, p. 714) which constitutes the basis of their socially shared character. The latter, a strikingly Piagetian notion, ties anticipation to a depersonified causality and an acceptance of an objective reality.

Rapaport's general preoccupation with structure formation and his interest in expanding psychoanalytic theory in the direction of a comprehensive, general theory of development led directly to his reorganization and re-evaluation of metapsychology. He also clarified the conceptual links between the transformation of energies, and the creation of psychic structure, thus explicating the theoretical foundations for the transition between primary and secondary process thought. With Gill (1959), he attempted to formulate the relationship between the basic psychoanalytic premises and the propositions they subsume, while integrating the newer formulations proposed by Hartmann and Erikson regarding the role of the ego and the larger social context into metapsychology. In addition to a series of formal statements regarding irreducible elements of psychoanalytic theory, Rapaport proposed the addition of the genetic and adaptive

points of view to the already well-known dynamic, economic, and structural considerations. By giving equal weight to each of these theoretical constructs, his overall conceptualization significantly shifts the theoretical emphasis, and markedly influenced the thrust of further theory building. As in the main corpus of Rapaport's writing, the structural development of the ego and its synthesizing function are central. In part, this paper is a logical outgrowth of Rapaport's earlier attempts (1951, 1957, 1958) at synthesizing and integrating the ego psychological point of view within the framework of psychoanalytic theory. However, the inclusion of the genetic and adaptive perspectives as fundamental necessities to a broadened theory, along with Rapaport's elaborations and new formulations, lent a major impetus to the exploration of preoedipal and prestructural development, and in its own way validated the observational data concurrently being gathered by investigators of early childhood.

The Primary Process

Before continuing with an overview of the formulations of the ego psychologists and their continuing delineation of the structuralization of the secondary process within the context of the object relationship, I will present some of the views of those psychoanalytic investigators who turned their attention to the genesis of primary process thought, and their attempts to conceptualize a series of formulations which would bring the notion of the primary process within

a developmental perspective similar to that proposed for secondary process thought. These authors seemed to follow Rapaport's reasoning, in that if the primary process were to be considered as a process, rather than solely an energic concept, that implied both structuralization and a course of development by which this occurred.

This view was most clearly articulated by Holt (1967) who suggested that the primary process underwent a course of structuralization as development progressed. Using Freud's notions regarding the essential logic of the primary process as his point of departure, and in agreement with Hartmann's formulations of the undifferentiated matrix, he argued cogently for a developmental framework consonant with Piaget's sensorimotor theory. Holt proposed differential, partly independent rates of growth for both processes, linking a synthetic organization of primary process to the consolidation of cognitive object constancy, prior to which time "nothing worthy of the name of thought can go on." The primary process, then could be viewed as an alternate mode of cognition, whose consolidation as a system of thought was contingent upon the child's achieving the object concept.

Noy (1969, 1973), proposed that primary and secondary processes develop simultaneously, although each ultimately takes its development in differing although equally important directions. These two modes of thought also follow different but complementary organizational criteria,

insofar as the primary process is "self-centered", continuing through life as the carrier of the conscious and unconscious wishes of the self, while the secondary process tends to be reality oriented. Noy seems to be in agreement with Holt that the consolidation of both processes is contingent upon the achievement of the object concept, the differentiation of internal self from external reality, and the capacity for xymbolization, including language. He conceptualizes this moment as a time of intrapsychic dysjuncture, in which there occurs a necessary bifurcation of the two modes of thought. While his definition of "self" is not entirely clear, Noy seems to be including both the differentiated internal self and the capacity for reflective awareness as primary criterion for the development and maintenance of secondary process thinking. In his earlier article, Noy suggested a feedback loop model, wherein secondary process is dependent for its maintenance on environmental feedback, while primary process is not. This seems to be an extension of Rapaport's notion of "stimulus nutriment" which was supplied by the external world and necessary for the maintenance of the memory frames of reference. In his later article, Noy abandoned the feedback model, regarding it as inadequate to describe the freedom which characterizes mature, autonomous thought processes. He postulates instead a theory of "optimal development" related to these two modes of thought, with each serving the complementary adaptive functions of self-maintenance and reality orientation.

In a rather Piagetian discussion, Noy regards development as a gradual process of differentiation and integration, organized in successive, hierarchical levels. Reflective self-awareness, the distinction between inner and outer reality, and the capacity for language and the separation of the signifier from the signified constitute the necessary criteria for secondary process thinking to be consolidated. The self emerges as a consequence of transactions with reality; experiential factors always precede the conceptual aspect. Causal thinking emerges in a similar manner: while primary process causality is "wrong" in relation to reality, it may have major significance for the cohesiveness and survival of the self, while objectified causalities imply the possibility of successful applications of intent.

Following Rapaport's notion of secondary process and its synthetic function as "autonomous ego functions in relation to both the instinctual drives and external stimuli" (1960, p. 841), Noy distinguishes autonomous thought from the more general concept of "ego autonomy". He notes that while the ego is engaged in strivings for mastery over the conflicts that arise throughout life, autonomous thought is thought that is freed from the compulsion to act. This achievement, however, is dependent upon "the ability of thought to think about itself" (p. 201). The reflective capacity, then, serves as an inner controlling factor, which by implication serves to further modulate the impact of drive determined needs and wishes. With reflective

awareness, autonomous thought may "liberate itself not only from the dependence on the needs of the self and dependence on reality requirements, but also from the dependence on its own feedback; autonomous thought may use itself for self-monitoring, but it does not have to do so" (p. 204). Noy sees one of the major tasks of reflective thought to differentiate reality and fantasy by means of shared linguistic communication dominated by the secondary process. Once this occurs, a major step in socialization has been accomplished, for the child can now share the products of his imagination with others. The inception of autonomous thought occurs during the undifferentiated engagement-disengagement process of the mother-child dyad (Pine, 1977; Beebe and Stern, 1977) and in its mature endpoint and highest level if freed from both the peremptory egocentric demands of the self and the obligatory pressures and demands of external reality.

Thus, by shifting the emphasis from energic to structural considerations, the primary process could be viewed as an alternate system of thought whose formal characteristics emerged over time and were consequent to particular developmental achievements. The differentiation of primary and secondary process was linked temporally to the differentiation of internal from external reality, the object concept, and the early capacity for reflective awareness. These criteria, as will be discussed in the following section, are the creations of a complex series of developments, and are

contingent upon both the construction of intrapsychically separate and differentiated self and object representations, and the normal unfolding of the cognitive process. It was also suggested that primary process thinking constitutes a different language, with its own logical premises and laws. This is the true domain of the signifier, or as Noy suggests, the primary needs of the self, as opposed to the shared significations of objective realities and secondary process thought.

Object Relations: The Shifting Perspective

The roots of ego psychology and object relations have their origin within the theoretical revisions and extensions made by Hartmann and Rapaport. Their expanded view of the ego and emphasis on the role of reality relations marks a departure in psychoanalytic metapsychology from a drive-oriented to a structural perspective in which the genetic and adaptive perspectives are stressed. In this shift, the effects of the organizing and synthesizing function of the ego, and the relationship to reality on the emerging personality organization moved to the forefront of theoretical exploration.

Hartmann's formulations, particularly those of primary autonomy, change of function leading to secondary autonomy, adaptation (the relationship to the real), automatization, neutralization, and object constancy explain the essence of structure formation. His introduction of the genetic and

adaptive approaches, as formalized by Rapaport, prepared the way for the specific theoretical elaborations of the authors to be presented in this section.

Rapaport's contributions lie in his hierarchical conceptualization of intrapsychic structure, and attempts to develop a comprehensive model of thought. The drives, although essential to his formulations, are described in terms of their transformations into more neutralized forms which are then at the disposal of the ego in its relationship with external reality. Structuralization, in itself, furthers processes of energic delay, binding, and detour, as does the positive qualities of relationships themselves (1951, p. 727-728). The thought process has both autonomous and drive related origins, which he depicted as existing on a hierarchical continuum, where the one imperceptibly shades into the other. Rapaport also stressed the importance of the social environment, particularly the role of communicative language. This, he believed greatly furthered both differentiation and reality testing, which in turn "enhance the synthetic function of the ego."

As a general theory of development, object relations at present refers to those structures of the mind which organize, integrate, interpret, attribute meaning, derive from and determine interpersonal relationships. This particular interactional emphasis is somewhat in contrast to the more classical psychoanalytic view, wherein the primary focus is directed towards understanding the mutual

influences and vicissitudes of ego, id, and superego development and the interplay of the drives. Within an object relations framework, dynamic and structural features tend to be interpreted from a perspective which takes greater cognizance of and accords more importance to the child's psychosocial milieu. Development, according to these theorists, stems from the internalization of aspects of human relationships having their point of origin in the mother-child dyad. These internalizations will in part consist of differentiated and integrated intrapsychic representations, in the form of affectively invested self and object representations. The early content of these constellations reflects the interplay of constitutional givens and the original mother-infant relationship. As development proceeds, these internally elaborated self-object-affect units are increasingly freed from their biological origins and imbued with psychological meaning. Ultimately, they constitute both structural organizers of intrapsychic reality and, by virtue of the stability of their organization, are major determinants of future structurations (Jacobson, 1954; Kernberg, 1976).

In further contrast to the more traditional psychoanalytic metapsychology, object relations theorists have sought constructs broad enough to encompass the gradual development and differentiation of the child's "inner world" as well as his "internal world." Sandler and Rosenblatt's (1962) notion of the child's "representational world",

that is the child's construction of an internal representation of the externally perceived reality, most closely approximates this wider theoretical view. According to Sandler and Rosenblatt, the "representational world" is an outcome of the interplay between the ego and its autonomous functions (memory, perception, reality testing, etc.) and self and object representations. The representational world, itself a creation of the ego, includes not only the symbols for things, actions, and relationships, but also affect representations, body representations, as well as self and object representations, felt consciously or unconsciously (Ibid, 1962). In their presentation, these authors propose a useful definitional distinction between the terms representation and image, which will be adhered to for the purposes of this discussion. The term representation designates a particular enduring mental organization or schema, which has been constructed out of a multitude of impressions or images. The latter consist of much more fleeting expressions and experiences of body and self states. In a further elaboration, the authors note that "one might say that for the representation of every love object there is a part of the self representation which is complementary to it, i.e., the part which reflects the relation to the <u>object</u> and which constitutes the link between self and object. We can refer to this as the object-complementary aspect of the self-representation" (Sandler and Rosenblatt, 1962). When considered develop-

mentally, these various mental representations can assume a variety of "shapes" or forms; the "shape" being jointly determined by the cognitive apparatus currently available to the child as well as the interplay of drive development and status of internal and external object relations. Throughout their formulations, the child is conceptualized as an active participant rather than a passive, reactive agent, whose relationship to external reality is determined by a process of parallel constructions. That is, as the child comes to distinguish that which is external to himself, he simultaneously represents and builds that reality internally, although for some time he will continue to confuse the two. This orientation is congruent with both an object relations approach to development, as well as more recent investigations of early childhood and infancy.

Despite some areas of difference, the formulations of Jacobson (1954) and Mahler (1968, 1976) constitute mutually complementary theoretical models from which one may then discuss structural aspects of early affective development. In their seminal work, which I will review in some detail, both authors present an explication of the complex processes by which the child comes to an awareness of himself as a unique and separate psychological entity. Their combined approaches towards understanding intrapsychic process will be consistently referred to in the course of this research.

Jacobson's View:

Jacobson (1954) begins her discussion of the origins

of intrapsychic structures with a conceptualization of earliest development. Her term, "the psychophysiological self," eloquently expresses the complex interweaving of innate givens with environmental determinants and their intimate relationship to the influence of the mothering person. From birth onward, innate reflexes (sucking, grasping, infantile perceptual behaviors) effect maternal responsivity, setting in motion an interactive process of mother-infant feedback. The mother, according to Jacobson, must be able to respond with flexibility to these "pre-patterned affectomotor responses" which are governed by the pleasure principle - "the need to seek and the necessity to avoid" (Ibid, p. 33-34). It is this quality of sensitive maternal attunement to her infant's needs and the establishment of mutually synchronous patterns of interaction that will ensure the gradual evolution of an optimal state of symbiotic oneness from the early, undifferentiated, biologically governed body states.

While Jacobson regards early synchronicity between mother and infant as essential precursors of healthy development, she also recognizes the role that optimal frustration plays in the formation and maintenance of a clearly defined sense of inner and outer reality. The introduction of external reality requires not only a capacity within the mother to distinguish between her own wishes and needs and those of her infant, but also a sensitivity on her part to the child's frustration tolerance

and need for gratification at any given moment. The progressive demarcation of inner and outer reality and growth of the self will be accomplished internally through the formation of intrapsychic structures, and be reflected behaviorally in the child's increasing awareness of an external world in which he exists as a separate and unique individual. As intrapsychic structures are constituted, differentiation and modulation of the drives occurs, external actions are alowly differentiated from the cognitive abstract knowing of objects, and self and object representations separate, with the child being ultimately capable of retaining an internal image of the loved object that can be both loved and hated but not readily exchanged for another.

According to Jacobson, initial primitive differentiations occur out of the infant's repeated experiences of pleasurable and unpleasurable feeling states. Early perceptions of the feeding situation, with its cluster of pleasurable sensations (holding, fullness, soothing, satiation) lead to an accrual of "good" memory traces felt to be inside, mother/me, or the self, while unpleasant memories, the "bad" are relegated to the outside, the realm of the not mother/me. The initial "memories" are no more than passing impressions of physiologically determined sensations, states of comfort, and global organismic distress. Insofar as the content of infantile incorporative fantasies of mother are composed of sensations of the "good" associated with her, pleasurable

affects and images are ultimately joined into primitive self-object-affect units. Normally, this merging of self and object images, or whole identification with mother, heralds the beginnings of object relations, fosters the further differentiation of libidinal and aggressive drives, and comprises the nucleus of the self. These fluid, partial organizations both organize early ego functioning and comprise rudimentary structurations of the psychic apparatus, thus having a determining influence on all subsequent development. That is, the affective element of the unit is a motivational force which activates early orienting and attentional responses, ultimately facilitating exploration of the other than mother world. Similarly, the "bad", frustrating aspects of the infant's experience, if not excessive, also further differentiations and promote distinctions between that which is internal and that which is external to the self.

The caretaking other, then, is the one whose presence both libidinizes and energizes the budding ego functions of the child, simultaneously organizing the succession of fleeting, somatically experienced bodily states which are the precursors of psychic needs (Kubie, 1953). As relief of these needs occurs repeatedly in the context of an active interchange with the caretaker, they are slowly organized, initially as signals of need. Somewhat later, they will constitute early recognizable feeling states imbued with affects and psychological meanings through which the child

will begin to apprehend the real.

During the first five or six months of life, however, while the drives have begun to differentiate, the internally merged self and object organizations have not, retaining their polarized all good or all bad mother/me status. When the infant is sufficiently frustrated and enraged, the aggressively invested self-object unit is activated. As the unit is still merged, any fantasy of destroying the momentarily felt to be all-bad other also produces an internal sense of the annihilation of the self. Jacobson assumes that under normal circumstances, the libidinized, gratifying experiences of early development will outweigh the bad, aggressively tinged ones, assuring a progressive course of development within normative parameters. These early syntheses of feeling states, although still multinuclear partial organizations (Glover, 1943; Kernberg, 1976; Jacobson, 1954), have consequences for all future development. These dynamically invested precursors of the self will in time be organized in psychologically meaningful ways, and find expression in concepts and their representations, thus having an impact on the structure of cognition itself (Szekely, 1962).

The consolidation of these polarized self-object-affect units is succeeded by a moment of internal differentiation commencing at approximately eight months, traditionally the time of both heightened stranger reactions and attachments to specific transitional objects. A new internal distinction

between self and object images occurs within both the libidinally and aggressively invested units, with the formation of still-fluid boundaries between self and object images. Under conditions of extreme frustration, a regressive refusion of these partial organizations occurs. This is conceptualized by Jacobson as a stage appropriate adaptive aspect of normal development, wherein the child strives to protect the "good" aspects of mother from his aggressive fantasies. Under less than optimal conditions, there may be a prolonged reliance upon this infantile mode, and an inability to move beyond it, leading to a variety of potentially pathological outcomes.

Along with increasingly stable self and object differentiations, Jacobson postulates a variety of consequential changes as the child moves into the second year of life. Early wishes for oneness with the love object are gradually relinquished in favor of increased strivings to be like the object at some time in the future. This wish for oneness was originally founded on fantasies of oral incorporation of the love object and refusions of self and object images; that is, on whole, mirroring identifications whose purpose was the attainment of a merger. These infantile identifications are magical in nature, carrying with them notions of omnipotence and participation in the object's idealized properties. The child's attempts to this end, initially founded on passive receptive gratifications come to include, late in the first

year of life, active imitations of the loved object. These active libidinized imitations of mother, precursors to the imitative play of the toddler pretending to be mommy, augment the child's capacity to endure the increasing recognitions of their separateness and promote an atmosphere wherein the frustrations of reality can be gradually tolerated and accepted. These imitations also enhance processes of internalization, and presumably form a necessary step in the construction of the permanent libidinal object. They appear to constitute sensory-affectomotor bridges between the external world of direct action and the realm of abstraction as yet in its formative stages.

With progressive acceptance of the real world as it is, the nature of identification itself undergoes a qualitative change. That is, with an increased capacity to distinguish between self and object, and maintain firmer internal boundaries, the fundamental character of the ego undergoes a major modification. Through unconscious identification processes, the ego begins to assume the actual characteristics of the loved objects, as a concurrent shift occurs in the development of the self-images as well. A new distinction between realistic and wishful self-images ultimately emerges, establishing the self-image as a more faithful mirror of what the child truly is, allowing him to achieve "a partial blending between self and object representations on the basis of realistic likeness" (Jacobson, 1971, p. 244-45), while wishful aspects of the

self and object images help establish the ego ideal and ego goals.

Simultaneously, the child's increased perception and acknowledgement of other objects in the world is changing his relationship to the primary objects as well. He is not at the center of mother's universe as he formerly believed, for rivals exist who command her attention as well. From this major disillusionment, the child initially identifies with these rivals so as to receive the same gratifications from mother that they do. Bit by bit, this shifts from wanting the same libidinal supplies as the rivals receive to wanting to be like the rivals themselves. In the process, distinctions between self and object images are reinforced, while reality impinges in the form of repeatedly demonstrating to the child the difference between that which is internally desired and that which is truly obtainable in the real world.

According to Jacobson, this transition to partial identifications cannot be completed until three basic internal preconditions have been fulfilled. There must be both a stabilization and consolidation of self and object boundaries; that is, both early identity and constancy have been established, along with a discovery of the own gender identity. Jacobson comments at length on the profound importance of these achievements and their consequences for all future development. It is from the formation of realistic self images, uniting the past and present that

the child derives the sense of self sameness that enables him to tolerate the vicissitudes of development, while wishful self images constitute a force towards possible futures. Together, they assure an internal experience of continuity of being amidst ongoing growth and change.

The superego and ego ideal are formed by complementary but different processes. The former process involves the internalization of parental moral prohibitions and demands, while the latter entails the transformation of the wishful images of the self and the love objects into a unified ego ideal. As a constituted structure, the superego functions as an internal regulatory system which governs moral values and controls self-esteem, and by virtue of its prohibitions or permissiveness regulates drive discharge as well. With its stabilization, the child's overall personality and perception of the world changes markedly. Secondary process thought and reality testing are enhanced, as increasingly stable, enduring, object investments emerge. Most importantly, the child can better conceptualize himself as a continuous being with a past, present and future yet to come; that is, he can securely maintain a sense of self-sameness amidst the continuous changes of development.

With Hartmann, Rapaport, and Jacobson's emphasis on structuralization which emerges in the context of the object relationship, psychoanalysis moved more clearly in the direction of a general theory of development. Emphasis on the vicissitudes of the drives receded, and energic concepts

were integrated as one of many important elements contributing to the formation of the overall personality structure.

Mahler and Separation-Individuation

The theoretical contributions of Mahler and her co-workers, evolved out of their longitudinal investigations of both normal and pathological developments between mother-child pairs (1968, 1976). Conceptualized as the separation-individuation process, their sensitive observations and inferences have illuminated the intrapsychic processes by which the child slowly comes to the recognition of his own separateness and selfhood - the attainment of the momentous knowledge that "I am I". The successful achievement of separateness from mother and the establishment of one's own psychological identity is intimately related to the vicissitudes of the drives in the context of emerging object relationships, as the child slowly constructs an enduring intrapsychic representation of the mother who is both good and sometimes bad, but cannot readily be exchanged for any other human object.

The foundations for the separate self are prepared within the context of the earliest mother-infant relationship, designated by Mahler as the normal autistic phase of development. As Mahler has not described this phase in detail, nor focused upon certain aspects of body integration which substantially contribute to identity formation, I shall include the formulations of other authors as they seem

relevant to this discussion.

Within Mahler's conceptualization, the accrual of pleasurable and unpleasurable physical sensations gradually impinge upon the primary undifferentiated matrix (Jacobson's primary psychophysiological self). These stimuli, the most rudimentary, incipient body images, serve as initial mediating links between diffuse internal and external perceptions. They are composed of alternating states of comfort and discomfort, tensions and their discharge, which the rudimentary ego attempts to integrate. Through tactile and kinesthetic aspects of the maternal "holding" (Winnicott, 1958), the infant will gradually establish a core sense of self that includes an early synthesis of the own body, and establish a libidinized oneness with the love object which is the essential prerequisite for a satisfactory symbiotic experience. In most cases, this satisfactory sensory integration will occur, andlater be experienced by the child as the background feeling of "safety" (Sandler, 1959) or "basic trust" and "confident expectation" (Benedek, 1938).

In addition to the tactile and kinesthetic aspects of maternal "holding", the visual apprehension of the world will also be incorporated into the early body schema, and imbued with archaic, non-verbal meanings. In normal development, the visual impressions of the mother are inextricably linked with the state of well being that her presence repeatedly initiates. With multiple repetitions, a sense,

however diffuse, of the loss of the state of well being, as well as the vaguest of beginnings of an anticipation of the "predictable good" gradually emerges. Thus, during the second month of life, when in a need state, the infant experiences some fleeting, dim awareness of a satisfying other who is simultaneously undifferentiated from the self. This partial recognition of a pleasurably experienced other inaugurates a cathectic shift within the infant towards the sensoriperceptive periphery, marking the inception of the turn to external reality (Mahler, 1968), a step which heralds the beginning of primitive object relations, as well as the origins of primitive anticipations. At this juncture in development, anticipation fosters a delay of gratification that is predicated upon a vague sense of well being; later, it will actively enhance intentionality and the emergence of self-initiated, goal directed behaviors. Ultimately, anticipation will acquire the psychological meaning of time.

According to Mahler, the libidinized turn towards mother, along with the projection of aggressive energies beyond the emerging mother-child dual unity distinguishes the infant's entry into the symbiotic phase proper (Mahler, et. al., 1976). The establishment of a harmonious and pleasurable symbiosis, with its characteristic delusion of an omnipotent merger with mother presages a relatively smooth transition to the differentiation subphase, the beginning of separation-individuation proper.

Intrapsychically, symbiosis and differentiation

correspond to that period wherein the primary "good" self-object-affect images consolidate, and the core of the self is formed (Jacobson, 1954; Kernberg, 1976; Winnicott, 1960). Mahler has suggested that in their most extreme forms, excessive emotional deprivations or frustrations occurring during the two through six or seven month period might potentially leave the infant in chronically diffuse, disorganized anxiety states. The prevalence of such states would then impede the further normal consolidation and subsequent differentiation of self and object representations, leaving the infant with a core self essentially unintegrated, therefore extremely vulnerable.

Greenspan (1979) has noted that the transition from symbiosis to differentiation inaugurates a moment of rapid growth, from both a cognitive and affective perspective. He suggests that insofar as dysjunctions between the cognitive and affective realms occur, the potential for disruptions of the emerging, individuating self later to be a center of independent initiative is increased. Formerly, the infant was dependent on predictable caretaking to coordinate somatic states. With maturation and increasing differentiation, the infant's signals to the caretaker are given with increasing clarity. If these signals are misread, the context for the continuous binding together of perception, somatic states, and their associated impulses within an experience of predictable satisfaction is disrupted.

Normally, development proceeds on its course, without

undue difficulty. During differentiation, the infant begins to strain away from mother's body while still safely ensconced in her arms. Increased explorations of mother's body and her possessions are typical sensorimotor activities by which the infant continues to differentiate himself while expanding his knowledge of mother and further consolidating the specific libidinal bond with her. Once secure in this specificity, extensive scanning and "customs inspections" enhance the infant's capacity to distinguish mother from all others, while further cognitive discriminations between aspects of the environment that are the same and those which are new and different occurs.

The infant's straining away from mother marks the beginnings of the creation of a space, both psychological and physical between the two of them, and is a crucial aspect in the child's continuing cognitive and emotional growth. Bergman (1978) has commented at length on the psychic space which is created and internalized during the motoric explorations of the separation-individuation period. According to Bergman, if the child fails in his exploration of space (both actual and internal) and in the establishment of the transitional space "between" which "separate and unites", there remains only the frightening alternatives of isolation or merger. Ultimately, it is the establishment of an internal transitional space which will encompass fantasies of both merger and separateness, allowing for the capacity to play and think creatively. These capacities

are bound up with the consolidation of the self coming into being, a self which will feel a continuity of being sufficient to permit itself the pleasures of the undefined area of the creative imagination, a part of the task of reality construction itself (Rose, 1966).

Intrapsychically, the vulnerability to a regression to earlier modes of functioning - the defensive refusion of libidinally invested self and object images - is heightened during the differentiation subphase, as the child attempts to ward off the normal and unavoidable painful and frustrating aspects of reality. Intrapsychically, this is reflected in the differentiation of aggressively charged self and object representations, early attempts to dissociate and deny unpleasure. While these structural developments are phase appropriate, their continuity beyond the normally expectable developmental timetable portends difficulties along the pathway of separation-individuation. Eventual failure to synthesize these elements not only potentiates the crystallization of dissociative states, but insofar as the individual is all of his dissociated states, and the fragments are invested with aggressive energy, there is less neutralized energy available for ego growth.

Differentiation is rapidly overlapped by early practicing, as the child's burgeoning motor skills increasingly propel him towards the exploration of the other than mother world. Although still preferring not to stray too far from her physically comforting presence, he

is increasingly fascinated and absorbed by the larger world beyond her. The maturation of the locomotor function during the last quarter of the first year of life is accompanied by profound cognitive and affective changes, which may be inferred from the child's expanding repertoire of behaviors in the world. While the cognitive accomplishments of this age and their implications have been separated from this portion of the discussion solely to facilitate clarity of exposition, it is important to note that early practicing encompasses the shift to intentional, goal-directed behaviors.

Affectively, the advent of upright locomotion during this time period marks the child's entry into the practicing subphase proper. The world is the toddler's "oyster", and the often cited "love affair with the world" has begun, and the child ventures further from mother while freely returning to her for occasional emotional refueling. The toddler's exhilarated mood and narcissistic investment in his own rapidly developing autonomous ego functions sets the tone for this particularly joyous, grandiose subphase, while the underlying fantasy of simultaneously being both part of mother and separate from her supports the intensified explorations of the real world of objects and things. Heretofore, mother and her objects were the primary sources of differentiation. Increasingly, the non-mother world provides the necessary experiences and objects on which further differentiations are constructed. This gradual

transition from mother to the world prefigures the emerging capacity for symbolic substitutions, a significant component of representational thought.

Towards eighteen months, several disparate developmental threads converge, propelling the child into rapprochement, the final subphase of separation-individuation. In Piagetian terms, the child is rapidly moving towards a cognitive reorganization as the sensory motor stage of development draws to a conclusion with the accomplishments of cognitive object permanence and the emergence of symbolic thought. This reorganization, along with the maturation of autonomous ego functions are the necessary predisposing components which propel the child into the rapprochement subphase.

The toddler becomes increasingly aware of his own smallness, vulnerability, and separateness from mother. The realities of the world increasingly impinge upon his fantasied omnipotence and symbiotic oneness with her, fueling a mounting process of disillusionment with both mother and also the self, insofar as the child's self-representation is still partially merged with that of the mother. Angry moods remain, given the child's increasing capacity for evocative memory; disappointments continue to be felt, regardless of whether mother is present or not. As libidinal constancy is not firmly established, the toddler also experiences both increased separation anxiety in her absence due to the intensity of his aggressive impulses, and an

increased need for her physical presence. Even so, her presence may not be sufficient to allay his heightened anxiety. Ambivalence is the intrapsychic hallmark of this subphase, with the behavioral correllates seen in the child's shadowing and darting away patterns with mother. While the emerging capacity to play at being mother helps tide the child over during moments of separation or anger with her, this trend towards identifications is not always available, due to the intensity of the toddler's disappointment with her. Nevertheless, these identifications are an extremely important means by which the child is able to maintain the tie with mother, while functioning separately from her. When libidinal forces prevail, the good and bad aspects of mother are more readily united in a stable, positively toned mental representation of her, which is then available to the child as the real mother once was. Mahler (1968), has stated: "By 'object constancy' we mean that the maternal image has become intrapsychically available to the child in the same way as the actual mother had been libidinally available - for sustenance, comfort and love" (1968, p. 222).

A satisfactory denoument of the rapprochement crisis - a preliminary integration of the good and bad aspects of mother, and the consolidation of the self-representation - will secure an initial sense of separate identity and the transition to early libidinal object constancy (Kaplan, 1972).

In discussing the vicissitudes of the rapprochement

subphase, Mahler and her associates have stressed the importance of ongoing maternal availability during this frequently strained and stressful time. It is the mother's love of the toddler and her acceptance of his ambivalence that enables him to cathect his self-representation with neutralized energy and establish a stable narcissistic balance (Mahler, 1968). In the majority of cases observed by Mahler and her co-workers, positive maternal responsivity and the normal progressive forces of the child's ego prevailed. Despite lingering ambivalence and temporary regressions, most of the children studied achieved a relatively positive resolution of this difficult and crucial subphase within "average expectable" parameters.

In her comments regarding toddlers who experienced extreme difficulty during rapprochement, Mahler (1971) has described the determining effects on the future personality organization that emanate from a predominantly aggressive relationship with the love object. Not only was the normal differentiation and consolidation of self and object representations impeded in varying degrees, but these children also retained a tendency to confuse their own self representation with that of the "bad" object representation, while experiencing an obliteration of the "good" aspects of both self and object. As a group, they displayed a propensity towards future narcissistic or borderline personality organizations, in which splitting mechanisms continued as a defensive means of protecting the "good"

internal image against intense feelings of rage. In a summary of her views regarding the potential sequelae of rapprochement failures, Mahler (ibid, p. 44) has stated:

> "It is precisely the deficiencies of integration and internalization which will leave residua and thus may manifest themselves in borderline mechanisms, which indicate a degree of failure of the synthetic function of the ego."

In summary, internal structures establishing a sense of identity and separateness are constituted and preliminarily stabilized during the first three years of life. The next comprehensive affective reorganization will occur at the conclusions of the oedipal phase, with the constitution of the superego, and institution of repression as the primary defensive mechanism. This will parallel a cognitive restructuring, in which the magical, egocentric perceptions of the world are relinquished in favor of a still more accurate knowing of the world as it truly is.

The Cognitive Theory of Jean Piaget:

As Piaget's genetic epistemology is in all respects "structural", and the theoretical terminology unique to this theory, I will first define the basic postulates, and then outline Piaget's stage concept.

Cognitive development is conceptualized as a series of progressive, adaptive interactions between the human organism and the environment. All acts of "intelligence" are presumed to be goal-directed, and are governed by an underlying structural organization. Development consists

of changes and transformations of this structure in the form of progressive reorganizations in which the structures become increasingly differentiated and coordinated with each other. Structure originates in the infant's primitive reflex actions on objects, with the unit of organization designated as a schema. The construction of the schema is dependent upon the biologically innate invariant processes of assimilation and accommodation, which are irreducible elements of this theory. Assimilation consists of the organism's "taking in" of the external environment, while accommodation is the reciprocal process by which the organism adjusts to what has been assimilated. That which is taken in is the "aliment" for the structures. Motivation is derived from an inherent aspect of the organism itself - the need to function - the relative "desirability" of the object, and the disequilibrium of the schemas. All actions have elements of both assimilation and accommodation, although either one of these features may predominate in any given interaction with the environment (i.e., play, in which features of assimilation prevail).

Affectivity, in Piaget's view, is always functionally related to cognition; "these two aspects cannot be reduced to a single aspect, they are nevertheless, inseparable and complementary" (1969, p. 21). Emotions, however, can neither modify cognitive structure, nor the invariant sequential unfolding of the various stages of intellectual development. Piaget has stated:

> "The other person is of course an emotional object of the highest degree but at the same time it is the most interesting cognitive object, the most alive, the most unexpected, at this level the most instructive one, an object I repeat, which is the source of perception, of actions of any kind, of imitation, of causality, of spatial structuring. Thus, the other person is an object which implies a multitude of exchanges in which cognitive as well as affective factors play a role, and if this object is of paramount importance in one of these respects, it is, I think, equally important in the other" (1954, p. 66).

While it would seem that Piaget has assigned a primary motivational role to the child's relationship with the mother, insofar as she stands at the confluence of the infantile schemata, he does not elaborate upon this in his theoretical exposition. The mother is treated as a neutral constant during the child's early development.

He introduces two additional terms, one to describe the potential for change, and the other as a mechanism whereby structural change is accomplished. The former is the notion of equilibrium, a term which implies both the increasing mobility of the structures, their stability, and the state of relative intercoordination or lack thereof between factors of assimilation and accommodation. Equilibration describes the actual process of transformation from one stage to another. In this process, the changes that occur are conceptualized as discontinuous with the previously existing structure, yet remaining in a relationship of functional continuity to it.

Thought is comprised of two major domains: logical and infralogical. The realm of operatory logic includes

operations performed on discrete observables, i.e., classification, seriation. Infralogical aspects of cognition refers to the continuous dimensions of time and space, movement, and measure. The coordination and regulation of these two dimensions does not occur until the advent of concrete operations and the achievement of conservation with its notion of invariance despite perceptual transformations.

Conceptual thought also has two component features: operative and figurative. The operative aspect of a concept derives from an action whose result is a transformation, becoming increasingly abstract through development. The figurative component refers to those actions which produce a copy of reality. While this allows the child to recognize new instances of the same concept, it is essentially a focus on the states of the real, rather than on transformations of reality.

Cognitive development is divided into four main stages, each containing a qualitatively different structural organization. It is important to note that Piaget conceptualizes the completion of each stage as a moment of qualitative mental transformation and cognitive closure. That is, despite functional continuities, the child's view of reality is henceforth different, while the internal means at his disposal for understanding the world have substantially changed as well.

The initial instance of "closure" occurs in conjunction

with the transformation from action to the realm of representational intelligence through the interiorization of imitation, with the simultaneous emergence of three interrelated capacities: permanence of person and object, construction of a sensorimotor causality, and the capacity to internally represent the group of displacements, whereby movements of the self and objects in space are organized and endowed with permanence. The coordination of these acquisitions with each other stabilizes external reality and the child's ability to function in it, with the knowledge that the world's continuing existence is independent of his perception and actions on it. It is at this juncture that language also emerges, and becomes an increasingly important aspect of the emerging socialization of the child.

During the preoperational period, thought is not yet "logically" organized, as the child embarks on a lengthy period in which he will redo on the plane of abstraction all that was accomplished in the world of action. He is egocentric in his orientation, and the "decentering" process will encompass the next five years of life. Reasoning during this period is still pre-logical, insofar as it is non-deductive and based upon identities, analogies, and the perceptual aspects of a given situation.

The second instance of closure occurs with the onset of concrete operations, and the interdependent developments of conservation and reversible thought. These two acquisitions will coordinate the domains of number and

measure, reorganizing earlier sensorimotor and pre-operational thinking into a structure of totality governed by laws of logical necessity. Identities are further consolidated as the child now conserves the invariant aspects of experience regardless of their perceptual forms and transformations. This new intercoordination and regulation of the schema also permits the child to construct superordinate classes and conceptualize the ordering of time and space. Given this flexible mental organization, the child can now decenter from his formerly egocentric position, attend to several aspects of a situation simultaneously, and consider the other's point of view in relation to his own.

Two further general notions regarding the origins of thought are particularly pertinent to this research. Insofar as all thought has its roots in sensorimotor schemas, the later capacity for abstraction originates during the preverbal stages with partial conservations of invariant aspects of experience. This capacity to conserve at each level of representation is intimately related to the coordination and comprehension of transformations and states. Their organization, according to Piaget, stands as a fundamental and necessary means by which the child is ultimately able to "know" the real.

Despite the reorganization of thought which occurs with the onset of concrete operations, the reasoning process is still constrained, insofar as it is still governed by

the limits of the here and now, actual and concrete. Residual aspects of the once determining perceptual appearance of objects still exerts some influence on the thought process. It is not until adolescence, and the consolidation of formal operations that the child will be able to grasp the notion of a world of infinite possibilities and then speculate upon them.

The following is a detailed presentation of the cognitive landmarks that occur during the sensorimotor and preoperational periods of thought. Its inclusion is both for purposes of providing a complementary structural perspective with the psychoanalytic view of development, and a comparative base against which the cognitive dysfunctions of childhood psychosis may later be contrasted.

The first month of life, the stage of reflexes, is a time in which objects have no existence except as the neonate's reflexes bring him into brief contact with them. The second stage, that of primary circular reactions, shows some advances over the previous one. Through motoric repetition, innate reflexes have been stabilized, forming consistent schemas within the infant's behavioral repertoire. During this stage the infant repeats and stabilizes acquired behavior patterns. Gradually, he begins to grasp what he sees, and look at what he holds, until through mutual assimilation and accommodation, grasping and looking schemata are coordinated. Objects, as well as notions of time, space and causality exist as a function of the child's

activity, and intentionality consists essentially of action for its own sake.

The child's accidental discovery that his actions have an effect on external objects initiates the third stage, that of secondary circular reactions, which lasts from approximately five through eight months. With this major step forward, goal-directed behaviors have begun. The child's efforts are gradually differentiated from their potential external effects as he develops a variety of differentiated procedures designed to make interesting spectacles last. In their later, abbreviated though repetitious forms, these prolongations have a "magical" aspect, as though the desired object could be summoned or compelled to perform in a particular manner through the execution of the motor act itself. According to Piaget (1936) these capacities indicate a beginning process of interiorization of actions, some capacity for reversibility, and the conservation of the environment. As the latter necessitates a fuller accommodation to the realities of the environment, there is a progressive differentiation of assimilation and accommodation during this substage. A new point in the construction of reality is also achieved, for as the child runs through his available repertoire of anticipatory schemas, seeking the one that will produce the desired effect, the search reinforces the object's external to the self properties. Ultimately, these motor variations will be transformed into true detour behaviors.

Several new developments occur across the continuum of infralogical relation. Primitive notions appear of a proximal space that is composed of a relationship between objects and their displacements. However, the status of the object in space is still tied to the child's own actions. Thus, changes in the infant's position remain equivalent to a change in the state of object in space. The infant appears to have also acquired some notion of sequence, in terms of before and after. Nevertheless, his behavior as Piaget phrases it, remains essentially conservative in nature. Imitation is confined to familiar models, and true intentionality is still lacking. Despite some differentiation of action from objects, permanence is attributed to objects through actions in progress, while causality remains tied to "magical" procedures.

The last quarter of the first year of life initiates a particularly crucial period in the infant's development. In the affective sphere, it encompasses the time in which self and object representations begin to differentiate. The concurrent major cognitive change will be the coordination of the secondary schemata with each other. Their de-contextualization (Wolf, 1960) and mobility will permit the child to freely utilize them as either means or ends in new situations. True intentionality emerges, as the child can no longer be diverted by happenstance midway to the goal. His new capacity to delay and detour reflects the increasingly internalized representation of the desired

object as it is being progressively freed from its action context. New coordinations of the relational dimensions appear at this time as well. Notions of in front and behind help stabilize space, and presage the reversibility achieved at a later time in development. Successive states of the child no longer lead to his apprehension of objects as being transformed into different objects, and time comes to mean before and after, now and the past. Simultaneously, actions are comprehended as causes, displacements of objects their result.

By one year of age, and the advent of tertiary circular reactions, the child has reached a state of perceptual object constancy. Permanence of object and person, space and time are still affected by perceptual contact with the object; yet to a great extent, they have been freed from their action context. As the child continues to differentiate himself from his actions, objects are increasingly assigned the power of independent causal action which is not activated by his power. Although he can now invent new means to reach a goal, lacking the capacity for full mental representation results in the persistence of trial and error behaviors. For the same reason, causal inferences are still beyond him, and each mentally anticipated solution must be concretely applied to the object before the next procedure can be tried out. Nevertheless, by the end of stage 5, (16 months) the thrust of the child's behaviors is towards the exploration of the novel and unknown features

of his environment.

The sixth stage completes the sensorimotor phase of development, with the achievement of a full range of permanencies. The child of 18 months can now retain a mental image in his mind in the absence of any perception of the object. Not only do objects endure when out of view, but their existence is now within a world with organized spatial and temporal properties. This appreciation of space implies the full internalization of the group of displacements, making it possible to retrace one's movements or find alternate paths of movement to return to the point of departure. Most importantly, the child's own inner space is both contained and differentiated from external space. External space has become a container for his own body, which now becomes one object amongst many to be contained within space. The cognitive reorganization of this time also brings with it a heightened awareness that factors external to the self are involved in causal sequences, and that others are capable of acting as independent centers of causality. As representational intelligence is established, language is increasingly used as a tool of communication, a socially shared sign which slowly replaces the earlier action mode. The child emerges from this moment of qualitative mental transformation with a new sense of his own identity and continuous existence across time and space, despite multiple displacements and transformations.

Despite these major accomplishments of the sensorimotor

period, the child will remain enmeshed in his primarily egocentric orientation. It will take the next five years, and the advent of concrete operations which again reorganizes mental operations, for the final decentration to be accomplished.

The period of preoperational, or "intuitive" thought is that time between the completion of the sensory motor stage and the reorganization of intelligence into a flexible structure of totality with the consolidation of concrete operations. The child is still unaware of himself as the thinker of the thought, a mental status which pervades all aspects of his functioning, and leads to his continuing confusion of self and others insofar as his wants and desires distort his thoughts. As Piaget has stated, "The decentering of cognitive structures necessary for the development of operations is inseparable from the decentering of affective and social constructs" (1969, p. 95). Thus, the child's egocentric orientation to the world determines the nature of his logic, his language, and his social relationships with others.

Piaget has studied the formal characteristics of the child's reasoning at this stage, noting that it tends to neither deduction nor induction, but follows a course described as transduction; the child reasons from the particular to the particular without ever arriving at the general. Some additional features of egocentric thinking distinguished by Piaget are the following: syncretism,

the tendency to connect everything with everything, with the parts being ignored for the whole; juxtaposition, wherein ideas are aligned but not related, with the whole ignored for the parts; artificialism, the notion that external agents created natural phenomena; participation which assumes human actions and natural processes interact and are related; and animism, the investment of the inanimate world with human-like powers and forces. While the characteristics described are part of a normative, passing developmental phase, the overt similarities between preoperational reasoning and the psychotic thought process are striking.

Language also will undergo a major transformation during this time period, and increasingly fulfill the important adaptive function of furthering socialized communications which, in turn, lessen the egocentric orientation. Increasingly, descriptive language will supplant and objectify actions in progress and be substituted for them. As development proceeds, the child grows more capable of using arbitrary, socially agreed upon signs, or meanings, in his communications with others. In the overall process of decentration, signifiers (personalized, idiosyncratic meanings) a crucial step in the consolidation of secondary process thought. With Rapaport (1951, footnote 16), Piaget believes language to be the fundamental means by which individual thought becomes socialized and divested of its idiosyncratic meanings. It is through the burgeoning,

shared, social communications which depend upon mutually comprehensible significations that the signifier is separated from the signified.

The social aspects of play, wherein the child gradually comes to comprehend and agree upon rule governed games with peers also furthers the process of decentration. The child, however, cannot begin to establish a genuinely cooperative attitude until that time when he will be able to appreciate and coordinate various points of view and thus establish reciprocal relationships.

Moral development and the faculty of judgment proceeds on a similar course of decentration throughout this time period, and is in certain ways conceptualized by Piaget in a manner similar to that proposed by the ego psychologists in their formulations regarding the establishment of the superego. Piaget has stated that from the moment of the formation of the object concept, affects are enduringly attached to inner object representations. The child actively strives to imitate his love objects throughout early development. At a point in development where the child's autonomous wishes strongly diverge from those of the love object, the admired features of the love object are internalized (Piaget, 1969). I have inferred that Piaget here is referring to the internalization of the wishful self and object images and the formation of the ego ideal. Out of the child's narcissistic needs to sustain his self-esteem (valorization, in Piaget's terms) he endeavors to gain

continuing parental approval and love, while simultaneously remaining in awe of adult authority and fearful of it. Parental models, then, are the sources of moral obligation and the sense of duty.

It is difficult to ascertain Piaget's notions of identification as this terminology is rarely referred to in his writings. He does postulate a moment in time during the last quarter of the second year of life which implies a shift from imitations to identification. The transition occurs when the child no longer derives interest solely from an identity with the model, but also from similarities that also encompass differences (1965). Identification, then requires differentiation, while imitation does not necessarily do so, although both rely upon affectivity to supply the motivational "interest" in the model. In the context of moral development, identifications are derived from both imitation and respect for the model (Piaget, 1965).

A further outcome of the cognitive transformations that occur at the conclusion of this stage of development will be the emerging reflective capacity of the child. Piaget has commented that while imitation may be crucial to the consciousness of the self (individuation), it is limiting insofar as it only conveys that which the individual derives from an acknowledgement that one is different from others (separation) and implies both a capacity for comparisons with others and continuous self-

reflective judgments of these comparisons. It also implies the shift from imitations with the wish for sameness to identifications and the desire for likeness, although Piaget does not comment on this. He does, however, regard the emerging capacity for self-reflective awareness as a major accomplishment of the reorganization of thought.

Piaget and the ego psychologists appear to be in overall agreement regarding the general outcome of this stage of development, for after this cognitive transformation and the conclusion of the oedipal phase, the child's view of the world is vastly different. As Hartmann (1956) stated, "The transition from 'egocentric thinking' to recognizing the relativity of qualities depends on the insight into the relativity of the 'me'" (p. 42). Reciprocity and the coordination of perspectives replaces egocentrism and the satisfaction of immediate wants. The child can now become a seeker of objectively verifiable truth, rather than remaining invested in the immediate results of his actions. A psychoanalytic view would point to the new internalized capacity for conscience and guilt, increasing impulse control, repression as a stable defense, and a new capacity for sublimation of drive-related aims into social and educational interests. Both theories would concur on the new ability to perceive the world as it is, divested of much of the magical quality which permeated preoperational thought. External reality is, and imposes its own demands which are perceived as logical necessities

separate from the wishes and fantasies of the subjective self (Voyat, 1976).

This concludes the presentation of the normal unfolding of sensory-motor and preoperational thinking. Piaget has elaborated a structural model in which cognition unfolds in an orderly, epigenetic fashion, and described in detail the ways in which the child comes to know the real. The invariance of this sequence is an essential postulate for the theory, insofar as each stage is determined by the previous one and prepares the way for the succeeding one. In the literature review, I will present several counter-examples of the cognitive disarray that may obtain if the structure of cognition itself, rather than its functional aspects, deviates from the norm.

Summary:

These two structurally oriented models tend to focus not only on differential aspects of personality formation but also explore two different realms of cognition. Proceeding from the notion of the drives and the determining effects of the object relationship, psychoanalytic theory has primarily considered affect-dominated thought (primary process) and sought explanatory constructs for the means by which rational thinking (secondary process) emerges. This accomplishment is virtually synonymous with reflective self-awareness and the capacity for reality testing. Here, the emphasis is on the mechanisms by which external reality

and internal reality are differentiated, and the processes by which reality testing is consolidated and stabilized. Piaget's consideration of cognitive development is seemingly grounded in the conflict-free cognitions of the "autonomous sphere", but also describes the means by which the child constructs internal regulatory structures which will free him from the distortions he projects onto the real due to the immaturity of the structures themselves. In place of the regressive pull of the drives, Piaget postulates the regressive pull of immediate perceptions. To think, for both Piaget and the psychoanalytic theorists, is to be able not only to delay actions on the world, but also the finding of suitable means by which to achieve this goal. In this sense, then, the development of the thought process is central.

For both theories, autonomy from regression is intimately related to an ongoing process of structuration that furthers the mutually complementary processes of separation and individuation within a context of maturing social interactions. As Piaget has stated:

> "The cognitive schemes which are initially centered upon the child's own action become the means by which the child constructs an objective and 'decentered' universe; similarly, and at the same sensorimotor levels, affectivity proceeds from a lack of differentiation between the self and the physical and human environment towards the construction of a group of exchanges or emotional investments which attach the differentiated self to other persons... we must not be surprised to find a marked parallelism in their respective evolutions." (1969, p. 21)

As Piaget does not accept the notion of either the drives or a dynamic unconscious, he does not consider the potential effects of the drive organization on the process of structuralization. His theory considers solely the structural aspects of any given stage of thought, within a unitary model of thinking. Importantly, he neither discusses the formal features of primary process ideation - mobility of cathexes, symbolization, displacement, condensation - nor does he view the primary process to be a particular structure of thinking, with its own logic and course of development. Object relations theorists, on the other hand, have considered the modulating effects that representational thinking has on the level of structural organization. They have particularly emphasized the transition from the realm of action to that of interiorized thought, as it necessitates the binding, detour, and delay of drive dominated wishes and more primitive libidinal and aggressive strivings. Impulsivity, the lack of internal controls, and a propensity for "acting out" are frequently considered to be diagnostic signs of the more severe pathologies.

Arieti's studies of adult schizophrenics led him to observe that following a break with reality, these patients' thought processes reintegrated in a significantly different structural form. This form followed the rules of a personalized, associative logic, reminiscent of the egocentric thought patterns of the young child, and Arieti's

work is outstanding in its integration of affective and cognitive aspects of psychotic thought. Nevertheless, his analysis is conceptualized as a cognitive-affective regression, and he did not investigate the nature of a comparable structure of thought in childhood which was still in the process of active construction.

Despite their differences, both analytic and Piagetian theories regard the mechanisms of internalization to be the fundamental means of structure building. Moreover, many contemporary analytic theorists would agree that the level of cognitive development influences the nature and quality of the internalizations at any given stage of development. For Piaget, internalization is explained by the assimilation-accommodation paradigm. The psychoanalytic notion involves a complex interaction of projective and introjective mechanisms, the drives, and the quality of object relations. As will be discussed in the literature review, many psychoanalytically oriented therapists have noted the bizarre identifications, inappropriate stereotypic behaviors and confused linguistic prcductions of psychotic children. In the main, they have tended to examine the distorted object relations that such children present, and have not sought to investigate the cognitive aspect. Piaget has not discussed pathological outcomes, this being neither his interest nor necessary to his theory of thinking. Moreover, his theoretical premises do not "accommodate" to the notion of a deviant structure of thinking due to

the postulate of sequential invariance in the unfolding of the stages. By implication, however, a defect in either assimilation or accommodation might substantially effect the nature of the internalizations, and hence the structure of thought itself.

CHAPTER II

REVIEW OF THE LITERATURE

INTRODUCTION:

Psychoanalytic and Piagetian propositions discussed in this literature review constitute a theoretical base from which the hypotheses regarding the cognitive and affective functioning of a psychotic child may be understood. For purposes of clarity, cognitive and affective aspects will be examined separately and in some detail, although their complex interaction will be assumed throughout this discussion. While a comprehensive contrast and comparison of these two major theories will not be attempted, as this has already been discussed elsewhere (Wolff, 1960; Greenspan, 1979), parallels will be suggested as they appear to be relevant to this research.

I will begin with a brief review of the literature on borderline psychosis in childhood, which provides an overview and phenomenological account of the interactions that obtain between these children and their therapists, and suggest a possible taxonomy within which the case under discussion may be placed. Following this, empirical considerations will be presented. The final section of this review will be a discussion on the role of imitation in the construction of the self.

Psychosis in Childhood:

Geleerd (1958), in a review of the literature to date on extreme pathological states in childhood, noted that all authors considered childhood psychosis and borderline conditions to be related to severe ego pathology, having its point of origin in the development of object relations with the mother. She hypothesizes that an impoverished state of object relationship with the maternal figure leads to an intrapsychic state in which insufficiently neutralized instinctual energy effects the normal unfolding of ego functions. In a clinical discussion of her own cases, Geleerd notes the absence of libidinal object constancy, the prevalence of hyperaggressivity, and the presence of extreme panic-anxiety states. She comments on these children's prolonged reliance on infantile fantasies of omnipotence which permit an illusion of total control of the love object, and by extension, the world. This particular fantasy, whatever its specific content in any given case, exerts a pathognomic effect on the entire emerging personality structure, limiting the child's ability to relinquish an infantile mode of relationship for a more age-appropriate, reality-oriented style. She concludes by speculating that the entire pathological state reflects a failure of the synthetic function of the ego.

Noting the multiple deviations in ego functioning and maladaptive patterning of object relationships, Rosenfeld and Sprince (1963) arrived at similar conclusions. After

examining the overt symptomatology of various borderline and psychotic children, they concluded that the child's failure to attain a mediational structure of true signal anxiety which would evoke a firm hierarchy of defenses promotes an escalation into diffuse panic wherein reality contact is lost. As the child's fantasied omnipotence is threatened, he reverts to primary process ideation as a defense against the feelings of disintegration and annihilation that are aroused under these circumstances. The authors note the children's hyperaggressivity, and postulate its derivation from a lack of fusion of libidinal and aggressive drives, with a concomitant deficiency in the capacity for neutralization. Their observational data reveal the children's limited degree of self-object differentiation, and ever present tendency to revert to states of primary identification and merge with their love objects. Rosenfeld and Sprince speculate that the continuing inability to separate out self and object representations intrapsychically, and the failure to establish firm self and object boundaries may indicate that the ego's capacity for internalization has been impaired, although they do not go beyond this statement. Phenomenologically, their patients failed to establish a firm sense of reality testing, were frequently incapable of distinguishing between thought and action, and had significant difficulty effecting the transition from concrete to more abstract levels of thought. In relation to their therapists, their patient population appears to be

in the early stages of imitation, which constitutes one of the earliest forms of active identification.

Ekstein (1966, 1971) has described a group of borderline children whose pathology is characterized by rapidly shifting ego states. The shift into a more psychotic state is precipitated by threats to their fantasied omnipotence, while their tenuous hold on reality is in large measure determined by their ability to be in empathic contact with their therapist. Although the shift to the psychotic state averts the panic, and thus has an adaptive, defensive function, it also insures the maintenance of a dual level of ego organization, ultimately a grossly maladaptive response. In contrast to other authors, who tend to view their borderline patients as fragmented, Ekstein understands these flights into a more psychotic organization and the stereotyped play of these children as evidence of a highly structuralized rigid organization, reflecting early difficulties in mother-child interaction.

Fast and Chethik's (1972) observations of borderline children are formulated in terms of an arrest of development in a state of transitional object relations, midway between the formation of a pleasure ego and a reality ego, with primary defenses of externalization and projection. The object exists "out there" in reality, but is reacted to in terms of the child's fantasies and projections, rather than as an independent, differentiated object. They stress the child's intense need to maintain the object as the final

tie to reality, thus defending against an underlying fear of disintegration and annihilation. They too note the failure to develop the normative mediational defensive structure which leads to a capacity for signal anxiety and anticipatory functioning. For these children, minor external threats engender panic - while each threat is perceived as happening for the very first time - and panic is followed by a massive defensive regression to primary process thinking. They contrast the purposeful progressive movement towards the external world that is readily observable within normal development with their patients' fear and denial of that reality, and lack of separateness (Modell, 1961) from their objects. They conclude that this committment to an external world, and a reciprocal, gradual acceptance of its limitations on the aims and desires of the self, to be the fundamental basis for sound reality testing. The source of their patients' incapacities is formulated in terms of a deficit in early object relations, wherein self and other images remain merged, rather than being transformed and modified in accord with external reality. Hence their patients' reliance on projection, whereby external objects become the recipients of internally elaborated "other" parts of the infantile self-other bond, regardless of the objects true reality status.

In a major systematizing effort, Pine (1974) attempted a differential classification of those behaviors frequently subsumed beneath the catchall term "borderline". He suggests

that the varieties of pathology manifested by children described in the literature rest upon a common base: their aberrant behaviors are the result of a primary developmental failure which has significantly interfered with aspects of ego functioning, and has led to severe deviations in their object relations. Normative developmental achievements of the neurotic child have never occurred; ego functioning, object relations, superego development are either deficient, deviational, or both. He distinguishes the "parent" phenomenon of the borderline group to be those children who show chronic ego deviance, wherein the failures in object relations, inadequate reality testing, use of inappropriate defenses, failures in establishing phase dominance of drives, and lack of the true signal function of anxiety point to an inability ot the ego to exercise its normal synthesizing function. Three further discrete groups are discussed: children whose pathology manifests itself as a massive shift in overall ego organization (as delineated by Ekstein), children whose internal disorganization is largely reactive to external disorganization, and those children with an incomplete internalization of psychotic mechanisms, for whom the psychotic features constitute an attempt, however pathological, at reinstituting the symbiotic relationship with a parental figure. He proposes retaining the categories of infantile autism and symbiotic psychosis as discrete diagnostic entities, and suggests a model for childhood schizophrenia based

primarily on regression. In essence, he proposes a group of continuous typologies which he regards as neither mutually exclusive nor exhaustive, wherein the diagnostic position will be in terms of a relative clinical description reflecting the developmental status of the child and the internal structural flux of the pathology. According to Pine, the child to be discussed in this research would fall within the group designated by him as chronically ego deviant, with marked features of the subgroup composed of children with rapidly shifting ego states.

Various individual case studies (Elkisch, 1956; Furer, 1964; Bergman, 1971; Kupferman, 1971) provide detailed clinical descriptions of these massive failures of development. In all cases, the authors distinguish a repetitive lengthy list of characteristic pervasive deficits: inability or difficulty in distinguishing internal from external reality, self from other, reliance on infantile omnipotence and failure to accept the logical necessities of reality, verbalizations which are frequently bizarre in their content, lack of phase dominance, and hyperaggressive behaviors. Of particular note in all of the crosscase literature on borderline states in childhood is the heterogeneous, shifting quality of the thought process itself, which flucturates between primary and secondary process modes of expression with the child's varying affective states.

Empirical Studies:

Empirical studies are few, and the populations vary from latency through adult; hence, comparisons are extremely difficult. For some authors, the finding of a differential cognitive structure in psychotic children emerged as a byproduct of their primary investigation, and came as a surprise. Despite differences in the methodology used and the noncomparable nature of the populations studied, the findings as a whole are remarkably consistent with one another.

The work of Bellak and Hurvitch (1973) suggests some possible areas of overlap between affect and cognition. In their research with adult schizophrenics, they discovered a direct relationship between their subject's capacity for reality testing, snese of reality, control and regulation of the drives and their ability to maintain more stable cognitive functioning. That is, their subject's apprehension of the real was significantly interwoven with the ability to sustain an abstract attitude, permitting logical deductions from observable events.

Bemporad (1973) compared the cognitive functioning of disturbed and nondisturbed children ages 7-11 as a function of different treatment settings. As a byproduct of this study, he noticed that a marked increase in egocentric performance on the Piagetian tasks administered was paralleled by the severity of the child's disturbance. His more psychotic subjects had difficulty in separating themselves

from the objects that they were manipulating, and continued to rely upon earlier sensory-motor action schemes to recognize external factors involved in causal sequences. Although he did not undertake a specific analysis of the dynamic aspects of his patient's reasoning, his finding appears to indicate a reciprocal process of interaction between egocentric thought and degree of socialization.

The role of socialization in the furtherance of secondary process thinking, and the importance of shared communication, has already been discussed (Piaget, Rapaport). More recently, Voyat (1978) has re-emphasized the developmental parallels between progressive socialization, the emergence of mutual cooperation, and the capacity for rational thought. In this view, a language of socially shared meanings is a necessary, although not sufficient, fact to guarantee logical thinking. Bemporad's conclusions regarding the role of the treatment setting in the therapy of severely disturbed children are fully in accord with these hypotheses. He believes a major function of the therapeutic milieu to be the provision of opportunities for multiple appropriate social interactions, and recommends that psychotic children have access to many warm, caring adults with whom they may possibly develop meaningful communication.

Two recent studies of psychotic adolescents have yielded several intersting findings. Christ (1976, 1977) and his associates tested their patient population on a variety of cognitive measures, including Piagetian tasks. The results

indicated that none of the patients tested had achieved conservation in any stable sense; that is, their attempts to conserve did not generalize across concepts. In Piaget's terms, this would indicate that conservation was not yet structural for them. They were also unable to classify, a difficulty related to an inability to comprehend the notion of logical necessity inherent in the tasks presented to them. As a group, their thinking was markedly egocentric, in that personalized association intruded into their comprehension and execution of the tasks presented to them, while their reasoning included many features typical of the period of intuitive thought as well. An important observation made by Christ was that cognitively, some of his subjects appeared to be arrested at the stage of secondary circular reactions, a cognitive status normally reached between four and eight months of age. The implications of a failure to achieve the coordination of the secondary schemata with each other are profound. It may be recalled that this coordination effects the entire realm of cognition and that of affect as well; it is the moment in which the child shifts from a more passive stance to that of intentional, goal-directed behaviors. Changes in the child are no longer equated with a change in the object and actions are to some extent understood to be causes. It is also the time of a major transition to the world beyond mother, a moment in which a new level of individuation is achieved, and one frequently observes both a marked stranger reaction and the

creation of the transitional object. In a discussion of his results, Christ notes the heterogeneity of these children's cognitive stages, and interprets these findings with a view towards educating both mental health professionals and parents of such children of the functional limitations these cognitive deviations imply.

Farnham-Diggory (1966) tested a group of normal, organic, and psychotic latency age children on the TAT, WISC-R, and various self-concept measures, including a subjective life expectancy questionnaire. On this measure alone, the psychotics differed significantly from both the normal and brain-damaged groups; 75% of these children did not expect to die at all. The psychotics also differed from the other groups insofar as the low stated expectancy of death seemed to be associated with correspondingly high degrees of TAT death imagery. In the analysis of her results, Farnham-Diggory noted that the pattern of samples of cognitive structures relating to self, future and time is not the same for psychotics as the normal or brain-damaged children.

The psychotic group as a whole seemed to exhibit what she has dubbed the "Peter Pan syndrome": suspiciousness of others, a need for immediate gratification, retreat from time, and a general refusal to either grow up and assume adult responsibility or to die. These descriptive features constitute the operational definition of one who exists in a kind of Never-Never-Land. She contends that the absence of the conceptual notion of a future self has to effect the manner in which such children behave in the present. As

the self-esteem of psychotic children in her sample falls as their capacity to understand their own deficits increases she contends that the future, by implication, has a very different meaning for them than in either of the other two groups.

In her conclusion, she speculates on several important questions that arise from the responses in the psychotic population: do their immature images and constructs stem from unconsciously affectively determined wishes, or do the primitive wishes result from an already impaired cognitive system? Descriptively, the children in her sample did manifest severe deficits in their symbol system; they were bound by the context of the perceived here and now, they could not abstract a quality or an idea, or an aspect of something or use this in new ways, and, importantly, they could not take the creative step of putting together two things they knew into something new that they did not already know. Reasoning from these results, she strongly questions the assumption that dynamic interpretations over a course of psychotherapy will automatically correct the impaired cognitive process, and asks if it were possible to help the child formulate abstractions and concepts, would the affective aspect then change. She suggests further investigations to more precisely determine exactly what kind of thinking psychotic children actually do. In this very interesting paper, Farnham-Diggory poses precisely the questions that are of concern in this present research.

Inhelder's explorations of the nature of thought in neurotic and psychotic children (1966, 1971) provided further evidence for a possible nexus of interaction between the cognitive and emotional aspects of development in such children. These comparative investigations have led Inhelder to perceive and distinguish between the normal oscillations of two successive levels of thought to be observed among neurotic children, and the prevalence in psychotic children of varying levels of reasoning which fluctuate and co-exist simultaneously without further integration. That is, her psychotic subjects presented an abnormal decalage, with unusual difficulty in achieving operatory reversibility. When confronted with the tasks, they were unable to decenter sufficiently to maintain an abstract attitude towards the test materials and the examiner. The psychotic children studied did not manifest a stable capacity to conserve, and had enormous difficulty when required to mentally compensate for perceived transformations of the states of objects. Like Christ's population, these children seemed to regard actions, or transformations of the objects to be equivalent to changes either in the objects themselves, or the nature of their abstract relationship with each other.

Rather than accommodate themselves to the tasks at hand, the examiner's inquiries were frequently assimilated to their highly idiosyncratic modes of thinking, in which internal fears and needs prevailed over the more normative task attitudes. Inhelder also comments on the concomitant

rigidity that permeates their symbolic functioning; its hallmark being the absence of a capacity for symbolic substitution, and the continuing fusion of the signifier and the signified. While her analysis and inferences are within the Piagetian cognitive-developmental framework, Inhelder attributes the overt disturbances in reality testing to an internal confusion which manifests itself as a failure to differentiate reality from the mental symbols which indicate it. Speculating on her results, Inhelder poses the notion of a possible interaction between cognition and affectivity, and notes that the motivational force that otherwise directs the child towards an adaptation to external reality appears to be absent in this population.

Schmid-Kitsikis' studies (1973, 1976) of the cognitive development of psychotic children lends further credence to the hypotheses and speculations advanced by the previous authors. In her initial inquiry, Schmid-Kitsikis studied 50 psychotic children age 7-12 years on tasks of conservation and seriation. These results were then compared to those obtained with a dyspraxic population. The two populations were readily discriminable, for despite their mutual reliance on egocentric thinking, the thought processes of the dyspraxic sybjects were grounded in a normative structure of integrated thought. The psychotic subjects presented an abnormal decalage, simultaneously using both pre-operational and concrete operational reasoning, at times in the same response. A further analysis of these results

revealed not only a lack of coordination in the reasoning process itself, but also the presence of what Schmid-Kitsikis has designated "conflict avoidance" and "reality transformation" mechanisms. Behaviorally, these mechanisms served to transform the experimental situation into one in which the subjects, driven by their own internal necessities, controlled the interaction. Hence, they either altered the experimental data, or sought to depart from the presenting reality situation by creating a new subjective one. She also noticed their need to constantly create identities where none actually existed, and conversely, to negate the recognition of differences between objects. As these children could not tolerate a potentially uncontrollable situation, they displayed a driven urgency to see the results of transformation of objects prior to answering the questions posed by the examiner.

Her subsequent research with a population of 15 psychotic subjects yielded similar results. The same deficits were observed in regard to cognitive structuration; that is, the most notable feature of her subject's cognitive acquisitions was their lack of coordination and regulation. These peculiarities resulted in the majority of her subjects not achieving conservation of matter. Here, their logical reasoning was consistently interfered with by the perceptual aspects of the tasks, and an inability to make symbolic substitutions. In her rather cautiously worded conclusion, Schmid-Kitsikis speculates on the possible construction of

a logic of actions wherein each action contains its own independent causality. Such a situation would effectively preclude the coordination of action schemas with one another, thus negating the formation of a unified, logical structure of thought. She also suggests that for these children, cognitive factors alone are not sufficient to explain their intellectual performance.

The most extensive investigations into the possibility of a structural interface between cognition and affectivity have been conducted by Dr. Gilbert Voyat and his associates. Presenting evidence within two early studies (McGloughlin, 1976; Shackleford, 1976) tends to confirm the hypothesis of a cognitive organization that is qualitatively different from that found in normal development. Chronological age notwithstanding, their psychotic subjects were consistently unable to perform on selected cognitive tasks - particularly those involving object permanence and conservation - two operations normally achieved during an earlier period of development. Their findings strongly suggest an interplay between their subject's moments of cognitive collapse and the emergence of specific, affectively charged fantasies. Oram's more recent research (1978) with psychotic latency age children substantiates the findings of these two previous inquiries. Oram tested her subjects on the Piagetian tasks of one-to-one correspondence, seriation, and class inclusion, as well as on the Rorschach. Despite their ages, these children exhibited extreme difficulty in accomplishing

cognitive tasks which should have been readily within their grasp. They also presented the experimenter with an abnormal decalage, insofar as the usual orderly, invariant succession of cognitive development appeared to be reversed. Some children were totally unable to establish a simple one-to-one correspondence normally accomplished at 5 years of age. The achievement of one-to-one correspondence usually indicates a beginning ability to move beyond perceptual immediacy. Those patients who had not achieved this first cognitive closure experienced the most difficulty in maintaining their reality testing. She speculates that affectively, the notion of sameness with its implications of a symbiotic fusion may have been overwhelming for these children. Class inclusion, a task concerned with the elaboration of part-whole relations, although troublesome, was accomplished prior to the achievement of seriation. This latter operation, which requires the child to concretely establish a differentiated series of spatial relationships, posed the most formidable difficulties for this subject population. As in other studies, the act of construction itself seemed to alter the fundamental nature of the abstract relationships between the objects. Her subjects could not sustain the notion of spatial differentiation on which the task of seriation is predicated. Oram has commented that these performance difficulties appeared to be the result of her subject's imposing an intentionality derived from an internal drive state upon the neutral materials presented

to them.

A major contribution to the understanding of the formal characteristics of psychotic thought in childhood has emerged from the investigations conducted by Voyat (1978). His sample consisted of thirty latency age children who were tested on a variety of Piagetian tasks, with a particular focus on one-to-one correspondence, conservation of matter, seriation, and class inclusion. This choice of tasks was dictated by virtue of their constituting the necessary underpinnings of rational thought processes. In general, his findings are consistent with those of Inhelder and Schmid-Kitsikis, as they revealed that these children had both a different hierarchy and equilibrium in their organization of these cognitive operations. His subjects had consistent difficulty in disengaging from the perceptual features of the materials, which took the form of a genuine inability to form neutral abstractions. Rather than eliciting a normal process of symbolic substitution, the task demands were distorted in the direction of affectively determined personalized projections onto the entire experimental situation. These projections then assumed the status of reality.

One particular problem for these children that emerged rather clearly was a difficulty coordinating states and transformations. They not only were unable to reason by operatory reversibility and verbalize justifications which demonstrated a comprehension of logical necessity, but

their capacity to maintain contact with reality was also significantly affected by the number of perceived changes in the experimental situation. This inability to sustain reality testing in the face of change was further reflected in the overwhelming rigidity of their thought processes. They neither learned from their mistakes, not demonstrated the usual oscillations of thinking typical of transitional preoperational children, a stance which suggests that the absence of fluctuations may be an adaptive process, given their incapacity to mediate changes. This rigidity may also serve an important defensive need, namely, that of sustaining their precarious sense of cohesiveness in the face of terrifying fantasies of dissolution.

As in the other psychotic populations studied, there was a persistent effort on the part of the children to maintain control of the experimental situation by either total withdrawal, or a retreat into fantasy. This latter factor frequently changed the nature of the interaction with the experimenter, shifting the level of conceptualization to the perhaps more manageable concrete and personal. While this diminished the threat of uncertainty inherent in the situation, and enabled the child to maintain the illusion of control, it also eliminated any possibility of a mutually playful, imaginative interchange. Interestingly, although the children at times could manipulate the experimental materials correctly, when asked for a verbal justification of what they had just done, their reasoning was strikingly

at variance with their actions. Language was not necessarily an integrated derivative of action; it seemingly existed on its own, and was suffused with personalized associations rather than abstract deductions related to the actions just performed. While all of the deviations mentioned partake of aspects of preoperational thinking, their totality constitutes a significantly different entity from that which is encountered in the normal preoperational child. Voyat concludes that this qualitatively different cognitive organization is not random; it is a deviant structure which serves important defensive and adaptive functions for the psychotic child.

Summary:

As Voyat has stated, rational thinking requires the internal regulation, coordination, and stabilization of the principles of identity and causality. Identity, from a cognitive perspective, is contingent upon notions of reversibility and invariance, despite apparent perceptual transformations. This implies both a capacity to exclude the irrelevant stimuli of a given situation and focus on the essentials, and an understanding of the laws of logical necessity. Rational causality, on the other hand, requires the acknowledgement of autonomous forces in both the objective and interpersonal realms that lies beyond the potentially distorting influences of the desires and intents of the self.

The thought of the psychotic child embodies none of

these organizing constructions. Although features of egocentric thought are present, the structural aspects of normative egocentrism are absent. The psychotic child's thinking bears little formal resemblance to that which emerges during the formative time of transition between the beginnings of symbolic thought and the consolidation of rational thinking. Although islands of secondary process may exist, they are unintegrated, and do not reorganize previous levels of thinking; various levels of thought co-exist simultaneously. As cognitive closure has not been achieved, conceptual thinking is tenuous and non-generalizeable. The overall patterning of responses appears to be determined by an aberrant cognitive structure, and seemingly presents a chaotic, disorderly picture when compared with normal cognition. The particular cognitive modes of an individual child, however, may be quite orderly and lawful, if the pertinent, determining affective paradigms can be understood, and the logic of the primary process is applied. No matter how bizarre, the responses of these children are communications, albeit highly idiosyncratic and personalized ones that are dominated by the needs of a fragmented self.

For these children, there is a true inability to develop beyond these states of fragmentation and achieve an internal condition in which transformations of internal and external reality are differentiated and coordinated with one another. Their very defenses tend to perpetuate a state in which trends towards fragmentation persist and override the normal

complementary process of synthesis, precluding the process of differentiation (Silberman, 1961). This fragmentation also appears to go hand in hand with an inability to tolerate or conceptualize changes. Voyat has suggested that this deficit is a cognitive corollary of the psychotic child's overwhelming fears of annihilation, insofar as changes may evoke feelings of loss of self or other. I would add that the reciprocal case may also be true; synthesis elicits the terror of engulfment, which is but another variant of annihilation. Although these children present with multiple deficits, their overall fragmentation, both cognitive and affective, suggests some problem in the early internalizations. It would seem that the process of imitation, a precursor or identification, does not function in the ways hypothesized by theorists of either a Piagetian or psychoanalytic persuasion, in that it does not lead to further integration and structuralization. The problem of imitation, therefore, will now be examined more closely.

Imitation and the Construction of the Self:

Notions regarding imitation and identity formation are central for both psychoanalytic and Piagetian theory, despite their differential emphases and definitions. In Piaget's conceptualization,

> "Imitation is thus seen to be merely a continuation of the effort at accommodation, closely connected with the act of intelligence, of which it is one differentiated aspect. It is clear from the outset that the problem of imitation is linked with that of representation" (1962, p. 5).

While a construction derived from the action-based processes of assimilation and accommodation, it does not define any specific aspects of the child's relationship to the affective object.

The psychoanalytic conceptualization proceeds from a strikingly different cluster of theoretical assumptions. For Freud, it was important to state what imitation was not:

> "Thus, identification is not simple imitation, but assimilation on the basis of a similar aetiological pretension; it expresses a resemblance and is derived from a common element which remains in the unconscious" (1900, p. 183).

Freud's implication that imitation was a related, but less complex process than identification has been generally adhered to and somewhat elaborated upon by later theorists. In general, imitation is regarded as a particular aspect of the process of identification, arising in the interactive relationship with the meaningful other, thus having an affect-laden meaning. Despite these very different emphases, there is an area of theoretical overlap, insofar as imitation is bound up with differentiations and the attainment of stable identity, both affective and cognitive.

I will first present Guillaume's hypotheses, as he touches on both cognitive and affective aspects of imitation. Following this, I will discuss Piaget's elaborate description of the stages of imitation, which follows his general model of cognition as a process of increasing differentiation and integration of cognitive structures that undergo spontaneous reorganization at various points in development. In so

doing, I will also discuss areas of convergence and divergence between Piaget and Guillaume. Following this, I will present the various elaborations and clarifications regarding imitation as a process which are scattered through the psychoanalytic literature, then attempt a partial integration of these disparate notions.

Cognitive Theories:

For Guillaume (1971), imitation is a learned phenomenon, intertwined with the origins of language, and directed and regulated by the infant's developing memory. The imitative dialogue between mother and child seems, in a sense, to be a type of language, that is sought by the child primarily for its "affective quality". As process, it is behaviorally defined as beginning an "interdependence of common perceptable effects" that lends a "suggestive quality", a "motor and affective significance" to the gestures of others. Imitation thus can become a constructive, creative, aspect of the personality, and fulfill one of its primary functions - an increasing process of socialization in the child. Guillaume viewed the achievement of a conscious awareness of oneself as imitating as inseparable from the development of the notion of the separate self. He states:

> "Imitation enables the child to see himself in the person of another. This objective image is the nucleus within which affective personal impressions are condensed - impressions that are in themselves incapable of becoming distinct objects of thought" (1971, p. 178).

Guillaume distinguishes four distinct phases of imitation:

1) No imitation in the first five months of life.
2) The inability to imitate, with the child able to see his failures, correct them, and progress through continuous effort.
3) Fidelity of imitation during the second year of life.
4) The stabilization of language and a decrease in imitation.

The process of transition from stage to stage was hypothesized to occur by a process of increasingly complex associative transfer, a notion that has been criticized at length by Piaget. Early imitation develops out of prior self-imitations (circular reactions) provided that two preconditions are fulfilled. Cognitively, the child must begin to isolate individual phonemic sounds from the "background noise" of his babbling. Affectively, the phoneme must become a sign; that is, become meaningful and understandable, therefore of greater interest than the surrounding noise.

Initially, imitation consists of the adult imitating the infant. Later, the infant's perception of adult actions will be a cue for a variety of trial and error behaviors in which there is an attempt to achieve a greater uniformity with the model. Further imitations (identifications in a psychoanalytic model) arise from the shared visual-gestural moments between child and adult. This latter notion has been discussed at length by Werner and Kaplan (1963) in their descriptive model of the origins of language. En fin, imitation for Guillaume is the direct route to the differentiation

of the self.

> "It is imitation that gradually causes the self to emerge from the unconscious...The objective self is but one unity like all others, since the infant imitates others and achieves self-awareness in so doing. This is the beginning of the social being...Other people give us an objective image that helps us to make the transition from what is experienced to what is represented" (1971, p. 137).

Piaget has critiqued Guillaume's notions at length; I will summarize those objections and present Piaget's contrasting views. For Guillaume, the hypothesis of perceptions which are interesting and significant in conjunction with continuing associative transfers based on signals from the environment suffices to explain the transition from self-imitation to the imitation of others. As Piaget's view is one of functional continuity, he disagrees with the discontinuity implicit in the associative transfer theory, the notion of perceptions needing to be significant or interesting, and the notion of imitation as learned (externally imposed). For Piaget, the stages of imitation are continuations of the invariant functions of assimilation and accommodation with the intercoordination and regulation of the schemes with each other the means by which self-imitation becomes the imitation of others. Piaget believes the terms "interest" and "significance" to be meaningless, "except in relation to a pattern of action" (1945, p. 17). Perceptions become "interesting" or "meaningful" by virtue of their intervention in the infant's ongoing performance of an action, and are then assimilated to an ongoing sensory-motor scheme. The

assimilation to the schema is simultaneously "motor reproduction and perceptive recognition", or reproductive and recognitive assimilation. This accounts not only for the means by which the child will imitate, but also for the continuity of internal constructions.

Unlike Guillaume, Piaget views imitation as present during the first five months of life, but essentially "conservative" in nature. Action schemas both determine and limit the range of what may be imitated by the infant at any given moment and are an end in themselves. Imitation, then, has its roots in early reflex activity. During the first three stages, imitation gradually becomes systematic, progressing from reflexes to actions the infant has performed, and the beginnings of vocal imitation through the use of visual cues in the direct and systematic imitation of sounds and familiar visible actions. It is not until Stage IV, with the coordination of the secondary circular reactions with each other that the child will be able to combine his previously learned patterns of behavior in new ways. These coordinations establish a functional similarity between external objects and beginning internal representations; that is, insofar as things are now placed in a framework of interrelationship, it marks the genesis of primitive functional classes or concepts, and paves the way for the tertiary circular reactions of Stage V. It is this cognitive organization that presages the final accomplishments of the sensory motor stage of intelligence. Rather than an elaborate

series of associative transfers, Piaget posits the emergence of a new cognitive tool, the "indices", which are mobile signs partially detached from immediate perception and action. The mutual assimilation and coordination of the schemes accounts for the concordance of visual and tactile/ kinesthetic modalities, while the indices make possible both the anticipation of an immediate future, and the reconstruction of the recent past. This also makes possible the "analogical understanding" of the human other, who is now seen, despite the continuing lack of differentiation as being similar-to-the-self. As Piaget has stated, "The body is discovered and known only in relation to other human bodies. The roots of identity are to be found in the complex involving own body X body of another X permanent object..." and is derived from the "functional unity of the exchanges between the subject and his physical and interpersonal surroundings..." (1976, p. 95). For the infant, there are now "partially independent realities which are analogous to what he himself can do and yet distinct from it" (Ibid, p. 50). The infant is now interested in similarities, as well as identities, seemingly on the basis of moderate novelty. Thus, the identification with the social other occurs through the perceived correspondence between the own body and the body of the other. This, along with a new capacity for anticipation and delay, the beginning object-ification of space and causality with other dimly recognized as potential sources of independent causality, and the

differentiation of means and goals come together and profoundly influence the future course of cognitive and emotional development.

With the consolidation of the tertiary circular reactions an entry into Stage V, imitation is increasingly decontextualized from the here and now of immediate reciprocal actions, as imitation of unfamiliar models becomes increasingly systematic and precise, and is modified with respect to the object being imitated. Through trial and error, the child attempts to find the best fit to the new model. Increasing self-object differentiation is seen in the child's knowledge of the correspondence between action and means. During Stage VI, deferred imitation appears, and the child can now imitate a model no longer present. Deferred imitation soon shades over into internalized representational thought, coincident with the construction of the mental image and the onset of communicative language. In the course of development, these two new constructions will continue to be further dissociated from their immediate context. Uzgiris (1972), in a replication of Piaget's exploration of the origins of vocal and gestural imitation and its course of development noted the same epigenetic sequence as described. She noted that initially, the infants in her sample did not differentiate between an act which occurred, seemingly on its own, and an act as the result of another's intent. As the infants' comprehension of a separate self and other developed, they came to understand that an act could be performed by either

on either, or finally, in a reciprocal interchange. Like Piaget, she comments on the possible importance of imitation in the process of self-object differentiation and identity formation.

Piaget has traced the fate of imitations and imagery through the pre-operational period, a time in which the child essentially recapitulates in the social setting all that happened on the sensory-motor level. His imitations are unconscious and egocentric in nature, due to his incapacity to differentiate his own point of view from the group, or coordinate various perspectives within the group. Piaget draws a direct analogy between the preoperational child's imitation through confusion of his ego with that of the peer group, and the earlier sensory motor confusions between internal and external movements. At this stage, the mental image takes the place of the previously external action orientation. The image, a schema of the perceived object, is an extension of the perceptive activity, and is integrated as a "signifier"; in essence, the logical extension of the sensory-motor index. The images of this stage are essentially static, and function to convey and consolidate the knowledge of the state of things, ignoring their potential transformational aspects. Ultimately, images will become anticipatory, and aid in the comprehension of transformations through their function as a symbol which aids in the evocation of prior perceptions (1971, p. 381).

It is not until the beginnings of concrete operations

and the coordination of the figurative and operative aspects of intelligence that imitation, and by extension images, become flexible options available within an organized totality of intelligence. Behaviorally, the reorganization of imitation is then manifested in three different ways. For one, the child who imitates now attends to the detail of that which is imitated. For another, the child is consciously aware of imitating. Most importantly, according to Piaget, he is "discriminating"; that is, he imitates only in response to specific needs (1945, p. 78). These three features define a new level of intelligence, designated as "reflective imitation". These behavioral criteria have been substantiated in a study conducted by Fouts and Liikanen (1975) where forty children were tested on a variety of measures that correlated developmental level, age, and degree of imitation. More mature pre-operational children imitated more frequently, while more mature concrete operational children imitated less frequently and with greater selectivity. These authors concluded that the decline in imitation was directly related to the consolidation of a concrete operational structure of thought which permitted an increasing degree of cognitive flexibility. The progress in the realm of imitation is, however, no more than one specific instance of the massive reorganization of intelligence which occurs at this time. As Piaget states, this new intelligence, in which the figurative and operative aspects are coordinated, and the notions of conservation and

reversibility are consolidated has a "profound psychological meaning, and not only a logical one" (1976, p. 99) insofar as it constitutes a qualitatively different cognitive mode.

The Psychoanalytic View:

Relative to Piaget's detailed exposition of the process of imitation, little has been written in the psychoanalytic literature which bears directly on this topic. In general, imitation is seen as related to and frequently involved in the process of identification, although a certain meta-psychological disarray surrounds its precise definition and function.

Freud (1900), as previously noted, distinguished imitation from identification by proposing that it was a simpler, although related process.

Hendrick (1951) proposed that early identifications arose from the ongoing patterns of imitative behaviors. These patterns were then integrated into the emerging personality structure through the identificatory process, contributing to the development of partial functions.

Jacobson (1954) suggested that the child's early identifications with the mother precede and inaugurate the later imitations of parental behaviors. In a later elaboration (1971) she considered the aim of early imitations to be the merger with the love objects. With the shift from passive to active, the child then attempted to actively imitate the parents. Jacobson felt that although these active imitations were transitional to ego identifications,

their nature was in many ways still magical, and suggested that a necessary condition for the advance from imitation and early identifications to partial ego identifications was contingent upon the development of more realistically toned self and object representations. With increased reality orientation, the child's fantasy changes from the former desired oneness with the object to a wish to be like the object at some future time.

One of the fuller psychoanalytic considerations of imitation is that of Spitz (1953, 1957, 1965). In his earlier writings, Spitz seemed to view imitation as a precursor to identification. In tracing the origins of "no", he noted the direct imitation of gesture after six months of age following the shift from passive to active, as well as the reciprocal imitations of a later age. This later mutuality was regarded by him as of great importance in the formation of object relations. Following Jacobson (1954), he has stressed the significance of parental imitations for the smooth unfolding of the child's object relations, a notion which is supported in the empirical infancy literature (Tronick, et. al., 1974). Later (1965), Spitz placed the appearance of "true imitation" (8-10 months) at a point in time directly following the achievement of the "second organizer", and contingent upon the accomplishment of drive fusion and early libidinal constancy (Hartmann, Kris and Loewenstein, 1946). He implies a relationship between the neutralized energy now available for mastery, and the active

mastery inherent in "true imitation" and early identifications. Identifications then become selective, during the second half of the second year of life, gradually shifting into the partial identifications of the third year. For Spitz, as in the work of Werner and Kaplan (1963), the genesis of language is in the imitative, shared semantic gestures of mutual looking and pointing that occurs with increasing frequency during the second year of life. He is in accord with Piaget's developmental conceptualization of stages of imitation, as what will be imitated is in part determined by the overall level of the child's psychic organization. The selection of the what, however, rests upon the nature of the unfolding affective relationship, and is in large measure determined by the maternal attitude. He views the increasing mastery of imitation, along with the acquisition of action patterns and the functioning of identifications to be the essential means by which the child achieves autonomy from the mother. "Imitating the mother's actions enables the child to provide himself with all that his mother had provided before" (1965, p. 179). It is the imitation of the nay-saying frustrating object and the selective identifications with the aggressor that leads to "no" as the first abstraction, marking the origins of true verbal communication.

Schafer (1968) views imitation as a descriptive term, a means of learning, and a component and subset of identification. In the latter instance, it has particular relevance

for the course of early infantile identifications. He is tentatively in agreement with Spitz's formulation (1957, pp. 53-57) that the infantile imitations may be prototypes of the turn from passivity to activity. In his conceptualization imitations are not clearly distinguished from identifications, except at their most extreme, i.e., the conscious imitation of another's activities, nor is the relationship between the early imitations and whole identifications clarified. Schafer holds that the distinguishing criteria of an identification versus an imitation are the meaningful degree of emotional investment in the object being identified with, and the absence of the wish to deprive the object of its power or essential characteristics; identification is a case of "I become what I need to be" (1968, p. 154) which then enhances both the self representation and the quality of ongoing object relations. As he does not seem to make a distinction between early imitations and whole identifications, Schafer instead posits a continuum of degrees of identification, ranging from wishes for merging, to the desire for sameness, through seeking likeness. In this, only the latter is truly free from primary process influences, including incorporative wishes and distortions of reality testing.

Schafer does consider the early identifications to exert a profound influence on all future personality structure. In particular, he regards the capacity to identify with the observing parent, a particular developmental outcome of

the early identificatory process, to be a crucial component of the reflective self representation. Here, his position is similar to that of Piaget and Rapaport; an essential prerequisite for effective reality testing is the ability to know that one is the thinker of the thought, for without this reflective capacity, the distinction between thought and concrete realities disappears. While not elaborating on the genetic aspects, he states the origins to be pre-oedipal, and co-determined by rudimentary morality, identifications with the observing parent, and the early capacity for self-reflection. Oedipal resolutions, which usher in a new period of thought, result in reflective self representations that are potentially more stable and constant, as the child is now able to think of thoughts, feelings and actions from several points of view.

He notes that the reflective capacity is subject to regressive influences, and under such conditions, those self representations which represent action are preserved, "whereas it is the self representations one step removed from action - a momentous step into reflectiveness - that tend to disappear" (1968, p. 94). It is these regressive features that constitute "the essential mechanism of the turning away from reality, and it is found alike in daydreams and the distortions of neurosis, perversions and psychosis" (1968, p. 101).

Accerding to Schafer, then, the reflective self-representation is a construction whose genetic precursors

lie in the early capacity for self-reflection and an identification with the observing parents. These achievements are in themselves extremely complex, and presuppose an already somewhat differentiated and individuated self. These earlier formations are not discussed by him; however, Schafer both implicitly and explicitly accepts the role played by processes of imitation and identification in their construction and elaboration.

Winnicott (1971) has illuminated the determining influence of the mirroring maternal gaze in the distinction of the "me" from the "not-me" during the presymbolic period of life. In his extremely sensitive discussion, he notes that the affective component of mutual gaze constitutes an essential organizer of the infant's rudimentary self. The infant looks at the mother and finds himself reflected in her eyes. Winnicott implies that if the infant looks at mother and sees her, instead of himself, over extended periods of time, this predisposes him to an eternal search for some missing, approving aspect of the self in the other. A premature awareness of the other may also stunt what has been referred to as the creation of the intermediate area of experience, that intrapsychic space in which imagination and creativity would normally flourish. At its most pathological, the outcome may be the construction of a "False Self"; a personality organization in which there is a pervasive sense of unreality or fraudulence in the core of one's being. With Jacobson, he regards maternal

identification and imitation of the infant to be crucial components of primitive infantile integration: "no one can hold a baby unless able to identify with the baby" (1965, p. 86). These early imitations are synonymous with whole identifications, originating in the primitive reflexive responses of infancy. His formulations regarding the transition away from imitative, whole identifications to partial identifications is similar to that of many other psychoanalytic authors, although framed in his own particularly evocative language. This change is based upon a developmental process through which the toddler slowly comes to an acceptance of the mother's separateness and individual identity. The shift, then, involves a differential mode of relating to others, and is part of the development of the reality principle. In this transition, the object ceases to be a totally subjective phenomenon, and is understood to be outside the subject's omnipotent control. Emerging partial identifications with mother are extremely important, as they mitigate the rage elicited by the loss of omnipotent control, and allow for an acceptance of others as independent centers of causality. A corollary aspect of this process is maternal acceptance of the child's hatred as his individuality is encouraged. It is only after a consolidation of these changes that the child can identify with the social world beyond mother, insofar as that larger world simultaneously partakes of both external phenomena and the inner personal world of an individuated self

(Winnicott, 1965).

In a study of autistic and symbiotic psychotic children, Ritvo and Provence (1953) observed a general deficiency in the capacity to imitate, and viewed this as a corollary aspect of their patients' tenuous object relations. They imply that for imitation to occur, an optimal emotional distance is required. The capacity to imitate, then, is predicated on both inter- and intrapersonal regulations involving closeness and distance from self and object. When imitation proceeds on a more normative course, transformations of the self (image) occurs in accordance with an image of the object (non-self). In conclusion, they regard imitation a part process of identification, but not synonymous with it.

Using the comparative case study method, Ritvo and Solnit (1958) studied the development of imitation in two female infants. For the child with "good enough" mothering (Winnicott, 1965), imitation (here regarded as equivalent to the earliest active whole identifications) became a bridge to the latter partial ego identifications based upon introjections of the object. In the comparison case, there were multiple difficulties in the mother-child interaction. Here, the authors noted persistent literal imitations of the mother in situations involving separations, or new and therefore potentially frightening situations. Imitation served a defensive, rather than adaptive function for this child, who seemingly had difficulties in fully internalizing and elaborating an intrapsychically stable representation

of mother. Speculating, the authors suggest that imitation in this case became a particular instance of externalization. Becoming mother, rather than acting like mother, enabled the child to sustain a controllable kinesthetic (not fully symbolic) image of mother which "replaced" the too threatening internal representation of mother. The notion of replacement by, rather than defensive regression to, is unclear; however, the conclusions are of interest. Ritvo and Solnit propose that full internalization is contingent upon a "good enough" relationship with the love object and the neutralization of aggression within that context; without this, objects remain unintegrated and outside the self. In contrast, where a predominantly positive attachment to the love object prevails, imitation is more likely to be the forerunner of both partial identifications and the capacity to transfer the love invested in this relationship to later ones.

Meissner, in a series of articles (1971, 1973, 1976, 1979) discussing the process of internalization and the construction of identifications, has distinguished two primary functions of imitation: as an important aspect of the learning process, i.e., acquisition of skills, modeling behaviors, and "imitative acts" (unconscious, preconscious, and conscious) which occur in the emotionally positive relationship to the object. He considers the latter type of imitation as having an "inductive influence" (1971, p. 283) on the process of identification, particularly during the

early period of the child's development. In a departure from Jacobson, he questions whether the early reciprocal interactions between mother and child fully quality as identifications, a position closer to that of Pine (1978) and the more recent empirical infancy literature. Imitation, however, does not necessarily imply an internalization, insofar as it is conducted through an interaction between the psyche and the real world. Meissner (1973) distinguishes imitation and its potential contributions to the structuralization and integration of ego functions from the construction of an identification involving an internal structural modification in the ego and superego and a change in the inner reality of the self-representations. Following Rapaport (1959) and Sandler and Rosenblatt (1962) Meissner feels the key distinction lies in the notions of "inner" and "internal" worlds, although his position is somewhat different from previous ones. Sandler and Rosenblatt posit temporary identifications and imitation to be transitory changes in the shape of the self-image which are unstable, in contrast to permanent, organized changes in the self representation, i.e., identifications (1962, p. 137). While agreeing with Sandler and Rosenblatt in terms of an inner world (representational world) composed of stable self and object representations, he criticizes their formulation of identification as essentially a process of change in the inner world. This, Meissner feels, does not fully account for either the process of internalization or structuralization

which identification implies. Moreover, changes in the internal world will of necessity be reflected in the inner world, while the reverse does not hold. He also criticizes Rapaport's theory of attention cathexis, insofar as it speaks more to potential changes in the inner world (cognition) than internal structural changes. For similar reasons, he critiques Hartmann and Loewenstein (1962) for failing to distinguish between perception-cognition aspects involved in the formation of self and object representations, and the more permanent modifications of these representations as a consequence of introjects and processes of identification which are conducted in the internal world. Part of the metapsychological confusion is also related to the use of the word internalization, which is used to denote changes in both inner and internal worlds. Meissner, therefore, would favor not only the notion of "degrees of internalization" (Loewald, 1962) along a continuum of inner to internal worlds, but also suggests that the notion of "varieties of internalization" might be a useful way to think about this topic. Within this formulation, internalization is "the transformation of external elements into internal psychic structure. It is accomplished through processes of introjection and identification" (1979, p. 813). Whether this more restricted definition of internalization and the notion of varieties of internalization will provide psychoanalytic theory with a more powerful explanatory concept or merely add to the metaconfusion remains to be seen. However, in

Meissner's formulations, imitation would be a process occurring in the inner world, not necessarily internalized through identifications to the internal world. By implication, then, imitations would be tied to the object, in contrast to identifications which achieve a relative autonomy from the object (1979).

McDevitt (1979), writing from the perspective of separation-individuation theory, has noted the important functional role played by imitations of the love object that occur during the differentiation and practicing subphases. McDevitt considers the reciprocal interactions of mother and child, particularly mutual games, to be a source of differentiation, as well as the precursors of later identifications. Unlike Meissner, he holds that the early imitations are a form of internalization, but does not further elaborate on this formulation. McDevitt comments on the change in imitative acts during the rapprochement subphase, where the children observed engaged in increasingly active imitation of adult behaviors. Although in part maturationally determined, the significance of these instances of deferred imitation lies in their function as action referrents which enable the child to maintain an internal image of the mothering person during periods of brief separation prior to the consolidation of early libidinal constancy. He also noted that imitations of the mother's behaviors towards the child were replicated in symbolic play, shading imperceptibly into early identifications; increasingly, the external relationship with the real object

was transferred to the child's internal world as positive and negative imitations of mother's actual behaviors furthered self-awareness and differentiation. With Jacobson, McDevitt views the early selective identifications as a kind of compromise formation between autonomy and symbiosis that contribute to the resolution of the rapprochement conflict. He also postulates that these early identifications constitute the forerunners of those later used to resolve the conflicts of the oedipal phase.

Steingart (1969), in a series of formulations regarding the processes by which self and character are formed, postulates a complex series of identification-sets "which impute meaning to self experience in the manner of a pre-operational concept...and the same situation obtains for object representations." He notes that the cognitive reorganization that ushers in the period of concrete operations ensures a flexible but stable identity which provides a consistent frame of reference for all future identifications. In this moment of intrapsychic reorganization, a major shift occurs as the child moves from a perceptual to a more conceptual level of meaning. Steingart sees a variety of psychic disturbances arising from difficulties in completing this reorganization, alluding to those cases where, despite some self and object differentiation, identifications are made on the basis of perceptual appearances; that is, they retain their essentially imitative character, and do not achieve the status of fully elaborated partial identifications.

His comments on the schizoid and "as if" personalities are consonant with descriptions elaborated by various other authors (Jacobson, 1971; Greenacre, 1958; Reich, 1953; Kahn, 1971; Deutsch, 1942) writing of those patients who seem to become either their love objects or their own grandiosely idealized aims. The pathology of these patients who superficially "become" what they see and admire (often on a conscious level) while retaining a level of differentiation is also reminiscent of the more psychotic states discussed in the literature in which "I am what I see" or "I will not see or be if it is not what I want" (the primary object) frequently prevails. The meaning of the object, then, lies in its appearance, and is carried by the mental image. This, for Steingart, indicates the "unconserved" nature of the identificatory structure, insofar as it is unintegrated, providing meaning in terms of the static states of the object.

In an interesting review article, Gaddini (1969) attempted to clarify the theoretical confusions between imitation, introjection, and identification, then related these distinctions to pathological processes of imitation seen in clinical practice. He regards introjection and imitation as necessary, complementary, component processes which precede the early identifications. As these processes are integrated with each other, the early realistic identifications are structuralized. Early identifications then, constitute a development in which sensory-perceptual

imitations and orally dominated fantasies of introjection gradually become integrated in the service of reality. This shift from fantasy formations to the assimilation of fragmentary aspects of reality parallels the course of differentiation of self from object and internal from external reality, and culminates in the emergence of rational thought. His formulation is consonant with Rapaport's notion that introjection and identification are aspects of reality testing and secondary process thought, and constitute the "foundations of socially shared thought" (1951, p. 725).

Introjection, as used here, refers to oral incorporative fantasies whose aim is a fusion of self and object through a "taking in through the mouth"; that is having, or possessing the object (envy). Imitation, also a fantasy formation, has similar aims, but is grounded in notions of omnipotence and becoming the object (rivalry). Gaddini regards the hallucinatory image of infancy to be the prototype of imitation. He suggests that the original imitation "to perceive" that which is missing and needed is transformed into imitating in order "to be". This form of imitation is inextricably joined to the relationship with the primary caretaker, and the balance of gratification and frustration within that relationship. In this view, primitive perception is physically and affectively linked with the imitative motoric activity of infancy, and the later development of language. He speculates that perhaps the initial differentiation between perception and memory has its inception

in the integration of physical perception and imitation.

Insofar as both imitations and identifications are constructions that follow a developmental course, it is possible to conceptualize a regressive process that might initiate the breakdown of either into their more primitive forms. Gaddini recognizes that in pathological states, there is a close connection between perceptual hallucinations, imitative thinking, and concretization. Imitations may also serve defensive needs, as in the schizoid and "as if" personalities, where the "imitation" based on a perceptual memory stands for something that is absent in the self, representing a magical wish "to be" the object in a pars pro toto sense (Ibid, footnote 5).

Discussion:

Evidence to support these various psychoanalytic and cognitive hypotheses has emerged in the more recent empirical infancy literature (Stern, 1974; Tronick, et. al., 1978; Beebe and Stern, 1977; Stroufe and Waters, 1976). These authors have stressed the active role of the infant as a seeker of stimulation within a nighly articulated and elaborated system of mutual feedback. There is general accord on the central role of mutual gaze in infancy in initiating the early imitations and primitive object relations, and facilitating the focal role of positive social interactions with the mothering figure. Where the relationship proceeds within average expectable parameters, and

maternal input is sensitive and flexible, the outcome is a variety of self-expanding mutual, imitative games accompanied by pleasureable affect. The reciprocity which emerges from these interactions appears to further exploration of the other-than-mother world (Shafer and Emerson, 1964; Bell, 1970; Bell and Ainsworth, 1970), and constitutes a necessary basis for the growth of affective well-being in infancy. This outcome stands in marked contrast to patterns of gaze aversion (Stern, 1974), "chase and dodge" sequences (Beebe and Stern, 1977), and withdrawal from contact (Beebe and Sloate, 1981) that may portend more ominous developments. Within a more positive development, imitation enhances both the turn to reality and the slowly emerging self-structure, by virtue of what Piaget has referred to as the "pleasure at being a cause." This is added to functional pleasure (Hartmann) after about four and a half months, promoting mastery, intentionality, and contributing to the construction of causality, however circumscribed it may still be by the various affective and cognitive aspects of the infant's "adualism".

As conceptualized here, imitation has its own process of development, and it is therefore possible to conceive of pathological disturbances of imitation, as well as various deviations which may occur when the precursors of identification remain unintegrated or follow an abnormal course of synthesis. Speculating, such disturbances might occur during the formative time in which the bodily self is

constituted, and may be related to the integration or lack thereof between perception, affect, rudimentary cognition and the motor activity of early infancy. The synthesis of these elements constitutes a necessary foundation for the initial discriminations of that which is internal and that which is external to the self. Later, this integration of the perceptual-imitative sphere and continuing unconscious fantasies will determine the way reality is experienced, and form the basis of distinctions between objective perceptions and personalized ideas (Arlow, 1969). Insofar as these components arise simultaneously, in a state of mutual complementarity, psyche and soma are indissolubly bound together. As Bonnard (1967) has proposed, it is the synthesis of these parallel experiences which not only give the self a sense of cohesive, finite anchorage within the body ego boundaries, but in itself fuels the synthetic process through the formation of body ego causalities. The synergic phenomena described not only enhance the stability of the whole, but also serve as powerful deterrents to potential dissociative trends and the innate early tendencies to condensation.

Early identifications are primary mechanisms of structuralization, having their roots in prior imitative and incorporative fantasies of the primary object. The disruption of active perceptual processes and focal attention for whatever reason may have profound effects on structure formation, as affect is bound up with cognition by virtue

of its attentional, orientative aspects, while the attentional-temporal dimension is at the heart of the secondary process. Sequelae of such disruptions might include the too early activation and reliance upon a variety of primitive defensive maneuvers, including the total inhibition of responsivity. These processes are, in and of themselves, both boundary creating and structure building activities, preceding and contributing to the construction of reality and the development of object relations (Wallerstein, 1967). Early imitations are contingent upon the manner in which the object enters into a relationship with the infant's instinctual wishes. If the perceptual-imitative sphere is suffused with painful, aggressively dominated affect, it is difficult to understand how the primary object, and by extension, partial aspects of reality, could be rendered assimilable, or how either the normative integration of introjection with imitation, or the transition to identification could readily be accomplished.

Gaddini (footnote 3), commenting on the pathology of imitation, suggests that excessive oral frustrations may result in a disturbance of introjective mechanisms, resulting in an imitative activity of introjection partially substituting for introjective activity. Winnicott's contributions to the central role of imitation in the formation of the self, and the difficulties that may ensue when mutual gaze patterns and mirroring interactions are disrupted has already been discussed. In his formulation,

an important temporal and spatial interaction between mother and child is disturbed, and effects development in the interpersonal domain. Gaddini's hypothesis, however, might be viewed as directly related to Winnicott's notions regarding the genesis of the "false self", and his comment that "it is indeed possible to gratify an oral drive, and in so doing violate the infant's ego function, or that which would later on be jealously guarded as the self, the core of personality" (1962).

Rubinfine (1962) has also considered the potential difficulties that may arise when external reality (the primary object) is perceived as unduly painful and hence prematurely known to be separate from the self. In this case, he suggests that an "accommodation" results, wherein the infant turns to fantasied internal satisfactions (hallucinations) in which there is a denial of external reality. Perception, therefore, remains a relatively unintegrated ego function. It is neither boundary creating, nor does it contribute to the focusing of attention necessary to the development of secondary process; which in turn contributes to defects in body image formation (Greenacre, 1960). This pathological spiraling of development further limits the pleasurable development of ego functions, an essential factor in the turn to reality.

Gaddini's formulations invite further speculations on potential pathological outcomes. If the normal introjective fantasy is that of "putting into the mouth", would

difficulties in the mother-child dyad potentiate either a fantasied incorporation of the object's total potential, leaving it none (death), or predispose the infant to fantasies of "spitting out", and an undue reliance on projective mechanisms? Under such conditions, factors of imitation might well be in ascendance, without being fully integrated with aspects of introjection into cohesive identifications. Imitation, in the most pathological sense, might then be adaptive solely in a defensive manner, having fusion as its primary goal. At best, it would preclude the taking in of new information from the environment, and an integration of the experiential past. In fantasy, then, imitations could readily acquire the meaning of "I am what I see", or "I see only what I want" (the primary object), the ultimately psychotic solutions.

As can be seen from the above, while there is general agreement on the importance of imitative behaviors in identity formation, self-object differentiation, structure formation, and the turn to reality and a relative consensus regarding potential pathological outcomes, there is no one unifying view. As Meissner has pointed out, "the juncture between the 'inner world' and 'internal world' and the manner of transmission from one to another remains a theoretical enigma" (1976).

Summary:

Imitation is a process which makes a substantial

contribution to the construction of the self, and constitutes a necessary forerunner of symbolic thought, language and mental imagery. Its "success" is codetermined by endowment, normal maturational factors, and the manner in which the empathic other enters into a relationship with the child's instinctual wishes. If the interaction within the dyad is deviant, it appears to predispose the child to later difficulties in at least the affective realm. From a cognitive perspective, the coordination of the secondary circular reactions is of crucial importance in the child's turn to the outside world. A severe dysjunction at this moment of development might potentiate the later crystallization of a psychotic structure of thought.

In these conceptualizations, maturation proceeds, despite difficulties in the mother-child dyad, or constitutionally determined deficits which might affect the process of structuralization (McDevitt, 1979; Stewart, 1979). If imitation then proceeds to the status of the static mental image, and language and other forms of symbolic thought also develop, the end result might be an accrual of disconnected, fragmentary islands of cognitive and affective structure, uncoordinated with each other, and unintegrated into any known structure of totality. The knowledge of transformations can only be supplied by operating on reality, and it is the coordination and interregulation of these two realms which ensures the construction of normal thought processes and the achievement of concrete operations.

The ramifications of the cognitive changes that occur with the onset of the concrete operational period and their relationship to the resolution of the oedipal configuration have been discussed elsewhere (Greenspan, 1979). Nevertheless, it is important to note that theorists of both orientations believe that identity, in its broadest sense, achieves a new level of stability and flexibility at this juncture in development.

For Piaget, deferred imitation is a transitional process between the realm of direct action and early symbolization, including language. I would tentatively suggest that imitative behaviors serve an analogous function in more developmentally oriented psychoanalytic formulations, as they appear to mediate the differentiation of particular aspects of the mother-child relationship, paving the way for the shift from whole to partial identifications.

In a broader sense, the area of overlap between Piagetian and psychoanalytic models is clear, insofar as both theories regard identity formation to be a construction that originates in imitations on the own body in the context of the relationship with the primary object. This construction passes through a series of developmental stages, and is strongly influenced by maturational factors and the emotional and physical environment.

Piaget has stated that not all structures are formed or governed by logic (1971, p. 15). Amongst these he names linguistic, sociological, and psychological structures.

Transformations here are ruled by laws which "are not in the strict sense 'operations' because they are not entirely reversible. Transformational laws of this kind depend upon the interplay of anticipation and correction (feedback), rhythm, regulation, operation - these are the three basic mechanisms of self-regulation and self-maintenance." This latter statement is of interest here as it could serve equally well as a postulate of the contemporary object relations and infancy research view regarding the inception of the object relationship. The construction of the not-quite-logical structures is intimately related to the domain of infralogical operations, the figurative components of thought, and, by extension, the construction of one's identity and the capacity for constant object relations. Moreover, it is precisely in this realm that the psychotic child experiences profound difficulties.

The realm of the infralogical encompasses those conceptual structures which integrate the spatio-temporal aspects of experience. Although mental imagery and language develop into differentiated systems, they have their origins in imitations mediated by the interpretation of perception, additional elements of the figurative aspects of thought. As functions, their acquisition is not stabilized until the emergence and consolidation of the symbolic function. Ultimately, mental imagery evolves into a differentiated system of signifiers and signifieds, constituting an evocated, symbolic "memory-set" of the past which informs the present

and anticipates the future course of action. Imagery has its own course of development, from static images of reproduction strongly linked to and influenced by immediate perceptions, through images of transformation which emerge at the concrete operational level of thinking. Language, which in its incipient form is still tied to action referrents and imitative antecedents, undergoes an analogous transition, from the expression of immediate wants and actions in progress, to a descriptive, socialized communication shared with a differentiated other. From a cognitive perspective, these progressions describe the normal developmental changes which occur as a consequence of the unfolding and integration of figurative and operative aspects of thought through the mechanisms of assimilation and accommodation. As a totality, the integrations of the sensorimotor period will begin the coordination of time and space, linking the past and present with the possible futures through meaningful potential actions on the real.

The symbolic function is a construction referrable to various coordinations of the last quarter of the first year of life, and the appearance of the tertiary circular reactions (Stage IV). The specific cognitive and affective accomplishments of this stage have already been discussed, and I will not repeat them in detail here. For purposes of this research, I wish to emphasize that this is a moment in development when imitation loses its passive character, and imitations of the person are actively being differentiated

from the person being imitated. This differentiation, in turn, implies an increased coordination of body schemes and cohesive, separate self, as well as a parallel comprehension of the other as part of an external reality at once similar to, but different from the self. Attendant perceptual cues aid in the coordination of intents between means and goals, actions and thoughts-to-be, immediate percepts and emerging images of evocative memory. In his exposition, Piaget has acknowledged the importance of the other in the construction of one's personal identity, but only briefly remarked upon the role of the mother, the interplay of affectively dominated percepts, and the imitative activity of the child (1969).

Statement of the Problem:

Despite Piagetian assertions of the invariant sequential unfolding of cognitive stages, recent findings suggest that under certain conditions, this may not be so. A corollary of this cognitive postulate suggests that the residua of sensorimotor development by virtue of its integration, transformation, and restructuration within a system of totality, cannot exert a determining influence on future constructions, although a functional continuity remains. This is, of course, in contrast to the psychoanalytic notion of the relative autonomy of ego and superego functions, and the latent potential for structural regression. For the psychotic child, the specific interrelationships of the spatio-temporal realm, particularly as it interacts

with the development of object relations and the construction of a personal identity seem to have a life of their own.

Clinically, these children reveal an unintegrated bodily self projected onto and confused with animate and inanimate aspects of the real. This state precludes the normal function of imitation, in which the comparison and contrast of the own body with that of the significant other fosters both the construction of a cohesive self and the course of individuation. The requisite spatio-temporal integrations of self and other representations are equally aberrant, and the process of separation appears equally blocked. Jointly, these developments negate the attainment of constancy and the sense of continuity amidst change necessary to intrapsychic growth. The relationship with the mother, which stands at the center of the process of socialization is similarly deviant. One observes not only the fragmented repetitions of past experiences which are not modified in accord with current reality but also an inability to assimilate meanings to other than past fantasied and real experiences. The totality is dominated by a private, idiosyncratic symbolism outside the normal communicative process.

Current findings support the notion of a structure of cognition in childhood psychosis that is qualitatively different from the norm; and has as a prominent feature the intrusion of unconscious symbolic associations related to the original mother-child interaction. Rather than a portrait

of chaos, observation of behaviors and verbalized fantasies of such children reveals a totality as rigid as it is fragmented, and as lawful as it is disorderly. As Nunberg remarked: "Even in psychosis, the synthetic faculty of the ego does not altogether cease to function; it merely goes off on false tracks" (1931, p. 139).

The current research will attempt to delineate the structure of thought within a psychotic child as it is related to paradigmatic affective states. This may then shed some light on the conditions of structuralization as a result of the importance of this particular type of interaction. An equally interesting issue is whether therapeutic interventions are capable of increasing the cognitive functioning of such a child. If this is so, which aspects of cognition and affect are more readily accessible to the therapeutic interaction, and which deviant features remain unyielding? Does affective change necessarily precede cognitive change, or is there a discernible moment in which they procede concurrently? How, and in which ways do these changes contribute to the consolidation of a more normative self structure, and what are the formal features of the child's continuing vulnerability? This research will attempt to explore the above issues, and will consider the following specific hypotheses:

I. The structure of cognition in childhood psychosis is significantly different from that found in normal development.

II. During the process of psychotherapy, there will be a significant shift in the interplay of cognition and affect across time.

III. It is possible to specify the nature of this shift in a series of hierarchical, stage-specific progressions related to the therapeutic process, which will then reflect longitudinal trends.

In addition to testing these stated hypotheses, it is felt that data from this research may contribute to a further understanding of those transformational rules by which internal structures are created and maintained.

CHAPTER III

METHOD

INTRODUCTION:

This investigation is predicated upon the conceptual framework discussed in Chapter I, in which it is assumed that internal psychological structures govern a given individual's behaviors. As the subject of this study in long term psychotherapy with the researcher imposes a particular behavioral structure upon the materials of the therapy playroom and his interactions with the therapist, he reveals his structuring principles. By inference, these are also the principles of his intrapsychic structure. Although the selection of a particular conceptual and psychotherapeutic framework clearly directs what will be observed and recorded, it also specifies and limits the degree to which the therapist, by way of the treatment, may intervene within the ongoing process. In this case, the child's treatment was conducted according to a specific modification of the psychoanalytic model, which in itself imposes a constant external control upon the degree and direction to which observer bias and expectation may influence the outcome of the psychotherapy. Moreover, the case chosen for this analysis is a representative one, similar in many respects to others frequently discussed in the literature.

This research then is an attempt to move by guided search beyond the descriptive elaborations of both ego development and Piagetian stages into the domain of operationalization and quantification. In so doing, it constitutes a first attempt to define and quantify the underlying shifting patterns of cognitive and affective structure that have occurred over a particular time of treatment. Although the data base has been operationalized, it is also possible to outline stage-sequential progress over time in the therapeutic process, as defined by ongoing structural shifts.

The N of 1:

The method of choice for this structural analysis, the single case study, has been frequently considered the stepchild of scientific inquiry, a relic of pre-scientific thought. Many authors have disregarded its potential and see little merit in it, citing the frequent difficulties in establishing internal and external validity, the multiple confounding of results due to lack of experimental control, and seriously question its use as a vehicle from which one can extrapolate notions that will prove to be generalizeable.

Johnson and Bolstad's (1973) thoughtful critique of the difficulties inherent in assessing group data obtained by observers within naturalistic settings illuminates quite clearly the multitude of confounding effects that may occur when an experiment is performed in the field. The most

overriding problems are connected with the relative intransigence of the field environment itself, and the multitude of factors clearly beyond the experimenter's control. No less difficulties arise in the inevitable problem of assessing observer biases and subject's reactivity effect, although available evidence regarding observer effects appears to be inconclusive. Some studies (Kent, 1972) concluded that even full knowledge of predicted results was insufficient in eliciting significant bias effect. Similarly, although there is always some interference in the form of the subject's reactivity, it seems to constitute a minimal source of experimental interference. The observer's reactivity need not necessarily constitute an insurmountable difficulty either, insofar as there are controls for it which in effect turn it into a constant (Ibid, p. 20). This constancy assures that any assessment of a series would not necessarily be unrepresentative of that particular series.

Writing from a similar viewpoint, Campbell and Stanley (1963) deplore the inherent lack of experimental control that obtains in naturalistic settings, and the vagaries of environmental factors which impinge upon even the most carefully designed research that is conducted under such conditions. While espousing rigorous experimental criteria which they supplement with a series of check lists designed to mitigate possible multiple confounding effects, the authors unhappily concede that one can only guard against these eventualities, not eliminate them totally. Acknowledging

that the real world of experimentation lacks the orderliness to be imposed within the laboratory setting, the authors describe a series of experimental designs which they designate as quasi-experimental, to be reserved for those situations in which more stringent measures are for one or another reason not feasible. The burden of proof in these cases rests with the experimenter who chooses to work within this genre, as his awareness of uncontrolled variables becomes increasingly important. In their view, the two fundamental criteria of internal and external validity are concomitantly more difficult to establish under such circumstances. Despite the hazards inherent in these quasi-experimental designs, the authors do not totally discount their potential contributions, leaving the onus on the researcher for discovering those idiosyncratic aspects of field situations in which one might creatively design unique tests of causal hypotheses. They mention, en passant, the possible utility of time-series designs in settings where massive records have been kept on a particular subject or group of subjects. A discussion of the merits of a single case study is absent from their review of experimental designs, possibly as they have already relegated it to the scrap heap of methodology belonging to a pre-scientific age.

Writing from a similar behaviorist perspective, Browning (1967) details the difficulties he encountered in utilizing a same subject design within a clinical treatment setting, concluding that such designs may have some merit

for brief ideographic studies.

Birnbauer (1974) deplores the current emphasis on research designed around groups of subjects. While recognizing that it is more acceptable to the scientific community at large, he finds this prevailing narrow view of the nature of scientific inquiry to be a limited one, and argues that there is no real reason to suppose that alternate methods of research undertaken with single subjects cannot prove to be valuable adjuncts to the traditional large group samples. He notes that case studies generally tend to be flawed, insofar as they fail to achieve standards of internal reliability. He regards the issue of generalizability as one fraught with a degree of inductive uncertainty, both for groups and single subjects. Nevertheless, he suggests that when a single subject is a member of a reasonably limited and specifiable universe the possibility of generalization increases.

Dukes (1965) acknowledges the traditional arguments and limitations ascribed to N of 1 studies, but calls attention to their fundamental importance in the history of psychology, citing the impact of the work of Ebbinghaus, Stratton, Cannon, Watson, Kohler and Wallach, and Freud's insights into the case of Anna O. Moreover, he correctly indicates that single subject studies continue to constitute a sizeable proportion of all psychological investigations. Even more surprising is the fact that only 20% of those studies sampled treated the individual as unique; the remainder applied

nomothetic techniques, regarding the individual as a particular universe of responses from which generalizations and predictions regarding behavior could be inferred. Most of the studies sampled actually applied some combination of ideographic and nomothetic techniques, utilizing them in a complementary manner. Dukes concludes by reminding us that an N of 1 is as powerful as an N of 1000 in establishing negative findings that necessitate the revision of widely held hypotheses. Moreover, as an hypothesis generating procedure, the single case study frequently prepares the groundwork for future investigations, and provides fertile soil for future creative theoretical work.

Shapiro (1961) is in substantial agreement with Duke's contentions regarding the validity of single subject research. She questions the widely held assumption that it is impossible to devise satisfactory and appropriate methods for analyzing the multiple complex phenomena a clinician encounters in his daily applied work. Indeed, she feels that the relevant data may well be obscured by the current emphasis on group centered research and its necessary emphasis on group means. Arguing from an historical perspective she affirms that there is already ample evidence that a law effecting the psychological functioning of a single subject will ultimately be confirmed by observations in many other subjects.

Gottman's (1973) discussion regarding the use of an N of 1 focuses on the possibly misleading conclusions that may be drawn from the usually unquestioned procedure of

averaging data over individuals. This method may well be totally inappropriate in attempts to assess internal process. Moreover, insofar as certain therapeutic interventions may well induce an "effect pattern" (p. 95) or some particular effect, traditional methods of analysis may merely obscure, rather than enhance our knowledge.

The historical view is again expressed in Bolgar's (1965) lengthy article on case study research, as she comments on the convergence of psychoanalytic research with its genetic emphasis, and the child psychologist's developmental view frequently gathered from copious recordings of observations of their own children's behaviors (Preyer, Binet, Bloom, Gesell, Buhler, Piaget). Along with this convergence, Bolgar notes that the traditional polarity of nomothetic versus ideographic research designs seems to be on the wane, as researchers are becoming more concerned with discovering the appropriate methodology for any given investigation. Nevertheless, she perceives the intrinsic difficulties that obtain with all case study research, and calls for the development of methods that will be adequate for research with complex psychological undertones.

Voyat (1975, 1977) notes with dismay the current trend in psychological research towards large scale studies of group problems, rather than the carefully considered observations of individual differences which might then lead to valid generalizations regarding the population at large. Drawing on the historical examples of Binet and

Piaget, and the current stance of the psychoanalytically oriented object relations theorists, he contrasts the primary theoretical notions behind the research emanating from the Piagetian and object relations perspectives with the behaviorist paradigm. In his cogent argument, Voyat notes that the former theoretical positions have their emphases in an interactionist approach, along with the concept of new, evolving internal constructions contingent upon the interplay of previous internal regulations. Indeed the Piagetian method, with its insistence on internal processes and structure, and its matching of methodology to the theoretical questions posed is in many ways quite similar to the clinical approaches exemplified by the investigations of Escalona and Anthony. How strikingly different these theoretical notions appear when compared with the behaviorists' overriding concern for a methodological purity which is then to be imposed upon the experimental situation at hand.

Writing in defense of case studies, Lustman (1962) assumes a position similar to Voyat's with regard to the methodological implications of psychoanalytic investigations. Arguing that psychoanalytic knowledge gives one an appreciation of the mutual influences of complex, intertwined developmental variables, for any given individual it is virtually an impossibility to assure oneself of definitively matched subjects, with the exception of major categories such as age, sex, race, and socioeconomic status. While such methods have value for certain studies, according to Lustman they

effectively preclude various aspects of psychoanalytic research. He suggests that if one wishes to study processes and patterns of development, rather than compare patient populations or nosological entities, the single case study is frequently the method of choice, if for no other reason than its self-matching characteristics.

As Resch (1976) has pointed out, the use of the hypothesis generating model has a lengthy tradition in psychology. It can encompass such diverse investigations as Lewin's (1936) notions, the ethological work of Tinbergen (1972) as well as that of Mahler, Pine, and Bergman (1975), Piaget, and much of the recent empirical infancy literature. Through an analysis of the temporal, sequential unfolding of various behaviors, the latter group of authors have sought not only a more precise understanding of ongoing developmental processes, but also to infer the transformational rules surrounding structural change, linking observables with clinical theory.

While no one disputes the benefits to be derived from empirical verifications and rigorous hypothesis testing, or the validity of many of the criticisms put forth by adherents of the more traditional approaches to research, the case study still stands as an historically respectable, methodologically valid tool of inquiry. In the realm of hypothesis generating, it is unequaled. The N of 1 eliminates the inherent difficulties and nagging doubts that obtain when one is faced with matching subjects on subtle, intricate,

and frequently unknown variables, while repeated same subject samples permit causal inferences to be made. Moreover, the repeated sampling of a single subject permits one to detect patterns and intervention effects frequently lost in more traditional designs (Bakan, 1967; Sidman, 1952).

En fin, the choice of any method of inquiry ultimately rests upon one's theoretical biases and conceptual notions regarding human development. As Oreston and Reese (1973) have suggested, while certain theoretical models may yield overlapping "families of theories" which may then be generated from the models, the basic models are, in essence, both irreducible and in most cases irreconcilable one with the other. Regarding the arguments presented in favor of the single case study, their point is well taken. The basic theoretical model initially determines what data are relevant, which in turn dictates which methods of analysis are deemed appropriate, for in the end, both data and method are subordinated to the need for internal consistency within a given theoretical model. Thus, a mechanistic, unidirectional, stimulus-response causality becomes tenable within the context of the impingements of external stimuli, an assumption quite inconsistent within the context of a pattern theory, where notions of reciprocal causality and organized complexity hold sway. These irreducible differences in theoretical orientation frequently dictate disparate research strategies; data and questions vital to one or another point of view are quite irrelevant to the other. In its most simplistic

form, the behaviorist asks which one and how much, while the analytic or Piagetian researcher concerns himself with how, why, and within what context.

This particular research is neither a normative study of psychosis, nor a case study in the traditional sense of the term. Rather, it is a structural analysis of underlying cognitive and affective processes. The primary interest is in attempting to develop criteria by which shifts through time in the structural patterns of psychotic thought processes can be demonstrated. There is also further interest in understanding the relative role of cognition and affect within that pattern of shifting structures. With these goals in mind, an analysis based on an N of 1 becomes the most suitable unit from which a model for demonstrating structural shifts in psychotherapy may be generated.

The Subject:

The author first encountered Anthony, the subject of this study, when he was 3½ years of age, at a time when he had been referred to a therapeutic nursery for treatment.[1] Initial observation revealed him to be a hyperaggressive psychotic child with primarily symbiotic defenses, who existed in a constant state of panic and rage. His contact with the external world was tenuous at best; from time to time he was overwhelmed by hallucinations. Verbal

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[1]This case was initially seen in the Therapeutic Nursery of the Albert Einstein College of Medicine, under the direction of Dr. Eleanor Galenson.

communications consisted largely of associative primary process utterances and quasi-adult phrases imitative of mother, interspersed with some more appropriate communications. Relationships with others were dominated by his anxiety-laden hypervigilance of them; within seconds, Anthony's mood could shift from relative quiescence to a panic-stricken, frenzied rage, although there had been no discernable external provocation for this response.

This study follows two years of intensive psychotherapy, during which time Anthony's most chaotic behaviors had diminished in frequency, although not in intensity. It encompasses the subsequent eighteen months of treatment, when he was between the ages of five years, seven months, and seven years, one month. The sessions of the analysis were chosen to be approximately equally spaced in time, yet to capture significant transitions in the child's therapeutic progress. The mini-summaries that follow are intended to acquaint the reader with major life events that occurred during these eighteen months, and constitute a guide to the course of the psychotherapy.

Session One - 5.7: This session occurs one week after Anthony has learned of mother's pregnancy. He is in the process of entering a new treatment modality at City University.

Session Two - 5.8: Over the past month, Anthony has relinquished his infantile fetish, and used the word "pretend" for the first time. The session is just

prior to Christmas vacation, and a brief separation.

Session Three - 6.0: The session follows Anthony's sixth birthday, and precedes a spring vacation period. The past months have been a period of heightened aggression, in which he attempted to injure his mother, and succeeded in injuring the therapist. An important fantasy has emerged: he is a robot made of wires that is left out in the rain, rusts, and disappears.

Session Four - 6.3: This session is two months post the birth of a sibling. Anthony has just recognized his idiosyncratic word usage, while the therapist perceives him as having achieved a higher level of organization. In preceding months, there have been major reconstructions and constructions of early trauma. Another prominent fantasy has coalesced around a stroller, onto which Anthony projects various aspects of a damaged self.

Session Five - 6.7: Occurring during a time in which the mother was hospitalized and underwent surgery, an event which Anthony held himself responsible for. The session is concurrent with reconstructions of early primal scene experiences.

Session Six - 6.8: Post Anthony's first use of a female doll in thematic play, and his beginning attachment to a small crib blanket in the playroom. The session is a turning point, as Anthony expresses his disappointment with the school Christmas party by becoming overwhelmingly sad, in addition to being angry.

Despite the intensity of these affects, he does not become disorganized. This marks the inception of the "oral deadlock", as his mother is becoming increasingly controlling of his food intake. A central fantasy emerges: an "evil mummy" who both controls and annihilates.

Session Seven - 7.0: Follows his seventh birthday and precedes spring vacation. Several important advances followed another injury to the therapist and further reconstructions of early trauma. A capacity for observing ego has emerged, along with an interest in games of rules. Anthony is preoccupied with "repairs" to the stroller and fantasies of being a good robot, while the affective tone is more positive.

Session Eight - 7.1: Follows immediately on an intervention with the mother, marking the end of the "oral deadlock", and is contemporaneous with a significant moment of individuation. One week after this session, Anthony began to have friends for the first time in his life.

The Data Base:

An overriding task in arriving at an appropriate methodology for a structural analysis of cognition and affect was the initial determination of the data base, and the selection of appropriate categories for codification and operationalization. Although the elements of Piaget's theory and the construction of normal cognitive process, and the ego psychological hypotheses were well known to

the author, the session reconstructions, a process record of the course of the child's therapy, presented both an embarrassment of riches as well as a formidable obstacle to analysis. Over time, it became possible to select an initial group of clinical descriptors derived from the primary behavioral characteristics exhibited by the child during the course of his therapy sessions. While these descriptors are referrable to aspects of psychological functioning, and all functions are presumed to be interrelated to a greater or lesser degree, the point of departure for purposes of this research was to a large extent from behaviors into theoretical inference and conceptualization. What was deemed over time to be descriptively "important" for purposes of structural analysis was thus in large measure determined by the real behaviors of the child during the ongoing process of psychotherapy. In a similar vein, the later criteria of the stages were not deduced directly from a theoretical framework, but derived primarily from longitudinal observation of behavioral characteristics that emerged during the child's therapy sessions and an analysis of these behaviors. Although observations always include a measure of the observer's biases, it is felt that the recording of prominent behaviors over time lends a more objective background to the constitution and elaboration of both the descriptive categories and the stage hypothesis.

The data base is composed of a sample of eight session reconstructions distributed at relatively equidistant

points in time over an eighteen month period of ongoing psychotherapeutic treatment. This particular choice of both time period and session selection was deliberate, and derived from both the dual conceptual framework of this study, as well as the study being in the nature of a guided search. The overall rationale for the selection of the sample follows the clinical notion that "eventful" moments in the course of therapy reflect a heightened intrapsychic activity level, and are therefore more likely to reveal either regression or progression in the treatment. By extension, these "eventful moments" were further hypothesized to be the most fruitful context within which structural changes might potentially be detected. It could be further noted that this was not the only criteria. The child's development over time also presents the possibility of isolating representative events over many sessions. With formalization, it is possible to operationalize a content, as has been done, for example, by Piaget and his colleagues.

The specific time period selected for study was co-determined by two important factors. For one, although the child was continuing in treatment with the same therapist, he had recently entered into a new treatment design, in a multidisciplinary treatment center for severely emotionally handicapped children.[2] For another, following an inter-

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[2] HEW Grant #02907 A Model for the Development of a Professional Training Program to Educate Severely Emotionally Handicapped Children from a Psychoeducational Approach. Principal Investigator: Gilbert Voyat, Ph.D. Co-Investigators: Ms. Anni Bergman and Linda Gunsberg, Ph.D.

pretation addressed to the child's fantasies around mother's new pregnancy, he had entered into a somewhat less disorganized phase of the treatment. The final sample session was determined by a major reorganization of the child's cognitive and emotional status, which inaugurated a new period in his development characterized by more normative cognitive and affective responses.

The distribution of the sample sessions is similarly tied to the ongoing therapeutic events as they occurred during the time period selected. While an effort was made to select equidistant points in time, the choice of sessions was essentially determined by the hypothesis already stated: that a particularly eventful series of therapeutic interactions constituted important indicants of potential or actual structural change. Randomization, therefore, was quite deliberately rejected in favor of a semi-subjective, semi-objective choice determined by the ongoing emerging process of the therapy itself. As in the case of the treatment of every young child, it was also recognized that real life events exert a powerful influence upon a development that is very much in progress. Each of the session reconstructions used in this analysis was recorded immediately following each therapy hour. These session reconstructions are clearly subject to the therapist-researcher's retrospective distortions, condensations, and countertransference phenomena, as well as the vicissitudes of the training process. It is assumed, however, that a

consistency and continuity of personal style obtains, along with the constraints imposed by the technical considerations of psychoanalytic psychotherapy.

Three major dimensions - affective, cognitive, and mode of contact - were selected for analysis. The affective and cognitive dimensions are mutually exclusive, while that of contact, as a contextual variable, partakes of both. From a cognitive perspective, contact implies some awareness of the other as a referential point to be responded to, although the mode of response may be conceptualized as occurring at varying levels on a developmentally determined spatio-temporal continuum. Contacts, therefore, potentially range from the earlier, undifferentiated projections of affect laden, personalized internal referrents onto the person of the therapist, through higher levels wherein the therapist and patient are recognized as separate individuals. The three major dimensions, then, reflect the basic duality of the cognitive process (the logical operations of classification and order, and the infralogical dimensions of space, movement and speed, and time) as well as the affect array. Each of these three domains was then operationalized by assigning clinically observable categorical descriptors to the behaviors subsumed by them, thus defining the within-dimension units of analysis. (For a complete list of initial categories, see Appendix I. A final table of definitions may be found in Chapter 5.)

As already stated, the categories within major domains were derived from observable behaviors which had been recorded as they emerged spontaneously during the ongoing course of the treatment process. Voyat (1978), in his research into the aberrant cognitive structure of psychotic children has described in some detail the heterogeneity which obtains, and remarked upon the affect-laden, personalized symbolism which repeatedly intrudes upon their thinking, a symbolism frequently referrable to the earliest mother-child relationship. As the case selected for this analysis is deemed to be a representative one, behavioral features similar to those noticed in Voyat's subjects were observed during the treatment. Thus, the observables which constitute the content categories of the three major dimensions coded embody an inherent, potential affective and cognitive hierarchy, as postulated by the Piagetian and analytic conceptual framework. The notion of innate hierarchy, and its application to the categories will be fully described in the Results chapter in re the transformations performed on the data base. To summarize, all categories within domains were determined by prominent behaviors observed in the psychotherapy. Initially, there were five cognition categories, eight in contact, and four in affect.

The following is a brief description of the salient features within each dimension which were then operationalized for the purposes of this research. The cognitive domain

initially included five categories which effectively denote the range of the child's cognitive process as observed during the therapy sessions. Here, heterogeneity is the rule, insofar as one may distinguish all levels of thought, from regressive sensory-motor outbursts, language distorted by primary-process intrusions and aspects of animistic thinking alongside more appropriate verbalizations of fantasy play and communicative speech. The actual affect array within the sessions is relatively limited in scope, and was found to be somewhat less amenable to operationalization. The initial selection of affects to be coded therefore, included only the most obvious states of anger, withdrawal, sadness and a positive relatedness. From a qualitative standpoint, the child did display marked anxiety, particularly during the early sessions. However, this was deemed to be an area that was more subject to personal interpretation, and was therefore not coded. The contact dimension, which contains by far the largest number of sub-categories, best reflects the contextual "here and now" of the child's interactions with the therapist. These communications may be in fantasy play in which the therapist is an observer, an active participant, or assigned a specific role, communications about real events, or consist of an expression of the child's confusion between reality and fantasy, internal and external events. As in the purely cognitive realm, all levels are represented, from the more primitive and undifferentiated, through age-appropriate and somewhat

sophisticated interactions.

Major session units were also designated, and defined as either an interpretation by the therapist, or a dissociative shift by the child. Both major session units and within dimension categories were derived from the over-riding behavioral characteristics exhibited by the child during the course of his therapy. Thus, the array of operationalized, descriptive categories were primarily determined by real behaviors which emerged during the treatment process, although they were conceptually informed by the theoretical framework already discussed.

The entire record was then assessed in respect to the primary affective, cognitive, and contact categories. When this assessment was completed, the total data base initially consisted of 435 frames which occurred during the sample sessions. In this context, a specific frame is defined by any of the following being true: either a cognition, a contact, or an affect, or any combination of the three has been noted. Each session thus has a finite number of frames as defined by these categories, and is capable of being analyzed separately on a session by session basis. This record was subsequently re-evaluated with the view towards determining whether all coded categories fully qualified as discrete entities, or if some of the prominent features coded constituted co-occurring qualities of an overall category. Arriving at an understanding of which entries were primary and discrete, and which comprised ancillary

co-features became a major task of the data analysis. This issue of primacy was not intuitively obvious, and was only revealed as the initial data base was subjected to further scrutiny. This reassessment, and the subsequent compression of the data base will be described in detail in Chapter IV. For the moment, it should be noted that the final data base was determined to consist of 307 frames, and it is on this figure that the following reliabilities are based.

Reliability:

Reliability was established by three independent coders who applied this investigator's system of categorization to sessions I, IV, and VII. Coders 2 and 3 are respectively a child and adult therapist within the investigator's own graduate program, while coder 1 is a child therapist in another graduate program. Coders 2 and 3 had some minimal contact with the child, while coder 1 did not. 1 and 3 had equal training; coder 2, who lives at some distance was contacted and trained over the telephone. All three were given identical practice packages, consisting of a list of operationalized categories (the coding system) and their definitions. For reference purposes one sample session already coded by this investigator was included along with a practice session to be coded by them. Following this, coders 1 and 3 met jointly with the investigator who discussed the results with them and answered their questions regarding the application of the coding system. A consensus was reached on disagreements. Coder 2 was contacted via the

telephone, and a similar procedure was followed. Preliminary training results indicated that coders 1 and 2 had understood and learned to apply the coding system with relative ease, while coder 3 experienced more difficulty. Coder 3 was then provided with two further short practice samples, and the results were discussed with the investigator. Following this, all three received a package containing sessions I, IV and VII, along with a list of categories, stereotypical themes, and two partial sessions that were already coded. Their coding was then compared with the author's whose record was used as the standard for comparison. The following are the individual coder reliabilities for each session:

	Coder 1	Coder 2	Coder 3
Session I 42 Events	93.9%	93.9%	93.9%
Session IV 65 Events	93.8%	95.4%	90.8%
Session VII 32 Events	96.9%	96.9%	93.8%

There were only twenty-four errors by three raters over one hundred thirty nine frames to be coded, yielding an overall reliability of 94.5%. The errors were primarily ten excess cognition, contact, or affect, five misses, and nine confusions of level in contact or cognition. With only twenty-four errors, it is difficult to discuss patterns or trends. Nevertheless, the following comments appear to be relevant. No pronounced practice effect is evident in these

results, which suggests several possible interrelated hypotheses. For one, the child was phenomenologically different at various points in the treatment; hence each session coding in effect constituted an assessment of a "different" child. From a subjective point of view, it is the psychotherapist's vision which creates the notion of the child as different. This notion of a different child is an important psychological backdrop against which the therapist assesses changes in the child. It is, in effect, a clinically informed "educated guess", based upon the changing patterns of behavior revealed by the patient. Thus different, or qualitatively different, is a very important concept. For another, the two child therapists grasped the coding system immediately, and experienced relatively little difficulty in its application, whereas the adult therapist consistently encountered more difficulty in both the learning and application of the coding system. This is particularly evident in session IV, where the child exhibited many diverse behaviors. It is possible that the child therapists' relative familiarity with the thought processes of severely disturbed children may well have been a determining factor in this. Additionally, the ease with which the two child therapists utilized the coding system despite their being in different clinical training programs suggests that with training, people of similar, although not necessarily identical backgrounds can use this model. It further increases the relative trust and reliability of the measures obtained.

CHAPTER IV

Results Condensation:

Determining a method of results condensation which would not only remain consistent with the clinical nature of the data base, but also facilitate a further exploration of the research hypotheses necessitated a reconsideration of the categories within each major domain, and a further understanding of what occurs within them. As already noted, the issues of discreteness and primacy amongst categories were not apparent at the outset, although the theoretical models for this research are grounded in notions of developmentally ordered interrelated hierarchies. I will therefore first define the final data base, summarizing the primary transformations and deletions within domains, and then discuss each in turn.

The final data base consists of 307 frames defined by the occurrence of a cognition, contact, or affect which are asymmetrically distributed among the eight sessions. The sums for the sessions in 1 to 8 order are: 42, 23, 49, 65, 17, 42, 32, and 37. The primary data recodings consisted of the following:

1. Animism, which appeared with regularity throughout the eight sessions was found to be non-significant as an indicator of either progression or regression, hence was excluded from the final analysis of cognitive features.

2. Isolated behavior and fantasy notations, as well as silent fantasy play unaccompanied by concurrent cognitive notations were found to be meaningless in terms of this analysis and deleted. Stereotypy was perceived as a variant of fantasy play and condensed within this category. Dissociations were better understood to represent a variant of the state of Confused, and were added to this category.

3. The category of negative affects includes both anger and withdrawal, while positive affects denote pleasure and sadness. Additionally, body contact emerged as an aspect of affect expression, and was transferred to the appropriate positive and negative categories.

The remaining cognitive, contact, and affect categories as defined in Table 1 were then ordered within their respective domains with regard to hierarchy, where a higher number was declared to represent a more mature level than a lower number.

The necessity of maintaining internal consistency regarding developmental issues within the chosen theoretical models and the criteria that categories be meaningful within such a framework emerged as the overriding determinants by which the condensation of the data and the subsequent hierarchical ordering was reached. To recapitulate, both Piagetian and psychoanalytic models propose that development proceeds in a hierarchical manner, as the child gradually moves from less to more differentiated and integrated levels of functioning. Implicit in these models, then, is the

TABLE 1

FINAL CATEGORIES

COGNITION

1. Sensory-Motor: A regressive motoric episode, frequently a destructive, rage-filled outburst in which the child is not in contact with the therapist.
2. Primary Process: Language is inappropriate to the reality context. Content is distorted by idiosyncratic fantasies.
3. Fantasy Language: Language is egocentric, but appropriate in the context of ongoing fantasy play.
4. Normal Speech: Language is that of normal communicative speech, content refers to a reality issue.

CONTACT

1. Confused: Denotes confusion of reality and fantasy and/or self with other.
2. Fantasy Play: The expression of a coherent, ongoing fantasy.
3. Reality: Contact with regard to a reality issue, in which the therapist is perceived as a separate individual.
4. Reality/Fantasy: Reality instructions to the therapist which include the notion of pretend; a role assignment within a fantasy.

AFFECT

1. Negative: Includes dissociations, withdrawal, and all rage states expressed either physically or verbally.
2. Positive: Sadness and all pleasurable states expressed physically or verbally.

notion of an innate, developmental progression, wherein the child's internal structures undergo successive transformations which are co-determined by and reflected in his transactions in the world.

As previously discussed, the Piagetian framework proposes an orderly succession of the stages, as well as a series of structural discontinuities in cognitive development proceeding hand in hand with functional continuities. The discontinuity hypothesis in the normal case marks the moment of transition wherein a new stage is constituted as both a reorganization of the previous one and a different cognitive entity. It is the absence of such stage-specific progression and continuing heterogeneity of the thought processes that appears to be the hallmark of psychotic thinking in childhood. In this research, several categories were developed to encompass the observed deviation from the cognitive norm: a sensory-motor descriptor, indicating the presence of regressive motoric outbursts, a notation for animism, here a distorted form of earlier egocentric thought in which external forces are transformed by a private symbolism into persecutory objects, and the classification of verbalizations characterized by primary process intrusions which frequently expressed the child's terror that any change was tantamount to annihilation. Despite the inclusion of categories in the cognitive domain which reflect deviant aspects of the child's functioning, they nevertheless suggest an inherent developmental ordering

consistent with the above theoretical notions. The final ordering of cognitive categories, from lowest to highest is as follows: sensory-motor outbursts, primary process language, the verbalizations of fantasy play, and appropriate, communicative speech. As previously mentioned, the original category denoting instances of animism was not included in the final computations. Despite the prevalence of animism, this specific aspect of the child's cognitive process showed remarkably little variability across the eight sessions examined, regardless of the level of the child's cognitive and affective organization. As such, it lacks meaning for the purposes of this analysis, and appears to be an ancillary feature rather than a primary category. This, in itself, is a finding of some interest, inviting speculation on the relationship between fantasy content and the intrapsychic structures available to contain that content. The implications of this finding will be more fully elaborated in the context of Chapter V.

The approach taken in determining both the final hierarchical ordering of contact categories and the appropriate criteria for merger followed similar conceptual lines to those previously stated; that is, that the end result convey information that would be meaningful in terms of a structural analysis, while remaining consistent with the dual theoretical orientation of this research. While the author recognizes that a micro-analysis of ancillary descriptors might reveal something about collateral steps in intrapsychic

structuration, such an analysis could not in itself yield information regarding structural change which is the focus of this research. It was decided, then, to forego for the moment the potential microanalysis in favor of the guided search for those macrounits within domains whose presence might provide indicators of the underlying structures.

Eight contact categories were prominent in the initial coding: a confused state, body contact with the therapist, a notation for fantasy, silent fantasy play, stereotypical play, reality contact with cognizance of the therapist as a separate person, pretend play which included role-assignment, and a notation indicating passing behaviors that were neither part of an ongoing nonverbal fantasy nor in the nature of a communication to the therapist. These solitary behaviors, along with notations of a fantasy or silent fantasy play without a concurrent cognitive state were deemed to be meaningless and were therefore excluded from the final computations. Body contact, when re-examined in the context of the original process data, was best understood to have meaning as an affective display, and was transferred to that domain. Dissociations, initially unassigned although noted, were considered to be a variant of the child's more confused states, and thus added to this category. Stereotypical play, both verbal and nonverbal appears to be evidence for a particular level of organization within the child. Moreover, instances of such play increase during the middle sessions analyzed and decline towards

the end. This waxing and waning effect is of some interest, and suggests that stereotypy may well make a substantial contribution to the organization and maintenance of the self until such time as more mature structures may be consolidated. Nevertheless, stereotypy is non-discrete, and constitutes a specific instance of fantasy play. It was therefore merged into this category. The final contact categories were then ordered in the following manner: confused, fantasy contact, reality contact, and the capacity to pretend.

The affective domain, as previously noted, was both more limited in scope and difficult to operationalize, hence the initial decision to encode only four readily observable affective states: anger, withdrawal, sadness, and positive affect. In normal development, one expects an interplay of more varied affective states, with subtle shifts and mood changes across an increasingly differentiated and well-articulated continuum. Moreover, during the course of therapy with a neurotic patient, the capacity to express negative feelings towards the therapist might constitute an important progress in the treatment. As indicated in the literature review, a different affective circumstance obtains in the treatment of psychotic children. Characteristically, affects tend to be relatively primitive, unintegrated, and their expression lacks modulation. There is an absence of positive regard for others, frequent aggressive outbursts, an inability to experience pleasure in one's own functioning,

and a tendency to withdraw from minimally frustrating experiences. The entire affect array is often dominated by the presence of an overwhelming anxiety which frequently precipitates a regression into the psychotic process. As this case is a representative one, the predominant initial affective tone towards the therapist was one of almost constant rage. One could also distinguish the other typical affective features outlined above, and described in detail in Chapter II. It was therefore determined that any positive or more differentiated affective contact constituted a genuine progress in the therapy, while rage and withdrawal were considered to be more representative of regressive elements. The progressive and regressive aspects of the affect categories, then, constituted a developmentally consistent basis for their merger. As affects were also expressed in the form of body contact with the therapist (i.e., punching, cuddling) it was further decided to condense these manifestations within a now binary world of positive and negative affect.

The preceding data re-classification, condensation, and reordering with a view towards establishing a developmentally coherent hierarchy in all three domains ultimately permitted an advance from the original nominally coded behavioral descriptors to the ordinality of the final results, while retaining a portrait of the child as a total being.

Results:

The following results are all referrable to the final 307 frames primarily composed of cognition or contact readings, or by affect notations, or by the combination of all three. In the presentation of these results, the rows of the tables are not laid down randomly. The lower rows of all tables represent either more mature or less deviant forms of interaction. This is congruent with both the search for indicants of structural change, and the stated goals of the child's psychotherapy.

Table 2 depicts the flow of affects through the eight sessions, whether or not they are accompanied by a co-occurring cognition, contact, or both.

One definitely sees a preponderance of negative affect in the early sessions. While there are, in toto, far fewer instances of positive affect, they tend to predominate during the last two sessions.

Table 3 presents the realm of cognition alone over the eight sessions, without the inclusion of concurrent contacts or affects.

Here, the reader may observe a general trend towards the decline of less mature cognitive forms during the last two sessions. Specifically, session six marks the disappearance of regressive sensory motor outbursts, while session seven contains the final occurrence of primary process dominated language. These apparent cognitive discontinuities imply both a process of cognitive transition, and the

TABLE 2

AFFECT

		1	2	3	4	5	6	7	8	
1.	NEGATIVE	15	12	20	7	4	17	1	3	79
2.	POSITIVE	3	2	3	6	5	12	5	7	43
										122

TABLE 3

COGNITION

	1	2	3	4	5	6	7	8	
1. SENSORY-MOTOR	5	1	4	3	1	1			15
2. PRIMARY PROCESS	11	10	5	4	1	2	2		35
3. FANTASY LANGUAGE	3	4	22	32	4	5	13	14	97
4. NORMAL SPEECH	15	6	8	23	8	24	16	18	118
	34	21	39	62	14	32	31	32	265

discontinuity that is the indicant of a structural change.

Similarly, Table 4 describes the dimension of Contact over the eight sessions without any accompanying cognitions or affects.

The most striking entry on Table 4 is the absolute disappearance of the confused state after the first four sessions.

Table 5 depicts the patterns of joint associations of cognition and contact with affect. These patterns are presented in the form of five primary states, a state in this context being defined as a cognitive-contact-affect gestalt.

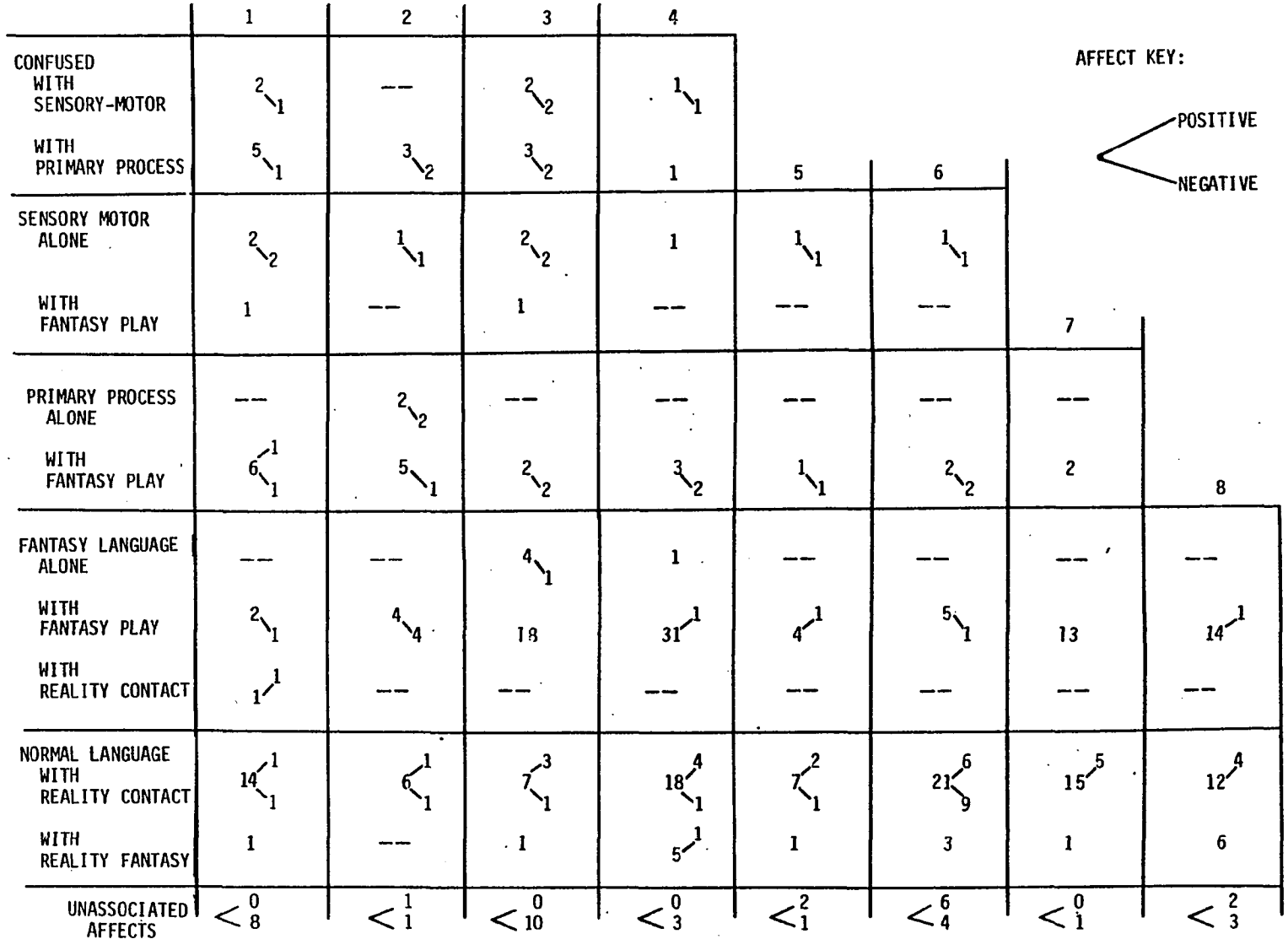
The reader can immediately see that in the joint world of cognition and contact there is a regular staircase for the departure of more deviant forms of cognition-contact. It is proposed that this discontinuity of states, in which one may observe the developmentally orderly absolute disappearance of confused, sensory-motor, and primary process, implies the presence of stages and denotes structural changes over the course of the therapeutic process. Indeed, it is the prevalence of such discontinuities which simultaneously constitutes the criteria for the change from one cognitive stage to another and is the evidence for such structural change. Interestingly, one also observes that all possible combinations of cognition and contact are already present in session one; although they are all potentially available to the child, he is essentially unable to fully use them.

TABLE 4

CONTACT

		1	2	3	4	5	6	7	8	
1.	CONFUSED	7	3	5	2					17
2.	FANTASY PLAY	9	9	20	35	5	7	15	14	114
3.	REALITY	15	6	7	18	7	21	15	12	101
4.	REALITY-FANTASY	1	0	1	5	1	3	1	6	18
		32	18	33	60	13	31	31	32	250

FIGURE 5: PATTERNS OF JOINT ASSOCIATIONS AMONG COGNITIONS, CONTRACTS AND AFFECTS OVER THE EIGHT SESSIONS



By implication, this suggests the presence of a cognitive heterogeneity which stands in contradiction to the Piagetian rule of stage-sequential invariance. Further inspection of the table reveals that with the exception of a single frame in session one, positive affects are not associated with the first three rows of this table. Similarly, there is an habitual association between the state of confused and the presence of primary process intrusions. The reader may also observe that sensory-motor states are frequently unaccompanied by contact. Normative speech occurs solely in the context of reality, and is consistently accompanied by both negative and positive affect, although there tends to be a preponderance of positive affect in the last two sessions. The affects that occurred other than in the conditions of cognition and contact display a definite trend, where the primarily negative ones occur in the earlier sessions, with some semblance of balance towards the end.

Table 5 makes it abundantly clear that the coincidence of cognitions and contacts is far from random. With great regularity, lower levels of each scale are seen in combination in the earlier sessions, while higher levels of the two scales are seen in combination in the later sessions. To capture the sense of these joint associations, a fourth scale was created which combines the contact and cognition values additively. Thus, for example, a sensory-motor cognition in combination with a confused contact yields a score of 2, while normal speech (La+) in combination with

an instance of pretend (Reality-Fantasy) contact yields a score of 8. All four of the scales were then subjected to one way analyses of variance by ranks (the Kruskal-Wallis test) yielding highly significant differences among sessions. For the four scales, affect, cognition, contact, and cognition-contact combined, the obtained chi squares were 24.34, 28.61, 22.75, and 37.7 respectively, all significant at beyond the .001 level.

Tables 6 through 9 specify for all four scales the session medians that significantly differ from one another. In each table, the session medians are presented in ascending order, while the body of the tables indicates which means differ according to post-hoc Mann-Whitney U tests. Since in all comparisons there were substantial quantities of tied score, the tables report the results as Z scores corrected for ties, together with their significances (Hull and Nie, 1979).

Inspection of Tables 6 through 9 reveals differing patterns of step-wise change between adjacent sessions. In general, one cannot discriminate adjacent sessions with two significant exceptions. In all four scales, there is a significant increment between sessions three and four, and in the contact scale a significant decrement between sessions six and seven. Beyond that, it is always the case that one can discriminate the earliest sessions from the final ones.

TABLE 6

SIGNIFICANT DIFFERENCES AMONG SESSIONS

FOR AFFECT SCALE

(MANN-WHITNEY Z-SCORES)

			SESSION		
			3	2	1
SESSION	N	MEDIAN			
3	23	1.07			
2	14	1.08			
1	18	1.10			
6	29	1.35	2.21*		
4	13	1.43	2.17*		
5	9	1.60	2.46*	2.05*	2.05*
8	10	1.79	4.04***	2.72**	2.77**
7	6	1.90	3.37***	2.89**	2.94**
TOTALS	122	1.27			

X^2_{K-W} = 24.34***

*p<.05, **p<.01, ***p<.001

TABLE 7

SIGNIFICANT DIFFERENCES AMONG SESSIONS

FOR COGNITION SCALE

			SESSION			
			2	1	3	4
SESSION	N	MEDIAN				
2	21	2.45				
1	34	2.83				
3	39	2.98				
4	62	3.25	2.30*		2.07*	
7	31	3.53	2.86**	2.05*	2.96**	
8	32	3.61	3.33***	2.47*	3.65***	2.13*
5	14	3.62	1.98*		2.09*	
6	32	3.83	3.52***	2.94**	4.14***	3.06*
TOTALS	265	3.35				

*p<.05, **p<.01, ***p<.001

X^2_{K-W} = 28.61***

TABLE 8

SIGNIFICANT DIFFERENCES AMONG SESSIONS

FOR CONTACT SCALE

			SESSION				
			3	2	4	1	7
SESSION	N	MEDIAN					
3	33	2.08					
2	18	2.17					
4	60	2.30	1.97*				
1	32	2.50					
7	31	2.53	2.61**				
8	32	2.67	3.15**	2.30*			
5	13	2.71	2.51*				
6	31	2.91	4.24***	3.31***	3.19**	2.67**	2.20*
TOTALS	250	2.45					

X^2_{K-W} = 22.75***

*p <.05, **p <.01, ***p<.001

TABLE 9

SIGNIFICANT DIFFERENCES AMONG SESSIONS

FOR JOINT COGNITION-CONTACT SCALE

			SESSION			
			2	3	1	4
SESSION	N	MEDIAN				
2	21	4.40				
3	39	4.86				
1	34	5.00				
4	62	5.24	2.46*	2.61**		
7	31	6.53	2.98**	3.29***	1.99*	
5	14	6.64	2.12*	2.29*		
8	32	6.67	3.56***	4.04***	2.77**	2.33*
6	32	6.88	3.68***	4.27***	2.99**	2.78**
TOTALS	265	5.35				

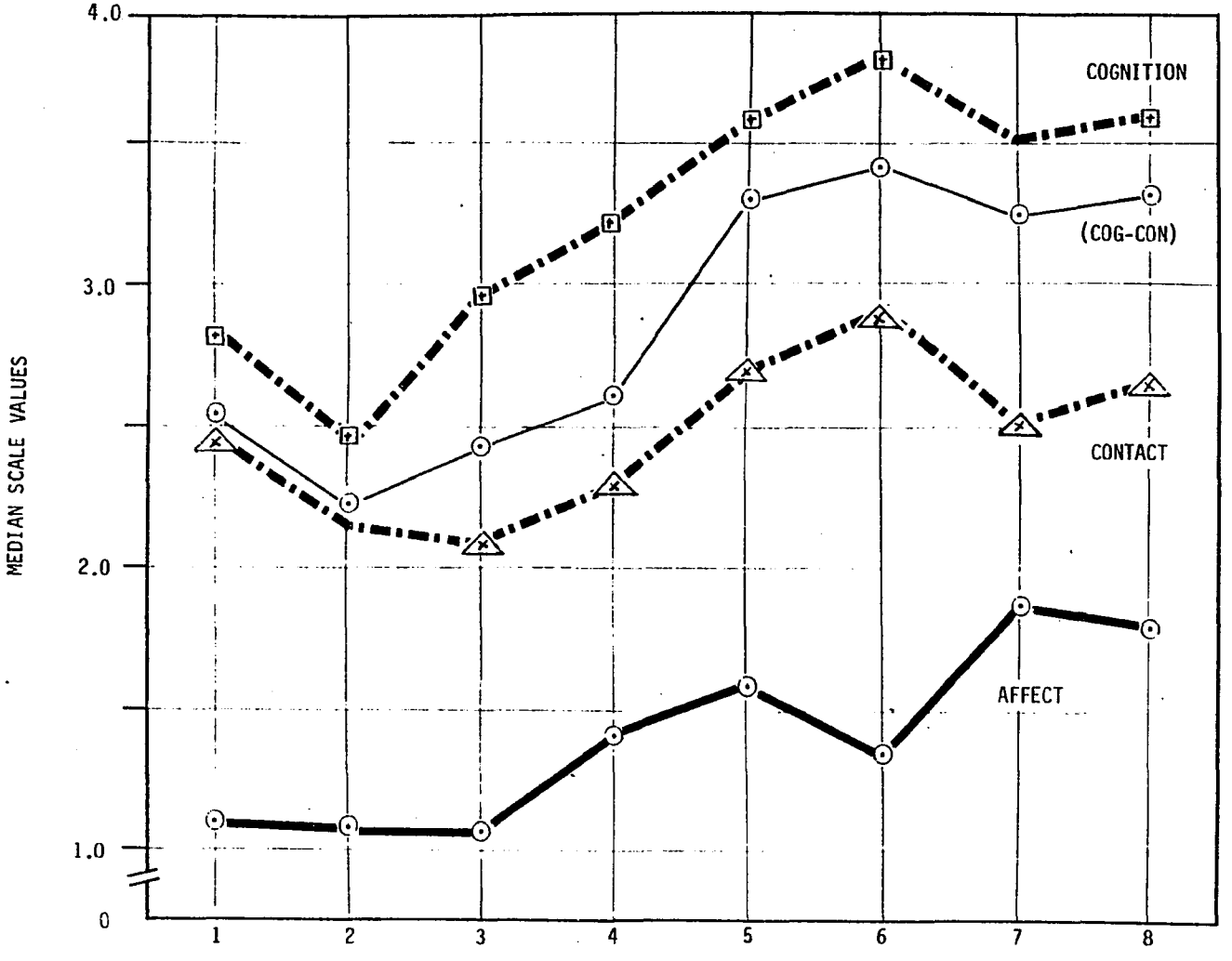
*p<.05, **p<.01, ***p<.001

X^2_{K-W} = 37.74***

Figure 1 plots the medians from Tables 6 through 9 as a function of the sessions in their normal order. For purposes of comparison with its components, the values for the combined cognition-contact scale have been divided by two. Initial inspection of the figure makes it clear that there are three separate scales to consider. While merged scales were most useful in demonstrating coalescence and significant differences amongst sessions, cognition-contact tends to mask more subtle discriminations. Further examination of the figure reveals all scales to be moving from lower values in the earlier sessions to higher values in the later sessions, but the patterns of change are by no means identical. Therefore, the three original scales will be considered both individually and in their relation to one another.

All scales decline between sessions one and two. The first disparity occurs following session two, as cognition begins to rise, while contact and affect decline further, then rise coincidentally with cognition after session three. This result suggests that contact, which simultaneously participates in both the cognitive and affective realms may be more closely related to affect during the first three sessions. Thereafter, cognition appears to be the more salient factor. Indeed, one subsequently sees a parallel development of the cognitive and contact domains which are essentially in synchrony. By implication, it is this fluctuation by contact between affect and cognition

FIGURE I. MEDIAN SCALE VALUES OF FOUR MENTAL DIMENSIONS OVER THE EIGHT SESSIONS



which speaks to the interplay between the two. Significantly, it is a cognitive shift which initiates change, a finding that is in accord with normal developmental events. It is also of some interest that the synchrony amongst domains which emerges between sessions three and four was prefigured by the disappearance of the confused state seen in Table 5.

The three domains then move in synchrony until session five, where cognition and contact remain so, while affect begins to diverge. The reader's attention is directed to the maximal divergence which occurs at session six, where cognition and contact are at a peak, while affect declines and is thereafter exactly opposite contact and cognition. When this result is considered in conjunction with the events of session six, one can imply that a true structural change has taken place. Within the context of that session, the child was not only angry, but also, for the first time, capable of experiencing the more differentiated affect of sadness, rather than having to resort to withdrawal in the face of frustration and disappointment. Moreover, despite the intensity of his affects, he did not become disorganized. This suggests that in the context of high cognition, high contact, negative affects are experienced very differently than in the context of low cognition and low contact. It also implies that an active relationship exists between the capacity to experience powerful yet varied affects and the concurrent level of structural organization. Thus, the cognitive restructuration that has occurred seemingly

influences the way by which affects are experienced, and demonstrates that the relationship between affect and cognition is at once both structural and functional. Functionally, the affect display of session six was more appropriate to the child's realistic experience, while structurally, one can see that the actual structure of cognition is very different.

It is further proposed that the "mirror" effect seen in Figure 1 after session six between cognition and contact on the one hand, and affect on the other constitutes additional evidence for structural change. The shift in the patterns of association between domains over time, which culminates in the divergence of affect as the close association of cognition and contact continues, suggests a process of structural differentiation and integration remarkably similar to that hypothesized to occur during the second year of life. There, a cognitive restructuration initiates a new stage of cognitive development, while it also potentiates a major affective change.

Speculating further, the apparent freedom of movement amongst domains as they fluctuate in opposite synchrony to one another subsequent to session six suggests an ongoing, active process of mutual compensations and regulations within a more flexible and integrated structure of totality.

CHAPTER V

DISCUSSION

Introduction:

The findings of this research indicate that the associations across domains - cognition, (logical operations) contact, (infralogical operations) and affect - observed in Table 5 depict a structural, stage-sequential progression from less to more mature cognitions and increasingly differentiated affect over the course of the psychotherapy. Data from Figure 1 demonstrates differing patterns of change among the three domains across time. It was noted that affect is initially more closely related to contact, while following session five, contact is more bonded to cognition. The fluctuation by contact between affect and cognition was considered to represent an interplay of domains, and it was suggested that the shift of contact is evidence for a structural change. It was further observed that a cognitive shift inaugurate changes amongst domains, and that the bonding of contact and cognition subsequent to this structural change influences the way affects are experienced by the subject.

The discussion of these results will begin with a consideration of the stages of Table 5; the author will then partially integrate the stage-specific changes within the dual conceptual framework of this research. Following

this, the relationship of contact, cognition, and affect will be explored and a further partial theoretical integration of the findings will be attempted. Further clinical and research applications of this conceptualization and methodology to psychoanalytically oriented investigations of early childhood will then be discussed.

The Stages:

The regular, progressive discontinuities of Table 5 which define the four stages suggest a structural change in both the cognitive and affective realms. While the overall trend in the data is towards greater cognitive and affective stability, a close inspection of the contents of the stages and the moments of discontinuity yields some intriguing hypotheses.

Stage I:

Stage I is dominated by a state termed confused; Table 5 reveals a high level of dissociations, confusions of reality with fantasy, and the predominance of negative affect. Nevertheless, there is already evidence within session one, that despite multiple instances of the most regressed states, wherein the referrent (in the person of the therapist) is frequently a projection of the child's inner fantasy life, the subject is concurrently capable of demonstrating a much higher level of cognitive functioning. Namely, he demonstrates the ability to pretend, indicating a latent capacity to discriminate inner from outer reality, self from other, and the fleeting presence of a cognitive

and affective organization sufficiently integrated to permit role-taking. This cognitive heterogeneity is a striking counterevidence to the Piagetian postulate of an invariant sequential unfolding of the cognitive stages. The findings of this research confirm those reported by Voyat (1978); the psychotic children studied by him displayed a similar co-existence of cognitive abilities representative of various stages of development. These findings further support Voyat's contention that the intrusion of bizarre affect laden fantasies of such children on their cognitive processing, reveals a true structural interference by affectivity, an event also hypothesized by Piaget not to be possible in the realm of an orderly, stage integrated progression.

In addition to the cognitive heterogeneity and structural interface between cognition and affect depicted in Table 5, salient features of childhood psychosis similar to those already described in the literature by cognitive and psychoanalytic authors may also be observed. In this analysis, various aspects of the psychosis are represented by the association of negative affect with the less mature cognitions seen in the first three rows of Table 5, and the initially close relationship between cognition and contact seen in Figure 1. The associations of Table 5 herein labeled confused, sensory-motor, and primary process language, designate more psychotic states, and indicate the degree to which this child's cognition is dominated by elaborate, rage-filled fantasies related to the early

mother-child interaction.

The initially close association of contact and affect seen in Figure 1 further depicts the lack of differentiation observed in the child during this phase of the treatment.

This latter finding is of some interest, given the later close relationship of contact with cognition, as it suggests both a structural change and a potential area of interplay between the realm of the logical operations, the infralogical domain, and affective development. Logical operations, it will be recalled, are capable of complete reversibility, and consist of the ordering of discrete units into a continuum. The infralogical domain includes the construction of notions of space, time, movement, and speed; that is, the capacity to introduce order into a continuum. The properties of these external referrents, according to Piaget, permit the observation of discrete objects, the ordering of events, and allow their relative continuity. Furthermore, the infralogical realm, by virtue of its spatio-temporal components is related to the formation of psychological and linguistic structures. These structures are not entirely logical as they are not completely reversible, and depend upon anticipations and regular feed-back for their construction and maintenance. The findings of this research demonstrate that contact (the human referrent) is initially much closer to affect than it is to cognition. It would seem then, that the infralogical operations, essentially nondiscrete, serve as a preliminary,

more primitive referential matrix, whereas the logical realm is significantly more cognitive in nature. Although speculative, this finding of an initial bonding between the infralogical operations and affectivity would appear to be consistent with the dual theoretical framework of this research. For one, it is a partial explanation of the role of assimilation in psychosis; that is, the subject is unable to accommodate in the normative sense, as this would necessitate the imposition of discrete order upon the ongoing fantasy continuum. For another, it strongly supports psychoanalytic developmental notions in general, and the centrality of the primary object in particular. As already stated, in the normal case it is the continuing predominantly good relationship to the mother, the external referrent par excellence, which insures an optimal unfolding of both cognition and affectivity. Moreover, that relationship exists along a spatio-temporal continuum that is always different yet the same. Speculating, it may be that in psychosis the suffusion of the infralogical realm with negative affect constitutes a deviation sufficient to skew the underlying constructions. The logical operations, less closely related to affect, would be less severely effected.

It is the hypothesized task of the separation-individuation phases as developmental organizers to facilitate the unfolding of differentiation (discreteness) within a positively toned mother-me continuum. Here, the reader may observe that a cognitive change commences at session two (Figure 1) while

an interpersonal-affective shift is not apparent until session three. Following this, all three dimensions move coincidentally as session four marks the final appearance of the state of confused. Thus, when a structural change does occur it begins with cognition. This finding is not unlike the normal developmental process during the second year of life, when a cognitive change (object permanence) initiates an affective change (rapprochement). This point will be more fully elaborated later in the discussion.

Stage II:

The end of Stage II is characterized by the disappearance of sensory-motor outbursts from the child's behavioral repertoire. When this event is considered in conjunction with the prior disappearance of dissociated and confused states, it suggests a reworking of the behavioral foundations on which cognitive structure rests, in the direction of an organized structure of totality. To recapitulate, Figure 1 reveals a beginning change in cognition after session two. The three domains then display coincidence between sessions three through five, with a divergence thereafter. Furthermore, the reader may observe that these underlying structural changes seemingly occur in tandem with the development of the infralogical domain, that is, with increasing positive contact with the human object.

The disappearance of sensory-motor outbursts after session six merits some separate discussion regarding the nature of the schema, the role of perception, and their

interplay. In psychosis, one observes an incapacity to decontextualize and depersonify perceptions from the immediacy of events. Descriptively, the child's behaviors appear to be governed by a fixed series of expectations which vastly differ from the norm. If particular subjective conditions are not fulfilled in an absolute sense, the child anticipates or experiences annihilation. There appears to be an absence of the cognitive conditions which would allow for states to be coordinated with their transformations; traumatic levels of anxiety are triggered by minimal experiences of difference and uncertainty. Imitations have not lead to expectable forms of symbolization, including normal images of anticipation and a socially shared linguistic process, nor have the schemes been organized into hierarchical structures that are successively coordinated and reorganized with each other. These cognitive deficits are of particular importance, as in the course of normal development, experience is initially conserved in the context of ongoing actions via imitation, and later evoked in the fantasies of symbolic play and the social signs of language. Indeed it is language and the realm of symbolic verbalizations which potentially makes present all that is absent. Given the instability of the cognitive base, it is not surprising that the affects and ideas of this subject are frequently unintegrated or inappropriately linked at varying levels of meaning.

What, then, has changed, what internal processes and

structural transformations may one infer from the disappearance of sensory-motor, the concurrent expansion of the affect array, and the major change in the total configurational relationship between affect, contact and cognition which occurs at session six. It may be that the partial explanations suggested by the data will further our understanding of the underlying structure of psychosis, and, by inference, those interactive processes which permit structural change to occur.

In normal development, important cognitive changes are believed to occur during the last half of the first year of life. It is the moment in which the secondary circular reactions are coordinated with each other; thenceforth, the child will combine previously learned patterns of behavior in new ways. The cognitive capacity thus created enables the child to encounter the world in a different way; persons and objects are henceforth viewed in patterns of interrelationship, marking the beginnings of concept formation and classification. This time is simultaneously the moment of the construction of "indices", mobile signs in part detached from immediate perception and action, which in turn effect memory. The child can now anticipate an immediate future and reconstruct a recent past. The indices are ultimately integrated as part of the mental image, a signifier that functions as an extension of perceptual activity. These images retain their static quality until the advent of concrete operations and the

coordination of the figurative and operative aspects of cognition.

Further spatio-temporal continuities are normally established during this time through the intense imitative activity between parent and child. Moreover, the motivational interest for these imitative interactions is already directed by perceptual expectancies which rest upon prior spatial and temporal continuities established in the affective relationship to the primary object. In this manner, perception becomes an extremely important nexus for the integration of affect and cognition. It is through perception that information regarding the external environment is discovered (assimilation) while the information perceived modifies the schemes as various adaptations (accommodation) are then brought to bear upon it.

Perception itself is increasingly governed by anticipatory structures; as already stated it is in this context that the recent past (memory) effects the future in process of creation, linking spatial and temporal attributes of the object. To a certain extent, one perceives what one is both prepared to see (anticipation) or what is in the repertoire of that which may be perceived, while the interaction with ongoing reality changes and builds upon pre-existing structures. In normal development, then, there exists a link between physical perception, memory, active imitations of the primary object, and affect, insofar as affect is bound up with cognition through

precisely the perceptual orientation to the external world. Moreover, it is this perceptual-attentional, spatio-temporal aspect of development that is fundamental to the construction of reality based thought, insofar as the perceptual-imitative sphere forms the basis for distinctions between objective and subjective perceptions, thus determining the way reality is experienced.

It is therefore proposed that stage two of Table 5 and the data of Figure 1 reveal a structural change that is both a permanent transformation and the creation of new cognitive and affective entities. Within Figure 1, a coincidence of affect, contact, and cognition occurs in sessions three through six. Following this interplay, affect diverges from contact and cognition, and while a mutual opposite synchrony continues, one might say that contact is increasingly cognitive. As already noted, this change has its counterpart in normal development, during the second half of the first year of life. The disappearance of sensory-motor, however, implies that a reorganization of the fundamental means by which cognitive structures are acquired and achieve stability has occurred; motor behaviors have been integrated into a more normative structure of totality. It is relevant here to state that the child's regressive motoric outbursts were frequently precipitated by moments of panic-anxiety, in which subjective perceptions of minor, uncontrollable changes were experienced as total annihilation. The cognitive restructuration of motor

behaviors is paralleled by a concurrent shift in the relationship between contact (the therapist as external referrent) and affect (Table 5).

While speculative, this finding suggests that as a more positively toned relationship with the therapist emerges over time, accrued memories of good experiences appear to transform the content of the images of anticipation in the direction of potential future satisfactions, mitigating fears of change and the subject's boundless rage. Following session six, one observes an absolute limitation on displays of anger. This further suggests a stabilization of cognitive processes, an emerging positive self-regard, and a more realistic perception of oneself in relation to the other.

Stages III and IV:

Stages three and four (Table 5) mark the final appearance and subsequent disappearance of primary process intrusions into language. Moreover, while the child clearly experiences further anger and disappointment, as of session eight, it is never of such proportions as to significantly interfere with a more normative cognitive process. This developmental process further approximates that which occurs during normal development; where the reintegration of sensory-motor behaviors precedes a linguistic reorganization. The magical subjective causalities and omnipotent wishes expressed in the primary process language have gradually yielded to more appropriate,

realistic notions of the self in relation to others and one's place in the world developments are analogous to those of both the final half of the second year of life, and the cognitive and affective transformations which occur at the end of the preoperational period of thought.

In psychosis, maturation proceeds, despite the obvious deviations. It is important to bear in mind that the subject of this study's seventh birthday occurred just prior to session seven. One would normally expect this to be a moment of major cognitive and affective reorganization, including the unification of the figurative and operative domains, the attainment of conservation and reversibility, and the creation of the superego. In this case two new features which characterize age-appropriate development emerged in the therapy between sessions seven and eight - the capacity for observing ego, and an interest in games of rules. At the same time, the findings of Table 5 indicate the disappearance of primary process intrusions from the data, a change from the "egocentric" mode towards a consolidation of reality testing.

What are the structural requirements for such changes to emerge? From a cognitive perspective, it necessitates an internal structure that has been freed from the pull of immediate perceptions; that is the detachment of anticipations from their context of immediacy. This decontextualization is accomplished initially through imitation, but consolidated and strengthened by the emerging functions of conservation

and reversibility; the meaning of an object no longer lies in its perceptual appearance. As anticipations are increasingly socially shared, notions of a more objectified logical necessity make their appearance. These accomplishments enable the child to appreciate and simultaneously coordinate varying points of view, allowing for reciprocal relationships. As previously noted, it was shortly after session eight that the subject of this study made his very first friends.

The disappearance of primary process language constitutes further evidence for a stabilization of both cognitive and affective identities, insofar as irrelevant stimuli in the form of affectively charged wishes are excluded from the subject's conscious verbalizations. Moreover, there is now a constant separation of the signifiers from the signifieds. With this increased capacity for socially shared significations, the products of imagination are exactly that, and may be shared with others. By implication, such separation of signifier from signified indicates a bifurcation of primary process thought from secondary process, with the former increasingly relegated to the unconscious realm of the signifieds, the wishes and needs of the self, as opposed to the realm of secondary process and the world of objective reality.

The emergence of observing ego, or reflective self-awareness, after session seven is a highly significant event. Both Piagetian and psychoanalytic theorists agree that an

essential prerequisite for reality testing is the ability to know that one is the thinker of the thought. This attainment is rooted in the complementary cognitive and affective transformations of the developmental moment - the construction of conservation and invariance, and the attainment of a more flexible, separate personal identity. It is of some interest in this regard to note that subsequent to session eight, the subject of this study became quite depressed, and embarked on a lengthy period of mourning for a lost childhood. Without an enduring capacity for reflective self-awareness, this would not have been possible, as one cannot talk of a remote past unless one can imagine and then reflect upon it. It is hypothesized that these cognitive and affective advances are contingent upon the therapeutic events of session six, and the subsequent divergence of affect from contact and cognition seen in Figure 1. I will now therefore discuss the relationship of the three domains, and attempt to clarify their respective roles in the structural transformations observed in the data.

Affect, Contact and Cognition:

Figure 1 tends to support the notion that structural change is inaugurated by a cognitive shift which begins at session two, at a time when affect and contact (the infralogical domain) are initially more closely related. Between sessions three and five, all three domains follow a similar course, during which I have inferred that the developmentally earlier schemata are in a state of flux.

Following session six, and the absolute disappearance of sensory-motor outbursts, there is a striking realignment of the domains. One may say, then, that to this point, motor behaviors had not acquired the status of permanence for this child, nor were they organized into any known structure of totality. Thus, those schemata which would normally constitute the foundations of future cognitive constructions remained unstable. Speculating, this cognitive instability may in part account for the curious phenomenology of the psychotic process in childhood; one frequently observed that a psychotic child "knows" that objects can be displaced in time and space and continue to exist, then "forgets" this a minute later, or understands some causal connections and not others. Moreover, it is felt that this underlying cognitive instability makes a substantial contribution to the heightened anxiety states that such children live with.

The overall configurational change, however, strongly suggests a process in many ways analogous to that which obtains during the second year of life, when, pursuant to a cognitive change (object permanence), the child increasingly turns from mother to the world beyond her. Indeed, it is the cognitive change which facilitates the creation of ambivalence and inaugurates the rapprochement subphase. There, the cognitive advance permits the toddler a new awareness of his separateness and smallness in the world, and underlies the collapse of omnipotence and the fantasied

belief in an all-giving, all-powerful mother with whom one may be simultaneously intrapsychically merged and separate. It would seem, then, that the pathway for growth is initiated by a cognitive change which facilitates the creation of ambivalence, and a need to resolve this ambivalence. The resolutions of normal rapprochement then lead to the creation of new cognitive and affective entities. These developments are, of course, contingent upon a lengthy development of the positive relationship with the mother, which assists the toddler in his efforts to tolerate the painful disillusionment that follows the loss of positive feelings of omnipotence.

In contrast, one might hypothesize that the psychotic child's development is marked by cognitive heterogeneity, rage with the primary object, and a negative omnipotence in which any minor loss of control may elicit feelings of total annihilation. Nevertheless, it would seem that for both cases, growth commences with a cognitive change in the form of a structural disequilibrium, which facilitates the creation of ambivalence. The data of Figure 1 suggests that the cognitive disequilibrium which began after session two, prior to any discernible shift in the relationship between contact and affect, prepared the foundation for and influenced the manner in which future contacts could be initiated and affects would thereafter be experienced.

With this data in mind, I would like to turn to the events of session six, a turning point in this child's

development. The data of Figure 1 reveal the presence of relatively high negative affect with the simultaneously high co-occurrence of contact with cognition whereas prior to this session, positive affect had been increasing. Events of the therapy session centered around the child's anger and sadness arising from the disappointments that occurred during his birthday party in school. The outpouring of sadness is highly significant, as it is the first indication of a true differentiation and expansion of the affect array. The grief expressed was quite focused and specific; neither his teacher nor his therapist (both representative of the symbolic relationship with mother) could fully satisfy his more grandiose wishes. The entire sequence of events is as cognitive as it is affective, reflecting the structural changes observed in the data, and the ongoing therapeutic process of separation-individuation.

The real events, based on observations, as well as the data, fit with what is known of the complex cognitive and affective developments of the rapprochement separation-individuation subphase, where, following a cognitive change, the affect of sadness first makes its appearance. While the author is not proposing that the events herein described are homologous with normal development, it is suggested that an analogous process did occur, and is reflected in the "mirror" effect of contact and cognition versus affect seen in Figure 1 (the structural change) and the observations derived from the therapy.

It is known that the development of the affect of sadness rests upon the cognitive discovery that the self is an entity separate from mother. The affective consequence of such knowing is the loss of fantasied omnipotence and the magical participation in mother's power, which leads to the creation of depressive moods. Thus, the capacity to experience sadness requires the internal presence of a more separate self attached to a differentiated other, at least in a cognitive sense. The data further reveal that despite the fury that was expressed in session six, at no point did the subject regress to his former state of confused; indeed there was only one sensory-motor outburst in the entire session. These findings tend to substantiate the view that not only is the capacity to express strong, differentiated affects contingent upon the construction and integration of the appropriate cognitive and affective structures but also that a cognitive change transforms the way affects are experienced. One may further observe that the relationship between affect and cognition is both structural and functional. It is functional, because affects are increasingly more appropriate, and structural, because the structure of cognition is henceforth different.

No place is this more apparent than in the fate of animism, those persecutory fantasies which so dominated the thought processes of this child for so very long. Surprisingly, the quantity of animism did not vary significantly throughout the eight sessions studied.

Although a formal microanalysis was not conducted, an informal re-examination of the data revealed that the pattern for animism underwent a dramatic shift from the earlier to the later sessions. Through session three, instances of animistic thinking are found only in association with the states of confused, sensory-motor, and primary process language. Thereafter, with the exception of a single instance in session six where it occurs in conjunction with a primary-process utterance, animism is solely manifested in conjunction with the more mature cognitive forms. In brief, although the quantitative changes were not capable of being analyzed separately, the massive qualitative shift requires an explanation. The data suggest that in the case of animism, as with negative affect, what has changed substantially are the internal structures available to the child. This finding is of crucial importance as to the relationship between underlying structures (competence) and external behavior (performance). Although these changes are set in motion by a shift in the logical domain, they are effected through the infralogical realm which is in close connection with affects. As the child's relationship to the therapist improved, a trend away from magical causalities was observed within the therapy, in that the most extreme distortions of time and space, suffused with malevolent forces, simply disappeared. In place of these primitive projections of a fragmented inner state, persecutory feelings were increasingly expressed

in the context of the reality based here and now of the therapeutic relationship. These transformations are further evidence that both fantasies and affects are experienced differently following the beginnings of a cognitive structural change.

Implications for Clinical Practice and Future Research:

Until now, psychoanalysis has had no effective means for verifying the therapeutic process, nor have empirical measurements been employed to enhance and inform ongoing therapeutic decisions. A structural analysis such as this one can clearly encompass the ongoing process of the therapy sessions, without any untoward effects on that process. The notational system that was devised is not difficult, and can be learned quite rapidly by persons of a similar clinical background. Furthermore, it has shown to be quite reliable. Future researchers can therefore reliably use this instrument to measure development in at least other psychotic children and adults in long-term psychoanalytically oriented psychotherapy. Moreover, the conceptualization is such that the categories within the three domains may be used as is, or modified to more accurately specify the subject population.

The development of this methodology, particularly the categories devised, underscores not only the merits of structural analysis, but also the manner in which a clinically informed operationalization of significant observable behaviors may reveal underlying structures.

Beyond this, it demonstrates the benefits to be derived from a combined psychoanalytic-Piagetian approach to clinical research. While both theories postulate an increasing differentiation and stabilization of functions as development proceeds, the affective realm is never quite as stable as that of cognition. In part, this accounts for some of the difficulty researchers have encountered in their attempts to bring empirical measures to bear on the therapeutic process. It is the author's contention that the inclusion of the cognitive hypotheses provided a necessary hierarchical frame against which affective changes might be more readily discerned, while permitting a fuller understanding of the subject's internal process.

Conceptually, the findings discussed in Chapter V prepare the way for a future empirical study of the separation-individuation process as it occurs in normal development. This current research has demonstrated that at least in the psychotic child the nature of the relationship between affect and cognition is such that a cognitive change allows for the development of affects and interpersonal relationships. Indeed, Figure 1 depicts precisely this process of intrapsychic separation-individuation. It would seem that the methodology developed in this study, particularly the notion of three interactive domains, is eminently suitable for such research purposes. The development of the affect array, the typical rapprochement contacts (shadowing, darting away), and the burgeoning

symbolic capacities of this developmental phase lend themselves to the author's methodological conceptualization.

Conclusion:

As discussed, the major findings of this study support the three main hypotheses of this research: that the structure of cognition in childhood psychosis is significantly different from the norm insofar as one observes both cognitive heterogeneity and an intrusion of affect into the structure of cognition, that there would be a significant shift in the interplay of cognition and affect over time, and that this shift was capable of being specified in a series of hierarchical, stage-specific progressions. These findings are a counterevidence and/or a deviation from the traditional Piagetian view of stage-sequential behaviors.

A final comment upon the stage progressions and structural changes observed in this research seems warranted. The overall portrait of Table 5 is that of an aberrant development which slowly comes to approximate the norm. The observed structural changes, which consist of regular progressions are analogous to and consistent with what is known of normal development. Namely, that development proceeds from a matrix of undifferentiated affectomotor responses which acquire psychological meaning within the context of an evolving positive relationship to a significant other. Thus, despite the notable deviations, the finding of an initially close relationship between affect and

contact, and the later bonding of contact with cognition are quite consistent with the larger developmental framework. The data of Figure 1, and their similarity to that which obtains during separation-individuation is quite striking, insofar as in both cases, a cognitive change initiates a new period of development. The total structural changes observed proceed from a differentiation of inner and outer states and confusions of the self with another, through a sensory-motor reorganization, to the disappearance of primary process language; this is a progression which further approximates the characteristic steps of human development. It is of some interest that in the transition from psychosis to increasing mental health, development maintains its own internally valid and consistent patterns.

APPENDIX I

INITIAL CATEGORIES AND NOTATIONAL SYSTEM

Cognition

1. Sensory motor: A regressive motoric episode, frequently a destructive, rage-filled outburst in which the child is not in contact with the therapist. (S-M)
2. Primary Process: Language is inappropriate to the reality context. Content is distorted by idiosyncratic fantasies. (LA-EC)
3. Fantasy Language: Language is egocentric, but appropriate in the context of ongoing fantasy play. (LA+EC)
4. Normal Speech: Language is that of normal communicative speech, content refers to a reality issue. (LA+)
5. Animism: An expression of a persecutory fantasy. (An)

Contact

1. Confused: Denotes confusion of reality and fantasy and/or self with other. (Cfa/RC)
2. Fantasy Play: The verbal expression of a coherent, ongoing fantasy. (Cfa)
3. Silent Fantasy Play: The non-verbal expression of a coherent ongoing fantasy without the active participation of the therapist. (CfaBe)
4. Body Contact: Any physical contact with the therapist. (BC)
5. Stereotyped Play: Repetitious play themes which express significant, enduring internal states. (ST)

6. Behavior: Momentary behavioral expressions, indicative of the subject's activity level. (Be)
7. Reality: Contact with regard to a reality issue, in which the therapist is perceived as a separate individual. (RC)
8. Reality/Fantasy: Reality instructions to the therapist which include the notion of pretend; a role assignment within a fantasy. (CfaRC)

Affect

1. Positive (P)
2. Anger (B)
3. Sadness (Sa)
4. Withdrawal (W)

Additional Categories

1. Interpretation by the therapist. (I)
2. Dissociations: An unexpected cognitive collapse with loss of contact with reality. (SS)

APPENDIX 2

TWO EXAMPLES OF ANNOTATED SESSIONS

Example 1

(Anthony and I are in the playroom, and he is just settling
LA+RC
into play.) Anthony asked me for the Wacky Racers game. He

began setting up the game pieces with an incessant stream
LA-EC
of associative chatter that was difficult to understand.
LA+EC
He finally said, referring to the game pieces "these are
AN LA+RC
spooky, the Addams family." He requested "my toy box",

selecting the baby lotion and bubbles from it, Anthony squirted
LA-EC
some lotion onto the playing board while talking disjointedly.
LA+EC I
He finally said "they are in place." I interpreted his

relief when he knew that things were where he wanted them

to be. He emptied all of the lotion onto the playing board,
LA+EC
then drove a car into it and said "it's stuck." I asked

Anthony how we would help the car get unstuck. He replied
LA-EC AN B
"spooky, spooky, Addam's family." Anthony angrily handed me

one of the game board pieces that was full of lotion, saying
CFA/RC LA-EC
"I told you to fix it didn't I." I said that I couldn't
I
know what he was thinking, but if he used words I would try

to help him.

Example 2

Anthony began to set up the blocks, enclosing the Darth Vader
ST RC LA+
robot in the structure. He asked me for the pegmen, telling
CFA/RC LA+
me to pretend that the men were going to make a discovery.

LA+EC
As the "doors" of the block structure were opened by him,
LA+EC
he began pouring glue all over the pegmen, saying "they're
AN
dying, they're being petrified." Anthony then ordered me to
RC LA+
"watch out, stand back" - then collapsed the block structure.
RC LA+ ST
Anthony asked me to "look", as he placed the robot in a
LA+EC
"cell kolak in outer space", saying "he's dead". He abruptly
LA+EC ST
changed his mind, and said "he never dies", as the robot
CFA/RC LA+
was revived. Anthony then asked me to pretend to shoot the
ST W
robot - unresponsive to my asking why - after I shot, Anthony
AN LA+EC I
said "it's a force field, he's not hurt." I interpreted
that things sometimes hurt a lot, no wonder he needed a
LA-EC AN B
force field. Anthony screamed "silence, don't talk."

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