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THE ASSESSMENT OF OBJECT RELATIONS USING THE RORSCHACH:

A COMPARATIVE ANALYSIS

by

Ann M. Sauer

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me to object relations theory and research and assisted in the early development of this idea.

I sincerely appreciate the work of John Philbin, AnneMarie Proske, and Anne Wells in scoring the data for the object relations measures. It proved to be a much more lengthy and difficult task than any of us had anticipated and I appreciate their continued committment to the work to the end. I also thank Dan Jolivet for his contribution to scoring and coding the traditional Rorschach data.

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VITA

Ann Marie Sauer was born on March 3, 1961 to Clarence P. Sauer and Alvina R. Sauer in St. Cloud, Minnesota.

She attended elementary school and high school in St. Cloud, graduating from St. Cloud Apollo High School in 1979. She attended the College of St. Scholastica in Duluth, Minnesota from 1979 to 1983, majoring in Psychology and Sociology. She graduated summa cum laude with the degree of Bachelor of Arts in May, 1983.

Ms. Sauer entered the graduate program in Clinical Psychology at Loyola University of Chicago in 1983. She completed her Master's degree in 1986, with a thesis entitled "The Prediction of Psychotherapy Dropout Using Select Client Variables: A Multivariate Analysis". Ms. Sauer was admitted to doctoral candidacy in 1987 and completed her doctoral work at Loyola University from 1987 to 1989.

During her graduate career, Ms. Sauer completed clerkships in clinical psychology at Westside Veterans Administration Medical Center, Chicago, Illinois; Illinois Masonic Medical Center, Chicago, Illinois; and the Loyola Counseling Center, Chicago, Illinois. She also obtained clinical experience as a crisis worker at Ravenswood Hospital Medical Center, Chicago, Illinois, from 1985-1987. Ms. Sauer

completed an APA approved internship in clinical psychology from 1987-1988 at Northwestern University Medical School, Department of Psychiatry and Behavioral Sciences, Chicago, Illinois and served as the Chief Psychology Resident at Northwestern during 1988-1989. She is currently employed as a staff therapist in the Eating Disorders Program at Northwestern Memorial Hospital, Institute of Psychiatry, Chicago, Illinois, and is in private practice in Chicago.

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INTRODUCTION

From its inception psychoanalytic theory has undergone
continual revision and extension, moving from Freud's original
drive theory to the ego psychology of Hartmann (1958),
Rapaport (1945), and others to the more recent emphasis on
object relations, developmental psychoanalysis, and self
psychology (e.g., Fairbairn, 1952; Fraiburg, 1969; Guntrip,
1969; Jacobsen, 1964; Kernberg, 1966,1976; Kohut, 1971, 1977;
Mahler, 1968, 1975; Spitz, 1965; Sullivan, 1953; Winnicott,
1965). These latter developments were born out of an attempt
to move beyond the "experience-distant" metapsychology of
traditional psychoanalysis and ego psychology toward a more
"experience-near" clinical theory consistent with the
phenomenology of the individual and actual clinical experience
(Klein, 1976; Mayman, 1963, 1976; Schafer, 1976).

Congruent with this movement away from a more traditional
psychoanalytic metapsychology toward a clinical theory of
object relations, there has been an increased interest in
research on object relations constructs and their relation to
normal development, psychopathology, and the psychotherapeutic
process. Much of this research has focused on the assessment
of object relations phenomena using diagnostic psychological
tests, particularly projective techniques such as the

Rorschach, Thematic Apperception Test (TAT), Early Memories, and Manifest Dreams. These assessment procedures are based on the premise that when presented with an ambiguous stimulus the individual will organize that stimulus according to the characteristics of his/her representational world (Blatt & Lerner, 1983a; Mayman, 1967). The subjects' responses to such tests can be systematically analyzed for clues to the structure and content of the individual's inner world of objects. The increasing number of studies utilizing such techniques have yielded important procedures for the assessment of object relations phenomena and lend validity to the theoretical construct of object representations as an important and enduring dimension of personality organization and interpersonal relationships. In addition, they have contributed to the development of a phenomenological, middle level clinical theory derived directly from clinical data (Blatt & Lerner, 1983a).

The use of projective techniques, and the Rorschach in particular, in the assessment of an individual's interpersonal relationships has a long tradition. From the beginning Rorschach (1942) and others (Hertzman & Pierce, 1947; King, 1958; Mueller & Abeles, 1964; Parker & Piotrowski, 1968; Pruitt & Spilka, 1964; Urist, 1976) have suggested a relationship between traditional Rorschach indices such as the human figure response (H), the human movement response (M), the Experience Balance (EB), and form quality (F+% and X+%)

and the individual's capacities for engagement in meaningful relationships and empathy.

More recently there have been two primary research groups working in the area of object relations assessment using the Rorschach and other projective techniques, each with somewhat different, but overlapping, approaches to the study of object relations phenomena. One group, operating out of the University of Michigan and consisting of researchers such as Martin Mayman, Alan Krohn, Edward Ryan, Jeffrey Urist and others, has its theoretical roots in the ego psychology theory and test methods of Rapaport, Gill and Schafer (1945) as well as the more recent work of Mahler (1968, 1975) and Kernberg (1966, 1976). These researchers have used a variety of measures including the Rorschach, Early Memories, manifest dream content, and written autobiographies to assess the content or thematic elements of object representations. The assessment of object representations resulting from these sources have been examined in relation to 1) level of psychopathology (Mayman, 1967); 2) type of character structure (Mayman, 1968); 3) independent ratings of object relations (Krohn & Mayman, 1974; Urist, 1973, 1977); 4) the capacity to benefit from psychotherapy (Ryan, 1973); and 5) improvement in psychotherapy (Ryan & Bell, 1984; Ryan, Bell & Billington, 1986).

In contrast, the second group of researchers, headed by Sidney Blatt and his colleagues at Yale University, while also

drawing from the work of Rapaport et al. (1945), attempts to integrate ego psychology, the British object relations theorists and the developmental/cognitive theories of Piaget (1954) and Werner (1948, 1963). These researchers have focused on the assessment of the formal/structural dimensions of object representations using the human response on the Rorschach, the TAT, dream material, and open-ended descriptions of significant figures. Using the results of this approach to the assessment of object relations, this group has studied the association between object representations and 1) normal development (Blatt, Brenneis, Schimek, & Glick, 1976b); 2) various levels and types of psychopathology (Blatt et al., 1976b; Blatt & Lerner, 1983b; Lerner, 1986; Lerner & St. Peter, 1984a, 1984b; Ritzler, Zambianco, Harder, & Kaskey, 1980); and 3) change occuring in the process of psychotherapy (Blatt, Ford, Berman, Cook, & Meyer, 1988; Lerner, 1983).

There is clearly some degree of correspondence and agreement between these two research approaches. Blatt and Lerner (1983a), in a review of the work of both groups, conclude that the research of both the Michigan and Yale teams "overlap and in large measure support each other" (p. 236). They point out that both groups are interested in the individual's phenomenological experience of reality, especially interpersonal relationships, and the internal

processes "that transform experiences into subjective meaning" (p. 236).

They also note however, that there are important differences between the Michigan and Yale groups (Blatt & Lerner, 1983a).

> The different theoretical orientations of these two research groups have lead them to emphasize different dimensions of object relations. The contribution of the Michigan group has focused upon the content and affective themes of object representations, whereas the Yale group has focused more on the cognitive dimension - on the structure of object representation (p. 235).

Just how these two different dimensions of object representations relate to and interact with each other is not clear. As Blatt and Lerner (1983a) point out in their review, there is a "need to integrate the different formulations and methods of the research groups at Michigan and Yale and to study the interaction of the content and the structure of object representations" (p. 237). Little research attempting to compare and integrate the two approaches has been done.

Spear (1978, 1980; Spear & Lapidus, 1981) undertook one such study examining these two alternative approaches to the assessment of object representations. He compared the assessment of object relations obtained using Blatt's Developmental Analysis of the Concept of the Object Scale for the Rorschach (Blatt et al. 1976a) with a method derived from a content-oriented scale for assessing object representations

in manifest dreams (Krohn & Mayman, 1974). He was interested in the ability of the two measures, independently and in combination, to differentiate between schizophrenic and 2 subtypes of borderline groups.

Spear found that the structural and thematic scales had low correlations with each other, suggesting that they were measuring independent aspects of object relations. Further, he found that while each scale was generally effective in making broad diagnostic distinctions, when the results obtained with each instrument independently were combined in a qualitative analysis it became possible to make diagnostic distinctions not possible by examining either scale individually.

Spear concluded from these results that the structural and thematic approaches to the assessment of object representations measure relatively independent and complementary aspects of the capacity for object relations. Further, he states that both approaches are useful in differential diagnosis, particularly when used together as "the combination provides a more comprehensive and informative view of the way people are able to conceive of the relations with each other" (Spear, 1980, p. 331).

Spear's study is important in its attempt to investigate the interaction between structural and thematic approaches to the assessment of object representations. His research, however, contains methodological problems which detract from

the conclusions which may be drawn from it. In addition, while Spear's comparison and analysis of the two approaches is interesting and informative, it is primarily qualitative in nature and he fails to provide the more empirical comparison and integration of the two approaches necessary to test how they interact with one another.

Spear and Sugarman (1984) attempted to address some of the unanswered methodological questions in a replication and extension of Spear's original study. They compared Blatt et al.'s (1976a) Developmental Analysis of the Concept of the Object Scale with Urist's (1973, 1977) Rorschach Mutuality of Autonomy Scale. They examined the ability of each measure, independently and in combination with one another, to make the same diagnostic distinctions originally attempted by Spear.

Spear and Sugarman (1984) demonstrated high reliability for each of the two object relations measures. They found that both measures were able to make significant, though different, diagnostic distinctions between the schizophrenic and borderline groups. Further, when both measures were used together, differential diagnostic ability improved over that obtained with either instrument individually. The authors suggest that these results support the use of a multidimensional approach to the assessment of object relations that takes into account both the structural and thematic dimensions of the object relations construct. They state that the use of either the structural or thematic

approach alone provides an incomplete understanding of the object representations of the schizophrenic and especially, the borderline patient.

The results obtained by Spear and Sugarman (1984) are encouraging and additional research along these lines would appear promising. Their research still contains, however, some of the same methodological problems encountered in Spear's original work. In addition, due to the qualitative nature of their comparison, their analysis falls short of achieving a truly empirical comparison or integration of the structural and thematic approaches to the assessment of object representations. An empirically sound comparison of assessment methods remains a needed addition to this research literature.

The present study is an attempt to extend the work of Spear (1978, 1980, Spear & Lapidus, 1981) and that of Spear and Sugarman (1984), addressing some of the methodolgical problems found in these earlier studies and providing for a further comparative analysis of the structural and thematic methods for assessing the level of object relations using the Rorschach test. This study examines the relationship between traditional Rorschach scoring indices and two of the most reliable, well-validated, and widely used of the structural and thematic object relations measures. It compares 1) selected traditional Rorschach scoring indices assumed to be related to the capacity for object relations (Exner, 1974);

2) a content/thematic approach to the assessment of object representations, represented by the Urist Rorschach Mutuality of Autonomy Scale (Urist, 1973, 1977, 1980); and 3) a formal/structural approach to object relations assessment, represented by Blatt et al.'s (1976a) Developmental Analysis of the Concept of the Object Scale. It examines the correlations between these different measures of object relations and tests whether the structural and thematic object relations measures contribute information about the individual's self and object representations beyond that contained in traditional Rorschach scoring indices. Further, it assesses the ability of each of these measures to make diagnostic distinctions between normal, borderline and schizophrenic groups. It directly compares the differential diagnostic ability of the structural and thematic object relations measures and tests the hypothesis that these two measures in combination provide increased diagnostic accuracy over and above that obtained with either instrument alone.

REVIEW OF THE LITERATURE

Over the past two to three decades within the field of psychology and psychoanalysis there has been an increased interest in concepts and theories of object relations (e.g., Balint, 1952; Fairbairn, 1952; Guntrip, 1969; Jacobsen, 1964; Kernberg, 1966, 1976; Kohut, 1975; Mahler, 1968, 1975; Sullivan, 1953; Winnicott, 1965). These developments are an important part of a movement within psychoanalysis to go beyond the "experience-distant" metapsychology of traditional psychoanalysis and ego psychology, with their emphases on such abstract concepts as drives, instincts, defenses, and ego functions, toward a more "experience-near" clinical theory consistent with the phenomenology of the individual and actual clinical experience (Klein, 1968, 1976; Mayman, 1963, 1976; Schafer, 1976). It represents a shift from an abstract metapsychology with its mechanistic, natural science model of the mind to a more clinical theory concerned with interpersonal relationships and the representational world, described in a more "middle-level" clinical language (Mayman, 1976). As Blatt and Lerner (1983a) state

> ...there have been attempts to extend beyond an all-exclusive focus on ego structures, such as impulse-defense configurations and cognitive styles, to include a fuller consideration of the experience of the individual in an interpersonal matrix through concepts of self and object representation (p.191).

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The increased focus on object relations theory and developmental psychoanalysis proposes a broadened definition of psychoanalytic theory that integrates concepts of drives, defenses and ego functioning with developmental models and observations emphasizing the importance of interpersonal interactions and experiences in personality development (Blatt & Lerner, 1983c). It extends traditional psychoanalysis and ego psychology to include an emphasis on interpersonal experience and relationships and their influence in personality development and psychological functioning in normality and psychopathology (Greenberg & Mitchell, 1983). In so doing object relations theory has led to a proliferation of new research in the area of parent-child observation and interaction, and the formation of self and object representations in normal and pathological development. It has broadened the applicability of psychoanalytic theory to include more of a focus on the nonneurotic, preoedipal conditions such as the psychoses and the borderline and narcisstic character disorders in clinical practice and research. And it has stimulated a renewed interest in the therapeutic process, in concepts such as transference and countertransference, and the role of the therapist-patient relationship as a mutative factor in psychotherapy outcome.

Object Relations Theory

Object relations theory has as its central focus the experience of the individual within an interpersonal matrix

and the internalization of these experiences of self and others to form the inner "representational world" (Beres & Joseph, 1970; Jacobsen, 1964; Sandler & Rosenblatt, 1962). This representational world is a complex set of conscious and unconscious cognitive-affective schemata based on objects encountered in reality (Blatt & Lerner, 1983a, 1983c). It provides the basis for the organization of psychic structure and guides how the individual views and experiences the self, others and relationships (Blatt, 1974; Blatt, Wild & Ritzler, 1975; Jacobsen, 1964; Kernberg, 1966; Mahler, 1968; Schafer, 1968). Such schemata arise out of the internalization of the individual's experience of interpersonal relationships, particularly the early relationships with the primary caretakers and interactions with other significant figures (Blatt, 1974; Jacobsen, 1964; Winnicott, 1945). Initially these representations consist of vague, global and undifferentiated images of self and other based on experiences of frustration and gratification. Gradually they evolve into more highly developed, whole, stable and differentiated perceptions of the self and objects (Blatt, 1974; Fraiberg, 1969; Jacobsen, 1964; Kernberg, 1976; Mahler, 1975). Each new level of development of self and object representations serves to organize subsequent interpersonal experience which then contributes to the continued development of object representations in a reciprocal manner (Blatt, 1974; Blatt & Lerner, 1983a, 1983c).

From the perspective of object relations theory, psychopathology is seen in part as an impairment in the development of mature object representations (Fairbairn, 1952; Kernberg, 1972, 1975, 1976; Kohut, 1971, 1977). Individuals with differing levels or forms of psychopathology may be viewed as having suffered such impairment at different stages in the developmental process (Blatt & Ritzler, 1974; Blatt, Wild, & Ritzler, 1975; A. Freud, 1965a, 1965b; Kernberg, 1972, 1975, 1976; Kohut, 1971, 1977). Psychopathology may be placed on a developmental continuum based on the level of object representation or impairment in object representation, and the quality of boundaries between self and other that is achieved (Blatt & Ritzler, 1974; Blatt, Wild & Ritzler, 1975; Kernberg, 1975, 1976; Wilson, 1985). Such a view has direct implications for clinical practice and research in diagnostic formulations and our understanding of psychopathology, the therapeutic process, and the measurement of psychotherapy outcome.

The Assessment of Object Representations

Paralleling the increased interest in a theory of object relations, there has been an increased interest in research on object relations constructs and their relationship to normal development, psychopathology, and the therapeutic process. Following in the tradition of Rapaport et al. (1945) and others, which highlights the reciprocal relationship between psychoanalytic theory and psychological assessment as

a method for evaluating the theory and generating new theoretical hypotheses, much of this research has focused on the assessment of object relations phenomena using diagnostic psychological tests, particularly projective techniques such as the Rorschach, Thematic Apperception Test (TAT), Early Memories, and Manifest Dreams. The increasing number of studies utilizing such techniques have yielded important procedures for the assessment of object relations phenomena and lend validity to the theoretical construct of object representations as an important and enduring dimension of personality organization and interpersonal relationships. In addition, they have contributed to the further development of a phenomenological, middle level clinical theory derived directly from clinical data. Lerner (1986) states

> In terms of test theory, emphasis has shifted away from an exclusive consideration of thought processes toward consideration of the quality and nature of object relations: that is, from a traditional emphasis on "ego structures", "cognitive style", and "impulse-defense configurations" framed in an abstract metapsychological language to a more phenomenological interest in experiential matters such as "self and object representations" described in a "middle-level language" geared toward formulating meaningful clinical generalizations about a patient (p. 128).

The use of projective tests to assess object relations constructs is based on a variation of the projective hypothesis, namely that when presented with an ambiguous stimulus the individual will organize that stimulus according to the characteristics of his/her representational world or "relationship predispositions" (Blatt & Lerner, 1983a, 1983b;

Mayman, 1960, 1967). The subject's responses to projective tests can be systematically analyzed for clues to the structure and content of the individual's inner world of objects. Mayman (1967, 1977) puts it this way

> when a person is asked to spend an hour immersing himself in a field of impressions where amorphousness prevails and where strange or even alien forms may appear, he will set in motion a reparative process the aim of which is to relace formlessness with reminders of the palpably real world. He primes himself to recall, recapture, reconstitute his world as he knows it, with people, animals and things which fit most naturally into the ingrained expectancies around which he has learned to structure his phenomenological world .... (1967, p. 17).

Further, he states

> A person's most readily accessible object representations called up under such unstructured conditions tell much about his inner world of objects and about the quality of relationships to which he is predisposed (1967, p.17).

While this kind of assessment of object representations has been applied to a number of different projective stimuli such as early memories, autobiographical stories, manifest dreams, and the Thematic Apperception Test (TAT), it is the Rorschach, and the Rorschach human response in particular, that appears to be ideally suited to this kind of analysis. Mayman (1967) was one of the first to highlight the utility of the Rorschach in the assessment of object relations:

> If we assume that a person's Rorschach images comprise a somewhat representative sample of internalized objects, then they have much to tell us about the person's internalized sense of participation in or alienation from his social milieu, as well as his preferences and expectations regarding the composition of that milieu (p.18).

With regard to the human response in particular he wrote

> any Rorschach image, whether seen in movement or not, and whether a human being or not, may have important personal meaning. But it is from the human responses that we infer something of a person's capacity to establish empathic contact with another human being (Mayman, 1967, p.19).

Blatt and Lerner (1983a, 1983b) agree

> The human response on the Rorschach is an ideal dimension for studying object representations. The human response provides a vehicle for assessming the content and level of cognitive organization (structure) in the concepts of the self and of the object world (Blatt & Lerner, 1983a, p. 217).

Traditional Rorschach Scoring Indices

Common sense alone would suggest that of all of the Rorschach responses the human response would be most likely to be representative of a person's view of people and relationships, and indeed the research has borne this out. While it is only in the past two to three decades that the use of the Rorschach and other projective techniques to assess object relations has been heavily emphasized, the use of such methods to assess aspects of the individual's interpersonal functioning is not new. From the beginning Rorschach (1942) and others (Hertzman & Pierce, 1947; King, 1958; Lerner, 1976; Mueller & Abeles, 1964; Parker & Piotrowski, 1968; Pruitt & Spilka, 1964; Urist, 1976) have suggested a relationship between traditional Rorschach indices such as the human figure response (H), the human movement response (M), the Experience Balance (EB), and form quality (F+% and X+%) and the

individual's capacity to engage in meaningful relationships and to be empathic.

Rorschach (1942) originally suggested that the human response was related to the capacity to establish meaningful and satisfying interpersonal relationships and that the closely related human movement response represented psychological maturity and the process of the internalization of experience. Since then, numerous others have elaborated and expanded upon these ideas.

Hertzman and Pearce (1947) supported Rorschach's original idea regarding the human response, suggesting that "material on the self perception and the subject's perception of significant people are to be found among the human responses ..." (p.416). They corroborated this claim by demonstrating that the content of the human responses on the Rorschach were clearly related to later material about the view of the self, and the perceptions of or attitudes toward the world and interpersonal relationships, emerging in the course of psychotherapy.

In addition, in subsequent research the human response has been related to the capacity for advanced cognitive development and mature social relations (Ames, 1960, 1966; Ames, Learned, Metraux, & Walker, 1952; Ames, Metraux, & Walker, 1971; Draguns, Haley, & Phillips, 1967; McFate & Orr, 1949; Setze, Setze, Baldwin, Doyle, Kobler, & Kobler, 1957); the capacity for investment in social relationships (Phillips

& Smith, 1954; Piotrowski, 1957; Rapaport et al., 1945); and social interests (Dorken, 1954; Fernald & Linden, 1966; Rieger, 1949; Roe, 1951). Others have proposed a relationship between the human response and the capacity for empathy or the ability to take the role or perspective of another person (Berry, 1970; Klopfer, Ainsworth, Klopfer, & Holt, 1954; Mayman, 1967, 1977; Pruitt & Spilka, 1964; Rosensteil, 1969).

The frequency and quality of the human response has also been shown to be related to diagnosis or level of psychopathology (Allison, Blatt, & Zimet, 1968; Beck, Beck, Levitt, & Molish, 1961; Blatt & Ritzler, 1974; Blatt & Wild, 1976; Endara, 1958; Exner, 1974; Geil, 1945; Parker & Piotrowski, 1968; Rapaport et al., 1945; Ray, 1963; Richardson, 1963; Roberts, 1955; Sherman, 1952; Vinson, 1960; Walters, 1953; Weiner, 1966). In addition, the human response has been correlated with motivation for psychotherapy (Affleck & Mednick, 1959; Gibby, Stotsky, Miller, & Hiller, 1953; Jonietz, 1950; Rogers, Knauss, & Hammond, 1951), prognosis for treatment (Goldman, 1960), and treatment effectiveness or outcome (Goldman, 1960; Graver, 1953; Halpern, 1940; Morris, 1943; Piotrowski & Bricklin, 1958, 1961; Roberts, 1954; Rogers & Hammond, 1953; Stotsky, 1952).

The human movement response (M) is an important variation of the human figure response on the Rorschach, with some similar interpretations of its meaning as well as some unique to the human movement response. Rorschach (1942) and some of

the early Rorschach followers (Beck, 1961, 1967; Klopfer et al., 1954; Hertz, 1951; Piotrowski, 1957) suggested that M was related to the process of the internalization of experience; it served as the "bridge between inner resources and external reality" (Exner, 1974). As such it has been related to intelligence (Abrams, 1955; Altus, 1958; Ames, 1960; Ames, Metrauz, & Walker, 1971; Ogdon & Allee, 1959; Paulson, 1941; Tanaka, 1958), cognitive complexity (Bieri & Blacker, 1956; Nickerson, 1969), creativity (Dana, 1968, Dudek, 1968; Hersh, 1962) and fantasy production (Cocking, Dana, & Dana, 1969; Dana, 1968; Lerner, 1966; Loveland & Singer, 1959; Orlinsky, 1966; Page, 1957; Palmer, 1963; Schonbar, 1965). M has also been related to the capacity for delay and planning (Beck et al., 1961, 1967; Beri & Blacher, 1956; Frankle, 1953; Goldman & Herman, 1961; King, 1958; Levine & Spivak, 1962; Meltzoff, Singer, & Korchin, 1953; Mirin, 1955; Rapaport, 1946), time perspective (Buchwald & Blatt, 1974; Kurz, 1963; Siegman, 1961), and motor inhibition (Bendick & Klopfer, 1964; Klein & Schlesinger, 1951; Singer & Herman, 1954; Singer, Meltzoff, & Goldman, 1952; Singer & Spohn, 1954; Steele & Kahn, 1969).

More directly relevant to a discussion of object relations, Piotrowski suggested that the human movement response was an indication of "prototypal life roles".

> The M indicates prototypal roles in life, i.e., definite tendencies, deeply embedded in the subject and not easily modified, to assume repeatedly the same attitude or attitudes in dealing with others when matters felt to be important and personal are involved (Piotrowski, 1957, p. 141).

Along similar lines, the human movement response has been related to the capacity for empathy (Berry, 1970; Kurz & Capone, 1967; Makowski, 1980; Mayman, 1977; Mueller & Abeles, 1964; Phillips & Smith, 1953; Urist, 1976) and to psychological maturity (Klopfer et al. 1954; Piotrowski, 1950; Schactel, 1966). Further, as with the human figure response, others have shown that the presence or absence of M and the quality of human movement responses, may be related to poor social functioning and psychopathology (Beck, 1965; Molish, 1965; Phillips & Smith, 1953; Weiner, 1966) and to treatment prognosis or improvement (Exner, 1974; Halpern, 1940; Klopfer, Kirkner, Wisham, & Baker, 1951; Lipton, Tamerin, & Latesta, 1951; Piotrowski, 1939; Piotrowski & Bricklin, 1958; Rees & Jones, 1951; Stotsky, 1952).

Overall, these early studies of the human response and the human movement response on the Rorschach demonstrate that an assessment of the frequency, quality and content of the human figure response, whether static or perceived in movement, can provide important information about personality development and organization, and psychopathology, issues central to an examination of object relations.

Nontraditional Approaches to Assessing Object Representations

More recently there have been two primary research groups working in the area of object relations assessment using the Rorschach and other projective techniques, each with somewhat different, but overlapping, approaches to the study of object

relations phenomena.   One group, operating out of the University of Michigan, has its theoretical roots in the ego psychology theory and test methods of Rapaport et al. (1945) as well as the more recent work of Mahler (1968, 1975) and Kernberg (1966, 1976). These researchers have used a variety of measures including the Rorschach, Early Memories, manifest dream content, and written autobiographies to assess the content or thematic elements of object representations. The assessment of object representations resulting from these sources have been examined in relation to level of psychopathology (Mayman, 1967), type of character structure (Mayman, 1968), independent ratings of object relations (Krohn & Mayman, 1974; Urist, 1973, 1977), the capacity to profit from psychotherapy (Ryan, 1973), and change in psychotherapy (Ryan & Bell, 1984; Ryan, Bell, & Billington, 1986).

In contrast, the second group of researchers, headed by Sidney Blatt and his colleagues at Yale University, while also drawing from the work of Rapaport et al. (1945), attempts to integrate ego psychology, the British object relations theorists and the developmental/cognitive theories of Piaget (1954) and Werner (1948, 1963). These researchers have focused on the assessment of the formal/structural dimensions of object representations using the human response on the Rorschach, the TAT, dream material, and open-ended descriptions of significant figures. Using the results of this approach to the assessment of object relations, this

group has studied the connection between object representations and normal development (Blatt, Brenneis, Schimek, & Glick, 1976a), various levels and types of psychopathology (Blatt et al, 1976b; Blatt & Lerner, 1983b; Lerner, 1986; Lerner & St. Peter, 1984a, 1984b; Ritzler, Zambianco, Harder, & Kaskey, 1980), and change occuring in the process of psychotherapy (Blatt, Ford, Berman, Cook & Meyer, 1988; Lerner, 1983).

The ideas and research contributions of each of these two groups will be elaborated upon in order to understand better the unique contributions of each approach and to grasp better their similarities and differences in the assessment of object representations.

Thematic/content-oriented approaches. The work of the research group from the University of Michigan, including Mayman (1967, 1968), Krohn (1972, 1974), Ryan (1973), and Urist (1973, 1977), is integrally related to some of Mayman's (1963, 1966, 1976) ideas regarding the need for a more clinical/experiential theory of psychoanalysis as opposed to the more abstract metapsychological theories which have characterized much of the history of psychoanalytic thought.

Mayman (1963, 1976) suggests that there is a significant gap between the abstract language of metapsychology and the more phenomenological, clinical language of psychoanalytic practice, and that traditionally there has been an overvaluation of metapsychology at the expense of the clinical

theory of psychoanalysis. He states that traditional metapsychology is too "tangential" to the actual clinical practice of psychoanalysis and that there is a need to develop a theory of psychoanalysis which utilizes a "middle-level" clinical language. Such an approach is deemed necessary in order to bridge the gap between metapsychology and clinical data or constructs, and would provide helpful clinical formulations or generalizations specific to a given patient or treatment situation. Such a middle-level language would place increased emphasis on the forms and qualities of self representation, the quality and nature of object relationships, affective experience, and other more subjective, phenomenologically relevant concepts, and would be more directly relevant to an understanding of the therapeutic process.

The research of Mayman and his colleagues at the University of Michigan is an extension of these efforts to develop a more clinically relevant theory of psychoanalysis. They have attempted to develop methods allowing for the systematic study of such concepts using psychological test data, in the tradition of Rapaport et al. (1945).

Further, these researchers have placed a great deal of emphasis on the use of more holistic, qualitative, clinical, and intuitive approaches to such research, which is more consistent with the increased focus on clinical as opposed to

abstract metapsychological concepts. In this regard, Mayman

and Krohn (1975) argue that Rorschach research

> would be far more positive if researchers were free
> to encompass the full range of their clinical
> perceptions in the quantitative analysis of their
> test data. It is a truism of clinical practice and
> should be of clinical research that the clinician
> is his own best tool ... (pp. 156-157).

They continue,

> ...there is reason to believe that the clinician
> will, in fact, achieve his best results, his highest
> reliability, and his most impressive validity when
> he incorporates his clinical approach at its best
> into his research methodology (p. 157).

These authors then go on to support these contentions with a

review of some of the research findings of the Michigan group,

which they claim confirms the utility, reliability, and

validity of this kind of approach to data analysis.

As a result of this emphasis on more clinical-intuitive

research methodologies, the research of the Michigan group has

focused primarily on an assessment of the content or thematic

aspects of object representations as opposed to a more formal

or structural emphasis. They have examined the content or

themes reflected in psychological test data such as early

memories, the TAT, manifest dreams, and the Rorschach. As a

rationale for this approach to the assessment of object

relations, Mayman (1960, 1967, 1968) argues that the content

of early memories, Rorschach responses, or other projective

test data may be studied not just for what it appears to

reveal overtly but for what it can "tacitly reveal" of the

personality of the individual and his or her level of ego functioning, capacity for object relations, and the nature of object relationships.

Some of Mayman's earliest work in this area involved the use of early memories as a method of examining an individual's "relationship paradigms" (Mayman, 1968; Mayman & Faris, 1960). Mayman and Faris (1960) present a set of early memories of a young adult patient and his family and demonstrate how the themes reflected in these early memories parallel material emerging in course of the patient's treatment. Using a qualitative, clinical analysis of the themes made manifest in these early memories they demonstrate how "a set of early memories can mirror for us an individual's early relationships as he may have experienced them at the time his personal identity was most open to the formative influence of others" and "show how early memories may serve as a source of information about transference patterns carried into, and often re-enacted in, each new personal encounter" (p. 520).

Mayman (1968) later expanded upon some of these ideas, suggesting that early memories are not necessarily factual recollections or autobiographical "truth" but rather serve as important expressions of images, fantasies, or object relational themes around which a person's character structure is organized. He states that

> Early memories may be analyzed as if they were
> fantasied representations of self and others, rather

than as factual accounts of a few scattered events in a person's life. Clinicians stand to learn much about an informant's character structure and psychopathology if they treat early memories not as historical truths (or half truths) but as thematic representations of prototypical dilemmas, life strategies, and role paradigms around which he derives his relationship to himself and to his personal world (pp. 315-316).

Mayman (1968) proposes a scale of early memory themes which is organized along psychosexual developmental lines, with each scale point reflecting a constellation of self experience, expectations of others and relationships, interpersonal conflict, affective states, coping styles, and defense mechanisms. Using this kind of scale, one may reliably identify the major theme of a given memory, its developmental level, the prototypical object relationship around which it is organized, and obtain important diagnostic and prognostic information (Mayman, 1968).

Along similar lines, Mayman and Ryan (1972) and Ryan (1973, 1974) also developed a scale to assess the quality of object relations in early memories. The Ryan Object Relations Scale (Ryan, 1973) is derived from the object relations theory of Kernberg (1966) and Kohut's (1971) self psychology and suggests a continuum of level of object relations ranging from psychotic to borderline to normal. In this system, memories are examined for the "wholeness, intactness, differentiation, and believability of the people and relationships" depicted and may range from primitive, archaic, depersonalized object representations to more neurotically distorted, transference

relationships to more normal depictions of real relationships with real objects.

Using this scale, Ryan (1973, 1974) was able to demonstrate a relationship between level of object relationships as reflected in an individual's early memories and the capacity of the patient to enter a therapeutic relationship. In two later studies (Ryan & Bell, 1984; Ryan, Bell, & Billington, 1986), Ryan also showed that the scale could be used to assess changes in object relations over the course of psychoanalytic treatment and recovery. He demonstrated a significant increase in the level of object relations in psychotic patients early memories from hospital admission to discharge and six month follow up (Ryan & Bell, 1984). These changes were independent of changes in symptomatology, social functioning and employment. Further, he also demonstrated that the improvement in level of object relations was specific to subjects treated with long-term psychoanalytic treatment and did not occur for subjects treated on a general psychiatric service or in an inpatient psychosocial rehabilitation program (Ryan, Bell, & Billington, 1986). Thus the object relations change did not appear to reflect a nonspecific treatment effect or a natural process of recovery.

The validity of this kind of assessment of object relations in early memories was recently confirmed in a study by Robinson (1986). He compared Mayman's (1968) approach to

assessing object relations in early memories with other instruments designed for a similar purpose and obtained highly significant results. He concluded that the construct "level of object representation" is a valid concept that can be measured in projective material such as early memories, and that the early memory scales themselves have demonstrable reliability and content validity.

Early memories have not been the only projective stimuli studied by the Michigan group. Several of Mayman's students have extended the clinical-intuitive and thematic analysis of object representations employed by Mayman with early memories to data such as the manifest content of dreams (Krohn, 1972; Krohn & Mayman, 1974; Mayman & Krohn, 1975), autobiographical data (Urist, 1973), and the Rorschach (Mayman, 1967; Krohn & Mayman, 1974; Urist, 1973, 1977).

Krohn's scale (Krohn, 1972; Mayman & Krohn, 1974; Hatcher & Krohn, 1980) for the thematic assessment of object relations in the manifest content of dreams is similar to Mayman and Ryan's (1972) scale for the examination of early memories. The Object Representation Scale for Dreams (Krohn, 1972) was developed to assess increasing levels of an individual's capacity for interpersonal relatedness. The scale identifies a continuum of object relations ranging from a sense of primitive alienation from others in a world of bad/malevolent objects to the capacity to experience empathy in relationships with others who are whole, human, and fully differentiated.

Each scale point reflects a different level in the development of mature object relations, with the more primitive dream imagery occuring in the dreams of psychotic and borderline patients, and the healthier images occurring in neurotics or normals.

Krohn (1972) and Krohn & Mayman (1974) initially used the scale to establish and demonstrate the reliability and construct validity of object representations as a dimension of personality that can be studied empirically. Krohn (1972) was also interested in confirming the value of the manifest dream as a source of object representational data and the Object Representation Scale for Dreams as a valid measure of object relations in the dream. Applying the dream scale across a variety of projective test data (dreams, early memories, and the Rorschach) obtained from patients with a broad range of psychopathology, Krohn (1972) and Krohn & Mayman (1974) achieved high interrater reliabilities for the instrument and found significant correlations between the object representation scores obtained with each of the projective tests.

Krohn further compared the data derived from the Object Representation Scale for Dreams with independent therapist and supervisor's ratings of the patients overt and manifest level of object relations and ratings of the degree of the patient's psychopathology. He found significant correlations between ratings of object representations using the projective test

data and criterion ratings of object representations and psychopathology made by the patient's therapist and supervisor. The manifest dream and early memories in particular appeared to be highly related to therapist and supervisor ratings of object relations, whereas the Rorschach correlated most highly with the global ratings of psychopathology, suggesting that the measure of object relations on the Rorschach might reflect a combination of level of object relations and degree of psychopathology.

Krohn and Mayman (1974) conclude from this research that

level of object representation appears to be a salient, consistent, researchable personality dimension that expresses itself through a relatively diverse set of psychological avenues ranging from a realm as private as dream life to one as interpersonal as psychotherapy. Moreover, it is not a redundant construct synonomous with level of psychopathology or severity of symptomatology (p. 464).

They further believe that this research confirms that the manifest dream, viewed as a projective test production, can yield important information about an individual's interpersonal relationship paradigms.

Despite the use and demonstrated validity of such measures as early memories and the manifest dream to assess object representations, it is still the Rorschach which has been examined most for its ability to assess level of object relations. The work of Krohn and Mayman (1974) cited above suggested that the Rorschach may be more a measure of overall psychopathology than object relations. Yet Mayman himself

(1967) has been one of the first and strongest advocates for the use of the Rorschach in an assessment of object representations. Mayman (1967) has suggested that the Rorschach may be used as an excellent source of information about "a person's general capacity for forming object relationships". He suggests that while it has long been known that the number of human figure and/or human movement responses in a Rorschach protocol may be an index of the subject's ability to form empathic interpersonal relationships, the quality of such responses as reflected in the content or themes present in the response is also informative with regard to a person's "empathic potential" and his or her representations of self and other.

In an early study, Mayman (1967) attempted to test the idea that Rorschach responses reflected an individual's representations of self and others and that these Rorschach ratings of object relations corresponded with more objective measures of psychopathology and level of object relations. He related ratings of psychopathology based exclusively on an assessment of self and object representations from the Rorschach with independent ratings of psychopathology. In both the pilot study and a replication, he found that there was a high correlation between measures of psychopathology as manifested in self and object representations on the Rorschach and the criterion measure of psychopathology, suggesting that a content analysis of Rorschach responses could yield a valid

measure of a person's level of object relations and degree of psychopathology.

Urist, in a doctoral dissertation and a later article based on this study (Urist, 1973, 1977), extended Mayman's earlier work in his study of the quality of object representations on the Rorschach. He attempted to demonstrate that "individual's tend to experience self-other relationships in consistent, enduring, characteristic ways that can be defined for each individual along a developmental continuum" (Urist, 1977, p. 3) and that these patterns of object relations can be validly and reliably assessed using a variety of techniques. He hypothesized that the Rorschach in particular was able to tap developmentally significant aspects of a person's object relations, and that ratings of object representations derived from the Rorschach would be related to independent ratings of the same construct.

In order to test these hypotheses, Urist (1973) devised a measure of "mutuality of autonomy" applied to Rorschach responses. The Rorschach Mutuality of Autonomy Scale (Urist, 1973) is based on the assumption that relationships between animate and inanimate figures in Rorschach imagery reflect the individual's experience of interpersonal relationships. Theoretically rooted in the work of Kohut (1971, 1977), Kernberg (1966, 1975), and Mahler (1968, 1975), the seven point scale focuses on the developmental progression from symbiosis through separation-individuation toward object

constancy. Each scale point refers to developmentally significant gradations in the individual's capacity to experience the self and others as "mutually autonomous" within relationships, that is "as having an autonomous existence and stable definition and identity in their own right" (Urist, 1980, p. 830).

Urist (1973, 1977) then tested the validity of the Rorschach Mutuality of Autonomy Scale to assess significant aspects of an individual's object relations in a correlational study. He compared the results of the assessment of "mutuality of autonomy" obtained from the Rorschach with a number of other independent measures of object relations. In addition to the Rorschach, subjects also provided written autobiographies describing important people in their lives and their relationships with each other, and ward staff provided ratings of the patient's actual behavior in relationships. Both the autobiographies and the staff ratings were scored using a variation of the Mutuality of Autonomy Scale applied to the Rorschach data to assess the subject's level of object relations. Ratings of mutuality of autonomy were found to be highly reliable (.79 to .86 within one scale point) for all three measures.

The three independent ratings of object relations obtained from the Rorschach, the autobiographies, and the staff ratings were then compared with each other to determine if there was consistency across the ratings from the different

measures. Urist (1973, 1977) found highly significant intercorrelations between the independent measures of object relations (.43 to .83). He concluded from these results that there is an enduring consistency to a patient's level of object relations that can be observed across a range of measures and that the Rorschach in particular is able to tap, in a reliable and valid way, a person's capacity for interpersonal relationships and mutuality of autonomy.

Pitts, in a 1979 dissertation, questioned the validity of Urist's Rorschach Mutuality of Autonomy Scale to assess level of object relations. She found that the scale was unable to differentiate between an inpatient borderline and an inpatient neurotic sample. Subsequent research employing the scale, however, has been generally positive.

Urist and Shill (1982) demonstrated that the scale was as effective in assessing level of object relations when applied to excerpted responses as when used with the entire Rorschach protocol. Further, they replicated Urist's earlier findings that the level of object relations as measured by the Rorschach Mutuality of Autonomy Scale was related to independent clinical ratings of object relations obtained from an examination of the subject's clinical record. They provided further support for the reliability and validity of the Rorschach Mutuality of Autonomy Scale as a measure of an individual's level of object relations.

These conclusions were supported in a study by Picker (1984). He demonstrated that the Rorschach Mutuality of Autonomy Scale was reliable and valid in assessing the level of object relations of 50 subjects representing a wide range of object relations development. He further demonstrated that the construct being assessed by the Urist scale was only minimally related to indices of general psychopathology as measured by traditional Rorschach scores.

Still another group of researchers using the Mutuality of Autonomy Scale (Harder, Greenwald, Wechsler, & Ritzler, 1984) demonstrated a relationship between Rorschach Mutuality of Autonomy scores and two different measures of psychopathology, including severity of diagnosis or psychopathology and the degree of psychosis over time. Mutuality of Autonomy scores were found to be unrelated, however, to current level of functioning or manifest symptomatology. They conclude that the Mutuality of Autonomy Scale has the ability to differentiate between different levels of psychopathology evident both at the time of hospital admission and over the course of the lifetime and may be a useful prognostic indicator or measure of the potential for psychopathology across the lifetime.

Indeed, along these lines Tuber (1983) has shown that ratings of the level of object relations obtained using Urist's Mutuality of Autonomy Scale (Urist, 1973, 1977) are an effective predictor of later adjustment for children in

psychiatric treatment. Still others (Ryan, Avery, & Grolnick, 1985) have demonstrated a relationship between the degree of Mutuality of Autonomy and children's social and interpersonal functioning according to teacher's observations.

The totality of the research by Mayman, Ryan, Krohn, Urist and others lends support to the idea that object representations form an enduring dimension of personality organization and psychopathology. Further, they demonstrate that the level and quality of an individual's object representations can be reliably and validly assessed through an analysis of the content or themes present in a variety of projective measures and that such an assessment can provide useful information about the individual's level of psychopathology and the capacity to form meaningful and satisfying relationships, information central to a clinical theory and practice of psychoanalysis.

Structural approaches. Like the Michigan group, Sidney Blatt and his colleagues in the research group originating out of Yale University have pointed to the gap between psychoanalytic metapsychology and clinical psychoanalysis and have emphasized the need to develop a clinical theory of psychoanalysis that is more directly relevant to clinical research and practice. They suggest that such a theory be based on concepts of object relations

> which could facilitate the exploration and understanding of genetic, dynamic and adaptive aspects of personality organization ... which offers the potential for integrating the study of

impairments in cognitive process, interpersonal relationships, and the representation of the self and the object world within a theoretical model which has etiological, as well as therapeutic, implications (Blatt, Wild, & Ritzler, 1975, pp. 235-236).

Unlike the Michigan group, however, which focuses on the content or thematic aspects of object representations, Blatt and the Yale researchers have emphasized the structural or formal dimensions of object representations. They suggest that an analysis of the structure underlying much of manifest behavior or overt symptomatology provides a basis for understanding many of the complex cognitive, psychological and interpersonal factors inherent in more surface phenomena; that manifest behavior is organized by underlying structural determinants:

> The study of the representational world in both developmental psychology and psychoanalytic theory is the study of the development of cognitive schemata that give organization and direction to manifest behavior and are expressed in all forms of behavior, including interpersonal relationships, perceptual and cognitive functions and conceptions of oneself and others (Blatt & Lerner, 1983a, p. 213).

These researchers assume that such structural dimensions of object representations can be reliably and validly assessed through projective test data and thus provide an important source of information for understanding personality organization, interpersonal functioning, and psychopathology. They suggest that such analyses are less susceptible to conscious distortion and/or the influence of situational and

contextual variables than an exclusive focus on manifest content (Blatt, 1978).

> The formal properties of object representations reflect the available levels of cognitive organization. While the content of object representations and the affects associated with them have varying accessibility to consciousness and are subject to varying degrees of defensive distortion, the person is usually unaware of the formal properties of object representation - the structure, rules, or logic by which the mental schemata are organized. These formal attributes are expressed spontaneously and indicate the general level of cognitive and psychological organization. Assessment of the formal attributes of object representations, such as the quality of boundary articulation and the conceptual level of the representation, is basically an analysis of levels of structural organization (Blatt, Wild, & Ritzler, 1975, p.279).

The work of Blatt and his colleagues at Yale draws from traditional psychoanalytic theory, ego psychology and object relations theory, and cognitive developmental psychology. Blatt (1974) and Blatt, Wild and Ritzler (1975) state that there are important similarities between the development of internalized object representations within an interpersonal context, as discussed by psychoanalytic theorists, and the work of cognitive-developmental psychologists such as Piaget (1954) and Werner (1948) on the development of the the concept of the object more generally. He suggests that both object and person permanence develop in parallel fashion, significantly influenced by the quality of the mother-child relationship and interactions.

In both cases the development of the capacity for object representations proceeds through a sequence of developmental stages, moving from the sensorimotor to the perceptual to the iconic and conceptual stages. Originating out of an initial global, diffuse and undifferentiated phase where representations of objects are often fused or merged, development proceeds toward increasing differentiation of boundaries and the capacity to perceive and represent a separation between objects or between the object and one's actions upon the object. This initial differentiation of boundaries between independent objects, or between the self and the nonself, is the first of several important boundary differentiations that occur with development. It is gradually followed by the development of the capacity for object permanence, the ability to visualize objects not physically present, to differentiate between the object and its verbal or symbolic, conceptual representation, and to differentiate between external reality and internal fantasy operations. There is a movement away from global and amorphous object representations to representations which are increasingly realistic, differentiated, articulated and integrated.

The ability to differentiate between objects, to experience objects as separate, permanent, stable and continuous, and the capacity to differentiate between objects and their symbolic representations are necessary for effective interaction with the environment. When such differentiation

fails to occur optimally, ego development and the development of the capacity for object relations is impaired, resulting in various forms of psychopathology depending on where the difficulty occurs in development.

Based on these ideas regarding the development of object representations, Blatt and his colleagues have investigated the concept of object representation and its development or impairment in several ways, including the study of boundary differentiation and disturbance in psychosis, the level of object representations observed in normal development, its impairment in various forms of psychopathology, and change in object representations occuring over the course of therapy.

Blatt (1974), Blatt, Wild, & Ritzler (1975), and Blatt & Wild (1976) all suggest that the degree of impairment in boundary differentiation or articulation has important implications for understanding different levels and severity of psychosis. They state that schizophrenia in particular may best be understood as an impairment in the capacity to achieve basic boundary differentiations. The schizophrenic is said to exhibit a disturbance in the capacity to establish boundaries between separate, independent objects and events, (including self and nonself), between internal experience and external events (inside and outside), or between actual objects and the mental representations of these objects (fantasy and reality). Such boundary disturbances are expressed in the cognitive and perceptual dysfunctions

commonly associated with schizophrenia such as hallucinations, delusions, and other forms of thought disorder or impaired reality testing.

In order to test these ideas, Blatt and Ritzler (1974) hypothesized that there would be a relationship between the degree of boundary disturbance as evidenced in traditional Rorschach indices of thought disorder (Rapaport et al., 1945; Holt, 1963) and the level or severity of psychosis. They posited a continuum of boundary disturbance evident in Rorschach scores ranging from 1) contamination responses, the most severe indicator of thought disturbance, reflecting a difficulty maintaining boundaries between independent objects and a tendency to fuse independent percepts into a single, distorted concept; to 2) confabulation responses, suggesting a difficulty maintaining the boundary between external perception and the internal association or response to that perception, between inside and outside, reality and fantasy; and 3) the less severe fabulized combination response wherein percepts maintain definition and separateness but are placed in illogical combination or relationship.

Blatt and Ritzler (1974) found that the various levels of boundary disturbance, as measured by the three types of thought disorder, were related to diagnostic severity and impairment in ego functioning (e.g., IQ, reality testing, quality of interpersonal relationships, and the nature of object relations) as measured by other indices. An increase

in boundary disturbance was associated with a greater likelihood of psychosis while those with less severe disturbances in boundary articulation were more often diagnosed neurotic or character disordered. In addition, those with increased thought disturbance and increased boundary disturbance had less intact ego functioning as measured by independent assessments of reality testing, clinical ratings and observations, and treatment improvement/prognosis.

Blatt and Ritzler (1974) also found that degree of boundary disturbance was related to development of the concept of the object on the Rorschach. Subjects with less intact boundaries had more responses blending human and inanimate features in unrealistic ways. Based on all of these findings, the authors concluded that poor ego functioning and object relations and related boundary disturbances "may be a fundamental dimension in psychosis" (p. 377) and that the level of boundary disturbance, as defined by the relative degree of thought disorder, could be "valuable in differentiating levels of psychopathology" (p. 376).

Similar results were obtained by Quinlan and Harrow (1974) in a separate study. They showed that the degree of boundary disturbance evident in Rorschach responses, especially as reflected in contamination and, to a lesser extent, fabulized combination responses was clearly related to severity of psychopathology. Schizophrenic patients were

significantly more likely to exhibit such disturbances of thought than nonschizophrenic patients.

Brenneis (1971) obtained similar results using manifest dream content, demonstrating that there were significantly more boundary disturbances in the manifest dream content of schizophrenic patients than in patients with other diagnoses.

Wilson (1985) went one step further and suggested that the different levels of thought disorder and boundary disturbance may reflect different clinical features and could be used to differentiate schizophrenics from borderlines. He hypothesized that schizophrenics should show the greatest level of thought disorder, reflecting an impairment in boundaries at the most basic level of self-other differentiation. Borderlines, however, were hypothesized to represent a discrete level of object relations development and should evidence impairment at a later phase in the formation of boundaries. Borderlines could be expected to have established basic self-object differentiation, a prerequisite for the formation of other boundaries, but would not yet have achieved full boundary differentiation.

These hypotheses were confirmed. Schizophrenics showed increased severity of thought disorder on the Rorschach while borderlines exhibited less severe boundary disturbances, lending additional support to the idea that there is an increased severity of boundary disturbance and impaired object representations in schizophrenic and other psychotic patients

as opposed to borderlines and patients with less severe psychopathology.

Elaborating on some of the earlier findings regarding the relationship between degree of boundary disturbance and poor object relations, reflected in distorted representations of human figures, Blatt, Brenneis, Schimek, and Glick (1976b) conducted a detailed analysis of the Rorschach human response in normal development and different forms of psychopathology. Basing their analysis on the theoretical formulations of Piaget (1954) and Werner (1948), as noted previously, Blatt et al. (1976a) developed a manual for the Developmental Analysis of the Concept of the Object on the Rorschach (see Appendix A).

Rorschach human responses, distinguished by degree of perceptual accuracy, were rated along a developmental continuum in three different areas: differentiation, articulation, and integration. Differentiation referred to how fully developed or differentiated the figure was, ranging from whole, clearly human responses to quasihuman, part object responses. Articulation was rated on the basis of the number and type of perceptual and functional attributes ascribed to the figures that provided additional, enriching information about the figure and/or its qualities. Integration was assessed by scoring a) the degree of internality or purposivity of motivation attributed to the figure's actions, b) the integration of the object and its action, c) the nature

of the interaction between objects and the degree of mutuality in the interaction, and d) the content of the interaction, whether malevolent or benevolent.

Using this system of analysis, Blatt et al. (1976b) first studied the development of the human response in a longitudinal sample of normal subjects followed over a 20 year period from early adolescence to young adulthood. Subjects had been given the Rorschach at ages 11-12, 13-14, 17-18, and 30, and the data were analyzed using a repeated measures design. The researchers found, as expected, that there were noteable changes in the Rorschach human response with development. From preadolescence to adulthood

> there is a marked increase in the number of accurately perceived, well articulated, full human figures involved in appropriate, integrated, positive and meaningful interactions (Blatt, Brenneis, Schimek, & Glick, 1976b, p. 367).

Further, when Blatt et al. examined the human responses in a sample of severely disturbed borderline and psychotic adolescents and young adults, differentiated according to the degree of thought disorder, they found some highly significant results. There were no significant relationships evident between the severity of thought disorder or psychopathology and any dimension of accurately perceived human responses. When inaccurately perceived responses were examined, however, significant differences between groups emerged dependent on the severity of psychopathology. Patients with differing degrees of thought disturbance did not differ in the degree

of differentiation of the inaccurately perceived human figures they saw. More severely disturbed patients, however, exhibited greater articulation, more unmotivated and nonspecific activity, more active-passive and active-reactive interactions between figures, and an increase in both malevolent and benevolent content of interactions for inaccurately perceived responses than less severely disturbed patients. These results suggest that not only do the formal properties of human responses given to the Rorschach change with age and development but that different impairments are associated with the severity or level of psychopathology.

Blatt et al. (1976b) then went further and investigated how the development of the concept of the object observed in normal subjects compared to that in the disturbed population. They compared the human responses of the normal sample at age 18 with those of the clinical sample. They found that the clinical sample had a significantly greater number of accurately perceived human responses at lower developmental levels than the normal sample. The responses of the clinical groups were more often less differentiated, distorted, unmotivated, or in incongruent activity, passive, and malevolent. Interestingly, however, on inaccurately perceived or poor form quality responses the patients had a significantly greater number of responses at higher developmental levels than their normal counterparts. These responses tended to be more developmentally advanced, less

distorted, intact, functionally articulated, integrated and benevolent than the inaccurately perceived responses of the nonclinical group.

The data appeared to suggest that patients "function at lower developmental levels when in contact with conventional reality but that patients function at higher developmental levels than normals when they give idiosyncratic interpretations of reality" (p. 371). The authors suggest that the capacity for adequate reality testing does not help psychotic patients to organize their experience and function at more developmentally advanced levels and in fact, contrarily, evokes a regression to lower developmental levels of thinking and responses with malevolent content. Rather, on inaccurately perceived responses, with more idiosynacratic, fantastical interpretations of reality, the psychotic patient functions at developmentally higher levels, with responses that are more differentiated, articulated, integrated and benevolent. It is only in the most seriously disturbed patients, those with severe boundary disturbances, that both accurately and inaccurately perceived responses seem to be at lower developmental levels.

Based on all of these results, Blatt et al. (1976b) concluded that a developmental analysis of the human response on the Rorschach can provide data important for a fuller understanding of the normal development of the concept of the

object and its impairment in different forms or levels of psychopathology.

Inspired by the results of Blatt et al.'s (1976b) original study, Ritzler, Zambianco, Harder, and Kaskey (1980) attempted a replication and extension of that work. The purpose of their study was to explore further psychotic patterns of the concept of the object and to determine if the object relations deficits characteristic of psychosis were a phenomena generalizable to all types of psychosis or specific to certain kinds of psychosis such as schizophrenia. They were also interested in determining if the object relations impairments observed in psychosis were related to other variables such as premorbid level of functioning and degree of paranoia.

Ritzler et al. (1980) applied the Developmental Analysis of the Concept of the Object Scale (Blatt et al. 1976a) to the Rorschachs of a sample of 49 schizophrenics, 18 nonschizophrenic psychotic patients, and 18 hospitalized nonpsychotic patients. In addition, in separate analyses, psychotic patients were divided into groups differentiated by premorbid level of functioning (good vs. poor), and the schizophrenic sample was divided into paranoid and nonparanoid schizophrenic groups.

The results were consistent with, and to a large extent replicated, the results of Blatt et al.'s (1976b) original study. Ritzler et al. (1980) found that the number of

accurately perceived full human figures was the same for the psychotic and nonpsychotic groups. The psychotics, however, had significantly more inaccurately perceived, full, quasihuman figures, with higher levels of functional articulation and integration, including more responses in which action was unmotivated, reactive or intentional, and in which the object-action integration was nonspecific or congruent, as well as more interactions which were active-passive or active-reactive, and more benevolent in content.

Further, in comparing schizophrenic with nonschizophrenic psychotic patients, Ritzler et al. (1980) found that while there were no significant differences on accurately perceived responses, schizophrenics showed higher developmental levels than nonschizophrenics on inaccurately perceived human responses. There were few significant differences between paranoid and nonparanoid schizophrenics, and premorbid level of functioning did not appear to be significantly related to the development of the concept of the object.

The authors conclude that their findings offer support for Blatt et al.'s (1976a) scoring system as a reliable method for measuring the concept of the object in psychosis. They confirm Blatt et al.'s (1976b) earlier findings that psychotic subjects, compared to nonpsychotic controls, show developmentally higher levels of articulation and integration on inaccurately perceived responses and they further demonstrate that this pattern is more apparent in

schizophrenic than in nonschizophrenic psychotic patients. Such findings lend further validation to the idea that impairment in the concept of the object may differ with the degree and type of psychopathology.

Lerner and St. Peter (1984a) took this form of analysis one step further and applied it to an even broader range of psychopathology. They attempted to increase the diagnostic precision of developmental patterns of object relations responses, with particular attention paid to the borderline diagnosis. Lerner and St. Peter (1984a) hypothesized that one should see a developmental ordering of increased differentiation of the object, fuller articulation of attributes, and increased integration of action for schizophrenic, borderline and neurotic patients.

Using the Developmental Analysis of the Concept of the Object Scale (Blatt et al, 1976a), Lerner and St. Peter (1984a) compared the Rorschach responses of a sample of schizophrenics, inpatient borderlines, outpatient borderlines, and outpatient neurotics. There was an increase in the number of well differentiated accurate human responses from the most to the least disturbed patients. Healthier neurotic subjects were found to be the most object related of all patients, providing more accurate human responses at higher levels of differentiation. The human responses of the outpatient borderlines were more accurately perceived than the inpatient

borderlines, who in turn offered more accurately perceived responses than the schizophrenics.

Further, for accurately perceived responses, they found important differences between the schizophrenics and the other patient groups. Schizophrenic subjects produced fewer accurate human responses than the other three groups and they functioned at developmentally lower levels of differentiation, articulation and integration than subjects in any of the other groups.

For inaccurately perceived responses, important, significant, and somewhat unexpected differences were found between the inpatient borderlines and the other three groups. Contrary to the earlier findings of Blatt et al. (1976b) and Ritzler et al. (1980), Lerner and St. Peter (1984a) found that the inpatient borderline sample, not the schizophrenics as expected, produced inaccurately perceived responses at the highest developmental levels, followed in order by the schizophrenic, outpatient borderline, and neurotic samples.

> Inpatient borderline subjects produced significantly more developmentally advanced but inaccurately perceived human responses with higher levels of differentiation of the object, articulation of perceptual and functional attributes, and integration of human interactions than the other three groups (p. 87).

These results suggest that high developmental levels for inaccurately perceived responses typify severe borderline as opposed to schizophrenic or psychotic psychopathology.

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Summarizing their results, Lerner and St. Peter (1984a) note that response accuracy seems to be the most salient dimension of object relations to distinguish between neurotic and borderline subjects. Borderlines produce more inaccurate responses at higher developmental levels of differentiation, articulation and integration than neurotics. Borderline and schizophrenic subjects had distinguishable patterns on both accurate and inaccurate responses with borderlines exhibiting higher developmental levels than schizophrenics on both types of responses. Finally, the inpatient and outpatient borderline groups themselves could also be distinguished by significant differences in differentiation and articulation. Outpatient borderlines display more accurate, quasihuman responses, while inpatient borderlines showed more inaccurate responses at higher developmental levels of differentation and articulation, and increased malevolent content. These results were confirmed in a second study (Lerner & St. Peter, 1984b), examining in greater detail the dimensions of response accuracy, differentiation, and content on the Blatt et al. scale.

Lerner and St. Peter conclude:

the results of this study indicate that developmental properties of human responses produced on the Rorschach show distinct patterns of differential impairment related to type and severity of psychopathology....The findings demonstrate a strictly increasing relationship between a person's quality of reality testing (defined by response accuracy), developmental level of the concept of the object, and psychopathology (Lerner & St. Peter, 1984a, p. 88).

In addition, these results also suggest that borderline disorders occur along a continuum of severity. "The results support both the notion of a psychopathology continuum and a borderline spectrum" (Lerner & St. Peter, 1984a, p. 90). Further, the authors suggest that these results provide additional support for Blatt's method of analysis and for the assessment of object representations more generally.

> The comprehensive analysis of the concept of the object on the Rorschach, described in this study, appears to provide a highly reliable method for both empirical and clinical investigations of the impairment of object representation in different types and levels of psychopathology. The investigation of Rorschach human responses based on developmental and cognitive considerations also appears to provide important data for an indepth understanding of the development of object relations (Lerner & St. Peter, 1984a, p. 90-91).

In other research using Blatt et al.'s (1976a) scale, researchers have attempted to relate the results obtained from the Developmental Analysis of the Concept of the Object Scale to independent assessments of object relations, adjustment, and more overt indices of interpersonal relatedness. Brown (1986) found that Blatt's developmental level of the concept of the object, particularly when applied to inaccurately perceived human responses, was predictive of criterion ratings of the internal capacity for relatedness and the cognitive-perceptual complexity of images of self and other as measured by independent instruments.

Silverman (1987) found that developmentally advanced object relations scores in inaccurately perceived responses

were associated with poor rapport and poor social interaction. No such relationship was observed between these measures and the level of object relations in accurately perceived responses. Similarly, Fibel (1979) also found significant correlations between the assessment of object relations on the Rorschach and independent clinical ratings of the quality of interpersonal relationships. McKee (1985), however, could find no relationship between level of object relations as measured by the Blatt scale and a criterion measure of ego strength and adjustment in a college sample.

The Yale team of researchers has also demonstrated that Blatt et al.'s (1976a) scale may be used to assess the change in object representations over the course of psychoanalytically oriented treatment, as a measure of treatment outcome or effectiveness. Blatt, Ford, Berman, Cook and Meyer (1988) compared the Rorschach protocols and clinical case records of a sample of 90 borderline and schizophrenic adolescents and young adults on admission to an intensive, psychoanalytic inpatient program and again a year later. Patients were differentiated according to the type of psychopathology they exhibited into those with primarily anaclitic pathology (issues of affection, intimacy, and interpersonal relationships), and those with primarily introjective pathology (issues of anger, aggression, self-definition, and guilt). They found that subjects in both the anaclitic and introjective groups had significant improvements

in social behavior and a reduction in clinical symptoms. For the group as a whole, there was also a significant decline in thought disorder and boundary disturbance on the Rorschach but there were no significant differences from pretest to posttest in mean level of object relations. There were, however, important differences between the anaclitic and introjective groups on this dimension. Anaclitic patients displayed significantly more improvement in the quality of object relations on the Rorschach and significantly less investment in inaccurately perceived, inappropriate responses than the introjective group.

These latter results in particular highlight the need to assess changes occurring in object representations with treatment with a mind to the particular type of psychopathology. Different patients with different types of psychopathology, and correspondingly different impairments in object relations, can be expected to change in different ways, as demonstrated by the differences in improvement between the anaclitic and introjective groups in the Blatt et al. (1988) study.

A similar conclusion is reached by Schwager and Spear (1981) with regard to paranoid and nonparanoid schizophrenic patients. These authors suggested that paranoid and nonparanoid schizophrenic patients would display different types of changes in object relations with treatment, dependent

on their psychopathology and thereby would require different criteria for what is considered improvement.

For the paranoid schizophrenic, who initially presents as severely rigid, cognitively constricted, and who is unable to allow conflictual feelings and ideas access to consciousness, positive change may mean observation of what has traditionally been labeled "regression". That is, reducing the overemphasis on rigid boundaries and differentiation, becoming less constricted, and allowing more access to primitive, unconscious, conflictual impulses. For the nonparanoid schizophrenic patient, on the other hand, who are quite regressed, disorganized and undifferentiated at the start of treatment, positive change may mean an increase in the level of cognitive structure, a decrease in formal thought disorder, and improved reality testing.

Indeed, these were precisely what was found by Schwager and Spear (1981). Paranoid schizophrenic patients showed an increase in the number of responses (less constriction of the record), and an increase in formal thought disorder (regression) from pre to post test. Nonparanoid patients, in contrast, exhibited changes in the exact opposite direction, displaying a reduction in the number of responses (constriction), an increase in response accuracy and improved reality testing, and an increase in cognitive-structural differentiation on the Blatt (1976a) scale. They conclude from these results that there is a need to use different

criteria for improvement depending on the type of psychopathology and that Blatt et al.'s (1976a) system for assessing level of object relaitons on the Rorschach may be useful in making these kind of differentiations.

Taken together, the research using Blatt et al.'s (1976a) Developmental Analysis of the Concept of the Object Scale supports the idea that there is a developmental ordering of object relations in Rorschach responses which can be reliably assessed by the Blatt system, particularly when responses are categorized for response accuracy. Further, this research supports the contention that impaired object representations are an important factor in psychopathology and can be useful in differentiating between different patient groups.

All of the findings discussed thus far have been primarily research based and not directly applicable to individual clinical cases. Blatt and Lerner (1983b) attempted to demonstrate the clinical utility of a developmental analysis of the concept of the object as measured by Blatt's (1976b) scale. Using five selected case examples, considered prototypic representations of different diagnostic categories, the authors presented a detailed analysis of the object representations in each case and suggested some conclusions about the possible configuration of object representations in the different forms of psychopathology. They found that there

were unique qualities of object representation evident in each of the various forms of psychopathology.

In a nonparanoid schizophrenic patient, Blatt and Lerner (1983b) found that the patient's object representations were inaccurately perceived, at lower developmental levels of differentiation, poorly or inappropriately articulated, and represented as inert or involved in unmotivated action. There was little interaction between objects and the responses were usually devoid of content or neutral in affective tone. Responses steadily progressed to lower developmental levels throughout the test.

Similarly, in the case of a narcissistic-borderline patient there was a gradual deterioration of object representations over the course of the protocol. Objects were initially perceived accurately as intact, full human figures, engaged in appropriate, conventional, though superficial, and benevolent relationships. Gradually, however, responses became more inaccurate, less differentiated, and inappropriately elaborated. Objects were engaged in action, but there was little or no meaning or motive attached to the actions of the figures.

In a case of anaclitic depression, by contrast, responses were more often accurately perceived, whole human figures, minimally or superficially elaborated. Figures were typically seen as inactive or lacking in motivation or intentionality in their actions. Some interaction between figures was

present though primarily active-passive in nature, with a quality of helplessness and dependency. Content was both malevolent and benevolent.

In a case of introjective depression the level of the responses alternated. Some responses were quite accurately perceived and at high developmental levels, with full human figures richly elaborated and engaged in varying degrees of action. Other responses, however, were inaccurately perceived part objects, inappropriately articulated and involved in action with malevolent intent.

In a patient diagnosed with a hysterical character disorder representations were accurately perceived, full human figures which were well articulated and elaborated but primarily in terms of external, physical attributes. As responses decreased in their accuracy, their differentiation also decreased and the degree of inappropriate, often sexual, articulation increased. Figures were involved in activity but with little internality of motivation. Interactions between figures were mutual and reciprocal, and usually benevolent.

Based on these detailed case by case analyses, Blatt and Lerner (1983b) conclude

> There seem to be important differences in the structure and content of object representations in different types of psychopathology, and these differences are consistent with a number of theoretical formulations about the nature of these various forms of psychopathology. These clinical data indicate that there is a sufficient basis to use the concepts of object representation and the concept of the object scale in a clinical context (Blatt & Lerner, 1983b, p. 25).

Few other such applied clinical analyses exist in the literature and more are called for in order to demonstrate the clinical utility of Blatt's system. Despite this deficit, however, the work of the Yale research team is important. They have provided valuable information about the normal development of object representations and its impairment in different forms of psychopathology, especially the psychoses. The combined research of Blatt, Lerner, and their colleagues has shown that projective test data, particularly the Rorschach, is a rich source of information about an individual's personality organization and internal object relations. Further, they have demonstrated that the Developmental Analysis of the Concept of the Object Scale (Blatt et al. 1976a) in particular is a reliable and valid means of quantitatively assessing the level of object relations in Rorschach responses.

Comparison of the Alternative Approaches

There is clearly some degree of correspondence and agreement between the research approaches of the Michigan and Yale groups. Blatt and Lerner (1983a), in a review and comparison of the work of both groups conclude

> the contribution of research teams from Michigan and
> Yale ... overlap and in large measure support each
> other. Whereas the Michigan group stresses the
> subjective and content dimensions, investigators at
> Yale tend to emphasize the structural dimension.
> Both groups are interested in the individual's
> construction of reality, particularly interpersonal
> relationships and the nature of the mental apparatus
> and the processes that transform experiences into

> subjective meaning. They both consider object
> representations as structures that mediate between
> the drives and specific experiences of reality ...
> (p.236)

Nonetheless,

> the different theoretical orientations of these two
> research groups have lead them to emphasize
> different dimensions of object relations. The
> contribution of the Michigan group has focused upon
> the content and affective themes of object
> representations, whereas the Yale group has focused
> more on the cognitive dimension - on the structure
> of object representation (p. 235).

Just how these two different dimensions of object
representations relate to and interact with each other is not
clear. Indeed, until recently little work on the relationship
between content and structure on the Rorschach in general had
been done. Rorschach (1942) himself emphasized the formal or
structural aspects of the test to the near exclusion of a
consideration of contents.

> The problems of the experiment deal primarily with
> the formal principles (pattern) of the perceptive
> process. The actual content of the interpretations
> comes into consideration only secondarily
> (Rorschach, 1942, p. 181).

The formal test dimensions provided the basic structure of the
personality organization and the actual content of the
responses, thought to reflect the day to day experiences of
the subject, came into play only later to fill in the
structural skeleton and lend "individuality and concreteness
to the formal representation" (Rickers-Ovsiankina, 1977, p.
4).

Following Rorschach's lead, a number of subsequent Rorschach authorities (Blatt, 1978; Frenkel-Brunswik, 1951; Kadinsky, 1956; Piotrowski, 1957) also tended to minimize the contribution of Rorschach content in providing a picture of the individual's personality. These authors often cited the idea that content is subject to a greater degree of conscious distortion or censorship than the more formal aspects of the test and thus provides a less reliable or valid picture of the personality organization (Blatt, 1978).

Not all Rorschach writers however, agreed with this assessment. Several authors (Brown, 1953; Bruckner, 1957; Frank, 1939; Lindner, 1944, 1946; Lubar, 1948; Phillips & Smith, 1953; Schactel, 1953; Schafer, 1954; Zubin, 1954; Zubin, Eron, & Schumer, 1965) proposed the intensive utilization of content, regarding contents as "highly significant and direct reflections of personality dynamics" (Draguns, Haley, & Phillips, 1968, p. 28). Indeed, in the few studies addressing the issue of content vs. structure (Bower, Testin, & Roberts, 1960; Zubin, Eron, & Sultan, 1956), content indices proved to be superior to formal scores in making externally valid inferences about subject's personalities.

With time, the majority of Rorschach writers and researchers have tended to adopt a position somewhere in between the two polarities of an exclusive emphasis on structure or content. Rather, they have advocated that attention be paid to both of these dimensions or to the total

configuration of the Rorschach record (Blatt, 1975; Draguns, Haley, & Phillips, 1968; Exner, 1976; Haley, Draguns, & Phillips, 1967; Hemmendinger & Schultz, 1977; Hertzman & Pearce, 1947; Schafer, 1954).

In concluding an extensive review of the literature on Rorschach content, Draguns, Haley and Phillips (1968) emphasize the need to integrate an analysis of the structural components of the Rorschach with the needs, wishes, drives, and motives expressed in Rorschach content. "On theoretical grounds, it is naive to suppose that motivational states operate independently of the structural aspects of personality" (Haley, Draguns, & Phillips, 1967).

Schafer (1954) in particular has been a strong proponent of the need to examine both the form and the content in the interpretation of the Rorschach, suggesting that both of these dimensions enter equally into the creation and selection of a Rorschach response. He states that

> creating perceptual structure and creating content seem to be two aspects of the same process. The simultaneous study of the perceptual structuring principles and of content tells us a good deal about what matters to the patient and what he does about it. Complex configurations of impulses, defenses, adaptive strivings and other major aspects of personality may be expressed in the perceptual organization and in the content. Neither structuring nor content is the exclusive property of any one psychic system such as the id or the ego, both are multiply determined. Both also have their relatively neutral, impersonal, conflict-free, detached aspects (Schafer, 1954, p. 117).

Just how the structure and content of the Rorschach are related to one another remains unclear. Similarly, in the literature on the assessment of object representations, the relationship between content-oriented and structural approaches remains a question. As Blatt and Lerner (1983a) point out in their review, there is a "need to integrate the different formulations and methods of the research groups at Michigan and Yale and to study the interaction of the content and the structure of object representations" (p. 237). Little research attempting to compare and integrate the two approaches has been done.

Arnow (1983) compared neurotic, borderline and schizophrenic patients on several different measures of object relations, ego boundaries, and defenses, including Blatt et al.'s (1976a) scale, a version of Mayman's Early Memories test, a self-report questionnaire about object representations, and a therapist-rated defense scale. He hypothesized that the neurotic group would be more developmentally advanced in terms of object relations, ego boundaries, and defenses, than the borderlines, who in turn would show less impairment than the schizophrenics. He found a significant relationship existed between all measures of object relations and defenses, while ego boundaries appeared to be independent of these other measures. On all object relations and defense measures neurotics scored significantly higher than the borderline and schizophrenic patients. These

latter two groups, however, were found to be more similar than different and did not follow the hypothesized pattern of object relations impairments. In fact, the borderlines, and not the schizophrenics, appeared to be the most extreme group, both more developmentally advanced and more developmentally primitive than the schizophrenics in terms of object relations and defenses.

Keleher (1983) used both Krohn's (1972, Krohn & Mayman, 1974) Object Representation Scale for Dreams and Blatt et al.'s (1976a) Developmental Analysis of the Concept of the Object to determine if the level of impairments in object representations manifest in scores from each of these instruments was related to severity of psychopathology, as suggested by object relations theory. To test this hypothesis, he attempted to use each scale to differentiate between groups of schizophrenics, borderlines, neurotics, and nonpatient controls, each assumed to represent different levels in the degree of impairment in object representations. Keleher (1983) found that the two scales were highly correlated (r=.65). Neither scale, however, was effectively able to make accurate diagnostic distinctions between the four groups and he concluded that the validity of both measures remained in doubt.

Similarly, Gibbons (1985) attempted to use these same two scales to discriminate a group of borderline patients from a group of patients with other DSM-III Axis II diagnoses. She

found that only the Object Representation Scale for Dreams (Krohn, 1972; Krohn & Mayman, 1974) was able to accurately differentiate between these two groups. Results using the Blatt et al. (1976a) scale were not significant. She concluded that the validity of the object relations measures, as assessed by their ability to make accurate diagnostic distinctions between patients with borderline and other personality disorders, remained a question.

Kavanaugh (1982, 1985) demonstrated that both the Urist (1973, 1977) Rorschach Mutuality of Autonomy Scale and Blatt et. al.'s (1976a) instrument were able to reflect changes in object relations occurring in psychoanalytic treatment. Comparing pre and post treatment Rorschach data on 33 patients treated with psychoanalysis or psychoanalytically oriented psychotherapy, he found that patients in both treatment conditions demonstrated positive changes in object representations over the course of treatment, on both instruments. Patients were increasingly likely to portray relationships at higher developmental levels of mutuality of autonomy following treatment and displayed higher developmental levels of integration on inaccurate responses.

There were no differences on the Urist scale between the group receiving psychoanalysis and those receiving psychoanalytic psychotherapy. The Blatt scale, however, revealed that the type of change in object representations that occurred in each group was somewhat different. At

termination, patients in psychoanalysis saw more accurately perceived, whole human figures, had more articulated responses, and attributed more benevolent responses to the figures. These changes were not observable in the group receiving psychoanalytic psychotherapy.

All of these studies (Arnow, 1983; Gibbons, 1985; Kavanaugh, 1982, 1985; Keleher, 1983) utilized both content-oriented and structural measures of object representations. The results they obtained regarding the ability of either type of instrument to make accurate diagnostic distinctions remains equivocal and suggests the need for further validation of both the structural and thematic approaches. Further, while Arnow (1983) and Keleher (1983) did find significant correlations between these two approaches to the assessment of object relations, in general none of the authors attempted to directly examine how the two approaches compare and may interact with one another when used together.

Spear (1978, 1980, Spear & Lapidus, 1981) undertook a study which more directly examined how the content and structural approaches to the assessment of object representations compare and might be integrated. He compared the assessment of object relations obtained using Blatt's structurally oriented Developmental Analysis of the Concept of the Object Scale for the Rorschach (Blatt et al. 1976a) with a method derived from a content-oriented scale for assessing object representations in manifest dreams (Krohn &

Mayman, 1974). He applied both measures to the Rorschach protocols and dream material of a group of borderline and schizophrenic patients in an effort to assess the differential diagnostic ability of the measures independently and in conjunction with one another. He was particularly interested in the ability of the two measures to distinguish subtypes of borderline disorders (the obsessive/paranoid vs. hysterical/impulsive), and to determine the preferred therapeutic approach with a given patient group.

Spear found that the structural and thematic scales had low correlations with each other, suggesting that they were measuring independent aspects of object relations. Further, each scale was generally effective in making broad diagnostic distinctions. Blatt's Developmental Analysis of the Concept of the Object Scale (Blatt et al., 1976a), when applied to the Rorschach data, and Krohn's Object Representation Scale for Dreams (Krohn, 1972), applied to the dream material, were both successful in differentiating between the schizophrenic and combined borderline samples. Neither instrument alone, however, was able to make the finer distinction between the borderline subtypes.

Perhaps more importantly, however, when the results obtained with each instrument independently were combined in a qualitative analysis, it became possible to make diagnostic distinctions not possible by examining either scale individually. When the Blatt scale and Krohn's scale were

both applied to the Rorschach data, Blatt's structural scale distinguished between the schizophrenic and combined borderline groups while Krohn's thematic scale differentiated between the two borderline subtypes, though this latter measure failed to differentiate between the obsessive borderline group and the schizophrenics.

Spear concluded from these results that the structural and thematic approaches to the assessment of object representations measure relatively independent and complementary aspects of the capacity for object relations. Further, he states that both approaches are useful in differential diagnosis, particularly when used together as "the combination provides a more comprehensive and informative view of the way people are able to conceive of the relations with each other" (Spear, 1980, p. 331).

Spear's study is important in its attempt to investigate the interaction between structural and thematic approaches to the assessment of object representations. His research, however, contains methodological problems which detract from the conclusions which may be drawn from it. He utilizes very small sample sizes within a quite limited range of psychopathology, and does not include a normal comparison group. The use of both the structural and thematic measures of object relations is problematic. With regard to Blatt's structural scale, Spear uses one global rating of level of object relations as opposed to the more detailed analysis of

the concept of the object originally developed by Blatt. With the thematic scale he takes a measure originally designed for use with manifest dream content and applies it to Rorschach data, for which it was not intended. Krohn (1972) and Krohn and Mayman (1974) found in their original work that the use of the dream scale with the Rorschach appeared to yield a result that was not a pure measure of object representations but rather a confounding of object relations levels and degree of psychopathology.

Finally, while Spear's comparison and analysis of the two approaches is interesting and informative, it is primarily qualitative in nature and he fails to provide the more empirical comparison of the two approaches necessary to test how they interact with one another. It seems that a major focus of Spear's study was the differentiation of the two hypothesized borderline subtypes and an increased understanding of the dynamics and treatment implications for these two groups. The relative merits of the two different measurement approaches was not a primary consideration. While such work on the borderline concept is clearly important, it may be somewhat premature in being undertaken before the reliability and validity of the structural and thematic approaches to the assessment of object relations is clearly established and the relationship between the two approaches is more fully understood.

Spear and Sugarman (1984) attempted to address some of the unanswered methodological questions in a replication and extension of Spear's original study. They broke down the global rating of object relations obtained with the Blatt scale into its six different developmental dimensions (though still not differentiating between accurate and inaccurate responses as advocated by Blatt). They replaced the dream scale with a slightly modified version of a thematic measure of object relations specifically designed for use with the Rorschach: Urist's Rorschach Mutuality of Autonomy Scale (Urist, 1973, 1977). They then examined the reliability and validity of these two object relations measures by looking at the ability of each to make the same diagnostic distinctions originally attempted by Spear (obsessive/paranoid borderline vs. hysterical/impulsive borderline vs. schizophrenic).

Spear and Sugarman (1984) demonstrated high reliability for each of the two object relations measures (Blatt: .82-.96; Urist: .80-.94). They found that five of the six subscales on the Blatt measure (Differentiation, Motivation, Integration, Relationship, Nature) were able to discriminate significantly between the schizophrenic and combined borderline groups, though only one subscale (Differentiation) was able to differentiate between the borderline subtypes. Urist's thematic scale was able to make the differentiation between the hysteric and obsessive borderline groups but could not differentiate between the obsessive borderlines and the

schizophrenics. The authors suggest that these results support the use of a multidimensional approach to the assessment of object relations that takes into account both the structural and thematic dimensions of the object relations construct. They state that the use of either the structural or thematic approach alone provides an incomplete understanding of the object representations of the schizophrenic and especially the borderline patient.

The results obtained by Spear and Sugarman (1984) are encouraging and additional research along these lines would appear promising. Their research still contains, however, some of the same methodological problems cited earlier in the critique of Spear's original work, namely in the small sample sizes and the limited range of normality or psychopathology represented in their sample. As in Spear's earlier work, there is a concentration on an elucidation of the borderline concept as opposed to a comparison of the different methodologies for the assessment of object representations. In addition, due to the more qualitative nature of their comparison, their analysis falls short of achieving a truly empirical comparison or integration of the structural and thematic approaches to the assessment of object representations. An empirically sound comparison of assessment methods remains a needed addition to this research literature.

Lerner (1986) attempted a more clinical application and comparison of the different object relations scales. He applied Blatt et al.'s Developmental Analysis of the Concept of the Object Scale, Urist's Rorschach Mutuality of Autonomy Scale, and his own scale for assessing primitive defenses on the Rorschach (Lerner & Lerner, 1980), to the Rorschach record of a hospitalized adolescent girl (B.). Through an indepth analysis he attempted to demonstrate "the capacity of the Rorschach to tap the structure and contents of an adolescent girl's inner representational world" and to test the ability of the different scoring systems to provide "clinically useful information about the perception and quality of interpersonal relationships to which she was predisposed" (p. 129).

Using the Blatt et al. scale, Lerner (1986) found that the patient presented a configuration of object representations consistent with borderline psychopathology and associated identity diffusion. The Rorschach record featured "a broad spectrum of representations, engaged in a variety of active-passive and active-active interactions as well as benign and malevolent transactions which collectively lack integration" (p. 136). Similarly, results of the analysis using the Urist scale yielded a wide range of responses at both higher and lower developmental levels, that overall seemed to lack "consistency, consolidation, and integration" (p. 136). And again on the defense scale (Lerner & Lerner, 1980) the subject was found to demonstrate a range of

responses, exhibiting some capacity for the utilization of higher-level neurotic defenses but lacking the necessary consolidation and integration to use these defenses effectively to modulate highly charged affect.

Summarizing these analyses Lerner (1986) states:

> An assessment of B.'s Rorschach protocol utilizing three object representation scales thought to tap separate but not mutually exclusive dimensions of object representations reveals a striking consistency across measures which is predictive of certain transference paradigms likely to unfold during B.'s hospital treatment (p. 137)

He concludes that his comparative analysis provides further support for the use of the Rorschach, and the Rorschach human response in particular, to assess patterns of object relationships and object representations and is a demonstration of the clinical usefulness of such an assessment.

More recently Burke, Friedman, and Gorlitz (1988) took a different approach in an attempt to integrate the structural and thematic approaches to object relations assessment. They developed a new scoring system for the Rorschach, the Psychoanalytic Rorschach Profile (PRP), that incorporates both content and structural analyses, drawing from the work of both the Michigan and Yale groups. The work remains in the preliminary stages at this time and more research is needed to test the system and to see how it compares to already existing measures. Nonetheless, this kind of integrated

approach to the assessment of object representations appears quite promising.

Summary and Hypotheses

In conclusion, the work of both the Michigan and Yale groups has generated important methods for assessing object representations through projective test data, especially the Rorschach. In addition, their research has contributed greatly to our understanding of the role of object representations in normal personality development and organization, impairments of object representations in different types of psychopathology, and their contribution to the therapeutic process. Nonetheless, more work is clearly needed to establish the validity of each of these measures individually, and to understand how the content and structural approaches compare and may be integrated. Little research directly comparing and integrating the structural and thematic approaches to the assessment of object representations has been done to date. Spear's (1979; 1980; Spear & Lapidus, 1981; Spear & Sugarman, 1984) work comes closest to this kind of needed comparative analysis, though it contains methodological problems and is primarily qualitative in nature, falling short of achieving a truly empirical comparison of the two approaches.

There is clearly a need for more of this kind of methodological comparison and it is in this spirit that the present study was conceived and undertaken. This study is an

attempt to extend the work of Spear (1978, 1980, Spear & Lapidus, 1981) and that of Spear and Sugarman (1984), addressing some of the methodolgical problems found in these earlier studies and providing for a further comparative analysis of the structural and thematic methods for assessing the level of object relations using the Rorschach test.

This study examines the relationship between traditional Rorschach scoring indices and two of the most reliable, well-validated, and widely used of the structural and thematic object relations measures. It compares 1) select traditional Rorschach scoring indices assumed to be related to the capacity for object relations (Exner, 1974); 2) a content/thematic approach to the assessment of object representations, represented by the Urist Rorschach Mutuality of Autonomy Scale (Urist, 1973, 1977); and 3) a formal/structural approach to object relations assessment, represented by Blatt et al.'s (1976a) Developmental Analysis of the Concept of the Object Scale. The following research questions are the central foci of this critical comparison:

1) Do these Rorschach scoring systems contribute information about the individual's self and object representations beyond the information contained in traditional Rorschach scoring indices?

2) How closely related are the two scoring systems? Do they seem to be measuring the same or similar constructs?

3) Does the difference in emphasis contained in the content and structural measures yield different results in terms of the assessment of level of object representations? How well is each system able to differentiate between groups with different

types of psychopathology and assumed to represent different levels of object representations positioned along a developmental continuum?

4) How do the approaches interact, influence and inform each other? Are there apparent patterns of results across the systems? What are the primary areas of agreement and disagreement?

In order to address these questions, Rorschach protocols obtained from a clinical sample of schizophrenic and borderline patients as well as a normal control sample are scored for 1) select traditional Rorschach scoring indices relevent to object relations including human and quasihuman responses, H, Hd, (H), (Hd), human movement responses, M and M-, the Experience Balance, EB, and form quality, F+%, X+%, & X-% (Exner, 1974); 2) Urist's Mutuality of Autonomy Scale (Urist, 1973, 1977); and 3) Blatt et al.'s Developmental Analysis of the Concept of the Object Scale (Blatt, Brenneis, Schimek, & Glick, 1976a). These data are then analyzed with respect to the questions cited above. Hypotheses and expected outcome are described below.

Hypothesis 1: Both the structural and thematic approaches to the assessment of object relations measure more than that assessed by traditional Rorschach scoring indices.

The relationship between the object relations measures and traditional Rorschach scores is examined by looking at the correlations between the traditional Rorschach scoring indices and each of the respective systems for assessing object relations. It is expected that each of the object relations scoring systems has low to moderate correlations with the

traditional Rorschach scoring indices. While these indices may have some overlap in the dimensions of personality organization which they assess, the object relations scoring systems are assumed to be measuring more than that measured by other indices. A high correlation between traditional scoring indices and an object relations measure would suggest that both measures are closely related and are tapping the same or similar constructs.

> Hypothesis 2: The structural and thematic measures of object representation are able to differentiate better between diagnostic groups on the basis of level of object relations than traditional Rorschach scoring indices.

The ability of the traditional indices to differentiate between the three diagnostic groups (schizophrenic, borderline, and normal) is compared to the ability of each of the object relations measures to make the same differentiation. It is expected that the object relations scoring systems differentiate better between diagnostic groups and provide greater diagnostic accuracy than any of the traditional Rorschach scoring indices in isolation. An equivalent ability to differentiate between diagnostic groups, especially if accompanied by high correlations between the traditional indices and the object relations measure, would suggest that the object relations measures do not significantly add to the ability of traditional Rorschach scoring indices to make diagnostic distinctions.

> Hypothesis 3:   The structural and thematic approaches   to   the   assessment   of   object

representations measure two related, but different, dimensions of the object relations construct.

The relationship between the two systems for assessing object representations is approached by examining the correlations between the object relations measures. It is expected that the structural (Blatt) and thematic (Urist) measures have a moderate correlation, evidence that while they are somewhat closely related and are measuring a similar construct, each instrument assesses an independent or separate dimension of that construct. A high correlation would suggest that the two measures are very closely related and are measuring the same construct. A very low correlation or an absence of a correlation would suggest that the two measures are assessing two different constructs.

Hypothesis 4: Both the structural and thematic measures, independently, are able to differentiate between diagnostic groups with a similar level of accuracy.

In order to address the question of how the two object relations scoring systems compare to one another, analyses of variance are performed with each scoring system using diagnostic group as the independent variable and level of object relations as the dependent variable to assess each system's ability to differentiate between groups. Results of the independent analyses of variance with each scoring system are then compared and contrasted to the results obtained with the other system through means of discriminant functions analyses. This analysis allows each system to be examined

individually for accuracy of diagnostic classification. The percentages of accuracy for each scoring system independently are then compared to determine if one system is better able to make diagnostic distinctions than the other. It is expected that each system individually is able to discriminate significantly between diagnostic groups. Given their different emphases however (structural vs. thematic), it is conceivable that one system is able to make distinctions not possible with the other measure.

> Hypothesis 5: The combined use of the structural and thematic measures improves diagnostic accuracy over that obtained with either system individually.

This question of how the two systems interact with one another is also addressed using a discriminant functions analysis. This analysis allows for an examination of the diagnostic classification accuracy of the two object relations measures used in combination. The degree of variance accounted for by each system can be obtained to get some indication of how the two systems interact with one another. In addition, this last question is also addressed through a more qualitative, clinical analysis of the data in order to determine how the measures agree or disagree and how they might complement and inform one another. This latter approach to the data also allows for comparisons of the results of this study with the existing literature, which tends to be more qualitative in nature.

METHOD

Subjects

The Rorschach protocols of a sample of 30 schizophrenic, 30 borderline, and 30 normal control subjects were scored using each of three different Rorschach scoring methods: 1) traditional Rorschach scoring indices of human and quasihuman figures, H, Hd, (H), (Hd), human movement responses, M and M-, the Experience Balance, EB, and form quality, F+%, X+% and X-%, (Exner, 1974); 2) The Urist Mutuality of Autonomy Scale (Urist, 1973, 1977); and 3) The Developmental Analysis of the Concept of the Object on the Rorschach Scale (Blatt, Brenneis, Schimek, & Glick, 1976a).

The schizophrenic and borderline samples were obtained from the Rorschach protocols of patients admitted to Northwestern Memorial Hospital's Extended Ambulatory Care (EAC) program who were tested as a routine part of the program's admission procedures or for routine diagnostic purposes. Testing of patients was usually completed by clinical psychology graduate students, predoctoral psychology interns, or practicing clinical psychologists. Administration in most cases followed the standards of Exner (1974).

Only those subjects with a minimum of 14 Rorschach responses were included in the borderline group. Protocols

with fewer than 14 responses are considered to be of questionable validity and difficult to interpret with any certainty, particularly with regard to traditional Rorschach scores (Exner, 1987). The criterion number of responses was lowered to 11 in the schizophrenic group in order to draw a sample comparative in size to the other two groups. In addition, schizophrenics, particularly paranoid and/or chronic patients, are more likely to provide fewer responses due to their psychopathology (Bochner & Halpern, 1945; Phillips & Smith, 1953; Piotrowski, 1957; Rapaport et al., 1945; Schafer, 1948; Weiner, 1966). It was determined that to exclude those subjects with low response rates would yield a sample that was not representative of the general population of schizophrenics.

Diagnosis for each of the 30 schizophrenic and 30 borderline protocols was made independent of test data. The clinical record of each patient was rated by two independent, experienced clinical psychologists, according to the diagnostic criteria for each group established in the Diagnostic and Statistical Manual of Mental Disorders, Third Edition (DSM-III, American Psychiatric Association, 1980). Patients with clear organic impairment, mental retardation, a primary diagnosis of substance abuse, major affective disorder, or a nonschizophrenic psychosis were excluded from consideration. The borderline sample was not divided into subtypes of the disorder (Spear, 1980) as such a procedure was

considered premature and too fine a distinction to be made given the current state of development of the object relations measures.

The schizophrenic group ($\underline{n}$=30) was composed of 21 males (70%) and 9 females (30%). Nine of the subjects were black (30%) and 21 were white (70%). The mean age of the sample was 30.5 ($\underline{SD}$=6.62) with a range of from 20 to 46. Mean level of education was 13 years ($\underline{SD}$=1.92), and the subjects had a mean full scale IQ of 85 ($\underline{SD}$=12.22). The borderline group ($\underline{n}$=30) consisted of 1 male (3%) and 29 females (97%); 28 were white (94%), 1 was black (3%), and 1 was of other race (3%). Mean age for this sample was 30 ($\underline{SD}$=5.42), ranging from 21 to 47. They had a mean educational level of 15 years ($\underline{SD}$=1.80) and a mean IQ of 107 ($\underline{SD}$=17.36).

The 30 subjects in the normal control sample were obtained from the Rorschach records of persons tested as part of a course on personality assessment for clinical psychology graduate students at Loyola University of Chicago between 1984 and 1988. Administration of the test followed the Exner (1974) method in all of these cases. A minimum of 14 Rorschach responses was required for inclusion in the normal group. The majority of protocols were obtained from university undergraduates who volunteered for testing as part of a psychology course requirement or from other volunteers. Absence of psychopathology in this group was determined by examination of the Minnesota Multiphasic Personality Inventory

(MMPI) profiles of the subjects. Only the protocols of those individuals with a valid MMPI and all MMPI clinical scale scores in the nonclinical range (T=30-70) were used.

As much as possible the sample was matched to the clinical samples with regard to other demographic data such as age, sex, race, and intelligence level. The final group of 30 subjects consisted of 13 males (43%) and 17 females (57%). Five of the subjects were black (17%), 19 were white (66%), and 6 were of other races (17%). The group ranged in age from 19 to 31, with a mean age of 21 ($\underline{SD}$=2.75). All were presently in college; they had an average of 14 years ($\underline{SD}$=.66) of education and a mean IQ of 107 ($\underline{SD}$=13.06).

An examination of the demographic characteristics of age, sex, race, education, and intelligence, broken down by diagnostic group, reveals that there are significant differences between the normal, borderline, and schizophrenic groups on a number of these variables. Chi square analyses examining sex and race by diagnostic group indicate that there were significant differences between groups for both of these variables (sex: $\underline{X}^2$(2)=28.43, $\underline{p}$<.01; race: $\underline{X}^2$(4)=12.76, $\underline{p}$<.01). For the variable of sex, while the normal group was fairly evenly divided between males and females, there were significantly fewer males and more females in the borderline group and significantly fewer females and more males in the schizophrenic group. For race, there were significantly fewer

nonwhites in the borderline group than in either of the other two diagnostic categories.

Looking at the remaining demographic characteristics of age, education, and intelligence, one-way analyses of variance for each of these variables by diagnostic group suggest that there are significant differences between groups for all three of these variables. The normal sample was found to be significantly younger than either borderline or schizophrenic groups, $F(2,84)=30.13$, $p<.001$. Further, borderlines had significantly higher levels of education than either of the other two groups, $F(2,69)=9.30$, $p<.001$, and schizophrenics were found to have significantly lower IQ scores than either the normal or borderline groups, $F(2,62)=15.28$, $p<.001$.

Given these significant differences between diagnostic groups for these demographic variables, any analyses of the different methods for assessing object relations on the Rorschach had to take into account these differences. If a Rorschach measure was significantly correlated with one of the demographic variables of significance, the demographic variable was held constant in all further analyses involving that measure. These correlation results are reported in the following chapter.

Instruments

Traditional Rorschach Scoring Indices.

Traditional Rorschach indices including human and quasihuman responses, H, Hd, (H), (Hd), human movement

responses, M, the Experience Balance, EB, and form quality, F+%, X+%, & X-%, were extracted from the Rorschach structural summary record (Exner, 1974). The human figure and human movement responses were selected because of the well-established research findings that these variables appear to reflect important information about the subject's object relations and perceptions of self and others, similar to the information obtained from the object relations measures. The Experience Balance and Form Quality scores were included as these scores, reflecting a subject's preference for an ideational or affective mode of experience and capacity for reality testing, have been found to be important variables in making diagnostic distinctions with the Rorschach, particularly between the normal, borderline, and schizophrenic groups. Further, in regards to form quality, response accuracy has been shown to be an important variable in the use of the Blatt et al. (1976a, 1976b) measure in particular. Therefore, it was important to determine whether the diagnostic distinctions obtained using the Blatt measure were derived from this factor alone or from the more complex assessment of object representations within accurate and inaccurate responses, as the developers of that instrument suggest.

The Developmental Analysis of the Concept of the Object. (Blatt, Brenneis, Schimek, & Glick, 1976a; see Appendix A).

This system examines an individual's level of object

representation by means of a formal/structural analysis of the quality of the individual's human responses on the Rorschach. All human responses are scored according to the principles of differentiation, articulation, and integration along a developmental continuum.

Differentiation refers to the type and completeness of the human figures the subject perceives. That is, whether the figure is a whole human figure, a whole quasihuman figure, a human detail, or a quasihuman detail. Each level of response is weighted according to its level of development from a high weight of four, for a whole human figure, to a weight of one for a quasihuman detail response.

Articulation refers to the degree to which the response is elaborated. It is defined by the number and type of perceptual and functional features attributed to the figures. Seven specific attributes (three perceptual and four functional) are scored for their presence or absence in the response with perceptual attributes weighted one (less developmentally advanced) and functional attributes weighted two.

Integration refers to the way in which the object or figure, if engaged in human activity, is integrated into a context of action or interaction with other objects. This aspect of the response is scored along four different dimensions: a) motivation - the degree of internality of the motivation of the action, ranging from a low score of one for

unmotivated action, to a weighting of two for action that is reactive to the actions of another figure, to a weighting of three for action that is intentional; b) integration - the degree of integration of an object and its action, ranging from a score of one for the fusion of an object and its action through levels of incongruent integration of object and action (scored two), nonspecific integration (score three), to the highest level (score four) of congruent integration of object and action; c) nature - the nature of the interaction between objects, whether active-passive (weighted one), active-reactive (weighted two), or active-active (weighted three); and d) the content of the interaction, whether malevolent (scored one) or benevolent (scored two).

Responses with good (accurate) and poor (inaccurate) form quality are each scored separately for each of the above six categories. Summary scores for each of the six subscales as well as composite scores across all subscales may then be obtained for both accurately perceived and inaccurately perceived responses. These summary and composite scores are calculated in two ways, using mean scores and/or the residualized weighted sums of the scores.

Using mean scores to summarize the data, one obtains a mean score for each of the six scoring categories as well as a composite score, the mean developmental level (MDL), for both accurately and inaccurately perceived responses separately. The mean developmental level is the sum of the

standardized mean scores for each of the six subscales on the measure. The mean developmental level for accurately perceived responses (MDL+) is considered to be a measure of "the capacity to become engaged in meaningful and realistic interpersonal relations" (Blatt et al., 1976c, p. 3), while the mean developmental level for inaccurately perceived responses (MDL-) represents the "tendency to become involved in unrealistic, inappropriate, possibly autistic, types of relationships" (Blatt et al., 1976c, p. 4).

The residualized weighted sums are obtained by taking the weighted sum of the responses for each subscale, again for accurately perceived and inaccurately perceived responses separately, and covarying these with the total number of responses on the Rorschach through a regression equation. This yields a residualized wieghted sum for each subscale that has been controlled for total response productivity. These residualized weighted sums are then standardized and summed, for accurate and inaccurate responses in turn, to yield a composite score labeled the developmental level of object relations (OR). The developmental level of object relations for accurately perceived responses (OR+) is an indication of the "capacity for investment in satisfying interpersonal relationships" (Blatt et al., 1976c, p. 3). The developmental level of object relations for inaccurately perceived responses (OR-) represents the "tendency to become involved in autistic

fantasies rather than realistic relationships" (Blatt et al., 1976c, p. 3).

Blatt et al. (1976a, 1989) argue that both the mean scores and the residualized weighted sums may be useful in summarizing the data, and that these two different approaches may yield different results. Therefore, both of these approaches were utilized here and will be reported separately in the results.

The Rorschach Mutuality of Autonomy Scale (Urist, 1973, 1977; see Appendix B.).

This thematic/content-oriented scale, based on the work of Mahler (1968, 1975), focuses on the developmental progression from symbiosis, through separation-individuation, toward object constancy. Any Rorschach response in which a relationship is stated or implied qualifies for a score, including human, quasihuman, animal, or inanimate responses. The scale consists of seven basic categories along a developmental continuum. Each ordinal scale point refers to developmentally significant gradations in the individual's capacity to experience him/herself and others as mutually autonomous within relationships. The seven points on the scale, from highest to lowest, are as follows:

    1) Reciprocity - Mutuality
    2) Simple Interaction
    3) Anaclitic - Dependent
    4) Reflection - Mirroring
    5) Magical Control - Coercion
    6) Destruction
    7) Envelopment - Incorporation

One may then calculate the individual's mean level of mutuality of autonomy across all responses as well as assigning a global rating to the overall protocol. In addition high and low scores, as well as the range of scores may also be computed. Only the mean mutuality of autonomy score was used in the present study as that score is used most frequently in the existing literature.

Procedure

The 90 Rorschach protocols were each scored, using Exner's (1974) Comprehensive Rorschach Scoring System, by the author in order to assure uniformity of scoring in records from multiple examiners. These scores were compared to the scoring done by the original examiners and any discrepancies were resolved through the judgement of an independent clinician. The traditional Rorschach scoring indices were then extracted from the structural summary record (Exner, 1974).

In addition to the scoring for traditional Rorschach indices, the Rorschach records of the entire sample of 90 subjects were divided and scored by three independent raters, blind to group/diagnostic classification, using Blatt et al.'s (1976a) Developmental Analysis of the Concept of the Object and Urist's (1973, 1977) Rorschach Mutuality of Autonomy Scale for the assessment of level of object representations. Application of each system followed the guidelines established

for that system as put forth in the instrument's manual or other equivalent publication.

Interrater reliability estimates for each of the scoring systems, consisting of the percentage of agreement between two raters, were computed using a subset of one-third of the total number of Rorschach protocols. Each of these protocols was scored by two out of the three raters, reliability estimates were calculated on the basis of independent scoring, and any differences in scoring were resolved through discussion until consensus was achieved.

Interrater Reliability

Interrater reliabilities for the structural (Blatt et al. 1976a) and thematic (Urist, 1973, 1977) object relations measures were calculated using the percentage of agreement in scoring between two raters. These reliabilities are presented in Table 1. With the exception of one subscale on the the structural measure all of the interrater reliabilities exceed .75. These figures are comparable to the reliabilities reported within the literature for these instruments (Blatt=.82-.96, Blatt et al., 1976b; Spear & Sugarman, 1984; Urist=.80-.94, Spear & Sugarman, 1984; Urist, 1977). The reliability of the Blatt et al. (1976a) perceptual articulation subscale is slightly lower (.70) than that obtained for the other subscales and reflects an area of difficulty encountered in using the Blatt et al. instrument. Raters were unable to improve their reliability in the use of this scale even after extensive training, scoring of sample data, and conferences to consensus on scored data.

Table 1

Interrater Reliability

Measure	Agreement
Blatt: Differentiation	.83
Perceptual Articulation	.70
Functional Articulation	.80
Motivation of Action	.87
Integration of Object & Action	.79
Content of Interaction	.87
Nature of Interaction	.89
Urist: Exact Agreement	.94
Within one scale point	.95

Correlations Between Demographic Variables

and Rorschach Measures

In order to determine whether any significant differences
between diagnostic groups found on the Rorschach measures were
possibly confounded by the influence of demographic variables,
correlations between demographic data and scores for each of
the three Rorschach scoring methods were calculated.
Demographic variables examined in this analysis included age,
sex, race, education, and intelligence level. The Rorschach
measures included: a) the 10 traditional Rorschach variables,
b) the mean score on the thematic measure, c) the summary
scores (means and residualized weighted sums) for the six
subscales of the Blatt et al. measure, scored separately for
accurately perceived and inaccurately perceived responses,
and d) the four Blatt et al. (1976c) composite scores (MDL+,
MDL-, OR+, OR-).

Given the large number of correlations computed, the
critical level of alpha required for significance was adjusted
using the Bonferroni equation to minimize Type I error (Hayes,
1981). This adjustment resulted in a critical level of alpha
of $p < .0005$. At this level of significance, none of the 10
traditional Rorschach variables or the thematic scale were
correlated significantly with the demographic variables of
age, sex, race, education, and intelligence. This suggests
that in any subsequent analyses using these Rorschach
measures, the results, if significant, are not likely to be

confounded by the influence of the demographic variables. There was one significant correlation between the Blatt subscales and the demographic variables. It was found that the mean articulation score for inaccurately perceived responses was significantly correlated with full scale IQ, $r=.40$, $p<.0005$. This relationship is predictable. The articulation score measures the degree to which a response is elaborated or enhanced by attribution of perceptual or functional features beyond a mere description of the object. It is quite logical that subjects with greater levels of intelligence, perhaps especially verbal intelligence, would be more likely to produce responses which are highly articulated or elaborated. Indeed, while not statistically significant at the critical level of alpha used here, there was a consistent pattern of positive correlations between all of the Blatt articulation scores (mean articulation for accurate and inaccurate responses, and the residualized weighted sum of articulation scores for accurate and inaccurate responses) and intelligence ($p<.05$). The fact that the mean articulation score for inaccurately perceived responses and intelligence was significant while the correlation between the mean articulation score for accurately perceived responses was not may be a spurious result of the large number of computations performed and the conservative level of alpha used here. In any case, while this correlation

was significant, it was not unexpected and no attempt was made to correct for intelligence level in any subsequent analyses.

Correlations between Traditional Rorschach Scores
and Object Relations Measures

The relationship between traditional Rorschach Scoring indices and the structural and thematic object relations scales were examined by looking at the correlations between the two object relations measures and the traditional Rorschach variables of: the number of human responses, H, quasihuman responses, (H), human detail responses, Hd, quasihuman detail responses, (Hd), human movement responses, M, poor form human movement responses, M-, the Experience Balance score, EB, the extended form quality score for good responses, X+%, the extended form quality score for poor responses, X-%, and the form quality score for pure form responses, F+%. Prior to computing these correlations each of the traditional Rorschach scores was covaried for total number of responses on the Rorschach and these residualized scores were used to compute the correlations with the object relations measures. No such covariance procedure was necessary for the object relations measures as these scores are either mean scores which are not influenced by total response productivity or, in the case of the residualized weighted sums used for the Blatt instrument, they are scores which have already been covaried for total number of responses on the Rorschach. Results of the correlations between

traditional Rorschach scores and the object relations measures are reported in Table 2. Again, the critical level of alpha required for significance was adjusted, using the Bonferroni equation, to account for the large number of correlations computed. Only those correlations significant at the level $p<.0005$ are reported.

As can be seen in the table, there were no significant correlations between any of the traditional Rorschach variables and the thematic object relations measure (Urist). In contrast, there were a number of significant correlations between traditional Rorschach scoring indices and the structural object relations measure. The majority of these significant correlations occurred between the residualized weighted sums on the Blatt et al. scale, for both accurately and inaccurately perceived responses, and traditional scores for the frequency of human, quasihuman, human detail, and human movement responses.

These correlations make sense intuitively given that the value of the residual weighted sum, as a weighted sum, would be significantly influenced by the number of human and human movement responses in the protocol, whereas the mean scores would not be expected to differ appreciably based on the frequency of human or human movement responses. It is also predictable that only the weighted sums for inaccurately perceived responses would be correlated with the number of poor form quality human movement responses (M-) as both of

Table 2

Correlations between Traditional Rorschach Scores
and Object Relations Measures

	Traditional Rorschach Variable									
OR Measure	H	(H)	Hd	(Hd)	M	M-	EB	X+	X-	F+
Urist MOA										
Blatt Scale										
(for accurately perceived responses)										
Means:										
Differentiation										
Articulation										
Motivation										
Integration					.35					
Content										
Nature										
MDL+										
Weighted Sums:										
Differentiation	.63	.45			.52					
Articulation	.52	.45			.43				-.34	
Motivation	.57				.56					
Integration	.59				.63					
Content	.56	.38			.62					
Nature	.48				.56					
OR+	.63	.41			.63					
(for inaccurately perceived responses)										
Means:										
Differentiation										
Articulation										
Motivation					.44	.40				
Integration					.37					
Content										
Nature										
MDL-					.37					
Weighted Sums:										
Differentiation	.40	.44			.47	.40				
Articulation	.44									
Motivation					.59	.55	.36	-.34		
Integration			.35		.55	.44				
Content					.49	.39				
Nature					.44	.38				
OR-		.38			.55	.46		-.35		

Note: $p < .0005$ for all correlations reported.

these scores are based solely on poor form quality responses, while the weighted sums for accurately perceived responses do not contain any poor form quality responses. Similarly, the negative correlations between the extended form quality score for good responses (X+%) and the weighted sum for motivation on inaccurately perceived responses, as well as the developmental level of object relations for inaccurately perceived responses (OR-) may also be understood as a reflection of the fact that these scores on the object relations measure are based purely on poor form quality responses and should be inversely related to the percentage of good form quality responses.

Perhaps what is most interesting about the correlations between the traditional Rorschach scores and the residualized weighted sums on the Blatt scale is that while for accurately perceived responses the weighted sums are most significantly correlated with the number of full human and quasihuman responses, the weighted sums for inaccurately perceived responses were significantly correlated with the number of quasihuman and human detail responses. This result would suggest that Blatt scores for accurately perceived responses may be more likely to occur in full human and quasihuman responses but the Blatt scores for inaccurately perceived responses are more likely to be derived from quasihuman and human detail responses and not from whole human responses.

Only five of the mean scores for the Blatt instrument were correlated significantly with any of the traditional Rorschach scores. The mean motivation score for inaccurately perceived responses was significantly correlated with the total number of human movement responses and the number of poor form quality human movement responses. These correlations may be understood as a reflection of the fact that the motivation score is assigned only when there is some sort of action occurring in the response, which would simultaneously be reflected in a score for M. As additional support for this explanation, the correlation between the mean motivation score for accurately perceived responses and M was .27. While this correlation was not statistically significant at the critical level of alpha used here, it is significant at the level $p<.005$ and suggests that the motivation score and M are both tapping into a common phenomenon, that of action occurring in the response. Only the mean motivation score for inaccurately perceived responses was related to the number of poor form quality human movement responses (M-) and this would be expected given that this motivation score is based solely on poor form quality responses, like the M- score. The positive correlation between the experience balance and the weighted sum of the motivation scores for inaccurately perceived responses may also be a reflection of this relationship between motivation and human movement.

In sum then, the correlations between traditional Rorschach scores and the thematic and structural object relations measures provide only partial support for the first hypothesis. It had been expected that both the thematic and structural approaches to the assessment of object relations would show low to moderate correlations with traditional Rorschach scoring indices, suggesting that the object relations measures and traditional Rorschach scores assess related constructs but that the object relations scoring systems assess more than that measured by traditional Rorschach scoring indices. Consistent with this hypothesis, the structural object relations measure was moderately correlated with the traditional Rorschach scores. The thematic measure, however, was not found to be significantly related to any of the traditional Rorschach scoring indices used here, disconfirming the original hypothesis.

Correlations Between Structural and Thematic Object Relations Measures

The relationship between the structural and thematic approaches to the assessment of object relations was examined by looking at the correlations between the thematic measure (Urist) and the multiple subscales of the structural measure (Blatt). These results are shown in Table 3. The critical level of alpha was again adjusted, using the Bonferroni equation, to control for the large number of correlations performed ($p < .002$). At this level, no significant

Table 3

Correlations between Object Relations Measures

Structural Measure	Thematic Measure
(for accurately perceived responses)	
Means:	
Differentiation	-.18
Articulation	-.09
Motivation	-.11
Integration	-.06
Content	-.20
Nature	-.19
MDL+	-.19
Weighted Sums:	
Differentiation	-.07
Articulation	-.11
Motivation	-.02
Integration	-.14
Content	-.16
Nature	-.06
OR+	-.09
(for inaccurately perceived responses)	
Means:	
Differentiation	-.07
Articulation	-.17
Motivation	.11
Integration	.03
Content	-.09
Nature	-.10
MDL-	-.06
Weighted Sums:	
Differentiation	-.06
Articulation	-.19
Motivation	.12
Integration	.04
Content	-.07
Nature	-.10
OR-	-.05

Note: None of the above correlations are significant, $p > .002$.

correlations were observed between the two scales. Those correlations that do exist are all quite low (below .20) and suggest little or no relationship between these two different approaches to the assessment of object relations.

This result disconfirms hypothesis three. This hypothesis predicted that the two measures of object relations would be moderately correlated, suggesting that the two systems assess a similar construct but different dimensions of that construct. The results here, however, suggest little or no relationship between the two systems.

Differentiation Between Diagnostic Groups

Using the Rorschach Measures

Traditional Rorschach Scoring Indices

Analyses of covariance, with total number of Rorschach responses as the covariate, were conducted for each of the 10 traditional Rorschach scores, H, (H), Hd, (Hd), M, M-, EB, X+%, X-%, and F+%, to determine how well each of these indices was able to differentiate between normal, borderline, and schizophrenic groups. Results of the univariate analyses of covariance for the traditional Rorschach scores are shown in Table 4. After adjusting for the effect of total response productivity, no significant relationships between any of the traditional Rorschach scores and diagnostic group were observed, nor was there a significant interaction effect when the ten variables were combined in a multivariate analysis of covariance, $F(2,86)=1.09$, $p>.05$.

Table 4

Analyses of Covariance Using Traditional Rorschach Scores

| Variable | | Group Means (adjusted for R) | | | $F(2,86)$ |
		Normal	Borderline	Schizophrenic	
H	M	3.27	3.08	3.51	0.33
	SD	1.62	2.19	2.13	
(H)	M	1.71	1.59	1.70	0.05
	SD	1.34	1.85	1.57	
Hd	M	2.14	1.71	1.31	1.86
	SD	1.96	2.42	1.03	
(Hd)	M	0.47	0.38	0.15	1.79
	SD	0.78	0.86	0.25	
M	M	4.58	4.02	4.61	0.44
	SD	2.46	3.29	3.07	
M-	M	0.64	0.60	0.80	0.33
	SD	0.89	1.06	1.09	
EB	M	2.03	1.55	2.18	0.65
	SD	2.20	1.07	2.69	
X+%	M	0.53	0.56	0.52	1.29
	SD	0.13	0.10	0.12	
X-%	M	0.18	0.21	0.23	1.68
	SD	0.09	0.10	0.14	
F+%	M	0.60	0.62	0.51	3.03
	SD	0.16	0.19	0.20	

Note: F was not significant in any of the analyses above, $p>.05$.

As a second approach to determining the ability of traditional Rorschach scores to differentiate between diagnostic groups, a direct entry discriminant functions analysis was also performed using the combination of the ten traditional Rorschach scores, covaried for total response productivity on the Rorschach. Results of this analysis appear in Table 5.

Two discriminant functions were calculated using the traditional Rorschach scores. The first function was weighted most heavily for the variables of the percentage of good form quality for pure form responses, F+%, the number of human detail responses, Hd, and quasihuman detail responses, (Hd), and the percentage of poor form quality responses, X-%.

This function accounted for 78% of the variance between diagnostic groups. and was most effective in discriminating the schizophrenic group from the other two groups. The second function was weighted most heavily for remaining six traditional Rorschach variables: the percentage of good form quality responses, X+%, the experience balance, EB, the number of human movement responses, M, whole human responses, H, the number of poor form quality human movement responses, M-, and the number of quasihuman responses, (H). It accounted for the remaining 22% of the between groups variance, and was more effective in discriminating the borderline group from the normals and schizophrenics.

Table 5

Discriminant Functions Analysis
Using Traditional Rorschach Scoring Indices

Classification Function Coefficients
(Fisher's Linear Discriminant Functions)

Variable	Normals	Borderlines	Schizophrenics
H	-0.1798086E-01	0.3780601E-01	-0.1982515E-01
(H)	0.2838034E-01	0.2459820E-01	-0.5297884E-01
Hd	0.1372311	0.2185454E-01	-0.1539356
(Hd)	0.3448086	0.1403892	-0.4851978
M	0.5778692E-02	-0.7425527E-01	0.6847657E-01
M-	-0.1028735	0.8211790E-01	0.2075563E-01
EB	0.2475805E-01	-0.8267613E-01	0.5791805E-01
X+%	-3.658396	1.800411	1.857985
X-%	-3.201672	0.9950001	2.206672
F+%	2.206725	0.9109515	-3.117676
(Constant)	-1.242032	-1.160509	-1.284242

Pooled Within Group Correlations Between
Rorschach Variables and Canonical Discriminant Functions
(Ordered by size of correlation within function)

Variable	Function 1	Function 2
F+%	0.49017*	0.46280
Hd	0.43647*	-0.19665
(Hd)	0.43223*	0.03110
X-%	-0.40644*	0.24771
X+%	0.11695	0.63394*
EB	-0.09286	-0.44331*
M	-0.03379	-0.38873*
H	-0.12677	-0.24168*
M-	-0.16036	-0.16154*
(H)	-0.00489	0.13480*

Table 5--continued

Classification Results

| Actual Group | N | Predicted Group Membership | | |
		Normal	Borderline	Schizophrenic
Normal	30	15	9	6
		50.0%	30.0%	20.0%
Borderline	30	9	13	8
		30.0%	43.3%	26.7%
Schizophrenic	30	7	5	18
		23.3%	16.7%	60.0%

Percent of grouped cases correctly classified: 51.11%

While the percentage of between groups variance accounted for by each of these functions, especially function one, appears to be quite high, the ability of the two functions in combination to discriminate between groups is not statistically significant, $\underline{X}^2(20)=20.50$, $\underline{p}>.05$.[1] This is confirmed by looking at the classification results. Together the two functions resulting from the combination of the ten traditional Rorschach variables are able to accurately classify just over one half (51.11%) of the cases in all groups correctly. Use of the $\underline{z}$ approximation to a binomial to test the significance of this classification result indicates that this result is significantly greater than chance expectation, $\underline{z}=3.59$, $\underline{p}<.01$. The practical utility of this result is more questionable, however. While schizophrenic subjects are classified with 60% accuracy, classification of the borderline and normal subjects fall at fifty percent or below. Over 56% of the borderline subjects were incorrectly classified as either normal or schizophrenic, and 50% of the normal group was identified as borderline or schizophrenic. Add to this the fact that a significant amount of shrinkage in accurate classification can be expected when

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[1] In the discriminant functions analysis, all of the between groups variance accounted for by the variables entered into the analysis is proportioned between the two functions, thereby accounting for a total of 100% of the variance accounted for between the two functions. If the overall amount of between groups variance explained by the variables being examined is low, however, the actual discriminating ability of the functions may still be insignificant.

applying the resultant weights from one discriminant functions analysis to an independent sample[2], and it becomes apparent that the utility of this result is quite limited.

Thematic Object Relations Measure

To examine the ability of the thematic measure to differentiate between normal, borderline, and schizophrenic groups, a one way analysis of variance was completed using the mean score on the Urist Mutuality of Autonomy Scale (Urist, 1973, 1977) as the dependent variable and diagnostic group as the independent variable in the analysis. These results are presented in Table 6. As can be seen from the table, there were no significant differences found between any of the three diagnostic groups on the thematic object relations measure. The Urist scale was unable to differentiate significantly between normal, borderline, and schizophrenic groups.

This result was further confirmed in the discriminant functions analysis using this same measure. The discrimianat functions analysis was completed as an alternative means of determining how well the Urist scale was able to differentiate between diagnostic groups and, especially, to examine its

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[2]Such shrinkage is the result of the fact that the discriminant functions analysis determines the function that will maximize classification for the particular sample it is computed from. The resultant weights used for classification of cases will tend to be somewhat sample specific and application to an independent sample is likely to be less successful.

Table 6

Analysis of Variance
with the Urist Rorschach Mutuality of Autonomy (MOA) Scale

Group Means and Standard Deviations

variable		Normal	Borderline	Schizophrenic	$F(2,87)$
Mean MOA	$\underline{M}$	3.18	3.21	2.92	1.21
Score	$\underline{SD}$	0.57	0.95	0.82	

Note: $\underline{p}>.05$

ability to classify subjects as either normal, borderline, or schizophrenic on the basis of their Mutuality of Autonomy scores. Results of this analysis are displayed in Table 7.

Given that only one variable, the mean Mutuality of Autonomy score, was used in this analysis only one function, based solely on this variable, was computed. It accounted for 100% of the between groups variance. Consistent with the analysis of variance results above, this function was not found to be significantly effective in discriminating between diagnostic groups, $\underline{X}^2(2)=2.39$, $\underline{p}>.05$. Overall, the mean Mutuality of Autonomy score was able to classify successfully only 40% of the subjects in all three groups. This classification result is not significantly greater than chance expectation, $\underline{z}=1.35$, $\underline{p}>.05$, and suggests little practical utility for the measure in differentiating between normal, borderline, and schizophrenic subjects.

This conclusion is supported by an examination of the classification results within the three diagnostic groups. The mean Mutuality of Autonomy score is able to identify schizophrenic subject's correctly approximately two-thirds of the time (66.7%). However, it was able to identify accurately borderline subjects less than half the time (46.7%) and was as likely to misclassify a borderline as schizophrenic as it was to identify correctly the subject as belonging to the borderline group. For the normal group, the results were even less positive as the mean Mutuality of Autonomy score

Table 7

Discriminant Functions Analysis
Using the Urist Rorschach Mutuality of Autonomy (MOA) Scale

Classification Function Coefficients
(Fisher's Linear Discriminant Functions)

Variable	Normals	Borderlines	Schizophrenics
Mean MOA Score	5.025801	5.075107	4.615337
(Constant)	-9.097498	-9.255214	-7.844291

Pooled Within Group Correlations Between
Mean MOA Score and Canonical Discriminant Functions
(Ordered by size of correlation within function)

Variable	Function 1
Mean MOA Score	1.000

Classification Results

Actual Group	N	Predicted Group Membership		
		Normal	Borderline	Schizophrenic
Normal	30	2 6.7	15 50.0%	13 43.3%
Borderline	30	2 6.7%	14 46.7%	14 46.7%
Schizophrenic	30	0 0.0%	10 33.3%	20 66.7%

Percent of grouped cases correctly classified: 40.00%

misclassified normal subjects as either borderline or schizophrenic over 90 percent of the time.

Summary of results using the thematic measure. To summarize then, contrary to expectation there were no differences between normal, borderline and schizophrenic groups on the thematic object relations measure; nor was this measure able to classify subjects by diagnosis with any level of accuracy using a discriminant functions analysis. Further, the hypothesis that the object relations scoring systems would be better able to make diagnostic differentiations than traditional Rorschach scoring indices was not confirmed with the thematic measure.

The Structural Object Relations Measure

The ability of the structural object relations measure (Blatt et al., 1976a) to differentiate between diagnostic groups was assessed using analyses of covariance and discriminant functions analyses. The control variable in the analysis of covariance was the total number of responses on the Rorschach minus the number of responses scored for that particular subscale, or the residual number of responses.[3] Separate analyses of covariance were computed for each individual subscale of the Blatt measure and for all of the

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[3]   This procedure is recommended by Blatt et al. (1976b), citing Kalter and Marsden (1970). They argue that the use of the residual number of responses as the covariate controls for response productivity independent of the specific subset score and thereby allows a test of significance for the residual variance of the subset.

subscales combined, for accurately perceived and inaccurately perceived responses independently. Direct entry discriminant functions analyses were computed using the combination of all the subscales for accurately and inaccurately perceived responses together to test the ability of the Blatt scale as a whole to differentiate between diagnostic groups. The composite variables of the mean developmental level for accurately perceived (MDL+) and inaccurately perceived responses (MDL-) and the developmental level of object relations for accurately and inaccurately perceived responses (OR+ & OR-) were not used in the discriminant functions analyses as these variables failed to pass the criterion test (minimize Wilks lambda) for entry.

Both the analyses of covariance and the discriminant functions analyses were repeated twice, once using the mean scores for each subscale and once using the residualized weighted sums for each subscale, to determine if better results were obtained using one method or the other. Results for these two different approaches to the analysis of covariance and the discriminant functions analyses are presented consecutively.

Mean Scores. Results of the analyses of covariance using the mean scores for each of the Blatt subscales, for accurately and inaccurately perceived responses separately, are presented in Table 8. There were significant differences between diagnostic groups for only three of the six Blatt

Table 8

Analyses of Covariance Using Blatt's Developmental Analysis
of the Concept of the Object on the Rorschach Scale
(Summarized as Mean Scores)

For accurately perceived responses:

| Variable | | Group Means and Standard Deviations | | | $F(2,86)$ |
		Normal	Borderline	Schizophrenic	
Differentiation					
	M	3.21	3.21	3.62	3.48*
	SD	0.78	0.56	0.41	
Articulation					
	M	2.30	2.70	2.04	1.60
	SD	1.32	1.51	1.23	
Motivation					
	M	0.73	0.64	0.80	0.83
	SD	0.40	0.42	0.51	
Integration					
	M	1.89	1.58	2.04	1.72
	SD	0.88	0.98	0.99	
Content					
	M	0.91	0.72	1.19	4.65**
	SD	0.56	0.54	0.65	
Nature					
	M	1.38	1.19	1.80	3.12*
	SD	0.80	0.88	1.08	
MDL+					
	M	-0.31	-0.98	1.29	2.12
	SD	4.16	4.29	4.26	

Table 8--continued

Analyses of Covariance Using Blatt's Developmental Analysis
of the Concept of the Object on the Rorschach Scale
(Summarized as Mean Scores)

For inaccurately perceived responses:

| Variable | Group Means and Standard Deviations | | | $F(2,86)$ |
	Normal	Borderline	Schizophrenic	
Differentiation				
M	2.66	2.35	2.79	0.84
SD	1.02	1.37	1.49	
Articulation				
M	1.72	1.84	1.29	1.37
SD	1.10	1.58	1.13	
Motivation				
M	0.47	0.40	0.41	0.21
SD	0.36	0.43	0.51	
Integration				
M	1.21	1.01	0.94	0.51
SD	0.98	1.12	1.14	
Content				
M	0.61	0.42	0.46	0.84
SD	0.66	0.49	0.65	
Nature				
M	0.95	0.64	0.73	0.92
SD	1.04	0.75	0.98	
MDL-				
M	0.76	-0.40	-0.36	0.56
SD	4.68	4.81	4.89	

Note: $*p<.05$
$**p<.01$

subscales, all for accurately perceived (FQ+) responses. No significant differences were observed between groups on any of the Blatt subscales for inaccurately perceived (FQ-) responses, nor were there any significant differences between groups for the composite score, the mean developmental level, for either accurately and inaccurately perceived responses (MDL+ and MDL-, respectively).

Of those significant differences observed on individual subscales for accurately perceived responses, schizophrenics had higher mean scores for the degree of differentiation of the response and the nature of the interaction between figures than either the normal or borderline groups. This finding is in the reverse direction of that predicted by object relations theory. Schizophrenics, assumed to represent subjects with a lower level of object relations, produced significantly more well differentiated responses than either of the other two diagnostic groups. These subjects also portrayed interactions between objects in their responses as more reciprocal (active-active) in nature while subjects in the normal and borderline groups were more likely to view interactions as either active-passive or active-reactive in nature. The other significant finding occurred in the perceived content of the interaction between objects (malevolent or benevolent). Borderlines had significantly lower mean scores for content, reflecting perception of more malevolent interactions between figures, than subjects in either the normal or schizophrenic groups.

There were no significant differences between diagnostic groups in the degree of articulation of the response, the perceived motivation for action, or the integration of object and action for accurately perceived responses.

In addition to the univariate analyses of covariance computed for each individual subscale, scores for the six subscales within each of the accurately perceived and inaccurately perceived response categories were also combined in multivariate analyses to determine whether there was any interaction effect between the subscales. In this analysis it was found that there were no significant differences between diagnostic groups for inaccurately perceived responses, $F(2,86)= 1.11$, $p>.05$. There was, however, a significant interaction effect for accurately perceived responses, $F(2,86)= 1.82$, $p<.05$. It is likely that this is the result of those variables which emerged significant in the univariate analysis, namely differentiation, nature, and content.

The discriminant functions analysis allows a second means of examining the ability of the combined Blatt subscales to differentiate between diagnostic groups. Results of the discriminant functions analysis using mean scores are presented in Table 9. Two discriminant functions were calculated from the 12 Blatt variables (six subscales each for accurately and inaccurately perceived responses). As can be seen from the correlation matrix, the first function is

Table 9

Discriminant Functions Analysis Using Blatt's Developmental
Analysis of the Concept of the Object On the Rorschach Scale
(Summarized using Mean Scores)

Classification Function Coefficients
(Fisher's Linear Discriminant Functions)

Variable	Normals	Borderlines	Schizophrenics
Differentiation			
FQ+	10.86786	11.02421	12.05416
FQ-	2.285722	2.072448	2.986018
Articulation			
FQ+	0.5451947	-0.2519973	-0.8516797
FQ-	0.4551547	0.6322130	0.3221705E-01
Motivation			
FQ+	- 2.400331	- 2.504207	- 2.420032
FQ-	-0.9420239	-0.4114274	0.4046860
Integration			
FQ+	1.647546	1.384768	0.9510118
FQ-	0.1278698	0.3852494	-0.7467739
Content			
FQ+	- 2.616448	- 5.391040	- 1.469689
FQ-	- 1.062716	-0.4479973	- 1.917348
Nature			
FQ+	0.3512935	1.779575	0.6984031
FQ-	0.9715781	-0.9533979	1.414902
(Constant)	- 21.02294	- 21.08917	- 25.60541

Pooled Within Group Correlations Between
Rorschach Variables and Canonical Discriminant Functions
(Ordered by size of correlation within function)

Variable	Function 1	Function 2
Content (FQ+)	0.58901*	-0.13643
Nature (FQ+)	0.48590*	0.00698
Integration (FQ+)	0.36936*	-0.31041
Articulation (FQ-)	0.31947*	-0.07087
Articulation (FQ-)	-0.30279*	0.20524
Motivation (FQ+)	-0.29358*	-0.19706
Nature (FQ-)	0.07804	-0.55987*
Content (FQ-)	0.06668	-0.54715*
Differentiation (FQ+)	0.42821	0.43592*
Integration (FQ-)	-0.00867	0.39884*
Motivation (FQ-)	0.05403	0.29196*
Differentiation (FQ-)	0.09792	0.11474*

Table 9--continued

Classification Results

| Actual Group | N | Predicted Group Membership | | |
		Normal	Borderline	Schizophrenic
Normal	30	10 33.3%	11 36.7%	9 30.0%
Borderline	30	6 20.0%	21 70.0%	3 10.0%
Schizophrenic	30	3 10.0%	4 13.3%	23 76.7%

Percent of grouped cases correctly classified: 60.00%

weighted most heavily for the following variables (in order of significance): the content and nature of the interaction for accurately perceived responses, the integration of action and object for accurately perceived responses, the degree of articulation for accurately and inaccurately perceived responses, and the motivation of the action for accurately perceived responses. This function accounted for 86% of the between groups variance and was able to discriminate between all three diagnostic groups to a significant degree, $X^2(34)=38.709$, $p<.05$. The second function was loaded most heavily for the remaining variables: the nature and content of the interaction between objects for inaccurately perceived responses, the level of differentiation for accurately perceived responses, the level of integration of object and action and the motivation for the action for inaccurately perceived responses, and the degree of differentiation for accurately perceived responses. It accounted for the remaining 14% of the between groups variance and was best able to distinguish the normals from the other two groups. Overall, however, it did not significantly add to the discriminating ability of the first function, $X^2(11)= 6.19$, $p>.05$.

The two functions together were able to successfully classify 60% of the subjects in all groups. This result is statistically significant, $z=5.38$, $p<.01$. The classification of borderline and schizophrenic subjects was most highly

effective with 70% and 76.7% of the subjects in these groups classified accurately. This function was quite unsuccessful, however, at classifying the normal subjects, obtaining accurate results only one third of the time. This result is no better than chance expectation, and the function was as likely to classify normal subjects as borderline or schizophrenic as it was to identify them correctly.

Residualized weighted sums. Analyses of covariance using the residualized weighted sums as the summary score for each of the Blatt subscales also revealed few significant differences between normal, borderline, and schizophrenic groups, as can be seen in Table 10. The three groups differed on only one variable, the content of the interaction between figures for inaccurately perceived responses. This finding was not observed for accurately perceived responses. Normal subjects were found to have significantly higher scores, reflecting higher levels of object relations, than subjects in either the borderline or schizophrenic groups. This finding, however, runs counter to the results reported in the literature. Blatt et al. (1976b) and a number of other authors (Lerner & St. Peter, 1984a; Lerner & St. Peter, 1984b; Ritzler et al., 1980) have found that while normal subjects do show higher levels of object relations than clinical groups on accurately perceived responses, the reverse is true for inaccurately perceived responses where normal subjects exhibit lower levels of object relations than clinical groups. There

Table 10

Analyses of Covariance Using Blatt's Developmental Analysis
of the Concept of the Object on the Rorschach Scale
(Summarized as Residualized Weighted Sums)

For accurately perceived responses:

Variable		Normal	Borderline	Schizophrenic	$F(2,86)$
		Group Means and Standard Deviations			
Differentiation					
	M	-0.76	-0.51	0.25	0.24
	SD	6.73	8.36	7.81	
Articulation					
	M	-0.09	1.69	-1.60	1.62
	SD	6.60	7.86	5.85	
Motivation					
	M	0.01	-0.02	0.01	0.00
	SD	2.29	2.24	2.03	
Integration					
	M	-0.07	-0.13	0.21	0.04
	SD	4.66	5.34	5.07	
Content					
	M	-0.20	-0.33	0.53	0.72
	SD	2.62	2.94	3.14	
Nature					
	M	-0.55	-0.11	0.66	0.62
	SD	3.06	4.96	4.41	
OR+					
	M	-0.32	0.14	0.18	0.09
	SD	4.72	5.76	5.42	

Table 10--continued

Analyses of Covariance Using Blatt's Developmental Analysis
of the Concept of the Object on the Rorschach Scale
(Summarized as Residualized Weighted Sums)

For inaccurately perceived responses:

| Variable | | Group Means and Standard Deviations | | | $F(2,86)$ |
		Normal	Borderline	Schizophrenic	
Differentiation					
	M	-0.76	-0.51	0.25	0.24
	SD	9.66	7.90	5.37	
Articulation					
	M	0.95	0.74	-1.69	1.28
	SD	8.07	8.26	4.26	
Motivation					
	M	0.32	-0.06	0.26	0.72
	SD	1.84	2.09	1.89	
Integration					
	M	0.96	0.05	-1.01	1.56
	SD	4.23	5.34	3.37	
Content					
	M	0.81	-0.23	-0.58	3.10*
	SD	2.99	1.96	1.66	
Nature					
	M	1.17	-0.43	-0.74	2.98
	SD	4.26	2.77	2.49	
OR-					
	M	1.41	-0.23	-1.18	2.10
	SD	6.40	4.88	3.56	

Note: Values shown in the table are residuals and therefore
do not correspond to actual scale values.
An asterick (*) denotes those figures significant
at the level $p<.05$. All other figures are not
significant.

were no significant differences between diagnostic groups in the differentiation of the response, the degree of articulation, the motivation of action, the integration of object and action, or the nature of the interaction between objects for accurately perceived or inaccurately perceived responses. Further, there were no significant differences observed when all of the subscales, for accurately and inaccurately perceived responses independently, were combined in multivariate analyses, $F(2,86)=1.22$ and 1.23 for accurately and inaccurately perceived responses, respectively, $p>.05$ in both cases. Results of the discriminant functions analysis using the residualized weighted sums, shown in Table 11, were consistent with the results of the multivariate analyses of variance and demonstrated that these scores in combination did not significantly discriminate between the three diagnostic groups.

Two functions were generated in the discriminant functions analysis. Looking at the matrix of correlations between the Blatt subscale and the two discriminant functions it can be seen that the first function was weighted most heavily for the six subscales for accurately perceived responses (differentiation, articulation, motivation, integration, content, and nature) while the same six subscales for inaccurately perceived responses were loaded into the second function. The first function accounted for 68% of the between groups variance, while the second function accounted

Table 11

Discriminant Functions Analysis Using Blatt's Developmental
Analysis of the Concept of the Object On the Rorschach Scale
(Summarized using Residualized Weighted Sums)

Classification Function Coefficients
(Fisher's Linear Discriminant Functions)

Variable	Normals	Borderlines	Schizophrenics
Differentiation			
FQ+	-0.6848639E-01	-0.1761521E-01	0.2446385E-01
FQ-	0.1069940E-01	-0.9713709E-01	0.8643739E-01
Articulation			
FQ+	0.1170439E-01	0.5254770E-01	0.6425209E-01
FQ-	-0.7091315E-02	0.6238321E-01	0.5529189E-01
Motivation			
FQ+	-0.3581220E-01	0.3360811E-01	0.6932031E-01
FQ-	0.1468039	-0.1275880	0.2743919
Integration			
FQ+	0.1356503	0.5325319E-01	-0.1889035
FQ-	-0.1324680E-01	0.1903174	-0.1770706
Content			
FQ+	0.4858807E-01	-0.4812760	0.4326880
FQ-	0.1582318	0.5022426	-0.6604744
Nature			
FQ+	-0.1937470	0.2073656	-0.1361860E-01
FQ-	0.7286115E-01	-0.4548492	-0.3819880
(Constant)	-1.227365	-1.302205	-1.344600

Pooled Within Group Correlations Between
Rorschach Variables and Canonical Discriminant Functions
(Ordered by size of correlation within function)

Variable	Function 1	Function 2
Content (FQ+)	0.34319*	-0.02227
Nature (FQ+)	0.27065*	-0.16536
Articulation (FQ+)	-0.23616*	-0.05215
Integration (FQ+)	0.16225*	0.04363
Differentiation (FQ+)	0.13886*	-0.12600
Motivation (FQ+)	0.11177*	0.06508
Nature (FQ-)	-0.05800	0.74279*
Content (FQ-)	-0.09686	0.73340*
Differentiation (FQ-)	0.09210	0.48116*
Integration (FQ-)	-0.08874	0.46679*
Motivation (FQ-)	0.02018	0.38244*
Articulation (FQ-)	-0.14742	0.27844*

(continued next page)

Table 11--continued

Classification Results

| Actual Group | N | Predicted Group Membership | | |
		Normal	Borderline	Schizophrenic
Normal	30	15 50.0%	10 33.3%	5 16.7%
Borderline	30	6 20.0%	19 63.3%	5 16.7%
Schizophrenic	30	4 13.3%	6 20.0%	20 66.7%

Percent of grouped cases correctly classified: 60.00%

for the remaining 32% of the variance between groups. Neither function, however, discriminated significantly between diagnostic groups (Function 1: $\underline{X}^2(24)=29.366$, $\underline{p}>.05$; Function 2: $\underline{X}^2(11)=9.8538$, $\underline{p}>.05$).

Classification results using the combination of these two functions yielded an overall percentage of correct classification of 60%. This result is significantly greater than chance, $\underline{z}=5.38$, $\underline{p}<.01$, but once again would appear to have limited practical utility given the lack of discriminating power of the two functions. The functions were most successful in classifying borderline and schizophrenic subjects, achieving over 60% accuracy in both of these groups. They were less effective, however, in the classification of normal subjects, mistakenly identifying half of the normals as either borderline or schizophrenic.

Summary of results using the structural measure. The multiple subscales of the Blatt object relations measure, whether examined as mean scores or as residualized weighted sums, were successful in differentiating between normal, borderline, and schizophrenic groups only to a very limited degree. Results of the analyses of variance suggest that the mean scores may be somewhat more effective than the residualized weighted sums in making the differentiation between diagnostic groups, although results for individual subscales were not always in the expected direction. Results of the discriminant functions analysis, however, reveal that

both types of summary scores are approximately equivalent in their ability to correctly classify subjects by diagnostic group. Whether using mean scores or residualized weighted sums, the Blatt scale was able to accurately classify subjects as normal, borderline, or schizophrenic approximately 60% of the time. While this classification rate is significantly better than that expected by chance, it would appear to be of limited practical utility given the significant number of misclassifications within each of the diagnostic groups, especially with the normal subjects.

Further affecting the interpretability or practical utility of the classifications, these classification rates are the result of a function based on the univariate results with each individual subscale. Given that these subscales individually were either not significant in differentiating between groups or revealed differences between groups that were not in the expected direction, the utility of any function generated from these scales is quite questionable. Such a function may be able to classify subjects correctly to some extent, but the basis of this classification is faulty and renders the result rather uninterpretable.

In general, the results of both the analyses of variance and the discriminant functions analyses provide very limited support for the hypothesis that the structural object relations measure is able to successfully differentiate between diagnostic groups and demonstrate that this measure

is more effective than traditional Rorschach scoring indices or the thematic measure in differentiating between normal, borderline, and schizophrenic groups. The practical utility of this result, however, remains questionable.

Integration of Structural and Thematic

Object Relations Measures

After examining individually the effectiveness of the structural and thematic approaches to the assessment of object relations in differentiating between diagnostic groups, the two systems were combined in a further discriminant functions analysis to determine how well the two systems together could make the same diagnostic differentiation. This analysis allowed for a direct test of whether the two systems in combination were better able to differentiate between normal, borderline, and schizophrenic groups, each assumed to represent different level in the development of object relations, than either system individually. Given the lack of significant results obtained with both the structural and thematic measures individually, this combined analysis was not expected to yield much in the way of significant results. It was completed as the comparison and integration of the two approaches to the assessment of object relations was a primary focus of this study and it was felt that every attempt should be made to test out the original hypotheses. Once again the discriminant functions analysis was completed twice, once using the mean scores for the Blatt subscales and again using

the residualized weithed sums. Results of these two analyses
will be presented in turn.

Mean scores. Results of the discriminant functions
analysis combining the mean mutuality of autonomy score from
the Urist scale and the mean scores for each of the six Blatt
subscales for both accurately and inaccurately perceived
responses is presented in Table 12. This analysis yielded two
functions. The first function was loaded most heavily for the
following variables (in descending order of importance within
the function): the content and nature of the interaction for
accurately perceived responses, the degree of differentiation
of accurately perceived responses, the integration of object
and action for accurately perceived responses, the degree of
articulation for inaccurately perceived responses and
accurately perceived responses, the motivation of the action
for accurately perceived responses, and the mean mutuality of
autonomy score. This function accounted for 86% of the
between groups variance and was found to significantly
discriminate between the three diagnostic groups,
$X^2(26)=39.579$, $p<.05$. The second function contained
loadings for the remaining five variables: the nature and
content of the interaction, the integration of object and
action, the motivation for the action, and the degree of
differentiation of the response, all for inaccurately
perceived responses. This function accounted for the
remaining 14% of the variance between groups but did not

Table 12

Discriminant Functions Analysis Using Structural
and Thematic Object Relations Measures in Combination
(Summarized using Mean Scores for the structural measure)

Classification Function Coefficients
(Fisher's Linear Discriminant Functions)

Variable	Normals	Borderlines	Schizophrenics
Differentiation			
FQ+	12.17027	12.32193	13.28693
FQ-	2.556731	2.342479	3.242536
Articulation			
FQ+	-0.8275154	-0.5332998	-1.118905
FQ-	1.755649	1.928017	1.263173
Motivation			
FQ+	-0.753444	-0.8632598	-0.8612049
FQ-	-7.857644	-7.302106	-6.144154
Integration			
FQ+	-0.2050307E-01	-0.2772656	-0.6278464
FQ-	0.5503165	0.8061726	-0.3469154
Content			
FQ+	-0.3820548	- 3.164699	-0.6452305
FQ-	-3.320230	-2.697369	-4.054153
Nature			
FQ+	0.5373086	1.964920	0.8744719
FQ-	4.546882	3.467070	4.799033
Mean MOA	7.841510	7.813228	7.422222
(Constant)	-36.57512	-36.52937	-39.53889

Pooled Within Group Correlations Between
Rorschach Variables and Canonical Discriminant Functions
(Ordered by size of correlation within function)

Variable	Function 1	Function 2
Content (FQ+)	0.57875*	0.15883
Nature (FQ+)	0.47827*	0.01404
Differentiation (FQ+)	0.42447*	-0.40828
Integration (FQ+)	0.36136*	0.31968
Articulation (FQ-)	-0.31491*	0.05565
Articulation (FQ+)	-0.29658*	-0.21389
Motivation (FQ+)	0.28757*	0.20548
Mean MOA	-0.22600*	0.15520
Nature (FQ-)	0.07292	0.55134*
Content (FQ-)	0.06183	0.53840*
Integration (FQ-)	-0.01130	0.39000*
Motivation (FQ-)	0.05115	0.28808*
Differentiation (FQ-)	0.09557	0.11651*

(continued next page)

Table 12--continued

Classification Results

| Actual Group | N | Predicted Group Membership | | |
		Normal	Borderline	Schizophrenic
Normal	30	10 33.3%	11 36.7%	9 30.0%
Borderline	30	4 13.3%	21 70.0%	5 16.7%
Schizophrenic	30	4 13.3%	4 13.3%	22 73.3%

Percent of grouped cases correctly classified: 58.89%

significantly add to the discriminating ability of the first function, $\underline{X}^2(12)=6.4097$, $\underline{p}>.05$.

Together the two discriminant function were able to classify 58.89% of the cases in all groups correctly. This result is significantly greater than chance, $\underline{z}=5.16$, $\underline{p}<.01$. This overall classification rate is significantly better than that obtained using the Urist scale alone (40%) but it does not exceed the rate obtained using the mean scores on the Blatt scale independent of the thematic measure (60%) and suggests that the two measures together are not any better able to discriminate between diagnostic groups than the structural measure alone.

A closer examination of the discriminant functions results within each diagnostic group qualifies this conclusion somewhat however. While the discriminant function resulting from the combination of the thematic and structural measures is not able to identify normal subjects any better than would be expected by chance (33%), it is actually quite effective in classifying both borderline and schizophrenic subjects, achieving a correct classification rate of 70% or better for both of these groups. The poor classification rate within the normal group brings down the overall classification percentage and provides a somewhat misleading result.

Residualized weighted sums. Table 13 displays the results of the discriminant functions analysis combining the mean mutuality of autonomy score on the Urist scale with the

Table 13

Discriminant Functions Analysis Using Structural
and Thematic Object Relations Measures in Combination
(Using Residualized Weighted Sums for the Structural Measure)

Classification Function Coefficients
(Fisher's Linear Discriminant Functions)

Variable	Normals	Borderlines	Schizophrenics
Differentiation			
FQ+	0.1472414E-01	0.4042316E-02	0.4437949E-01
FQ-	0.41-1515E-01	-0.6670254E-01	0.1144241
Articulation			
FQ+	0.5346577E-01	0.9447314E-01	-0.2569867E-01
FQ-	0.1506946	0.2207890	0.9037351E-01
Motivation			
FQ+	-0.1478784	-0.1460146	-0.3413738E-01
FQ-	-1.490683	-1.476746	-0.9662550
Integration			
FQ+	-0.4002453	-0.4847475	-0.6836334
FQ-	0.1564621	0.2606930	-0.2039805E-01
Content			
FQ+	0.3424801	-0.1862295	0.7040042
FQ-	-0.8943142	-0.5544382	-1.632168
Nature			
FQ+	0.3533510	0.7566128	0.4914533
FQ-	1.149257	0.6257750	1.375699
Mean MOA	6.588565	6.614447	6.082455
(Constant)	-11.71717	-11.87459	-10.28472

Pooled Within Group Correlations Between
Rorschach Variables and Canonical Discriminant Functions
(Ordered by size of correlation within function)

Variable	Function 1	Function 2
Content (FQ+)	-0.32710*	0.00277
Mean MOA	0.29986*	0.08846
Nature (FQ+)	-0.26284*	-0.14420
Articulation (FQ+)	0.22286*	-0.06874
Integration (FQ-)	-0.15285*	0.05495
Differentiation (FQ+)	-0.13622*	-0.11475
Motivation (FQ+)	-0.10414*	0.07254
Nature (FQ-)	0.07969	0.73150*
Content (FQ-)	0.11633	0.71938*
Differentiation (FQ+)	-0.07170	0.48322*
Integration (FQ-)	0.09981	0.45591*
Motivation (FQ-)	-0.00656	0.38025*
Articulation (FQ-)	0.14939	0.26512*

Table 13--continued

Classification Results

		Predicted Group Membership		
Actual Group	N	Normal	Borderline	Schizophrenic
Normal	30	15 50.0%	8 26.7%	7 23.3%
Borderline	30	5 16.7%	19 63.3%	6 20.0%
Schizophrenic	30	6 20.0%	5 16.7%	19 63.3%

Percent of grouped cases correctly classified: 58.89%

residualized weighted sums for the Blatt scale. In this analysis seven variables were loaded in the first function: the content of the interaction between objects for accurately perceived responses, the mean mutuality of autonomy score, the nature of the interaction between objects for accurately perceived responses, the degree of articulation of accurately perceived responses, the integration of object and action in accurately perceived responses, the degree of differentiation for accurately perceived responses, and the motivation for the action in accurately perceived responses. This function accounted for 69.53% of the variance between groups but had little power in effectively discriminating between diagnostic groups, $\underline{X}^2(26)=31.085$, $\underline{p}>.05$. All of the other Blatt variables, those of the nature and content of the interaction between figures, the degree of differentiation of the response, the integration of object and action, the motivation of the action, and the degree of articulation of the response, all for inaccurately perceived responses, were weighted for the second function. This function accounted for the remaining 30.47% of the between groups variance but did not add significantly to the discriminant ability of the first function $\underline{X}^2(12)=9.9482$, $\underline{p}>.05$.

Together these two functions were able to correctly classify 58.89% of the cases in all three groups. This result is statistically significant ($\underline{z}=5.16$, $\underline{p}<.01$). Again, as was observed with the mean scores on the Blatt measure, this

classification result does exceed the overall classification rates obtained with the Urist measure (40%) but does not improve upon the classification rate obtained for the Blatt scale alone (60%). The combined discriminant function resulting from the use of the residualized weighted sums is most effective in classifying subjects in the borderline and schizophrenic groups, with a correct classification rate of 63.3% in both of these diagnostic categories. It is somewhat less successful in identifying normal subjects, correctly classifying subjects in this group only 50% of the time. While this function does improve the classification of normal subjects over that obtained using the mean scores for the Blatt scale, classification for the borderline and schizophrenic groups decreases.

Summary of results integrating the structural and thematic object relations measures. While the combination of the thematic and structural measures, using either mean scores or residualized weighted sums, does result in an overall classification rate that is statistically significant (59%), this classification rate is roughly equal to that obtained using the Blatt scale alone. This result is not surprising given the failure of the Urist scale alone to significantly discriminate between diagnostic groups. It does, however, run contrary to the original hypothesis which predicted that the structural and thematic measures in combination would improve

diagnostic accuracy over that obtained with either measure individually.

In addition to the failure of the combined discriminant functions analysis to improve diagnostic classification over that obtained with the Blatt scale individually, the classification results obtained by the integration of the two object relations measures is questionable on other grounds. Neither the structural or thematic measures individually was found to significantly discriminate between diagnostic groups, or to make discriminations that are in a direction consistent with object relations theory. Therefore the classification of individual cases based on insignificant or faulty results is not likely to be useful in any meaningful way. Add to this the fact that the overall classification rates are subject to significant shrinkage in any replication with an independent sample and the practical utility of this result becomes quite limited if not nonexistant.

DISCUSSION

This study examined three different systems for assessing
object relations on the Rorschach: traditional Rorschach
scoring indices, a thematic/content-oriented scale, and a
formal/structural measure. These three assessment methods
were examined individually for their effectiveness in
differentiating between diagnostic groups, assumed to
represent different levels in the development of object
relations, and were compared and contrasted with one another
to determine how the measures relate to and interact with one
another.

Relationship Between Rorschach Measures

The results indicate that there is a significant
relationship between traditional Rorschach scores,
particularly the frequency of human and human movement
responses, and a number of the subscales on the structural
object relations measures. These relationships are especially
evident when these subscale scores are calculated as
residualized weighted sums. This is understandable given that
the residualized weighted sums are based on the number of
human and human movement responses, while the mean scores for
the Blatt instrument are not dependent on the frequency of
responses.

Correlations between the subscales of the structural measure and traditional Rorschach scores fell in the moderate range (.34-.63) and suggest that these is a good degree of overlap between these two assessment methods. This may in part be a statistical artifact since the same data are scored for both measures. The traditional Rorschach indices examined here and the Blatt subscales both utilize a formal/structural approach to scoring of the Rorschach and further, focus specifically on the properties of the human and human movement response. In fact, the Blatt measure is specifically designed for a more detailed, in-depth analysis of the human figure response on the Rorschach, and a number of its subscales, most notably those scored for integration (motivation, integration, nature and content), elaborate upon the quality or nature of any action or interaction (movement) perceived in the response. It is therefore reasonable to expect that these scores would be significantly correlated with traditional Rorschach scores for the number of human and human movement responses.

The correlations between the Blatt subscales and traditional Rorschach scores were far from perfect, however, and, consistent with the first hypothesis posed here, also suggest that the Blatt instrument assesses something in addition to that measured by traditional Rorschach scoring indices. The Blatt instrument moves beyond a simple count of the frequency of human and human movement responses and

provides a means of examining each of these types of responses in greater detail to extract additional interpretive information regarding the individual's capacity for object relatedness.

In contrast to the significant relationships found between the structural measure and traditional Rorschach scores, the thematic measure was not found to be significantly related to any of the traditional Rorschach scoring indices. This finding disconfirms the original expectation that there would be some correlation between the Urist scale and traditional Rorschach scores. It suggests that the Mutuality of Autonomy Scale assesses an entirely different dimension of object relations than that measured by traditional Rorschach scores, or that it measures an entirely different construct altogether.

The difference in focus between the two assessment methods may be partially responsible for this lack of relationship as the Urist scale examines the content or themes of the response as opposed to measuring the structural properties of the response captured in traditional Rorschach scores. Further, the Urist scale utilizes not only human figure responses but also responses involving animal and inanimate content and focuses on the degree of mutuality of autonomy between objects conveyed in the response. As such it is not dependent upon traditional Rorschach scoring for

human responses, human movement responses, or response accuracy in any way.

The expected relationship between the two object relations measures also failed to appear. It was predicted that the structural and thematic measures would be moderately correlated, reflecting the idea that these different assessment instruments, with their differing emphases, are both measuring related, though different, dimensions of the same general object relations construct. This hypothesis was not borne out by the data. None of the subscales or the composite scores on the structural measure were significantly correlated with the thematic measure. This same result was observed regardless of whether mean scores or residualized weighted sums were used as the criterion for the structural measure. The low correlations suggest that the different emphases inherent in the structural and thematic scales may yield measures of entirely different constructs rather than assessing two separate but related dimensions of the same construct.

The structural measure, as noted earlier, was moderately correlated with traditional Rorschach scores, especially those of the frequency of human and human movement responses, and may be measuring the same construct as these traditional scores. These scores are most often conceived of as measures of the capacity for investment in interpersonal or social relationships (Hertzman & Pearce, 1947; Klopfer, Ainsworth,

Klopfer, & Holt, 1954; Mayman, 1967, 1977; Phillips & Smith, 1954; Piotrowski, 1957; Pruitt & Spilka, 1964; Rapaport et al., 1945; and Rorschach, 1942) and it seems likely, given the results obtained here, that the structural measure provides a further, perhaps more detailed, assessment of these same capacities. The thematic instrument, in contrast, appears to assess a construct entirely different from that measured by either traditional Rorschach scores or the structural object relations scale.

Urist (1973, 1977) describes his scale as a measure of mutuality of autonomy, and defines this as the individual's capacity to experience self and others as "mutually autonomous" within relationships, that is "as having an autonomous existence and stable definition and identity in their own right" (Urist, 1980, p. 830). The Urist scale is based primarily on Mahler's (1968, 1975) work on the developmental progression of separation-individuation. It may be that the scale does indeed effectively measure differences between diagnostic groups on level of separation-individuation or mutuality of autonomy, but it appears from the results obtained here that this construct is different from the capacity of the individual to invest in interpersonal relationships as assessed by traditional Rorschach scores and the Blatt scale. This finding is quite unexpected and would seem to run counter to object relations theory.

One way of reconciling this apparently illogical finding is to perhaps conceive of object relations as a more broadly defined or multidimensional construct incorporating a number of different capacities, two or more of which are assessed by the scales employed here. This approach is actually suggested by the work of Blatt et al. (1976a, 1976b) in their attempt at creating an instrument with a number of different subscales, each representing a significant dimension of object relations on the Rorschach. It is further advanced by Lerner & Lerner (1980) in their work on the assessment of primitive defenses on the Rorschach. The Psychoanalytic Rorschach Profile, currently being developed by Burke et al. (1989) is another example of this approach, looking at object relations as a broad construct with a number of different dimensions requiring different means of assessment.

Even if object relations is conceived of as a multidimensional construct, however, with the Blatt and Urist scales each assessing a different dimension of that construct, the total absence of a relationship between the two scales is still surprising. One would expect, on the basis of theory, that the two dimensions would be at least partially correlated and this was not found to be the case in this study. Given this, one must question what is being measured by the two scales and what, if any, their relationship is with one another. Further research addressing the similarities and differences between the structural and thematic approaches to

object relations assessment may help to clarify this issue. An additional approach may be to examine how the Urist scale correlates with other measures specifically designed to assess the degree of separation-individuation and how these scales relate to both the structural measure and traditional Rorschach scores.

Validity of the Rorschach Object Relations Measures

Whatever the construct being measured by the Rorschach scales, the validity of these scales is called into question when one considers the actual ability of these measures to differentiate between diagnostic groups. It had been predicted that the structural and thematic object relations measures would be better able to differentiate between diagnostic groups, assumed to represent different levels in the development of object relations, than traditional Rorschach scores. This hypothesis was not confirmed, however. Results of the analyses of variance for each of the Rorschach measures revealed that there were no differences between normal, borderline, and schizophrenic groups on any of the 10 traditional Rorschach scores used here, nor was the thematic measure able to differentiate significantly between diagnostic groups. The various subscales of the structural measure were somewhat better able to discriminate between diagnostic groups although even here the success was limited and results were not always in the expected direction. Indeed, contrary to expectation and inconsistent with results previously reported

in the literature with the same instrument, schizophrenic subjects appeared to function at higher levels of object relations on some subscales than normals and borderlines, and on other subscales normal subjects displayed lower levels of object relations than either of the clinical samples. Only the finding that borderline subjects were likely to produce responses with more malevolent content was consistent with the previously existing literature.

The lack of significant results obtained through the analyses of variance for the three Rorschach measures were further confirmed by the discriminant functions analyses performed with each of these instruments. The discriminant functions resulting from the use of traditional Rorschach scores, the thematic object relations measure, and the residualized weighted sums for the structural measure were all unable to significantly discriminate between diagnostic groups. The discriminant function using mean scores for the structural measure did significantly discriminate between groups. Given the unexpected direction of the results using these scores, however, the practical utility of this function and its resultant classification is questionable.

In summary then, the results of the individual analyses of variance and discriminant functions analyses for the three Rorschach measures indicate that none of the three measures is significantly able to differentiate between diagnostic groups, assumed to represent different levels in the

development of object relations, as expected. Contrary to the results predicted in hypothesis two, the structural and thematic object relations measures failed to differentiate between normal, borderline and schizophrenic groups to any significantly greater degree than traditional Rorschach scores. Further the object relations measures also failed individually to make significant, meaningful distinctions between diagnostic groups, disconfirming hypothesis four which predicted that the structural and thematic measures would both, independently, be able to significantly differentiate between diagnostic groups with similar levels of accuracy. From the results obtained here, it would appear that neither measure is successfully able to distinguish between normal, borderline, and schizophrenic groups.

Integration of Structural and Thematic Approaches
to the Assessment of Object Relations

The lack of significant or meaningful results obtained for each of the structural and thematic object relations measures individually makes the integration of these scales somewhat meaningless. It had been predicted in hypothesis five that the combined use of the structural and thematic measures would improve diagnostic accuracy over that obtained with either instrument individually. Discriminant functions analyses combining these two scales were performed but the lack of significant results for the thematic measure alone, and the fact the few significant results obtained with the

structural measures individually were not in the expected direction renders the results of this combined analysis rather difficult, if not impossible, to interpret in any meaningful or practical way. While the two measures may be statistically combined, as was done here, and may even appear to be able to successfully discriminate between diagnostic groups, the basis on which these distinctions are being made is questionable. In fact the results, such as those suggesting that schizophrenics have higher levels of object relations on some of the structural subscales than borderlines or normals, may at times be contrary to that which would be predicted or expected by object relations theory. The results therefore have little practical utility either in providing a true estimate of the ability of these scales, in combination, to make diagnostic distinctions, or in serving as an adequate comparison and/or integration of the two approaches to the assessment of object relations.

Limitations of the Present Research

There are a number of possible explanations for the lack of significant results obtained here. First, it is conceivable that these measures are not valid in assessing the level of object relations in normal, borderline, and schizophrenic subjects. It may be that while significant differences in level of object relations do exist between these groups, consistent with object relations theory, the instruments used here were not adequately able to detect these

differences and/or do not truly assess the construct, level of object relations, they purport to measure. While both the Blatt and Urist scales have been widely used in a number of different studies and have generally been found to be reliable and valid measures of the level of object relations in clinical and nonclinical groups (Blatt et al., 1976b; Lerner & St. Peter, 1984a; Lerner & St. Peter, 1984b; Picker, 1984; Ritzler, 1980; Spear & Sugarman, 1984; Urist, 1973, 1977), a number of other authors have also failed to obtain significant results using these measures and have raised questions about the validity of the scales (Gibbons, 1985; Keleher, 1983; McKee, 1985; Pitts, 1979). The present study lends further support to this body of literature and suggests that the validity of these object relations scales is far from clearly established.

There may also be a problem in using differentiation of diagnostic groups as the criterion for success in establishing the validity of the object relations measures. Normal, borderline, and schizophrenic subjects may not differ in level of object relations as hypothesized; or, using only object relations to differentiate between these groups may be too narrow of a focus to be meaningful in making general diagnostic distinctions. In order to more accurately differentiate between diagnostic groups one may need to consider not only the level of object relations, but also the degree of thought disorder, capacities for affect regulation,

defenses, or other variables. It seems likely that level of object relations does not operate in isolation in different diagnostic groups, but interacts with these other variables in complex ways. Perhaps alternate criteria more directly reflective of level of object relations alone, such as clinical ratings or observations of interpersonal behavior, should be examined to more accurately determine whether the object relations measures are validly assessing level of object relations.

In addition to the questions raised about the validity of the instruments themselves, methodological problems within the present study may also have contributed to the failure to find significant results using either the structural or thematic object relations measures. Interrater reliabilities using both the structural and thematic measures were generally good and comparable to those reported by other investigators, with the exception of the articulation subscale on the Blatt et al. measure. While this low reliability may raise some questions about the scoring of that particular subscale, in general it appears that both measures were used reliably and problems in scoring are not likely to be responsible for the failure to obtain significant results.

There were, however, some apparent difficulties in sampling evident in this study which may have been partially responsible for this result. The consistent failure of all three Rorschach measures to find significant differences

between the normal, borderline, and schizophrenic groups lends creedence to this conclusion. It seems quite surprising that none of the measures is able to detect significant differences between groups when these same measures, especially the traditional Rorschach scores, have been shown to be able to make such distinctions in other studies. This leads one to question whether the samples used here are adequately representative of the general population of normal, borderline, and schizophrenic subjects or whether there is some difficulty in group composition.

The normal subjects used in this study were consistently found to be no different in terms of traditional Rorschach scores, the thematic object relations scale, or the structural object relations measure from either borderlines or schizophrenics. This group was drawn from a population of college students and while some attempt was made to screen for psychopathology using the MMPI, it is possible that this group was not as free from pathology, especially on the Rorschach, as would be needed to represent a truly "normal" sample. Some recent work by other researchers using the same sample (Holmbeck, 1989; Pedrotty, 1989, in progress) suggests that this sample may have higher than expected degrees of psychopathology reflected in the Rorschach (poor form quality and increased frequency of special scores) than comparative samples of normal subjects (Exner, 1974).

Indeed, comparing some of the traditional Rorschach scores from this sample with those reported by Exner (1974) for a normal sample, one finds a number of significant differences. The normal sample used here had lower percentages of good form quality responses (F+% and X+%) and higher percentages of poor form quality responses (X-%) than most normal subjects. They also displayed an increased frequency of poor form quality human movement responses (M-) and more special scores, contributing to a significantly greater number of subjects with higher than average schizophrenic indexes. This finding is further supported by the lack of significant differences between the normal subjects and the two clinical samples on such traditional Rorschach scoring indices as good and poor form qaulity percentages, and the percentage of good form quality in pure form responses, as well as the measures of object relations. It would seem that this normal sample is not representative of a true normal population at all.

These unexpected findings in the normal sample may be partially attributed to the demand characteristics of the testing situation for these subjects. This group was tested by relatively inexperienced examiners. Further, it was composed of self-selected volunteers. These subjects knew in advance that they would not be able to obtain their results and that they would not be used clinically in any way. It may be that as a result they had less investment in complying with

the test procedure or performing at their best. They may have been more prone to take the testing lightly, to see it as a game, or a test of creativity or imagination. Even under these unusual administrative circumstances, however, one would not expect the degree of change in performance or scoring that was observed here.

The significant age difference between the normal sample and the borderline and schizophrenic samples may also have affected the comparability of these groups, particularly on measures of object relations or separation-individuation, which theoretically could be expected to change with age or development. While age was not found to be significantly correlated with any of the object relations measures, it makes sense intuitively that younger, college-age subjects, who are more likely to be in the midst of negotiating the transition from adolescence to adulthood and greater maturity and independence, would score lower on measures of object relations or separation-individuation than an older sample. It may be that by virtue of their current place in the developmental process, the normal sample used here appears to be less developmentally advanced in level of object relations than expected and may thus appear more similar to the borderline and schizophrenic samples than an older normal sample.

In addition to the sampling problems within the normal group, there may also be some sampling problems within the

borderline and schizophrenic groups making them more similar than different. Both of these samples were drawn from a population of subjects who have been involved in intensive, psychoanalytically-oriented treatment in the aftercare clinic of a large urban medical center. The borderline patients typically treated in this clinic tend to be in the lower functioning range of the borderline spectrum with severe deficits in object relations, ego functioning, and impulse control. They are most often patients who experience great difficulty in day to day living without a structured environment and who have had a number of hospitalizations and/or other psychiatric treatment experiences. The schizophrenic patients in this same setting tend to be somewhat higher functioning than the average chronic schizophrenic, at times closely approximating the level of functioning of the lower level borderlines just discussed.

Indeed, such differences are apparent in comparing the traditional Rorschach scores for both of these groups with the data reported by Exner (1974) for character disordered and schizophrenic subjects. For the borderline group one observes a greater level of disturbance than seen in Exner's character disordered group, with lower percentages of good form quality responses (F+% and X+%), an increase in poor form quality responses (X-%), and an increase in the frequency of poor form quality human movement responses (M-). Similarly, comparing the schizophrenic group to the schizophrenics discussed by

Exner one sees a somewhat higher functioning sample. Schizophrenics in this sample showed an increased frequency of human responses, despite a lower average number of responses, a lower number of poor form quality human movement responses (M-), and a lower percentage of poor form quality responses (X-%).

As a result of these selection factors in the clinic from which these groups were drawn, the observable/measureable difference between borderline and schizophrenic groups will tend to be minimized and difficult to detect by any but the most sensitive of instruments. This narrowing of differences between groups may have contributed to the inability of the object relations measures to discriminate between the two groups.

Summary and Suggestions for Further Research

Overall then none of the original hypotheses proposed here were supported. Traditional Rorschach scores related to the assessment of object relations were found to be moderately correlated with scores on the structural object relations measure but unrelated to scores on the thematic scale. Further, scores for the structural and thematic scales were not found to be significantly correlated with each other, suggesting that these scales may be measuring entirely different constructs rather than different dimensions of the same construct. Further, none of the Rorschach measures, individually or in combination with one another, was able to

detect significant differences between diagnostic groups, assumed to represent different levels in the development of object relations. This raises questions about the validity of these measures to assess object relations phenomena.

Any conclusions about the validity of these instruments to assess object relations on the basis of this study, however, must be guarded. Problems in sampling made it difficult to adequately compare and integrate the structural and thematic approaches to the assessment of object relations as intended. It is not clear that the normal, borderline, and schizophrenic samples used here were representative of the populations in question.

Further research comparing and integrating the structural and thematic approaches to the assessment of object relations is clearly needed. The validity of the structural and thematic measures remains a question and the relationship between the two approaches remains unclear. Additional research exploring whether these two measures are assessing the same or different constructs, and the relationship of each of these measures to other assessment instruments, measuring both related and unrelated constructs, appears warranted. The comparative ability of each of these instruments independently to make diagnostic distinctions between groups requires further study as does the integration of the two approaches to provide a more comprehensive assessment of object relations. The present study is in need of replication,

correcting for the problems in sampling found here. It is important that samples used to represent different diagnostic groups be representative of the populations they are sampled from and that there be clear distinctions between groups in order to adequately test the ability of the structural and thematic measures, individually and in combination, to validly assess differences in the level of object relations. Only with such methodological corrections can the necessary comparative analysis of these different approaches to the assessment of object relations be completed and interpreted in any meaningful way.

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APPENDIX A

A DEVELOPMENTAL ANALYSIS OF THE CONCEPT OF THE

OBJECT ON THE RORSCHACH

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        1. Active - passive

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        3. Active - active

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        2. Benevolent

The importance of the human response on the Rorschach has been noted often in a variety of contexts, but generally with a minimum of theoretical elaboration. Aspects of these responses may have particular relevance for the study of the development of the concept of the object and its impairment in psychopathology. This scoring system is an atempt to apply developmental principles of differentiation, articulation, and integration (Werner, 1948; Werner & Kaplan, 1963) to the study of human responses given to the Rorschach.

Differentiation is defined as the nature of the response with human content; Articulation is defined as the degreee to which the response was elaborated, and Integration is defined as the way the concept of the object is integrated into a context of action and interaction with other objects. Within each of these areas, categories were established along a continuum based on developmental levels. Within each category, ratings ranged from developmentally lower to developmentally higher levels.

CATEGORIES OF ANALYSIS AND SCORING PROCEDURES

I. SELECTION OF RESPONSES

  A. Human and quasi-human responses.

    All human and quasi human (H and (H)) responses are scored. Human and quasihuman details are scored if they 1) involve human activity, (e.g., talking, pointing, struggling) or 2) involve a substantial portion of the card and are not just a small rare or edge detail and 3)

contain some description of explicit human or humanoid characteristics. Thus, independent of their location, the following responses would be scored:

"the face...of an old man with wisps of hair on the side"

"a man with sunglasses on"

"a girl's head"

"a baby's face"

"baby's hands with mittens on"

"face with a large hooked nose"

"faces of two angels"

B. <u>Animal Responses</u>

In some rare instances, animal responses are classified as quasi-human if the animal is explicitly given qualities that only a human could have. The exceptional quality of this classification must be emphasized. It is <u>not</u> meant to include all responses scored Animal Movement, FM. Though the following responses might be scored FM, they would not be included as a human or quasi-human response:

1. Human-like actions which could be achieved as the results of special training and which might, therefore, be expected in the context of a circus act.

2. Activities which humans perform, but which can also be performed by animals (e.g., rubbing noses). The human content must be explicit. If, for example, "Bugs bunny" is given as a response, it is scored only if Bugs Bunny

is engaged in a clearly human action. Thus, Bugs Bunny crying or talking would be scored as a quasihuman, (H), response.

Applying these criteria, the following animal responses would be scored as quasi-human:

"a hookah smoking caterpillar...from <u>Alice in Wonderland</u>".

"two drunken penguins leaning on a lamp-post...they're definitely sloshed."

"two lobsters coming out of a saloon...and they kind of have their arms around one another."

"sea gull...laughing, making fun of somebody."

"two frogs...tete-a-tete...two angry frogs, their mouths are downcast."

"spiders (at an insect ball) eating spareribs."

II. SCORING PROCEDURES

A. <u>Accuracy of the response</u>. Responses are classified as perceptually accurate or inaccurate (F+, F±, F∓, F-). F+ or F± responses are classified as accurate and F- responses and F∓ responses are classified as inaccurate (Rapaport, Gill & Schafer, 1945; Allison, Blatt & Zimet, 1968).

B. <u>Differentiation</u>

Here responses are classified according to types of figures perceived; whether the figure or subject of the action are quasi-human details, (Hd), human details, Hd,

full quasi-human figures, (H); and full human figures, H.

1. <u>Human responses</u>. To be classified as a human response, the figure must be whole and clearly human. Examples:

"People"

"Men"

"Baby"

"African natives"

2. <u>Quasi-human responses</u>. Here the figures are whole but less than human or not definitely specified as human. Examples:

"Witches"

"Dwarfs"

"Two opposing forces, sticking out arms and hands. Opposing forces, pitted against each other...looking at each other. With complicated...of talons, appendages, arms raised in combat...Person maybe...standing there, being very offensive and attacking."

3. <u>Human details</u>. Here only part of a human figure is specified. Examples:

"hands strangling"

"faces staring at each other"

4. <u>Quasi-human details</u>. Here only part of a quasi-human figure is specified. Examples:

"angel's face"

"witch's head"

"devil's face"

C. Articulation.

Here responses are scored on the basis of types of attributes ascribed to the figures. A total of seven types of attributes were selected because they seem to provide information about human or quasi-human figures. The analyses are not concerned with the sheer detailing of features or with inappropriate articulation. The analyses are only concerned with articulations that enrich a human or quasi-human response, that enlarge a listener's knowledge about qualities which are appropriate to the figures represented. For example, a response which states that a man has a head, hands, and feet does not enlarge the listeners' knowledge about the man. Possession of these features is presupposed by the initial response, "man". An articulation such as "a man with wings" is not scored as an articulation because it is an elaboration which does not add to the specifications of the human or quasi-human features of the figure[1].

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[1]Inappropriate articulations were not scored in the initial research with this manual (Blatt, Brenneis, Schimek, & Glick, 1976). In subsequent research it may prove useful to score both appropriate and inappropriate elaborations.

There are two general types of articulation: the articulation of 1) perceptual and 2) functional attributes.

1. <u>Perceptual characteristics</u>.

a. <u>Size or physical structure</u>. For this aspect to be scored as articulated, descriptions of the figure must have adjective status. Thus, no credit is given in a response where an examinee only says that a man has feet or that a hand has fingers. Size or structure is only scored as articulated if there is a <u>qualitative</u> description of aspects of body parts or the whole body. Descriptions of bodies or body parts as "funny" or "strange" are not scored as indication articulation of body structure.

Certain aspects of facial expression can be scored as articulations of size or structure. Included in this category are responses like "eyes closed" or "mouth open" in which the description of facial expression amounts to something more than just a description of physical appearance.

Applying these criteria, the following responses would be scored as articulation of size or physical structure:

"slim men"

"big feet"

"the top of the body is sort of heavy and her legs are real, real teeny"

"slanted eyes"

"chins protruding down from the face"

"eyes closed"

"mouth open"

"tongue was sticking out"

By contrast, the following responses are <u>not</u> scored as articulations of size or structure:

"women with breasts"

"they're shaped like people"

"eyes, nose, mouth"

"woman doesn't have a head"

"a pervert with bunny ears"

"person with wings instead of arms"

b. <u>Clothing or hairstyle</u>. For this aspect to be scored as articulated, there has to be a qualitative description of some aspect of <u>either</u> clothing <u>or</u> hairstyle. It must enrich the description of the figure. Simple mention of items of clothing implied by the response does not enrich one's understanding of the figure and is, therefore, not scored as an articulation. Using these criteria, the following responses are scorable as articulations of clothing or hairstyle.

"some kind of moustache...right above its mouth"

"girls with ponytails"

"hair and the things sticking out of them, feather"

"their pants would have to be skintight and when they lean down, their jackets go pointing out, makes it look like a very tight jacket"

"a couple of witches with red hats"

"wearing a black coat and a homberg hat. Black coat is sort of billowing behind him..."

"...a full-tailed coat"

"two little girls, all dressed up in their mother's things"

"Gay 90's type women...Both wearing a long bustle and feathers in hair."

"An American Indian in some ceremonial costume with wings and paraphernalia"

"a man...with sunglasses on"

By contrast, the following responses would not be scored as articulations of clothing or hairstyle:

"two women with skirts on"

"shoes on"

c. Posture. Posture is scored if the response contains: a) a description of body posture which is separate from the verb describing the activity of the figure, or b) a description of facial expression that goes beyond mere articulation of the physical appearance of features in that it contains a sense of movement of feeling. Posture is not scored if body posture is implied in the verb

rather than being separately articulated or if it is simple a description of a figure's position in space (e.g., facing outward).

Thus, the following responses are scored as articulations of posture:

"arms flung wide"

"head tilted"

"standing with legs spread apart"

"leaning on a lamp post"

"shoulders hunched"

"somebody hanging...dangling down, drooped, formless, shapeless"

"eyes look piercing"

"gritting teeth"

"smiling"

The following responses are not considered articulation of posture:

"sitting"

"standing"

"doing a high dive"

"back to back"

"facing outward"

"mouth closed"

2. Functional characteristics.

a. Sex. For sex to be scored there either has to be a specific mention of sex of the figure or an assignment

to an occupational category which clearly implies a particular sexual identity. If the final sexual identity is not decided but alternatives are precisely considered, sex is scored as articulated. If, however, the indecision is based upon a vague characterization of the figures with an emphasis upon the sexual nature of the figure as a whole, sex is not considered articulated. In the following response, sex is scored as articulated:

"Man"

"Girl"

"Witch"

"Mother"

"Priest"

"either an old man or an ugly woman"

"2 boys putting on a disguise kit or a girl with her makeup kit"

By contrast, sex is not scored as articulated in these responses:

"Well, these look like two human figures. I think when you look at the breasts there, they're girls. Then down here could look like phalluses. I don't know. It's rather ambiguous, confusing...protrusions from the thorax, you know."

"Looks like two people. Could be a woman or a man. I debated this for a minute. (mean?) Well, this form could be women or the costuming of man. (?) Well,

I guess it would be tights and sort of loose shirt.
I don't know exactly."

"Two people beating drums in a way like both might be
women. In another way, like men. Doesn't seem to be
any real indication whether they are male or female. The
rather extended chests seem to represent breast of women
and protuberance on bottom seems to be leg. In these
respects it has a bisexual appearance.   There is
something barbaric about the figures.   Seems to be
something of a representation of gods or something like
that. They seem to be wearing high heel shoes. Both of
the figures seem to be very awkward and look as though
they're doing some clumsy movements in beating the drums.
The heads also don't look human--look as though they're
some kind of bird's heads."

b. Age. For this aspect to be scored, specific reference
must be made to some age category to which the figure
belongs. Thus, age is assumed to be delineated in the
following responses:

"child"

"baby"

"old woman"

"young girl"

"little boys"

"teenagers"

By contrast, although some indication of age is implied in the following responses, the references are not specific. Thus, age is <u>not</u> scored in these responses:

"man"

"girls"

"boys"

"priest"

c. <u>Role</u>. When figures are human, a clear reference to the work a figure does (occupation) is scored as an articulation of role. With regard to quasi-human figures, role is scored if the manner in which the figure is represented implies that it would engage in certain activities rather than others. Thus, role is assumed to be articulated in the following responses[2]:

"soldier"

"priest"

"Spanish dancer"

"ballet dancer"

"princess"

"mother"

"witch"

"devil"

---

[2]When sexual identity is clearly indicated in a role designation, both sex and role are scored as articulated. Such a situation exists in the following responses: "mother", "witch", "priest".

"elves"

Role is <u>not</u> scored in the following responses because there is no clear indication that they refer to occupation rather than a momentary activity.

"dancer"

"singers"

d. <u>Specific identity</u>. Here a figure must be named as a specific character in history, literature, etc.[3]

Examples:

"Charles DeGaulle"

"Theodore Roosevelt"

3. <u>Degree of articulation</u>.

This is the simple enumeration of the total number of types of features articulated. In the preceding section, seven types of attribution were described (size, clothing or hairstyle, posture, sex, age, role, and specific identity). Thus, for any single Rorschach response, a total of seven types of features could be articulated. The average number of features taken into account in each human or quasi-human response constitutes the score for the degree of articulation of individual figures. If, for example, a subject gave four human responses and

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[3]To the degree that age, sex, and occupation are clearly indicated in the specific identity, these features are also scored as articulated. Thus, in the response, "Charles DeGaulle", sex and occupation are specified. Such is not the case in the response "piglet".

attributed a total of ten types of attributes to them, his score for degree of articulation is 2.5.

D. Integration

Integration of the response was scored in three ways: a) the degree of internality of the motivation of the action (unmotivated, reactive, and intentional), b) the degree of integration of the object and its action (fused, incongruent, nonspecific, and congruent), and c) the integration of the interaction with another object (malevolent-benevolent and active-passive, active-reactive, and active-active). These analyses can only be applied to figures engaged in human activity.

1. Motivation of action.

The articulation of action in terms of motive implies a developmentally advanced perception of action as differentiated from but related to the subject. Moreover, motive can be ascribed in two ways: as reactive or as intention. Reactive explanations involve a focus on past events and behavior is explained in terms of causal factors; one assumes that, for certain prior reasons, an individual had to do a certain thing. By contrast, intentionality is proactive and implies an orientation toward the present or future. The individual chooses to do something to attain a certain end or goal. The ability to choose between motives and to purposively undertake an activity implies a greater differentiation

between subject and action than is the case when an individual is impelled to take an action because of past occurrences. For this reason, the analysis of action will consider whether or not a motive was provided and whether the motivation was reactive (causal) or intentional.

a. <u>Unmotivated activity</u>.

Here action is described with no explanation of why it occurs. Examples:

"Two people kissing each other."

"Women looking at each other."

"Men leaning against a hillside."

b. <u>Reactive motivation</u>.

Here perceived activity is described as having bee caused by a prior situation (internal or external) and the subject is seen as having little choise in his reaction. Examples:

"A German soldier on guard duty. I think he sees something and points his gun at it."

"Arabs recoiling from an Israeli bomb."

"A person afraid of a snake, standing on a rocky cliff with arms upraised as if he's going to hit it with something."

"Two women struggling over ownership of a garment."

c. <u>Intentional motivation</u>.

For motivation to be scored as intentional the action must be directed toward some future moment and the subject must be seen as, in some sense, choosing his action rather than having to react. Examples:

"Halloween witches, making incantations over the fire, in preparation for all hallow's eve."

"An orchestra conductor, his arms raised, about ready to begin."

2. Object-action integration.

In this analysis, four levels of integration of the object with it's action are distinguished (fused, incongruent, nonspecific, and congruent).

a. Fusion of object and action. For a response to be included within this category, the object must be amorphous and only the activity articulated. In such situations, object and action are fused. The object possesses no separate qualities of its own. It is defined only in terms of its activity. This type of response is exemplified below. In both instances, nothing is known about the object except what it is doing. Examples:

"Two opposing forces, sticking out arms and hands. Opposing forces, pitted against each other...looking at each other. With complicated...of talons, appendages, arms raised in combat...person maybe...standing there, being very offensive and attacking."

"Figure there with hands, standing with legs spread apart, reaching out with hands as if trying to grab something"

b. <u>Incongruent integration of object and action</u>.

For a response to be included within this category, there should be some separate articulation of object and action. Something must be known about the object apart from its activity. Nevertheless, the activity is incongruous, unrelated to the defined nature of the object. The articulation of action detracts from, rather than enriches, the articulation of the object. Examples:

"A great big moth, dancing ballet."

"Two figures, one half human and one half animal holding two sponges."

"A little baby throwing a bucket of water."

"A satyr-thing bowling."

"Two sphinxes pulling a decapitated woman apart."

"Two beetles playing a flute."

c. <u>Nonspecific integration of object and action</u>.

Inclusion within this category also requires some separate articulation of object and action. However, the relationship between the two elements is nonspecific. The figures, as defined, can engage in the activity described but there is no special fit between object and action. Many other kinds of objects could engage in the activity described. Thus, while the articulation of

action does not detract from the articulation of the object, neither does it enrich it. Examples:

"One big person standing with arms raised."

"A knight, standing ready to do his job."

"Cavemen leaning against a hillside."

"Two figures dancing."

"Two older women trying to pull something away from each other."

"Two men fighting."

"A man running away."

"A person, sort of a girl, standing on her toes."

d. Congruent integration of object and action.

For a response to be assigned to this category, the nature of the object and the nature of the action must be articulated separately. In addition, the action must be particularly suited to the defined nature of the object. By way of contrast with the preceding category, the action must not only be something the object might do; it must be something that the object would be especially likely to do. There is an integrated and particularly well-suited relationship between the object and the specified action. Moreover, the articulation of the action enriches the image of the object.[4]

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[4]In situation where the role definition of the object amounts to nothing more than a literal restatement of the action, object and action are not considered integrated. Responses like "dancer's dancing", or "singer's singing" are scored as nonspecific (level 3) relationships. However, responses such as "ballerina dancing"

3. <u>Integration of interaction with another object</u>.

a. <u>Nature of interaction</u>.

This analysis applies to all responses involving at least two human or quasi-human figures. In addtion this analysis can also pertain to situations where a second figure is not directly perceived, but its presence is necessarily implied by the nature of the action.

1. Active-passive interaction.

Two figures can involve a representation of one figure acting upon another figure in an active-passive interaction. One figure is active and the other entirely passive so while acted upon, it does not respond in any way.

2. Active-reactive interaction.

In another type of interaction the figures may be unequal. One figure is definitely the agent of the activity, acting upon another figure. The second figure is reactive or responsive only to the action of the other. This is defined as an active-reactive interaction.

3. Active-active interaction.

In a third type of interaction, both figures contribute equally to the activity, and the interaction is mutual.

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or "character from a Rudolph Falls opera, singing" are classified as a congruent (level 4) relationship.

b. Content of interaction[5]

   1. Malevolent: The interaction is aggressive or

   destructive or the results of the activity implies

   destruction or harm or fear of harm.

   2. Benevolent: The activity is not desctructive, harmful

   or aggressive. It may be neutral or it may reflect a

   warm positive relationship between objects.

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[5]Attached are examples for scoring both the nature and content
of interactions. Notations in the left hand margin indicate
scoring for the natrue of the interaction [Active-Passive (A-P),
Active-Reactive (A-R), and Active-Active (A-A)]. Notations in the
right hand margin indicate the scoring for the content of the
interaction [Malevolent (M) and Benevolent (B)].

Integration of Interaction

Nature of Interaction	Content of Interaction	
A-P	A couple of undertakers lowering babies into the pit.	M
A-P	A prostitute rolling a drunk.	M
A-P	Crucified man.	M
A-P	A mother holding out her arm and telling her kid never to come back.	M
A-P	Two sphinxs pulling a decapitated woman apart.	M
A-P	Two people kneeling down with hands extended toward and touching other people.	B
A-R	African natives beating a drum, Martians applaud...	B
A-R	Eve being tempted by a snake.	M
A-R	Two people with hands up as if trying to ward off the two people coming to get them. Two guys with black capes...coming in to get the other people...	M
A-R	German soldier - think he sees something and points gun at it.	M
A-R	An orchestra conductor, arms raised, just about to begin.	B
A-R	A man running away.	M
A-R	A woman crying out for something...two forces pulling her apart, one is depression, one is suicide.	M

Integration of Interaction

Nature of Interaction		Content of Interaction
A-R	A man trying to kill a little girl, who's running away.	M
A-A	A woman with a child looking up at her.	B
A-A	Someone having intercourse, a man child and a woman child, trying to make love but not knowing how.	B
A-A	One person there is pointing and the other is listening.	B
A-A	Two people and two martians fighting.	M
A-A	Two women having a fight, calling each other names.	M
A-A	Two gremlins ready to hit each other.	M
A-A	People pledging hands together - like victors, walking along like that.	B

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Scoring Outline

Categories of Analysis

    I.   Accuracy of response (F+ or F-)

   II. Differentiation (Types of figures perceived)

       (1) Human

       (2) Quasi-human

       (3) Human detail

       (4) Quasi-human detail

  III. Articulation

       (a) Perceptual attributes

          (1) Size or physical structure

          (2) Clothing or hairstyle

          (3) Posture

       (b) Functional attributes

          (1) Sex

          (2) Age

          (3) Role

          (4) Specific Identity

       (c) Degree of articulation (# features articulated/# responses)

   IV. Integration

       (a) Motivation of action

          (1) Unmotivated

          (2) Reactive

          (3) Intentional

       (b) The integration of object and action

        (1) Fusion of object and action

        (2) Incongruent action

        (3) Nonspecific action

        (4) Congruent action

(c) Integration of the interaction with another object

        (1) Nature of interaction

            (a) Active-passive

            (b) Active-reactive

            (c) Active-active

        (2) Content of interaction

            (a) Malevolent

            (b) Benevolent

Manual Supplement

Composite Scores for the Concept of the Object

on the Rorschach

The concept of the human object is assessed for all responses that have any humanoid feature. These responses are evaluated for the <u>degree of differentiation</u> (whether the figure is fully human, quasi-human or a part feature of a human or quasi-human figure), <u>articulation</u> (the degree to which the figure is elaborated in terms of manifest physical or functional attributes), <u>motivation of action</u> (the degree to which the action of the figure is internally determined - unmotivated, reactive or intentional action), <u>integration of the action</u> (the degree to which the action is a unique attribute of the figure, e.g. fused, incongruent, nonspecific or congruent), <u>the content of the action</u> (the degree to which the action is malevolent or benevolent and constructive) and <u>the nature of any interaction with another figure</u> (the degree to which the interaction is active-passive, active-reactive, or active-active in which mutual, reciprocal relationships are established). In each of these six categories (differentiation, articulation, motivation of action, integration of the object and its action, the content of the action, and the nature of the interaction), responses are scored on a developmental continuum. This developmental analysis should be made for those humanoid responses that are

accurately perceived (F+) and for those that are inaccurately perceived (F-).

Differential weighting for scores within each of the six categories for assessing the concept of the object reflects a developmental progression with higher scores indicating higher developmental levels. Score values are as follows: Differentiation: (Hd)=1, Hd=2, (H)=3, H=4; Articulation: score 1 for each perceptual feature and 2 for each functional feature; Motivation: unmotivated=1, reactive=2, intentional=3; Integration of object and action: fused=a, incongruent=s, nonspecific=3, congruent=4; Content of action: malevolent=1, benevolent=2; Nature of interaction: active-passive=1, active-reactive=2, active-active=3. Reliability estimates for the scoring of these six categories in F+ and F- responses in both clinical and normal samples is quite high, ranging from .86 to .97.

In order to reduce the number of variables in the measurement of the concept of the object on the Rorschach, a factor analysis was conducted on the 12 object representation (OR) scores. A weighted sum for each of the six categories was obtained for F+ and F- responses separately. Each of these 12 weighted sums was corrected by covariance for total response productivity. These residualized scores for each of these 12 variables (six categories each for F+ and F-responses) was subjected to a common factors (SAS Institute, 1979) factor analysis with communalities less than or equal

to 1.00. Using the criteria of X 1.00, two factors were retained and rotated for an orthogonal varimax solution. These two factors accounted for 53.52% of the total variance. The factor analysis yielded two primary factors: the developmental level of accurately perceived responses (OR+) (% total variance = 27.19) and the developmental level of inaccurately perceived responses (OR-) (% total variance = 26.33). All six OR+ scoring categories had factor loadings on facotr 1 that exceeded .70 while all six OR- scoring catefories had factor loadings on factor 1 that were less than .20. All 6 OR- scoring categories had factor loadings on factor 2 that exceeded .53 while the loadings on the OR+ categories dod not exceed .20 on this factor.

All six residualized scores (that is, weighted sums covaried for total number of responses on the Rorschach) for OR+ scoring categories are standardized and then summed to give a total residualized weighted sum score for accurately perceived responses. The same is done for all six OR- scores. The residualized weighted sum of accurately perceived human responses (OR+) is viewed as indicating the capacity for investment in satisfying interpersonal relationships. The residualized weighted sum of inaccurately perceived human responses (OR-) is viewed as an indication of the tendency to become invested in autistic fantasies rather than realistic relationships.

In addition to the residualized weighted sum of OR+ and OR- scores, a mean developmental level should also be obtained for each of the six categories for F+ and F- responses. These 6 mean developmental level scores for F+ responses are standardized and then combined into a total mean developmental level score for F+ responses. The same is done with F- responses. The mean developmental level for accurately perceived responses (F+) is viewed as a measure of the capacity to become engaged in meaningful and realistic interpersonal relations. The mean developmental level of inaccurately perceived responses (F-) is viewed as the tendency to become involved in unrealistic, inappropriate, possibly autistic, types of relationships.

APPENDIX B

Rorschach Mutuality of Autonomy Scale

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Mutuality of Autonomy refers to the degree to which people in relationships are conceived of, by the subject, as psychologically autonomous; as possessing an enduring, inherent psychic existence. The subject experiences others as possessing a self, while at the same time, objectively recognizes his or her own existence as one object among many. both self and others are simultaniously experienced by the subject as possessing an identity, a will, and the subjective, affective experience of selfhood. The subject conceives of relationships as respecting these attributes independently of fluctuations in the need state of either one's self, or of the other individual within the relationship.

1. Reciprocity - Mutuality

Figures are engaged in some relationship or activity where they are together and involved with each other in such a way that conveys a reciprocal acknowledgement of their respective individuality. The image contains explicit or implicit reference to the fact that the figures are separate and autonomous and involved with each other in a way that recognizes or expresses a sense of mutuality in the relationship. (For example: on Card II, "Two bears toasting each other, clinking glasses.")

2. Simple Interaction

Figures are engaged together in some relationship or parallel activity, there is no stated emphasis or highlighting of mutuality, nor on the other hand is there any sense that this

dimension is compromised in any way within the relationship. (Card III: Two women doing their laundry.)

3. Anaclitic - Dependent

Figures are seen as leaning on eeahc other, or one figure is seen as leaning or hanging on another. The sense here is that objects do not "stand on their own two feet," or that in some way they require some external source of support or direction.

4. Refection - Mirroring

One figure is seen as the reflection, or imprint, of another. The relationship between objects here conveys a sense that the definition or stability of an object exists only insofar as it is an extension or reflection of another. Shadows, footprints, etc. would be included here.

5. Magical Control - Coercion

The nature of the relationship between figures is characterized by a theme of malevolent control of one figure by another. Themes of influencing, controlling, casting spells are present. One figure may literally or figuratively be in the clutches of another. Such themes portray a severe imbalance in the mutuality of relations between figures. On the one hand, figures may be seen as powerful and helpless, while at the same time others are omnipotent and controlling.

6. Destruction

Not only is there a severe imbalance in the mutuality of relations between figures, but here the imbalance is cast in decidedly destructive terms. Two figures simply fighting is

not "destructive" in terms of the individuality of the figures, whereas a figure being tortured by another, or an object being strangled by another, are considered to reflect a serious attack on the autonomy of the object. Similarly, included here are relationships that are portrayed as parasitic, where a gain by one figure results by definition in the diminution or destruction of another.

7.   Envelopment - Incorporation

Relationships here are characterized by an overpowering, enveloping force. Figures are seen as swallowed up, devoured, or generally overwhelmed by forces completely beyond their control.

APPROVAL SHEET

The dissertation submitted by Ann Marie Sauer has been read and approved by the following committee:

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The final copies have been examined by the director of the dissertation and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the dissertation is now given final approval by the Committee with reference to content and form.

The dissertation is therefore accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

October 12, 1989
Date

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