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Sources of Utility in Rorschach Interpretation

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Sources of Utility in Rorschach Interpretation

by

Charles R. Potkay

A Dissertation Submitted to the Faculty of the Graduate School of
Loyola University in Partial Fulfillment of
the Requirements for the Degree of
Doctor of Philosophy

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LIFE

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Dedication--to the participant clinicians who made
this study possible.

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Table of Contents

Chapter	Page
I. Statement of Purpose	1
II. Survey of the Literature	7
III. Description of Sample and Methodology.	60
IV. Discussion of the Results.	72
V. Summary and Conclusions.	131
Abstract.	143
Bibliography.	144
Appendices	
I. Apparatus used in the Present Study.	155
II. Question Forms for Protocols I, II, and III.	157
III. Materials Available for use by Clinicians.	161
IV. Research Information Form.	166
V. Form Used to Record Interpretation Sequence.	168
VI. Statistical Formulae	170
VII. Table of Item Abbreviations.	173

List of Tables

Table	Page
1. Description of Clinical Sample	61
2. Utility Level of Each Item for Three Questions Combined	75
3. Sequential Rank of Each Item for Three Questions Combined	75
4. Spearman rho Correlations between Utility Indices and Mean Ranks of Ten Subgroups of Cards for Three Protocols Combined.	84
5. Summary Results for Cards Selected and Time Taken per Question	85
6. Utility Indices and Utility Levels for Information Items within Categories.	88
7. Mean Ranks and Relative Ranks for Sequential Selection of Information Items by Categories . .	102
8. Utility Indices and Mean Ranks of Information Categories for Three Questions	117
9. Some Items Showing Differential Utility Among Questions.	118
10. Kendall Coefficients of Concordance for Three Questions Based on Sequence of Card Selections	121
11. Percentage of Clinicians Answering Each Alternative for Three Questions.	127

I. STATEMENT OF PURPOSE

Experimental studies have failed repeatedly to provide satisfactory evidence of Rorschach validity. Yet the Rorschach continues to find widespread application in academic settings and in clinical practice. Although the Rorschach has not proven itself to be experimentally valid, it has shown itself to be clinically useful. The need for research which might clarify the validity-utility discrepancy characterizing the Rorschach is clear.

The line of approach taken in the present study is based on findings and trends from recent Rorschach literature in the area of clinical judgment. This approach involves taking a closer look at the interpretative procedures employed by experienced Rorschach clinicians. For, despite the wealth of evidence contradicting the validity of Rorschach's technique, it is the clinician who continues to affirm the value of this technique. It is the clinician who continues to employ the Rorschach as the basic projective tool in his professional work. Reinforced by the behavioral support of many of his psychiatrist associates who continue to refer patients for psychological--typically Rorschach--evaluation, it is the clinician who claims that the Rorschach is successful in clinical applications.

The idea of investigating the clinician as he implements the Rorschach in practice is not new. Armitage et al. (1955), for example, cited the need for further explorations into the utility of the Rorschach. Hertz (1959), who has placed much of the blame for past Rorschach validation failures on clinicians, expressed a similar sentiment.

Indeed there is a need to do research on selection and training methods, on the clinician himself, and the clinical process....in the interpretation of a record, it is clear that Rorschach clinicians must exercise some self-discipline, standardize procedures to the extent to which they can be standardized, develop a consistent body of normative data, and train clinicians to handle the Rorschach as it should be handled (p. 47).

In the present study, clarification of the discrepancy between Rorschach validity and utility will take the form of providing answers to the fundamental question as to how, in practice, the experienced clinician uses the Rorschach. The primary aim of the study, therefore, will be to identify the sources and patterns of Rorschach utility. Identification of the sources of utility relates to the question "What data do clinicians use in Rorschach interpretation?" Identification of the patterns of utility relates to the question "How do clinicians use data in Rorschach interpretation?" Analyses will be made of the types of Rorschach data used by clinicians and of the relative importance these data hold for clinicians, especially in relation to different clinical questions. Interactions between quantitative and qualitative approaches to Rorschach interpretation will be considered, along

with the clinicians' theoretical orientations (Beck or Klopfer).

Clarification of the secondary question in this study, that of Rorschach validity, will take two forms. First, the actual outcomes of Rorschach interpretation will be analyzed and related to the type of clinical question asked, to the criteria against which the outcomes have been evaluated, and to anticipated differences among clinicians in their interpretative procedures. Second, some of the Rorschach data traditionally hypothesized to have value in answering particular clinical questions will be analyzed in order to determine whether such value actually is revealed in Rorschach practice. For example, Rorschach shading determinants traditionally have been hypothesized to be anxiety "indicators," while location scores have been viewed as "estimators" of intellectual functioning. The attempt here will be to determine whether the relationship between hypothesized and actual use of these scores appears.

The present investigation of Rorschach implementation will allow some determinations to be made as to whether the clinician's practice is consonant with the theoretical Rorschach framework on which his interpretative processes are based, the framework which has been the starting point for a good deal of unsuccessful research. Answers to other questions of stylistic differences among clinicians, differences in approach between successful and unsuccessful clinicians, relative influences of determinant and content approaches, card preferences, etc. also

might be suggested by data obtained from the study. These latter questions, however, will not be dealt with in the present study, but will be reserved for future consideration.

In sum, among the aspects of Rorschach interpretation to be analyzed in this study are the following:

- 1) the type of data selected (background data, locations, determinants, content, numerical scores, verbalizations and behavioral observations, etc.);
- 2) the order in which different data are selected;
- 3) the data which are not selected;
- 4) the number of items selected, both totally and within separate scoring categories;
- 5) the accuracy of final outcome;
- 6) the time taken to arrive at the final outcome.

The following hypotheses will be tested in the study:

General Hypothesis I: The sources of data used by clinicians in Rorschach interpretation will vary in their levels of utility. Information categories based on location scores, determinants, contents, numerical summaries and ratios, background data, etc. will not show equal levels of usage. Variations will be observed both within a single protocol and among different protocols. The utility levels of the different sources of information will vary primarily as a function of the type of clinical question asked in relation to each of the Protocols I, II, and III.

Protocol I (diagnosis): Qualitative data will be given greater emphasis in interpretation on Protocol I, as compared with Protocols II and

III. Greatest emphasis will be on the qualitative form of the response, the response per se (e.g., "a bat"), and on verbalizations and behavioral observations. Some initial emphasis may be given to quantitative data but this emphasis will be temporary only, geared toward gaining a general orientation to the protocol. The utility level of the background data will be highest for Protocol I, as compared with Protocols II and III.

Protocol II (anxiety): Quantitative data will be given greater emphasis in interpretation on Protocol II, as compared with Protocol I (but not with Protocol III). Initial quantitative emphasis will occur (as in Protocol I), and will persist (in contrast to Protocol I). Greatest emphasis will be on determinants as a source of information. Sequentially later emphasis will be given to qualitative data, principally to the responses per se. This sequential change in emphasis will be influenced by two factors: 1) the relative absence of theoretical anxiety indicators from the determinant scores, and, 2) the request in the clinical question for conclusions that would link anxiety with heightening events and defenses. Quantitative and qualitative usages will show greater balance on Protocol II, overall, in contrast to the qualitative emphasis predicted for Protocol I and the quantitative emphasis for Protocol III. The utility level of background data will be lower for Protocol II than for Protocol I, but higher than for Protocol III.

Protocol III (intelligence): Quantitative data will be given greatest emphasis in interpretation on Protocol III, particularly locations as a source of information. Final conclusions will be reached on the basis of less data, as compared with Protocols I and II. The utility level of background data will be least for Protocol III.

General Hypothesis II: Clinicians will show distinguishable patterns of approach to Rorschach interpretation.

Hypothesis IIa: Clinicians generally will proceed from qualitative to quantitative sources of Rorschach data in their interpretations, apart from some brief, initial quantitative focus for purposes of general orientation.

Hypothesis II_B: Clinicians characterized by a quantitative approach to interpretation will show a relatively lower level of success in estimating the severity of anxiety on Protocol II than clinicians characterized by a qualitative approach, because of the absence of theoretical determinant indicators of anxiety in the protocol (shading, inanimate movement).

General Hypothesis III: Clinical accuracy will vary for the different protocols, as a result primarily of the type of clinical question asked.

Hypothesis IIIA: Clinical accuracy will be higher at the more general levels of interpretation than at more specific levels.

Hypothesis IIIB: Clinical accuracy will be higher for Protocol III than for Protocols I and II.

Hypothesis IIIC: Clinicians interpreting from Beckian and Klopferian orientations will show similar levels of success in their final conclusions.

General Hypothesis IV: Clinicians in the present study will show a lower degree of self-constancy across protocols than was shown by clinicians in Tabor's (1959) study, because of the three different clinical questions asked.

II. SURVEY OF THE LITERATURE

A. Current Status of the Rorschach

Forty-five years have passed since Hermann Rorschach first published his ink-blot experiment. Today, Rorschach's technique is among the most used, and useful, of the instruments in the clinician's projective armamentarium.

Sundberg's (1961) survey of 185 clinical agencies and hospitals in the United States revealed the Rorschach technique to be outstripping all other psychological tests, both in the number of places that used it and in the amount of such usage. Mills' (1965) survey of the Journal of Projective Techniques and Personality Assessment, 1947-1964, showed the technique to be retaining its leadership position through 1964. He reported a correlation of .60 between the degree of clinical usage cited by Sundberg for the Rorschach and the degree of research usage appearing in the above Journal. Jackson and Wohl's (1965) survey of 96 chairmen of selected psychology departments throughout the United States and Canada indicated clearly that the Rorschach was the most emphasized clinical technique in the graduate curriculum, principally at the introductory level.

Rorschach's blots have exhibited a far less favorable status on the research psychologist's register. Despite the accumulation

of some 3,000 research studies and texts in which countless features and relationships of the blots have been explored, the validity findings remain inconclusive. Rorschach's inkblots have introduced unconventional problems and have required statistical methods which are still imperfectly developed (Cronbach, 1949). All too often the blots have proven to be inaccessible to empirical treatment. Thus, while the Rorschach is currently favored as the most widely used test and holds claim to the largest number of publications for a single test, its validity has yet to be demonstrated by a statistical means under conditions of controlled observation.

The inability of experimental researchers to demonstrate Rorschach validity represents the recurring theme in Rorschach evaluations. Hertz (1942, 1952) twice has concluded critical reviews of Rorschach literature by stating that past evidence for Rorschach validity at best has been uncoordinated, tentative, and suggestive. Hunt (1950), writing in the first Annual Review of Psychology, judged traditional Rorschach technique to be inappropriate as a clinical method. Cronbach (1956) never has regarded the instrument as sufficiently precise or invariant for use in clinical decision-making. His own attempts to break down the technique's experimental resistances have gained little reinforcement from Rorschachers. Improvements in research designs and statistical methods in Rorschach studies have been minimal. Jensen (1958) stated outright that the Rorschach was worthless as a research instrument, having nothing to show for its

applications in the personality field. Ainsworth (1954), in tones far gentler than those of most evaluators, has cited the need for this "partly finished" instrument to be brought to a more finished state. Eysenck (1957) has compared the clinical accuracy of the Rorschach technique with the chancy effectiveness of a diagnostically-labeled die. Wrote Jackson and Wohl (1965),

One becomes very curious as to what specific effects research has had. In spite of voluminous studies with negative findings and research reviews which are extremely critical (Buros, 1959, pp. 276-279), [psychology] instructors supported Rorschach practices in a manner expected of those who reject such research as inappropriate and irrelevant to Rorschach work (p. 132).

The discrepancy between clinical-academic utilization of the Rorschach and experimental failures to demonstrate Rorschach validity has been associated in recent years with a number of turnabouts in psychologists' thinking about the blots. Alternative inkblot instruments have been developed (Holtzman, 1958; Levy, 1948; Harrower, 1945; Zulliger-Behn, 1952), each accompanied by its own cache of research. Studies by Lazarus (1949) and Siipola (1950) have stimulated dramatic reconsiderations of the significance of color and color shock in Rorschach theory. Stimulus qualities of the blots have been given increasing attention (Mitchell, 1952; George, 1955; Baughman, 1954, 1965).

Comparisons may be made between traditional Rorschach thinking and current trends in support of the conclusion that there have been "turnabouts" in Rorschach thinking. In Psychodiagnostics, Hermann Rorschach introduced his inkblots by stating that

they lent themselves to interpretation as "accidental forms, that is, of non-specific forms" (1942, trans., p. 51). Most workers today do not accept the idea that the blot stimuli are neutral. They regard the separate blots as having distinct "card pull" (Ranzoni, Crant, and Ives, 1950; Klopfer, et al., 1954), and may refer to specific areas of the blots as being symbolically meaningful (Brown, 1953), or even clinically predictive (Sapolsky, 1963).

In another statement, Rorschach also wrote that

In scoring the answers given by the subject, the content is considered last. It is more important to study the function of perception and apperception. The experiment depends primarily on the pattern (p. 19).

Yet Zubin (1956), plainly reversing Rorschach's original intention, has made a strong plea for shifting the emphasis from the perceptual to the content aspects of the blots. Zubin's shift would eliminate the perceptual scorings on which Rorschach based his test, and would lead to a conceptualization of the test as a "systematic interview behind the veil of ink-blots" (p. 189). Other recent workers have favored a content approach to Rorschach interpretation (Elizur, 1949; Wheeler, 1949; Lindner, 1950; Brown, 1953).

According to Gordon (1959), Rorschach responses are considered "samples of verbal behavior." The influence of some stimulus component, such as color, thus may hold less importance than the test subject's ability to verbalize the stimulus itself. No one-to-one correspondence is assumed between actual and ver-

balized determinants. The Rorschach response is therefore not defined as directly perceptual. When a test subject spontaneously reports some instance of bizarre content, the principal meaning this holds for Gordon is that of "poor social judgment," the latter always being of interest to Rorschach examiners.

Wagoner (1963) reformulated the thinking of Zubin and Gordon along a severer line by suggesting that response patterns are "really nothing but the number of times S has used nouns, verbs, and adjectives" (p. 419). A rejoinder to his proposal to stress the primary grammatical aspects of responses was made by Arnold Binder (1964). However, Binder, admittedly biased in favor of the perceptual framework, was able to offer only his personal feeling that Wagoner's approach was misdirected.

Sarason (1954), in what Cronbach lauded as "the first major report on Rorschach which simultaneously adheres to the standards of scientific psychology and reflects faithfully the clinical use of the test" (1956, p. 183), described Rorschach test performance as purposeful problem solving. The latter description conveys an emphasis on the cognitive aspect of personality functioning not originally conveyed by Rorschach himself.

Underlying the turnabouts in Rorschach thinking have been the repeated failures of traditional frameworks to provide definitive evidence of validity. The Rorschach, however, survives. The situation is similar to one described by Frank (1961) who, while writing of the difficulties psychoanalysts have had in attempting to validate their slightly older theory and clinical

procedures, reports that successful cases strengthen the underlying conceptual scheme while failures seem not to shake it. Nor, to be sure, do other of the projective instruments commonly employed in clinical settings stand in better stead (Murstein, 1963). In the case of the Rorschach, one may legitimately wonder whether the method has remained unshaken (Challman, 1951, p. 241).

The following criticism made by one prominent Rorschach expert of another may be considered representative of the existing state of Rorschach confusion.

Except for the use of Rorschach's ink-blot figures and some of his letter symbols, the technique has now so little in common with Rorschach's test, either in method or in some important basic presuppositions, that it represents a quite different approach....It would go far in clearing up the present state of confusion if Klopfer and his associates ceased to identify their method by the term "Rorschach" (Beck, 1959, pp. 273-4).

The starting point of the present study was the recognition that there was a major discrepancy between Rorschach utility and Rorschach validity. The theoretical supposition was that before clinical Rorschach theory could be translated more intelligently into experimental design as adduced by Cronbach (1956), clinical implementation would first have to be examined more closely, particularly as this implementation came about through the activities of the professional clinician. Deeper understanding of Rorschach utility must precede more meaningful understanding of Rorschach validity.

It would not appear to be coincidental in this regard that Beck, after having produced three instructional texts grounded

in "sound, normative method" (1945, 1952, 1961), and after having conducted extensive normative samplings of schizophrenic and normal populations, wrote in his 1960 text that his effort was "not to prove the test's validity but to demonstrate its working processes" (p. 8). While commenting upon the experimental nature of his Rorschach venture, he conditionally dismissed the dearth of validating data as an incidental shortcoming.

Ainsworth (1954) has stated that "there is no sharp dividing line between validation research and the clinical use of the Rorschach technique" (p. 406). She sees the two as going hand in hand. Her thesis that the Rorschach can be investigated most productively by classifying it less as a "test" of personality and more as a method of observation and appraisal reflects the lack of clear differentiation between the two outlooks. Her view touches upon Zubin's (1954) conceptualization of the Rorschach as a veiled interview.

Recent Rorschach studies have shown increased consideration for the significance of the concept "clinical use" in their designs. Chambers and Hamlin (1957), for example, are among those who have reiterated that "As the Rorschach is used in actual clinical practice, the clinician and the tool are an entity" (p. 105). Ainsworth would be in agreement here.

In sum, there are two general areas relevant to questions pertaining to Rorschach validity. Each area may be viewed as preceding actual validity study. Both have remained relatively unexplored in Rorschach research. The first area has to do with

the interpretative processes of clinicians as the latter put the Rorschach to use. The second area concerns the nature of the interaction which occurs between formal and content approaches to Rorschach interpretation. The writer's belief was that these two areas could be meaningfully combined into a single research study. The study, while bearing a relation to the question of Rorschach validity, would be primarily concerned with Rorschach utility. The study would attempt to determine what the Rorschach clinician uses in Rorschach interpretation and how he proceeds in his utilization of Rorschach information.

B. Interpretative Processes of Clinicians

Interest in clinical judgment appears to be on the increase in this country. Henry Murray (1943) was among the first to direct attention to "psychology's forgotten instrument," the clinician. Hunt (1946, 1965) and Hamlin et al. (1954, 1958) have since been active on the problem of validating the clinician. Hunt has directed his investigations toward the clinical use of Wechsler's intelligence scales. Most of Hamlin's investigations of the clinician as judge have employed the Rorschach. It is evident, however, that as a general trend research interest in clinical judgment on the Rorschach has lagged behind longtime recognitions of the instrument as being "a highly complex multidimensional instrument which requires the full utilization of the skills of the clinician" (Hertz, 1959, p. 46).

As phrased by Hertz, it is the critical eye of the clinician which leads to appropriate understanding of an individual's personality structure and the dynamics underlying his behavior. Individuals show wide-ranging, often subtle, levels of adaptive and defensive behavior. Appropriate understanding thus must take into account a large number of personality variables, including intellectual functioning, anxiety, inter-personal relationships, emotional stability, degree of integration or disintegration, and the direction and severity of any personality deviation that may be manifested.

Although many of the relationships between traditional Rorschach variables and an individual's needs and behavior remain hypothetical, these assumed relationships are applied regularly, often routinely, in clinical settings. Contraindications for routine application of Rorschach responses and scores have come from numerous fronts. Rorschach workers themselves are quick to acknowledge that single test factors or test configurations carry a variety of interpretative meanings, depending upon the total context of the test data (Sargent, 1954) and the personality of a given subject (Beck, 1935). They recognize that the same psychological trait may not be equivalent in the personalities of different individuals. Rule-of-thumb "signs of normality" were termed "inadequate" on an empirical basis by Brockway, Gleser, and Ulett (1954). One specific alcoholism "indicator"--water responses--was found to operate successfully in Kentucky, but not in Massachusetts or Washington (Griffith, 1961). Inkblot perceptions may

be affected by sex, age, race, intelligence, education, socio-economic background, test situation, examiner characteristics, and other influences whose importance is only beginning to be evaluated systematically. The end result of this awesome Rorschach complexity has been to make the effectiveness of the Rorschach technique highly dependent upon the skills of its clinical users.

...the user of the method must rely upon a body of guesses as to the relationships involved--including those which have accumulated in the literature, plus his own experience with the test in particular, and knowledge of normal and abnormal personality in general (Schneider, 1950, p. 493).

One study whose results bear out the practical import of the above discussion was done by Chambers and Hamlin in 1957. Twenty psychologists were asked to identify Rorschachs according to clinical groups. Each psychologist received one record from each of five out-patient groups: involuntional depression, anxiety neurosis, paranoid schizophrenia, brain damage from neurosyphilis, and adult mental deficiency. Twenty sets of five Rorschachs thus were used, each record being judged four times, yielding a total of 100 judgments for the study. Under the type of favorable forced-choice conditions employed, identifications were found to be at a level significantly better than chance. However, interjudge differences were large. Five judges contributed nearly 50 per cent of the correct identifications (25/58), while six judges contributed less than 10 per cent (6/58). The authors did not consider this degree of success to justify "expansive claims" for the Rorschach as a technique for identifying patient groups. But they did feel

"reasonable claim" to be justifiable, particularly when the psychologists were broken down into subgroups according to their degree of success in making diagnostic judgments.

A number of relevant observations on Rorschach interpretation may be derived from Chambers and Hamlin's findings. First, highly successful use of "blind" Rorschach protocols is possible for some clinicians. Second, successful judges reveal interpretative approaches that differ from those of unsuccessful judges. Successful judges, for example, tend to reach a higher level of abstraction from the raw data. They show considerable flexibility in shifting from one level of interpretation to another, suggesting greater capacity for adaptiveness and selectivity in relation to the data. They tend to be free of adherence to textbook statements and traditional "signs." They use fewer words to communicate their thinking. Third, significant differences can be noted in the level of diagnostic difficulty for the various clinical groups. Mentally retarded adults, for example, were shown to be identified correctly in 90 per cent of the cases. The remaining four groups were identified with only 51 per cent correctness. The authors noted that the highest single misinterpretation occurred between the organic and paranoid groups, organic patients being misjudged "paranoid" in seven out of twenty instances.

Other variables influencing Rorschach interpretation may be cited. Hamlin (1954) reviewed ten studies dealing with the clinician as judge. He reported the pattern of results in these studies as confirming his hypothesis that positive or negative

outcomes in Rorschach research are directly related, first, to the simplicity or complexity of the material to be judged and, second, the adequacy of the experimental conditions in allowing the clinician to derive judgments from the material. In general, the more complex the material to be judged, the more negative the outcome.

Among his conclusions was that

...increasing complexity beyond a certain point probably does not lead to meaningful global understanding, except under ideal conditions or in a clinical situation where data can be cross-checked, discarded as not pertinent, or synthesized in a manner that eventually results in a simplified picture derived from complexity (p. 235).

The relationship Hamlin cites between the complexity of the Rorschach material and final outcome holds obvious meaning for Rorschach validity research. Interpretative conclusions arrived at from examination of minimal data may not be directly comparable to those arrived at on the basis of maximal data. Differences in levels of clinical specification and the degree of subjective certainty of Rorschachers may have to be given greater consideration than they have been given in the past. As for the adequacy of the experimental conditions in allowing the clinician access to the material to be judged, Hamlin's conclusion may be interpreted to mean that there should be reasonable opportunity for stylistic and individual differences among Rorschachers to operate in interpretation.

Cummings (1954) also reviewed the literature in the area of Rorschach judgement. He concluded that of the studies employing projective techniques, those most closely approximating the

operation of the clinician-in-action often yielded positive relationships, although not uniformly so. Cummings conducted his own investigation, limiting the available data to single Rorschach card performances. He reported his eight judges to show moderate success in their judgements of adjustment for fifty white males, ten of whom were not patients. Comparing his essentially positive results with the negative results obtained in similar studies (Grant, Ives, and Ranzoni, 1952; Newton, 1954), Cummings pointed out that the latter studies utilized total Rorschach protocols as the judgment unit. He concluded that his less complex, single-card units probably enhanced his judges' opportunities for intensive coverage of the data. The latter observation supports Hamlin's (1954) two conclusions about the influence of complexity of material and adequacy of experimental conditions as variables in Rorschach studies.

Powers and Hamlin (1957) limited the amount of data to be judged even further than did Cummings. They presented six experienced judges with Card-I responses of a 34-year-old male out-patient. They found that their clinicians were able to make "reasonably valid statements" from this limited data. Two levels of the judgment process were designated, one descriptive and one speculative. In support of Symonds' (1955) findings, soon to be discussed, it was found that clinicians tended to rely more on content factors than traditional determinant scores to back up their inferences. Determinant scores

were called upon secondarily. Powers and Hamlin further noted that success in Rorschach judgment was more characteristic of some areas of personality than of others. The latter finding parallels, on an intraclinician level, what Chambers and Hamlin (1957) observed on an interclinician level. To quote from Powers and Hamlin,

Agreement with the criterion measures was fairly good for the variables of intellectual level, intellectual efficiency, self concept and self attitudes, identification, and anxiety level; and agreement was least adequate for the variables of way in which subject relates to others and attitudes toward others, type of symptomatology, diagnostic category, and emotional control (p. 289).

Symonds (1955) sought to determine which aspects of Rorschach data expert clinicians would respond to in making "blind" judgments about a 27-year-old, female, high school teacher. Seven experienced judges were presented with a single Rorschach protocol. Large differences were observed in the fullness of the submitted reports and in the accuracy of the interpretations, although there was 65 per cent correctness overall. Interpretative accuracy was checked against material revealed during individual therapy interviews. Only 44 per cent of the 204 interpretations were based on traditional Rorschach signs and determinants (accuracy = 59 per cent), whereas 56 per cent were based on content (accuracy = 74 per cent). Rorschach judges again exhibited large individual variations in their patterns of determinant and content usage.

The finding that clinicians at times may rely more heavily

on content than on determinants in their Rorschach interpretations may be clarified somewhat by the following statements. First, determinant scores are derived from content responses--the "free associations." A clinician using content may therefore make implicit determinant scorings which he does not formally record. Second, the test subjects verbalizations can play an important role in evaluating their approaches to reality and their perceptions. It is Lorenz's (1959) belief that "the formal pattern of the language response can be used as an index to the perceptual modes congenial to the individual" (p. 440). As the information contained in language patterns is made discernible through analysis of the classes of predicates an individual selects to represent his perceptions, patterns of emphasis can be determined, along with special mental states and the degree to which the individual's awareness of external details of stimuli is integrated into his experience.

Rodgers (1957) was another who attempted to identify the sources of information entering into Rorschach interpretations. He had beginning graduate students prepare descriptive and self-concept Q-sorts from blind Rorschach evaluations of two non-patient males. Although two months of course training were shown to have a significant influence on the students' interpretations, this influence was quite small (4 per cent of the total variance). The protocols themselves accounted for

20-23 per cent of the variance. Individual differences accounted for 15-19 per cent. The remaining 50-58 per cent was unaccounted for, and was considered to be error variance. Rodgers saw the latter as having "sobering import," but indicated that the error variance would be expected to be lowered markedly for experienced clinicians. Course instruction seemed neither to increase nor decrease stereotypy of interpretation.

Newton (1954) compared judgments of adjustment made by ten clinical psychologists with those made by psychiatrists. High reliability was obtained in all the judging tasks. The psychologists and psychiatrists were found to be nearly equal in their judgments of clinical case material (.94, .91). Intergroup reliability was lower (.86) but still significant. So too with psychologists in judging Rorschach protocols (.73). However, judgments stemming from Rorschach material were not found to correlate meaningfully with psychologists' judgments of case material (.09). Nor did the Rorschach judgments correlate significantly with diagnostic placement of the fifty subjects, ten of whom were described as "socially adequate."

Corsini (1955) related adequacy of clinical judgment to the length of time spent on the judging process. Three psychologists were asked to rank Rorschach records of 50 prisoners and 50 hired guards along a continuum of adjustment. One of the psychologists was requested to work rapidly. He tended to make "snap" judgments which proved to be least adequate in comparison

with the judgments of the two other psychologists. The psychologist who took the longest amount of time showed the greatest adequacy of judgment, reaching a level of accuracy that was slightly higher than that obtained by a fourth psychologist who had administered the Rorschachs. All three judges performed better than an objective Rorschach checklist in separating the two groups.

The importance of length of time spent in interpretation as a variable in Rorschach analysis was given mention by Richards and Murray (1958) in their study. Three clinical psychologists, advanced graduate students, and nonpsychologists were asked to make global judgments of masculinity or femininity for 30 Rorschach protocols. Better than chance sortings were found for the trained psychologists, especially when "adequate time" was provided for making the judgments. No relationship was apparent between Wheeler's signs of homosexuality and tendencies toward femininity for males.

The amount of information required to arrive at a Rorschach diagnosis proved to be one of the most variable factors in Tabor's (1959) study of 30 clinicians. The variability seemed related more to the personal needs of the clinicians than to differences among the three diagnostic problems employed in the study. Intraindividual consistency nevertheless remained high.

Intelligence estimation represents an area of Rorschach research which has been of considerable interest to clinicians because of the consistently more favorable outcomes obtained in

these investigations, especially when compared with diagnostic outcomes.

In a study done by Bialick and Hamlin (1954), valid and reliable judgments of intelligence were made by four VA staff psychologists and four trainees. The judgments were based on five Rorschach W responses, from each of twenty-five white, outpatient males. Intelligence was chosen as the judgment variable because the authors believed it to be the variable that the judges knew best. Highest correlations were obtained by experienced psychologists, .68 with Wechsler-Bellevue I.Q.'s and .84 among themselves.

Davis (1961) too investigated the ability of clinicians to estimate intelligence. In addition to total Rorschach records, he employed summary profiles alone, and lists of vocabulary words taken from the Rorschach responses. All three of the judges proved to be better than chance ($P < .01$) in estimating the Stanford-Binet levels of intelligence of seventy white, male, young adults. Judgments based on the vocabulary lists tended to be slightly more successful than those coming from the total Rorschach records (supporting a similar observation by Trier, 1958). Judgments made solely from the summary profiles were least effective.

Expectedly, not all of the research seeking to determine whether postulated relationships between Rorschach variables and I.Q. exist has been successful (Klopfer, Allen, and Etter, 1960;

Pauker, 1963). "Usually, when low, significant correlations between Rorschach factors and IQ have been found, they have failed to hold up under cross-validation" (Trier, 1958, p. 289). An illustration of this type of failure is the study by Armitage, Greenberg, Pearl, and Daston (1955). These authors found thirteen out of nineteen Rorschach variables to correlate with Wechsler-Bellevue I.Q.'s at the .01 level of significance (N = 503 patients). However, when they applied their multiple regression equation based on the six variables showing the highest correlation with I.Q. to 207 new patients, no better than chance accuracy in estimates resulted. The authors suggested that vocabulary and quality of perceptual organization may have provided the cues to which their judges were responding. Their judges made fairly accurate estimates when given access to the total protocols.

Trier's (1958) interest was directed toward Rorschach response cues. Twelve near-Ph.D. graduate students were employed as judges, divided equally into three groups. Group I was given sixteen Rorschach protocols, asked to list the seven "most sophisticated" words from each protocol, and then make I.Q. estimates from these word lists. Each of the Group II judges, who had no access to the protocols, were given one of the four sheets of word lists compiled by the Group I judges, along with information about how the lists were derived. They were asked to make I.Q. estimates using only the word lists. Judges in Group III

were given the 16 protocols and then told only to make intellectual estimates from them. Of the 16 protocols, four each were obtained from a diagnostically mixed group of patients in the following I.Q. ranges: 89 and below, 90-109, 110-119, and 120 and above. Estimates of I.Q. also were made from Thorndike-Lorge word frequency counts. (The Thorndike-Lorge word count indicates the frequency with which a given word appears among one million words). A number of conclusions were drawn from the study.

1. Estimates of intelligence can be derived accurately from Rorschach vocabulary lists.
2. Judgments based on total Rorschach protocols are no more accurate than those based solely on vocabulary. (This is not in agreement with the conclusion of Armitage et al., 1955).
3. Estimates based on the Thorndike and Lorge word frequency counts resulted in accuracy roughly comparable to that achieved by the judges.
4. Results for Group III are in agreement with those of Armitage et al. (1955), who reported a median correlation of .69 for estimates based on evaluations of total protocols.

Sommer (1958) studied the relationship between Rorschach M responses and intelligence. Test records of 77 male patients who had been given both the Rorschach and the Wechsler-Bellevue were selected for analysis. The Wechsler-Bellevue scores were fitted into nine I.Q. categories, at 20-point intervals. The correlation between M and I.Q., assumed to be close by Rorschach workers, was supported. The correlation also was supported when Rorschach R and H variables were held constant. A further

attempt was made to determine whether M responses given by subjects of varying verbal I.Q. could be distinguished on other than quantitative bases. The M responses were ranked as to intelligence level by three groups of judges: senior psychologists, interns, and secretaries. Similar to Armitage et al. (1955) before him, and to Trier (1958), Sommer also noted the influence of such cues as grammar and vocabulary level in contributing to judges' estimates of intelligence. The interns and secretaries, for example, were able to rank qualitative differences in verbatim M responses at a level that exceeded chance expectancy. Unlike the other investigators, however, Sommer showed that when the verbatim cues were removed, only psychologists were able to make successful I.Q. estimates. This suggested that cues other than vocabulary and grammar are present in Rorschach M responses.

C. Approaches to Rorschach Interpretation

Approaches to Rorschach interpretation may be classified broadly into two categories: the numerical or "sign" approach and the descriptive or "content" approach. The sign approach is best represented by Buhler, Piotrowski, and Klopfer. Piotrowski's ten signs of organicity, for example, are well known to clinical Rorschachers, as are the quantitative determinant formulae and ratios of Klopfer. The content approach may be represented by Phillips and Smith, Schafer, and Beck. Schafer's emphasis is on thematic analysis, while Beck stresses sequential

analysis. Although neither approach remains exclusive in clinical practice, Beck (1942) has indicated that the criteria of the two are different and that validation is within two totally different spheres of reference. Armitage and Pearl (1957, p. 479) have written along similar lines.

Investigators report varying success in relating test characteristics to specific diagnostic categories. Some of these characteristics are the presence or absence of certain of the Rorschach determinants, their relative strength, patterns, ratios and their adherence to acceptable criteria. Other methods have relied more heavily upon the content of the record and its characteristics, while still others have employed both content and determinants in various combinations.

The Jackson and Wohl (1965) survey of Rorschach teaching in American universities indicated that half of the academic respondents (47 per cent) relied on both psychogram and content data in making Rorschach interpretations. When each was considered separately, however, content data reportedly were given four times the emphasis given to psychogram data (38 per cent: 9 per cent). The secondary emphasis reported for the psychogram data is especially noteworthy because 69 per cent of the respondents wrote that they typically constructed formal psychograms as part of their Rorschach preparation.

The question of whether it is the determinants or the contents that possess greater importance in interpretation is considered by Shapiro (1959) to be unanswerable. Each dimension is required for optimal understanding of the other. Maximum interpretative accuracy results from consideration of both dimensions. Shapiro does not suggest, however, that determinant and

content interpretations correspond in any fixed, one-to-one relationship.

My aim is not to convince you that you should rely just equally on content and on determinant interpretation in Rorschach work. It seems to me that perfectly legitimate differences of interest, natural inclination or background will tend to cause each one to give more weight to one side than to the other. Also, there is no doubt that there are differences in this respect among different Rorschach protocols; some, quite legitimately I think, seem to call for more emphasis on content interpretation. The aim here is, rather, to show that there is no reason intrinsic to the test to consider one aspect more important than the other, and, in addition, to show that each aspect can be properly understood only in the light of the other (p. 368).

Few protocols illustrating the actual working processes by which clinicians evaluate Rorschach responses have appeared in the journal literature, although they have appeared relatively more frequently in Rorschach textbooks. Those protocols which have been offered as illustration have tended to highlight the clinician's use of nonclassical, nonquantitative variables in the interpretative process. Hamlin and Powers, for example, concluded in their 1958 study that experienced clinicians draw upon "a wide variety of cues, many of which show little relation to traditional Rorschach scoring categories" (p. 242). Such cues might not be identical from case to case, or from judge to judge.

Levine's (1959) objective was to explain why investigators were unable to obtain positive findings when the Rorschach was used to make prognostic predictions of patient status following a period of hospitalization. He suggested that failures in this area may have been the result of an unselective empirical

approach. "It is possible that these unsuccessful investigators have been scoring the Rorschach for 'traditional' Rorschach categories while clinicians utilize different variables, perhaps without scoring them, in their day-to-day work" (p. 439). Levine's view challenges that of Zubin and Windle (1953), who concluded flatly that the Rorschach had no value in making prognostic predictions.

The question of which Rorschach data and cues clinicians may be utilizing in their interpretative analyses is an important one. Most validity studies done on the Rorschach have been based on the assumption that traditional variables are the ones being used most weightedly by Rorschach workers. Yet it is not at all clear that Rorschach workers do utilize traditional variables in theoretically directed ways. As seen in the statements of Hamlin and Powers (1958), Levine (1959), and Armitage and Pearl (1957), there is evidence to the contrary. Utilization of Rorschach data is a complex process. The process is not always a consistent one. When investigating clinical implementation of the Rorschach, therefore, it would be essential "to ascertain those aspects of Rorschach utilization which contribute to [success] and to determine whether or not these aspects vary...." (Armitage and Pearl, 1957, p. 479).

Hamlin and Powers (1958) recorded the running comments of experienced judges as they made diagnostic judgments between paired psychotic and nonpsychotic responses to single Rorschach

cards. Included in the responses were inquiry information, time notations, and some minimal behavioral data. The judges were requested to write a brief report for each pair of responses. The report was to indicate the judges' reasoning as they proceeded in their analyses, the specific elements that influenced the development of their diagnostic choices, the final choices made, and the degree of confidence the judges had about each of their choices. Each of the three clinicians made fifty judgments, twenty-five independently, and twenty-five in joint conference. Immediate feedback was provided regarding the correctness of each judgment as it was made. The results of one protocol analysis, termed "representative" by the authors of the study, suggested that expressive response material was the variable chiefly drawn on by the psychologists to provide them with clinical cues. The psychologists were found to give little emphasis to "unconscious factors" or to classical structural indicators. The general interpretative procedure that was seen to emerge went as follows:

In this example, the judge selects the non-psychotic tentatively, but correctly, on the basis of the first few words. This rapid, often correct, "hunch" was characteristic in the majority of the 100 choices. The judge then builds up several general inferences: (a) the non-psychotic is reacting to the examiner with affect, and with patterned defenses; and her expressions of uncertainty are related to this pattern; (b) the psychotic is uncertain of his perceptions; (c) the psychotic becomes "typically" both vague and concrete in groping for details to elaborate his responses; and (d) the psychotic cannot keep track of what he has communicated to the examiner (p. 242).

Artificial limitations present in Hamlin and Powers' study need to be considered in evaluating the generality of their findings. One limitation involved having the judges base their evaluations only on pairs of single responses. In actual Rorschach practice, analysis is based on the total number of responses given by a subject, in the context of an entire protocol. The observed reliance on "the first few words" thus could be expected to be peculiarly enhanced by the experimental setting. With little of the usual data available on which to base their judgments, the psychologists' educated "hunches" might have been practical necessities. A second limitation centered about the psychologists' receiving immediate feedback regarding the correctness of their selections. External feedback of this type seldom is available to clinicians in a clinical setting. "Learning," peculiar to the experimental setting, may have been in operation. A further point of interest had to do with the extent to which the representative judge in this study oriented her interpretative framework toward the test subjects' interpersonal relationship with her. If representative, the example suggests that psychology's forgotten instrument may not be "forgotten" after all, at least as far as the Rorschach is concerned.

Armitage et al. (1955) undertook a clarification of some of the variables contributing to accurate estimations of four Wechsler-Bellevue intelligence levels from Rorschach data. Two approaches were employed: an objective statistical procedure and

subjective judgments by three VA staff psychologists, stemming from either psychograms or complete protocols. Predictions of intellectual level were found to be least accurate for the strictly objective method of analysis. The "unproductive" results of the latter were found both when the analysis was confined to single Rorschach variables and when combinations of variables were used, as in a multiple regression equation. The authors concluded that it was doubtful whether any objective procedure could prove useful for individual prediction.

Greater accuracy of prediction resulted from the judgmental approach, which allowed for "the integrating factor of the clinician." Judgments based on the psychogram data yielded less accuracy than those based on the entire protocols, but more than that yielded by the objective approach. The difference in accuracy occurred despite utilization of the same Rorschach information in both approaches.

This suggests that the clinician makes use of these factors in a somewhat different way than can be accomplished through the objective analysis. It seems probable that he may be able to assign more subtle weightings to constellations of these factors than was possible in the objective aspect. Furthermore, the clinician probably capitalizes on inferences from such additional, subjective factors as (a) the use of specific content categories (e.g., science), (b) the kinds of blends utilized, and (c) the apparent presence of extreme anxiety (p. 327).

The judges' estimates, termed "fairly accurate" for most instances, were not sufficiently great for individual prediction or for serving as substitutes for Wechsler-Bellevue scores.

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Intrajudge and interjudge consistencies generally were favorable. Individual differences among judges were highest in relation to neurotic protocols. When asked to list the reasons and methods underlying their intelligence estimates, the protocol judges cited qualitative factors of vocabulary and perceptual organization as having aided them most.

The inclusion by Armitage et al. of protocols obtained only from pathological samples would be expected to complicate the making of accurate intelligence estimates. The judges first would have to evaluate emotional status and relate the influence of this to intellectual potential and efficiency. From the standpoint of objective estimators in judgment studies, one factor which would have to be taken into account is that of access to past "experience." A continuing objective process, such as an updating computer program which would provide feedback from past successes and unsuccesses, would offer a broader, more "realistic" framework for increasing accuracy than that found in the "static" type of objective approach used by Armitage et al. The updating feedback program would be analogous to "clinical experience."

Armitage's finding that judgments made from total protocols were more productive than those made from psychograms supported an earlier suggestion by Caldwell et al. (1952) that there was a tendency for clinicians' ratings based on maximum information to agree more closely with psychiatric ratings than with those

based solely on scoring summaries. As the amount of Rorschach data available to the clinicians was reduced, the degree of psychologist-psychiatrist discrepancy was increased.

The discrepancy between the psychologists and psychiatrists in Caldwell et al.'s study, was not a major one. Also, surprisingly little loss in Rorschach sensitivity occurred as the level of data was reduced. The authors had hypothesized that certain of the specific item contents would be vital for correct diagnostic interpretation, and that without these contents, analysis would be hazardous indeed. Three levels of data availability were defined. Level I included the subject's entire behavior: specific responses, scoring symbols, and test behavior. Level II included the response protocol only, as it would be given in "blind" diagnosis. Level III included only the scoring summary, as it would be given in a psychogram. What surprised the authors of the study was that the quantitative categories, by themselves, could be utilized meaningfully by the three psychologists, each of whom had had at least three years experience. While individual Rorschach items did show differing degrees of success in final ratings, sole reliance on the quantitative data appeared to sacrifice little information.

Findings from a 1957 study by Armitage and Pearl supported those of the Caldwell study. Armitage and Pearl used five VA staff psychologists who had had four to nine years diagnostic experience with the Rorschach. Each psychologist was asked to

make 180 diagnostic judgments of patients distributed among four psychiatric classifications: neurosis, character disorder, and paranoid and unclassified schizophrenia. Sixty judgments were made under each of three conditions--psychogram, protocol, and the combination of both. The number of judgments was limited to ten per day, in order to relieve boredom and to minimize possible distribution biases. (No significant differences later were observed between the judges in their use of a particular diagnosis.) The psychologists were informed that they could employ any method of judgment they desired and use any cues they could obtain from the material presented to them.

...no significant differences were found between judgments based on either psychograms, protocols, or both. Although missing the criteria of significance, some indications were present that the psychograms were somewhat better for the prediction of the neurosis and that the protocols permitted a somewhat more accurate judgment of paranoid schizophrenia (p. 482).

Thus, it has been recognized that some types of Rorschach data may possess greater differentiating value than others in the evaluation of different psychiatric groups. The greater variability that occurred among judges with regard to the neurotic records compared to the schizophrenic ones raises the question of whether diagnostic category has been controlled for as a variable in past research designs.

Sherman (1952) tested the hypothesis that formal Rorschach factors have greater value than content factors in differentiating schizophrenic from normal groups. His hypothesis generally

was supported, although less so when level of education was controlled, and only when the total number of responses was low (R less than 19). The results were not found to hold for similar interpretations of sentence completion tests, which had been administered with the Rorschachs. The chief implication of the study was that "schizophrenics and normals do not differ as essentially in the literal context of their expression (content factors) as they do in their manner of organization of expression (formal factors)" (p. 230). For Rorschach diagnosis of specific psychiatric groups, therefore, the clinician sometimes would be expected to direct his attention to data pertaining to personality structure, and sometimes to data related to the more manifest meaning of a patient's expressions. Second, with regard to research design, the influence of high R and low R in Sherman's study again points to the need for Rorschach R to be controlled in Rorschach validation studies.

In a sign study of deviant quantitative and qualitative factors, Bradway and Heisler (1953) were unable to find any Rorschach determinant or content score that might have an exclusive relationship with a single diagnostic category. Some statistical trends did appear. Among the 100 protocols, for example, no protocol with an R greater than forty, nor with a P greater than seven, proved to be psychotic. A disproportionate number of cases with an R less than eight were found to be depressive. Frequency of occurrence of "eyes" and self-reference responses

were slightly above expectancy for the paranoid patients. These trends are consistent with some of the standard thinking which has developed regarding the interpretative significance of single Rorschach scores. On the other hand, other trends reported by Bradway and Heisler contradict traditional lines of interpretation. Bradway and Heisler concluded by cautioning that no Rorschach factor or Rorschach content be considered pathognomic in itself. They renewed the emphasis on the need for integrated, holistic evaluations of Rorschach data.

Sherman's hypothesis was not supported by Bower, Testin, and Roberts (1960), who investigated the diagnostic capabilities of three types of quantified Rorschach scales to differentiate among groups of hospitalized patients. The scales were derived from content, thought processes, or determinants, and were believed to be sensitive to different levels of ego functioning. The conceptual framework for the latter originated in a positions-on-continua theory of emotional illness in which the various psychiatric classifications were seen as representing differing levels of maturity in object relations.

The scales were applied to thirty cases each of obsessive-compulsives, personality trait disturbances, psychotic depressives, and catatonic and paranoid schizophrenics. The content scales appeared to differentiate the schizophrenic groups better than did the determinant scales, but they did not differentiate depressives. The determinant equation differentiated the non-

schizophrenic groups, selecting out depressives, but tended to misclassify the schizophrenic groups. The thought process scales contributed to diagnoses in a general way, but lost their power when broken down into subscales. When relevant background variables such as age and education were introduced and combined with the Rorschach data, the agreement of Bower, Testin, and Roberts' discriminant function equation with original diagnosis was elevated from 56 per cent to 76 per cent.

The influence of educational background data in enhancing diagnostic efficiency is mentioned in the studies of Sherman and of Bower et al. The desirability of controlling for such background influences in Rorschach research thus is reinforced. This control was present in the 1957 study by Chambers and Hamlin, in which the ages of the patients whose protocols were judged were intentionally withheld. It was felt that age might serve as a clue to the identification of particular diagnostic groups.

Grant, Ives, and Ranzoni (1952) conducted a study in which three Rorschach experts rated four levels of adjustment of normal eleven-year-old boys (N=71) and girls (N=75). Each protocol was sorted three times, into four adjustment classifications: I--very maladjusted, II--moderately maladjusted, III--fairly well adjusted, and IV--very well adjusted. Rorschach information was provided in successive increments, with the diagnostic sorts being made, first, according to formal scoring categories,

second, according to the distribution of the formal categories among the ten inkblots, and, finally, on the basis of the whole protocol.

The Rorschach ratings were correlated with criterion ratings of case workers, derived from interview and case history material. The authors could conclude only that the Rorschach, used blindly, was of little value in predicting external ratings of adjustment. "Our confidence in the ability of the Rorschach workers to analyze records of normal subjects for use in group research has suffered" (p. 17). Their conclusion stemmed from correlations that were low positive, and from consistent placements of 60 to 70 per cent of the apparently normal protocols into "maladjusted" categories.

Grant, Ives, and Ranzoni explained that the Rorschachers' predictive ability had suffered because it had been grounded in a basic set toward conventionalized indicators of maladjustment. Rorschachers' lack of familiarity with the patterns and divergencies of normal individuals was criticized. Further study of adequately functioning individuals was suggested as the means necessary to overcome this clinical deficiency, and to counteract biases toward the abnormal in Rorschach interpretation.

The conclusions of Grant et al. merit closer examination. The conclusions are important ones. In part, they require qualification. They are also open to question with regard to the subject sample from which the conclusions may be generalized. One

qualification relates to the use of interview and case history material as an external criterion in Rorschach studies. One of the questions has to do with blind use of the Rorschach. Another question concerns the use of subjects whose personality is in a transitional "storm-and-stress" phase of development, at least in our culture. These points will now be elaborated.

In an earlier study by the same authors, Ives, Grant, and Ranzoni (1952) found no consistent decline of neurotic signs over the adolescent age range of 11-18 years. They concluded that the sign method could contribute little to any systematic or fruitful understanding of the Rorschach as applied to their sample. This conclusion may represent an appropriate criticism of the sign method. It is also possible, however, that expectations related to neurotic sign decline through adolescent age ranges still remain more hypothetical than established.

By way of illustration, Bosquet and Stanley (1956) worked with 175 boys, aged seven to thirteen, in a child guidance center and found that such determinants as FM, M, and Sum C failed to show traditionally assumed changes over developmental stages. Brockway, Gleser, and Ulett (1954) reported that less than 2 per cent of their psychiatrically screened, adjusted normals were without evidence of color shock, and that less than 8 per cent were without evidence of shading "shock" as defined by Munroe (1944). They also reported that Rorschach K and m scores, traditional indices of anxiety, were used as much by their adjusted

group as by their anxious patient group. One pertinent generalization by Beck is that the Rorschach test has been "turning over evidence that immaturity marks the average American, male and female" (1952, p. 52).

Blind Rorschach approaches to personality investigation raise objections as to whether theoretical needs for holistic interpretation really are fulfilled. Rorschachers themselves believe that interpretation is most fruitful when it occurs in the context of a full test battery, including some background knowledge of the test subject. "Blind" Rorschach interpretations admittedly impose artificial limitations on both the instrument and the worker. Nevertheless, evidence supporting the successful utilization of the Rorschach in blind diagnosis is available, as discussed earlier in this paper (Chambers and Hamlin, 1957; Beck, 1960). Supportive evidence may be traced to Rorschach himself, who wrote of a record "sent to me by my friend, E. Oberholzer, for 'blind' diagnosis. Only the age and sex of the patient was indicated on the record" (1942, trans., p. 186).

The most critical point made by Ives, Grant, and Ranzoni--that Rorschachers are characterized by a set toward the abnormal in interpretation--is well taken, as is their implication that Rorschachers too often exhibit inadequate understanding of normal personality patterns. These criticisms are not limited to Rorschach practice but extend to personality theory more generally. In the Brockway, Gleser, and Ulett (1954) study, striking

evidence of discrepant Rorschach frameworks of normality was presented. The psychogram that these authors derived from the protocols of 126 adjusted white males, aged seventeen to thirty-six, educated at least at the eighth grade level, showed sharp contrasts with the hypothetical psychogram for normals proposed by Bell in 1948. Two obvious discrepancies involved FM>M and CF>FC, both of which differed even in direction from the ratios seen in Bell's psychogram. Beck's (1961) sample of 157 middle-status Chicago mail-order personnel adds further to the normative confusion. His findings with regard to CF and FC, while consonant with those of Brockway et al. for normative adults, CF>FC (1.44:1.36), contradict the concept of linear progression often assumed for personality development.

In Rorschach analysis, content interpretation frequently is at a symbolic level. A given content response may convey a variety of meanings, depending upon the context in which it appears (Phillips and Smith, 1953) and the clinician making the interpretation. Personality theories, particularly those with a psychoanalytic orientation, provide the interpretative foundations for many of these meanings, as do past clinical cases. The response "rock," to take one example, is thought by Halpern (1953, p. 37) to symbolize "security" (not given by Phillips and Smith). Explains Rychlak (1959, p. 456),

...what the clinician must mean in this suggestion is that a meaning is conveyed by the construct Rock. He--the clinician--has learned to identify this less frequent association which people have between feelings of security (object) and rocks (sign).

Rychlak wanted to determine the extent to which content interpretations could be generalized without losing their validity. He adapted a method employed by Osgood (1952) to assess whether or not subjects would agree in their choices of clinical meanings often assigned to contents. If Rorschach constructs really signified the content meanings so often ascribed to them, the various experimental groups would be expected to show consistencies in the making of forced associations to the constructs.

Twelve familiar Rorschach contents were investigated: Boots, Smoke, Bear, Mask, Fur, Fire, Clouds, Rocks, Hair, Bat, Island, and Mountain. Subjects were asked to assign a positive or negative valence to each of the above constructs. They were also asked to assign to each construct one of six arbitrary meanings: Ambition, Love, Security, Depression, Fear and Anger. The 160 subjects included introductory psychology students, extension students, and state hospital mental patients, with the distribution of males and females nearly equal.

Allowing for expected differences between psychologists and unsophisticated subjects, the major prediction in Rychlak's study was verified. Consistencies in the forced associations were reflected by the groups, cutting across such lines as sex and mental health. Many of the clinical interpretations were found to hold. Among the more typical findings, for example, were (1) that "Security" was associated to "Rocks" by both the normals (62 per cent) and the patients (63 per cent), (2) that a positive valence to "Fur" was more likely to be assigned by women (94 per cent) than men (80 per cent), and (3) that male patients chose "Security" and "Love" more frequently in assigning meanings than did normal males, who selected "Ambition" more frequently (significant at .01 level). Little reversal was noted in the valence assigned to any of the constructs.

The semantic differential was employed by Goldfried (1963) in order to determine the connotative meaning of some Rorschach animal symbols among college students. Forty male and forty female undergraduates rated ten animal symbols on each of twelve bi-polar adjective scales. The results failed to confirm the generality of symbolic meanings with "universal" consistency. Some of the interpretations presented by Phillips and Smith (1953) were confirmed: Alligator as active and destructive, Butterfly as passive-feminine. Most of the interpretations, however, were either only partially confirmed (Spider as wicked, but not feminine) or not confirmed at all (Ape not as a threatening, destruc-

tive figure).

A different approach to clinical hypotheses about the meaning of specific Rorschach responses and test behavior was adopted by Halpern (1957). He converted his own interpretative reactions to his subjects' percepts into questions, which he ~~then~~ asked of his subjects directly. What he was seeking was "a simple, face-value attempt at checking what the psychologist feels his S is communicating" (p. 16). The questions represented a variety of experiential levels, including personal history, feelings, fantasies, impulses, and behavior. Two types of "impressive evidence" were claimed by Halpern as favoring his idea that examiner questions reached a deep, meaningful level for his patients. The first type of evidence was the appearance of metaphors similar to a subject's original percept, while the second had to do with the enthusiastic reactions of his subjects to the questions put to them.

Halpern's procedure is open to criticism as being heavily subjective, directively leading, and more representative of interview techniques than of Rorschach techniques. On the other hand, his procedure is reminiscent of Allport's (1955) belief that one too frequently overlooked approach to gaining understanding of an individual is to allow him opportunities to tell about himself. "We are still in the dark concerning the nexus of John's life. A large share of our (clinical) trouble lies in the fact that the elements we employ in our analyses are not

true parts of the original whole" (p. 21). Halpern did ask his subjects about particular areas in their experience, as they perceived them. Although open to criticism, Halpern did attempt to provide a realistic relationship between an individual's Rorschach performance and his characteristic feelings and ways of coping with and expressing these feelings.

Schafer (1953) distinguishes between static conceptions of content interpretation and the more dynamic thematic analysis of content, which is based in psychoanalytic theory. While foreseeably running the risk of "wild psychoanalysis," thematic analysis is required because it integrates the interplay that occurs among ink blot, perceptual style, and personal imagery. The risk of naive psychoanalysis can be partially offset by standardization of context in interpretation, and avoidance of one-to-one interpretations between individual responses and pathognomic categories.

The influence of a static content approach on interpretation proved to be disruptive to the general findings in a dissertation study by Tabor (1959). Tabor obtained process analyses of thirty Ph.D. clinicians as they interpreted three Rorschach protocols. The content approach, which occurred only for a single clinician, was sufficiently unusual to disrupt the clinician's subgroup agreement with other subgroups in the study. Elimination of the performance of this clinician who "proceeded largely on the basis of content analysis" raised the level of

comparability of the subgroup quite markedly.

The above observation would not be in conflict with Schafer's ideas concerning the meaningfulness of content analysis. The content data available to Tabor's clinicians were limited to major content categories, in quantitative form, and did not lend themselves to thematic treatment. Schafer's approach relies on specific response contents, evaluated in sequence, and related to card, prerresponse, and postresponse contexts.

D. The Clinical Question

The role of the Rorschach in clinical diagnosis has been the subject of controversy both in the literature and in clinical settings, both among psychologists and among psychiatrists. From a formal and theoretical standpoint, the keynotes have been those of caution and conservatism--"It is to be understood that the test is primarily an aid to clinical diagnosis....it can be of some service to the psychoanalyst" (Rorschach, 1942, trans., pp. 121, 123; italics mine). Ross (1950) cited a committee report from the Group for Advancement of Psychiatry which stated that psychological tests, like any other laboratory procedures, do not make a psychiatric diagnosis but only contribute to it. From a practical and applied standpoint, however, the keynotes have tended to lose their cautious tenor in the direction of more expansive claims. "The test can clear up those unpleasant situations arising when one has an analytic patient in whom

there is a suspicion of schizophrenia which cannot be dispelled" (Rorschach, p. 123).

Ross analyzed some of the expectations and limitations associated with Rorschach interpretation. He concluded that many Rorschach expectations were naive, and that the limitations too often were overlooked. To quote,

The author has been impressed with the wide variations in regard to what is being attempted by clinical psychologists using the Rorschach method, and what is expected of them by psychiatrists and other physicians using their services. There has not been sufficient recognition of the limitations of an ingenious tool in the hands of an ingenuous operator, with good intentions, but with inadequate training, either in the special technique or in clinical diagnosis generally. In other instances some of the most skillful of Rorschach workers are succumbing to the temptation to assume the role of psychiatric diagnostician, either because of their own ambitions, or because of pressure from physicians, all too ready to grasp at an apparent short-cut, with their own lack of time and surfeit of patients (p.5).

Ross especially objected to an overemphasis on diagnosis when combined with a minimization of personality description. For him, "the most valuable contribution of the Rorschach report" is the description of the total personality in action.

Armitage and Pearl (1957) referred to the diagnostic impressions resulting from Rorschach interpretation as "unimportant by-products." They claimed that many clinicians would object to the use of the Rorschach primarily as a diagnostic tool. "Its most effective use lies in such areas as personality description, its prognostic value, and its indications for treatment possibilities" (p. 479).

Rorschach's own thinking concerning diagnostic evaluation clearly included an awareness that "incorrect diagnoses were and still are made." Justifications offered by him in relation to diagnostic evaluation with the Rorschach revolved around interpreter responsibility in seeing to it that sufficient experience and practice had been gained from which to make valid integrations of test data. He recognized, for example, that it would be possible for clinical symptoms considered to be of primary importance to psychoanalysts to appear unimportant in the overall Rorschach results. Even when the symptoms were described correctly, there could be a faulty putting-together of the descriptions in forming a final diagnosis. "Experience and practice with the test play a great role in the evaluation of quantitative importance of symptoms...." (p. 120).

The majority of the clinical judgment studies reviewed in this paper have had in common requests for Rorschachers to reach diagnostic conclusions. As seen above, however, diagnostic questions have never been regarded as easy ones to answer, neither fully appropriate nor even desirable. As attested to by McCully (1965),

Ambiguity in projective findings may be confusing for purposes of nosology, but which may nevertheless accurately reflect conditions existing in the inner world (p. 436).

A survey of past Rorschach research, from the specific orientation of diagnosis, may reveal a direct relationship between positive or negative outcome of studies and the type of clinical

questions asked. Outcomes surely have been influenced by the general diagnostic group from which the Rorschach records were obtained. A parallel influence regarding the nature of the clinical question would seem equally likely.

Future research explorations of Rorschach judgment might be encouraged to consider the potential influence of both of these variables--the clinical question asked and the psychiatric make-up of the subjects. For example, a variety of questions could be asked of Rorschach workers in a single study and the relative outcomes compared for success. Diagnostic differentiation might be retained as one of the clinical questions in a study. However, it would seem feasible to include other, more descriptive questions, perhaps having to do with emotional controls, or anxiety, or the degree of immaturity characterizing the personality. Another possible question might be one calling for an estimate of intellectual functioning, especially since the latter question has reappeared in past Rorschach studies, lends itself more realistically to application with nonpsychotic subjects, and provides an operational form of criterion.

Second, different levels of specification for a question might be requested of the clinical participants. In addition to general ratings, specific clinical impressions and conclusions might be obtained, and the point of relative breakdown in accuracy determined. Intelligence estimation, for example, potentially lends itself both to general and specific levels of judgment.

The general level might include the judgment of "average," "below average," or "above average." The specific level might include the giving of an estimated I.Q., plus or minus a few points. Again, intelligence estimation has the added advantages of permitting a relatively objective type of verification of results (intelligence test scores) and of providing a type of criterion which differs from that of psychiatric judgment, interview findings or therapy material.

Third, future Rorschach designs might allow for freer operation of the stylistic approaches of clinicians. The purpose of the latter would be to determine, first, whether clinicians tend to rely more on contents or on determinants in their general approach to Rorschach interpretation; second, whether content and determinant approaches vary according to the type of clinical question asked; and, third, whether certain Rorschach cards are "preferred" for particular clinical questions or during different stages of interpretation. The possible applications here would be numerous.

E. Rimoldi's Problem-Solving Technique and Summary

In an unpublished doctoral dissertation, Tabor (1959) conducted process analyses of 30 clinical psychologists as they attempted to determine the diagnosis of psychiatric patients through blind Rorschach interpretation. Tabor's study implemented a problem-solving technique developed by

Rimoldi (1955), who originally employed it to investigate the diagnostic processes of physicians (1956, 1958).

The major feature of the Rimoldi technique rests in the step-by-step procedural recording it permits as isolated increments of information are selected, gathered together, and synthesized by a clinical worker. Data related to a specific clinical problem are written on separate information cards, one unit of data per card. The worker is requested to arrive at answers to specified clinical questions by deriving his information from the available data cards, one at a time, in a manner which then is left to the worker to decide upon for himself. Instructions emphasize that the worker select only information cards deemed "necessary and sufficient" in order to maximize the more systematic features of his approach and to minimize the inclusion of relatively irrelevant data. The technique allows the experimenter to control the problem, the types of questions that may be asked, and the amount of information given in answer to each question.

The Rimoldi technique has been used in a variety of contexts. Haley (1963) used it to assess the effects of training on medical diagnostic skills. Rimoldi and Devane (1961) assessed the influence of training on problem-solving. The technique has been used to study thinking processes through different ages (Rimoldi et al., 1962), mathematical abilities (Reidel, 1963), and changes in the course of psychotherapy (Meyer, 1963).

The approaches of psychiatrists, psychologists, and social workers in diagnosing minimal brain pathology in children were investigated by Mohrbacher (1961). Gunn (1962) studied psychologists and social workers as they solved problems involving interpersonal conflict. The reader is referred to Gunn's excellent review of clinical judgment literature from the medical, psychiatric, and Wechsler-Bellevue perspectives.

Some of the general findings resulting from the studies just cited are listed below. Clinical experts select information items which have the highest utility value for the group as a whole. Clinical experts select a smaller number of information items to answer clinical questions than do less experienced workers. Workers following different procedures of interpretation nevertheless may reach similar conclusions. There is a high degree of correspondence in outcome shown by physicians solving medical problems as well as by Rorschach experts interpreting Rorschach protocols, despite the emergence of greater personal style shown by more experienced workers. Physicians from different schools perform in similar ways for a particular case. Junior medical students select information not valued by the general medical group. Senior medical students are more critical in their diagnostic approach than are Juniors, reflecting the seniors' increased knowledge.

In Tabor's study, a definite lawfulness was found in the sequence in which Rorschach data were accumulated by Rorschach

experts. The clinicians generally proceeded from quantitative data to more symbolic, qualitative data. The latter finding is not in agreement with those of Symonds (1955), Powers and Hamlin (1957), and Hamlin and Powers (1958). The inconsistency may be related to a limitation in Tabor's study having to do with the way in which Rorschach data were made available to the clinicians. That is, the content of the response was available only in summary form, under general content categories.

The self-consistency of each of Tabor's clinicians was at a high level, with little individual variation occurring across the three protocols. This finding would seem less expected under conditions in which clinicians would be asked to answer clinical questions which were not all directed toward diagnosis, as will be the cases in the present study.

R, F%, and F+% were found to represent the basic orientation data necessary for diagnostic Rorschach interpretation by the clinicians in Tabor's study. Minor variations peculiar to individual protocols were noted. For example, the rigidity of the Schizophrenic personality elicited greater concern with Dd, S, and d. The Normal record elicited greater seeking of evidence of normality with regard to FK and Fc. The sterility of the Organic protocol gave rise to suspicions regarding depression, C', and the basic question of degree of contact with reality, P. While it also was noted that two-thirds of the clinicians were "basically correct" in their diagnostic statements

about the three protocols presented to them, diagnostic accuracy showed no relationship with the amount of information from which diagnoses were derived, or to sequential selections of information, or to the efficiency level of selection. Tabor explained these negative observations by indicating that arbitrary and excessive accumulation of information could influence efficiency scores in one direction only in his study, that of reducing efficiency. He suggested that finer differentiation of the Rorschach data in its initial format stage might result in more positive findings.

Items might be classified according to types of scoring categories, for example, (1) location scores, (2) determinants, (3) content categories, and (4) numerical ratios. The relative emphasis in these various areas by different analysts might yield some fruitful findings. A tentative exploration of this problem indicates considerable differences among analysts. Some explore one area thoroughly, for example, location scores, before moving on to another, for example, determinants. There appears to be quite deliberate, though perhaps unconscious, concentration on one area at a time. Others, on the other hand, transfer continually from one area to another, suggesting a more macroscopic view of the Rorschach (p. 109).

The Rimoldi technique is consonant with the general research findings reported in the present survey of the literature. Especially as it is to be structured in the present design, the technique will allow for the fullest possible operation of the critical eye of the clinician (Hertz, 1959) and the integrating factor of the clinician (Armitage et al., 1955), in Rorschach interpretation. Fuller freedom of operation for the clinician could result only by providing the latter with entire Rorschach

protocols. However, experimental control of the clinician's processes of interpretation would then be sacrificed.

Within the limits of Rimoldi's problem-solving technique and of "blind" diagnosis, the clinician is free to select as little or as much Rorschach data as he wishes. No restrictions are placed on the order of his selections, although once an information card is selected, its sequential position then is determined. The clinician is allowed to make written notations as he proceeds in his evaluations, constructing psychograms or other formal summaries according to his own preferences or needs. Introspections also are encouraged in order to provide a running description and explanation of the data selections, limited only by the clinician's own willingness to verbalize them. Although it is true that the clinicians in the present study will not be able to gain an immediate holistic overview of the Rorschach record, the possibility of their gaining such an overview nevertheless is open to them. The clinicians would have only to select all of the data cards. Thus, it may be seen that the interpretation of Rorschach protocols under the conditions of the present design may occur in a way which is as maximally similar to the natural Rorschach setting as possible, limited only by the experimental goal of maintaining step-by-step control of the interpretative process.

The present study is consonant with Hamlin's (1954) judgments that outcomes in Rorschach research are directly related

to the simplicity or complexity of the material to be judged and to the adequacy of the experimental conditions in allowing the clinician to derive judgments from the material. The study is also seen to be consistent with Cummings' (1954) conclusion that Rorschach studies most closely approximating the operation of the clinician-in-action most often yield positive relationships in their outcomes. In the present proposal, the clinician will be able to determine his own limits of simplicity or complexity of the material to be judged. Each clinician will be able to determine for himself the amount and type of Rorschach data necessary to reach clinical conclusions. He will be free to utilize part of the available data, or all of it. He will be free to rely on content factors or on traditional determinant scores, according to his own desired emphasis, the latter recognized as a variable by Symonds (1955).

Success in clinical judgment has been shown to be more characteristic for some areas of personality than for others (Powers and Hamlin, 1957). In the present design, three different types of clinical question will be asked. One question will request a psychiatric diagnosis, another an estimate of severity of anxiety, and the final one an estimate of current intellectual functioning. Lower self-constancy for individual clinicians across the three protocols than was found in Tabor's study will be predicted. Differential emphasis on content and determinant scores also will be predicted, according to the type of

clinical question asked. These predictions are specified in the hypotheses of the study.

In the study, an attempt will be made to control for possible cues associated with language, behavioral observations, and background data. Responses per se will be separated from accompanying verbalizations and examiner observations. Background data will be available to the clinicians, with separate items of background information appearing on separate cards, in keeping with the design format (Sherman, 1952; Chambers and Hamlin, 1957; Bower, Testin, and Roberts, 1960).

Each clinician in the present study will be able to make some relative determination of "adequate time" for his interpretations (Corsini, 1955; Richards and Murray, 1958).

Two levels of interpretation will be considered in the study for each protocol: one general and one specific.

Combinations of different types of criteria will be employed in determining the final accuracy of the clinicians' interpretations, including results from other projective tests, psychiatric judgments, and results from the Stanford-Binet intelligence test.

III. DESCRIPTION OF SAMPLE AND METHODOLOGY

Thirty-six experienced clinical psychologists were asked to interpret three Rorschach protocols, under the conditions of Rimoldi's data-selection technique. An experienced clinical psychologist was defined as a person 1) holding the Ph.D. degree in clinical psychology, 2) having at least four years clinical experience since the time the Ph.D. degree was conferred, 3) having utilized the Rorschach technique in clinical investigation, and 4) willing to participate in the study, which required approximately one and one-half hours time.

The attempt to obtain two subgroups of clinicians representing both Beck and Klopfer orientations to the Rorschach was partially successful. Both orientations were represented in the sample, but unequally. The predominant orientation was that of Beck (N = 25) and accounted for 69 per cent of the clinicians in the sample. The remaining 31 per cent was comprised of clinicians following Klopfer's orientation (N = 11). A single clinician who identified his orientation with that of Piotrowski was grouped with the Beck sample on the basis of his greater use of Beck scores than of Klopfer scores in the study. The total clinician sample thus was defined as two-thirds Beck and one-third Klopfer in orientation. The effect of this two-to-one ratio

TABLE 1

DESCRIPTION OF CLINICAL SAMPLE

N = 36

Variables	Mean	SD	Range
Age in Years	44.7	8.1	32 - 65
Years Since Ph.D.	13.4	7.6	4 - 30
Estimated Rorschachs For Past Five Years	265.6	310.1	25 - 1500
	Number	Per Cent	
APA Membership	36	100	
Diplomate in Clinical Rorschach Orientation	18	50	
Beck	25	69	
Klopfer	11	31	

was to limit generalizations of comparative findings between the two major Rorschach approaches used in this country. However, it is believed that the subgrouping served to control for influences associated with differences in academic training and practicum experiences.

Each of the three Rorschach protocols used in the study was broken down into its component parts. The resulting information units were written on $2\frac{1}{2} \times 3$ inch cards which then were inserted into pockets on a 3×4 foot cardboard folder and positioned into one of eight vertical columns which were labelled according to traditional Rorschach categories. Written on the front of each card was the traditional Rorschach symbol, word, or ratio indicating the type of information that could be obtained by removing the card from its pocket and reading what was on the reverse side. Background data describing each of the three Rorschach subjects also was included among the cards, as was data related to the subject's verbal elaborations and comments, and the Rorschach examiner's observations of behavior, where available. There were 329 cards for each protocol, although many of the cards represented equivalent forms of similar Rorschach data for the Beck and Klopfer scoring methods.

The cardboard folder was self-supporting when presented in an upright, open-book fashion. This upright presentation made it possible for the clinician to view all of the information cards rapidly and comprehensively, and facilitated ready access to the data

cards. Appendix I provides a picture of the apparatus used in the study.

As soon as one of the three cardboard folders had been presented to the clinician, the following written instructions were given to him.

This study is an attempt to determine how the clinician goes about evaluating Rorschach data in answering clinical questions.

In front of you is a cardboard folder into which data cards have been set. Each folder represents an authentic Rorschach protocol. Each data card indicates an item of Rorschach information generally utilized in Rorschach analysis. The information can be obtained by selecting any card, turning it over, and reading what is on the back.

When you select a card, draw it from its pocket, read the information on the reverse side, and lay it on the desk. Do not replace any card in the pockets of the board after you have drawn it from its pocket. Proceed in this fashion for all the cards that you find necessary to select. As soon as you feel quite sure of your answer to the clinical question that will be presented to you shortly, write it on the paper. Stop drawing further cards.

You are asked to select those cards you believe to be necessary and sufficient to arrive at answers to the clinical questions. Avoid selecting a card unless you feel you really need it in order to answer a particular question. According to your clinical judgment, you may select as few or as many cards as you wish. Not all of the information will be positively given; that is, information may be made available through omission, the reverse side of a selected card being found blank. You are asked to make your data selections in the manner consistent with what you have found to be the most satisfactory, on the basis of your own Rorschach experiences, however personal.

Feel free to reread any card previously drawn. Feel free also to utilize any of the materials that have been placed on the desk in connection with this study. The making of notations is encouraged. You also may

wish to make comments as you proceed, perhaps verbalizing your thinking, which would be welcome.

There will be three clinical questions, and protocols, in all. The estimated time is about 1½ hours, total.

You are requested to read all the items on the board, and to familiarize yourself with its format, before selecting any card.

Note: The techniques of both Beck and Klopfer frequently are given separate representations on the board, in order to reflect and make available their different dimensions. Feel free to select any of the cards, at any time in your analysis.

After the clinician had read the instructions and familiarized himself with the data board, the experimenter verbally added the following:

If you would like to know the reaction time to any of the cards, or the specific location for any of the responses, ask me and I will indicate it to you.

Reaction times were indicated verbally to the clinician, upon request. The location areas were indicated graphically by the experimenter who circled appropriate response areas on a standard location chart. These two exceptions to the general cards-in-pockets format of the design were necessitated by the limited board space. The desirability of including all relevant data was weighed against the desirability of maintaining a workable apparatus.

After the clinician indicated his familiarity with the data board and his understanding of the procedure, the experimenter presented him with a written question form containing the clinical question which corresponded with the protocol before him.

Each protocol was accompanied by a different type of clinical question. Protocol A involved clinical diagnosis, Protocol B an estimate of severity of anxiety, and Protocol C an estimate of present level of intellectual functioning. Illustrations of the three written question forms appear in Appendix II.

Two levels of interpretative judgment were requested of the clinician for each question. The first level was the more general one, and called for the clinician to make a pencil check next to one of a number of broad categories. The second level was the more specific one, and called for some detailed clarification of the clinician's earlier general conclusion. It was thought that this differentiation between general and specific levels of interpretation would prove useful in evaluating the accuracy of the clinicians' final judgment, by highlighting points at which clinical agreement remained high or at which agreement broke down.

The order in which the three protocols were presented was rotated in order to control for potential errors associated with position effects, familiarity with the experimental procedure, and general interpretative context.

The supplementary "materials" referred to in the instructions were placed on the desk for use by the clinician, if desired. These materials included blank paper, Klopfer summary and psychogram forms, Beck summary forms, and standard location charts. A complete set of Rorschach inkblots was available upon

request. The reader is referred to Appendix III for illustrations of these forms.

As the clinicians in the study proceeded in their interpretations, the experimenter made written notations of the sequence in which the data cards were selected. Descriptive and explanatory comments relevant to the interpretative process also were recorded.

This general experimental procedure was maintained for the presentation of the second and third protocol folders. At the end of each session, the clinician was asked to provide some general information regarding his Rorschach background and experience. The standard information form used for this purpose appears in Appendix IV. Brief discussion then was encouraged by the experimenter, in order to obtain the retrospective comments of the clinician, to determine whether any of the protocols had been recognized by the clinician, and to provide whatever feedback might be requested by the clinician regarding either the protocols or the study.

The three protocols employed in the study were selected from existing Rorschach records published in the literature. The protocols thus were authentic, obtained in actual clinical practice by experienced clinicians. Some advantages were seen as a result of this selection procedure. First, potential biases associated with a single examiner's having administered and scored all three Rorschach protocols were lessened. Protocol B,

for example, was scored by Beck, and Protocol C by Bochner and Halpern. Second, background and interpretation material were available for all three cases, including psychiatrist reports and, for Protocols A and C, findings from other psychological tests. Third, as the number of Rorschach responses, R, has been shown to have a significant influence on some of the major Rorschach scoring categories (Fiske and Baughman, 1965), it was thought that desirable control of R would be facilitated by selection of protocols from the literature. R in the present study ranged from 33 (C) through 34 (B) to 37 (A).

Protocol A was The Case of Gregor, a study presented by John Bell at a 1949 APA symposium. Gregor appeared in two issues of the Rorschach Research Exchange (1949, vol. XIII) as part of an extensive research project undertaken to investigate interrelationships among multiple projective and objective techniques. Data from 22 different psychological tests were available for Gregor, with each test interpreted by a different clinical specialist. The Rorschach, for example, was interpreted by Bruno Klopfer. A psychiatric evaluation also was included in the case material, as was a final integrative diagnostic summary by the symposium's moderator, Frederick Wyatt: "schizophrenia...seems to express the most fundamental fact of Gregor's disease....Gregor's fundamental disturbance is a disturbance of thinking" (p. 467).

Although the Rorschach interpretation of Gregor was done

by Klopfer, the original response scorings were not indicated on the published protocol. The final protocol scorings used in this study were derived from a joint conference of five advanced VA interns in clinical psychology. For all protocols, translations of the primary scorings into the alternate Beck or Klopfer scorings generally were direct and literal (e.g., FY = FC'), with the exception of more unique categories such as FM, m, and F+, where appropriate adjustments among other categories were made. For all protocols, of course, the original scorings were probably more true to their own specific theoretical orientation than were the alternate scorings to theirs. However, it was believed that the alternate scorings still would be more meaningful and reliable to the clinician working within the context of his own theoretical framework than would scorings from a framework which, while the original, would be unfamiliar to him.

Protocol B was taken from Beck (1945), The Classic Signs.

"The record points to a central anxiety that must be deeply distressing....a pervasive emotion in her. Also, it is the more intense in a person as introversive as she is....the anxiety from which she suffers deeply" (pp. 244-245). The record was unique in that despite the severe anxiety and the disintegrating effects of the "heavy blacks" of the blots there was no appearance of shading used as a determinant in the record. Beck did not specify events related to the possible heightening of anxiety in Classic Signs, apart from affective arousal, but he did

mention a number of psychological defenses which were being employed to handle the anxiety: fantasy, disregard of reality, regressive tendencies, resignation, inadequate affective response, autistic solutions, and intellectual contact.

Protocol C was a record of an essentially normal Adolescent Girl which was taken from Bochner and Halpern (1942). A Stanford-Binet intelligence test score of 118 was reported for Adolescent Girl. A brief amount of case history material accompanied the record, including a psychiatrist's diagnostic note which indicated essentially healthy personality features for the subject. The protocol was scored by Bochner and Halpern from a Klopferian framework.

It was considered unlikely that any of the protocols would be recognized by the clinicians participating in the study. The fragmentation of the Rorschach data under the experimental conditions employed, and the improbability of there being any "set" among the participants toward protocols from the literature, were seen as supporting this assumption. Specific response contents would present the most obvious clues to recognition (e.g., the "flying red horse" in Protocol A or the "two seeds...carried away on the wind" in Protocol B). Determinants and numerical ratios would provide less obvious clues. In order to provide a check on this assumption, however, the clinicians were asked at the end of the experimental session whether the protocols were familiar to them. None of the clinicians in the study indicated that they had recognized any of the three protocols.

Two assumptions were made in determining the relative utility value of the data available for Rorschach interpretation in this study. First, items and categories perceived as more useful by clinicians would be selected more frequently than those perceived as less useful. Second, more useful items and categories would be selected earlier in the interpretation sequence than those perceived as less useful. These two assumptions correspondingly permitted the data to be viewed from the dual perspectives of what was used and how or when it was used.

The measure of what data clinicians used was the Utility Index.¹ This index, expressed as a percentage, represented the ratio of the number of times an item was selected to the total number of clinicians doing the selecting. As each of the thirty-six clinicians in the study was free to select any given card, the maximum Utility Index for a card would be 100.0% and the minimum Utility Index would be 0.0%.

In order to provide a general framework for evaluating the relative emphasis given to the data selected by the clinicians, each card was grouped under one of six levels of utility, according to the magnitude of the card's Utility Index. The six utility levels were based on cumulative percentage divisions of

¹The statistical formula for this Index, and for other of the techniques to be discussed in this chapter, may be found in Appendix VI.

the normal curve, approximating ± 3 standard deviations, as illustrated in Figure 1.

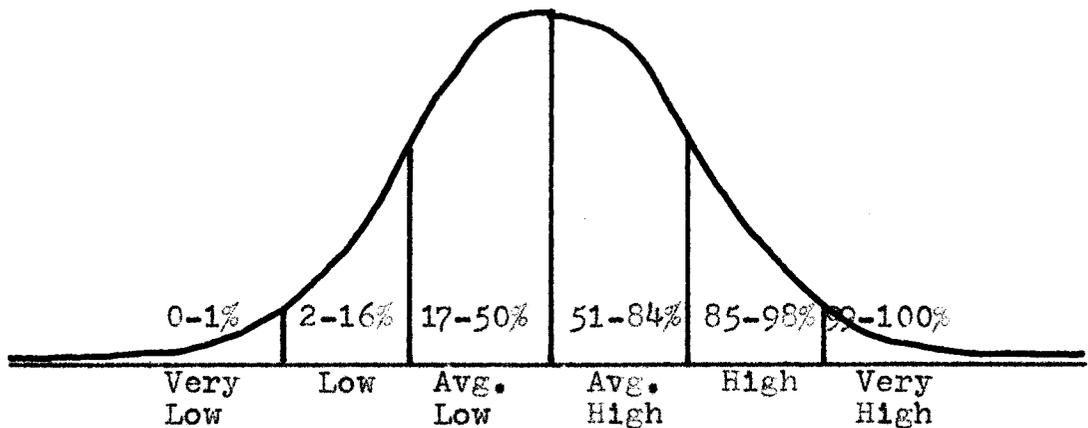


Fig. 1. Six levels for classifying utility of Rorschach information.

The principal measure of how data were used by the clinicians in this study was the Mean Rank. As each card had been assigned a rank indicating its ordinal position in the selection sequence on each protocol for each clinician, it was possible to sum the ranks assigned to a given card and divide the resulting figure by the total number of clinicians doing the selecting. Cards which had not been selected by a clinician were assigned the average rank of all remaining cards in the protocol, based on the statistical assumption that each card had a equal probability of being selected next. The maximum Mean Rank for a given card would be 1.0 (selected first by all clinicians) and the minimum Mean Rank would be 329.0 (selected last by all clinicians).

IV. DISCUSSION OF THE RESULTS

The various sources of Rorschach information were classified according to six utility levels: Very High (VH), High (H), Average High (AH), Average Low (AL), Low (L), and Very Low (VL). Reference to Table 2 will show that of the 329 separate information items available for selection, no item was found to be singularly high in utility by the clinicians interpreting the three protocols in this study. This finding was observed for the results of the three protocols combined, as well as for the Intelligence task in particular. Highest utility obtained (H) was for two free associations, given to Rorschach Cards II and III on the Diagnosis task, and to the Age item on the Anxiety task. Average High (AH) utility was observed for 27 of the 329 items for the three protocols combined, and represented eight per cent of the total number of items. The cards selected at this level contained data from four categories: Personal Data, Qualitative Responses, Totals (Beck), and Determinants (Beck). The pattern of initial data usage most often followed by the clinicians in this study was, first, to gain a brief non-Rorschach orientation to the test subject based on Personal Data (Age, Sex, Education), and then to focus on the subject's Qualitative Rorschach responses--the traditional free associations.

Occasional summary or determinant scores--F+%, M, R--were included among the data selections at this High Average level. However, most forms of quantitative Rorschach information had lower levels of utility, secondary to qualitative data, the latter including subject Verbalizations and Examiner Observations. The findings are in support of Hypothesis II_A that clinicians generally will proceed from qualitative to quantitative Rorschach data in their interpretations.

The sequential appearance of Qualitative responses #6 and #7 following responses #1 and #2 in Table 2 may be cited as examples of the influence of individual Rorschach cards on data selections. Clinicians evidenced less interest in exhausting all responses given to Rorschach Card I, for example, than in determining the first one or two responses given to each of the early Rorschach cards. For purposes of evaluating this latter influence, it may be noted that the numbers of Rorschach responses given to Card I in each of the three protocols were five, eight, and four, respectively.

The information items selected at the Low level of utility represented 56 per cent of the total and largely included later Verbalizations, Quantitative scorings and Locations of individual responses, and Content summary scores. Appearing at this Low level were specific items such as reaction times (Beck and Klopfer, Klopfer's SumC, W, and P, and Beck's F₀, xF%, Additional responses, and Zf.

Table 3 presents the Mean Rank findings for each card on the three protocols combined, indicating the sequential point at which a given card generally was selected by the clinicians. The relative position of each card in relation to all of the other cards also is presented, ranging from first to three-hundred-twenty-ninth (Relative Ranks). It may be seen that the cards selected earliest in the interpretation sequence--at the upper fifteen per cent level--again are mainly from the Qualitative response and Personal Data categories, with occasional appearances of Beck Summary (F+%, R, P), Determinant (M, C, CF, FC), and Location (W) scores. In fact, ninety per cent of the free associations are selected earliest, within the upper fifteen per cent range, along with nearly fifty per cent of the background information cards. The inclusion of the Marital and Sexual information cards highlights the utility that sexual and interpersonal material tends to have in clinical interpretation.

Tables 2 and 3 have been presented adjacent to each other in order to facilitate cross comparisons between the two sets of data. The Utility Index (UI) represents the frequency dimension of selection, while the Mean Rank (MR) represents the sequence dimension. The close correspondence of these two utility measures may be observed visually by the reader. A rho of .939 was obtained between the two sets of data. This correlation was significant at the .001 level, using Student's t with N-2 degrees of freedom (t = 49.37). It is interesting to note, however, that the correlation between the two sets of data in

TABLE 2

UTILITY LEVEL OF EACH ITEM
FOR THREE QUESTIONS
COMBINED*

TABLE 3

SEQUENTIAL RANK OF EACH ITEM
FOR THREE QUESTIONS
COMBINED

Items	Utility Indices
Average High Utility: 51-84%	
Age**	80.6
Qual 1	75.9
Sex	75.0
Qual 2	71.3
Qual 6	
Ed	69.4
Qual 7	68.5
Qual 3	
Qual 5	66.7
Qual 4	
Qual 9	65.7
Qual 10	64.8
F+% B	63.9
Qual 8	
Qual 11	58.3
Qual 13	
Qual 15	57.4
Qual 16	
M B	55.6
Qual 21	
Qual 14	
R B	
Qual 12	54.6
Qual 20	
Qual 28	
Qual 29	53.7
Qual 19	

Items	Ranks
Age	1
Sex	2
Qual 1	3
Qual 2	4
Ed	5
Qual 6	6
Qual 3	7
Qual 4	8
Qual 7	9
Qual 5	10
F+% B	11
Qual 9	12
Qual 8	13
Qual 10	14
R B	15
M B	16
Qual 11	17
Qual 13	18
Qual 15	19
Qual 16	20
Qual 12	21
Qual 14	22
Occ	23
Qual 21	24
Qual 20	25
Qual 19	26
Qual 28	27

* No item was selected at the Very High (99-100%) or High (85-98%) levels of utility.

**Item abbreviations defined in Appendix VII.

TABLE 2 continued

UTILITY LEVEL OF EACH ITEM FOR
THREE QUESTIONS COMBINED

Items	Utility Indices
Average Low Utility: 17-50%	
Qual 22	50.9
Qual 30	
Occ	
Qual 18	
Qual 24	50.0
Qual 25	49.1
Qual 17	48.1
Qual 26	
Qual 31	
Qual 32	
Qual 27	47.2
Qual 23	46.3
Sexual	45.4
Mar	43.5
Qual 33	42.6
P B	39.8
W B	38.0
CF B	37.0
Verb 2	
Verb 1	
C B	
Qual 34	36.1
Verb 3	
FC B	35.2
xF+% B	32.4
F% B	
Int	
Mo	30.6
FY B	
Fa	
A% B	
Res 3	29.6
Y B	
App B	28.7
YF B	
Verb 8	27.8
Verb 4	
Verb 7	26.8

TABLE 3 continued

SEQUENTIAL RANK OF EACH ITEM FOR
THREE QUESTIONS COMBINED

Items	Ranks
Qual 18	28
Qual 29	29
Mar	30
Qual 22	31
Sexual	32
Qual 17	33
Qual 24	34
Qual 30	35
Qual 25	36
Qual 26	37
Qual 23	38
Qual 31	39
W B	40
Qual 27	41
Verb 1	42
Qual 32	43
P B	44
Verb 2	45
C B	46
CF B	47
Verb 3	48
FC B	49
Qual 33	50
F% B	51
xF+% B	52
Int	53
A% B	54
FY B	55
Fa	56
Mo	57
Y B	58
YF B	59
App B	60
Qual 34	61
Verb 4	62
Dd B	63
D B	64
Nty	65

TABLE 2 continued

UTILITY LEVEL OF EACH ITEM FOR
THREE QUESTIONS COMBINED

Items	Utility Indices
Dd B	26.8
Spo	
Verb 6	25.9
H B	
S B	
D B	
FV B	25.0
Nty	
Verb 5	
Res 10	
ZSm B	24.1
FT B	
VF B	
V B	
Loca 14	23.1
Verb 9	
Sibs	22.2
Res 7	
F- B	
Dbl 1	
A B	
Hd B	
T B	21.3
Res 1	
Loca 13	
Rej B	
F+ B	
FM K	
Res 9	
Quan 4 B	
Quan 8 B	
Res 4	
Quan 6 B	
An B	
Verb 29	20.1
Res 6	
Qual 35	
Verb 11	
Quan 9 B	
Verb 10	

TABLE 3 continued

SEQUENTIAL RANK OF EACH ITEM FOR
THREE QUESTIONS COMBINED

Items	Ranks
Spo	66
Res 3	67
Verb 8	68
Verb 7	69
S B	70
Verb 5	71
H B	72
Verb 6	73
FV B	74
ZSm B	75
V B	76
VF B	77
FT B	78
Sibs	79
Verb 9	80
Rej B	81
Hd B	82
Res 10	83
Dbl 1	84
Res 1	85
T B	86
Loca 2	87
Loca 14	88
A B	89
Rel	90
F- B	91
Quan 4 B	92
An B	93
Loca 4	94
AffR B	95
TF B	96
F+ B	97
Quan 6 B	98
Res 7	99
R K	100
Ad B	101
Loca 13	102
Res 4	103
Seq B	104
Mty	105

TABLE 2 continued

UTILITY LEVEL OF EACH ITEM FOR
THREE QUESTIONS COMBINED

Items	Utility Indices
-------	--------------------

TF B	20.1
Verb 20	
Loca 2	
Ad B	
AffR B	
Res 8	
Loca 4	19.4
Quan 3 B	
R K	
Res 2	
Rel	
Verb 18	
Quan 5 B	
Quan 2 B	
Verb 12	
Verb 16	18.5
Mty	
Seq B	
Verb 19	
Verb 23	
Quan 1 B	
M K	
m K	17.6
RT 1	
Quan 7 B	
Verb 13	
Verb 21	
Loca 12	
Quan 29 B	

Low Utility: 2-16%

Quan 16 B	16.7
AvgRT B	
SumC K	
Verb 27	
Quan 11 B	
RT 2	
Loca 3	
Verb 14	

TABLE 3 continued

SEQUENTIAL RANK OF EACH ITEM FOR
THREE QUESTIONS COMBINED

Items	Ranks
-------	-------

Verb 10	106
Quan 2 B	107
FM K	108
Quan 8 B	109
Quan 3 B	110
Verb 11	111
Res 9	112
Res 8	113
Quan 1 B	114
Res 2	115
Quan 9 B	116.5
Res 6	116.5
Quan 5 B	118
Verb 12	119
RT 1	120
Loca 3	121
M K	122
Verb 20	123
AvgRT B	124
Loca 12	125
Verb 18	126
Verb 16	127
Verb 13	128
Loca 5	129
Quan 7 B	130
Qual 35	131
RT 2	132
m K	133
Verb 29	134

Verb 19	135
Verb 14	136
Verb 23	137
Quan 11 B	138
Loca 6	139
SumC K	140.5
Verb 21	140.5
Loca 7	142

TABLE 2 continued

TABLE 3 continued

UTILITY LEVEL OF EACH ITEM FOR
THREE QUESTIONS COMBINEDSEQUENTIAL RANK OF EACH ITEM FOR
THREE QUESTIONS COMBINED

Items	Utility Indices	Items	Ranks
Verb 30	15.7	Fo B	143
Loca 5		Loca 11	144
Verb 25		Loca 8	145
Verb 15	14.8	Loca 9	146
Verb 22		Quan 16 B	147
Fo B		Quan 29 B	148
Loca 11		RT 3	149
Verb 28		xF% B	150
Verb 17		Fi B	151
W K		Verb 15	152
Fi B		W K	153
Verb 24		RTAch B	154
Quan 13 B		RTChr B	155
Qual 37		Verb 17	156.5
Quan 14 B		Quan 14 B	156.5
RT 3		Verb 27	158
Loca 7	13.9	Anal B	159
RTAch B		Dbl 2	160
Res 5		Quan 13 B	161
D K		Dbl 3	162
Verb 33		Verb 25	163.5
Verb 32		Res 5	163.5
Verb 31		RT 8	165
Verb 26		Verb 22	166
RT 8		Quan 12 B	167
RTChr B		Verb 24	168
Loca 6		D K	169
Quan 10 B		Quan 10 B	170
Dbl 3		Quan 15 B	171
Dbl 2		Verb 28	172
Loca 8		Zf B	173
xF% B		Qual 37	174
Quan 24 B		Verb 30	175
Quan 12 B		Add B	176
Qual 36		Quan 18 B	177
Quan 15 B		RT 10	178.5
Loca 9		Loca 1	178.5
Anal B		Quan 24 B	180
Quan 33 B		Verb 26	181
Quan 18 B		RT 6	182

TABLE 2 continued

UTILITY LEVEL OF EACH ITEM FOR
THREE QUESTIONS COMBINED

Items	Utility Indices
Quan 31 B	13.0
Quan 32 B	
RT 10	
Loca 31	12.0
Quan 28 B	
RT 6	
Quan 30 B	
RT 9	
RT 7	
Add B	
Loca 17	
Quan 25 B	
F% K	
FC K	
Loca 18	
Loca 29	
Quan 17 B	
Quan 19 B	
RT 4	11.1
RT 5	
Quan 21 B	
Quan 20 B	
Zf B	
P K	
Loca 15	
Quan 22 B	
Quan 26 B	
Verb 34	
Loca 27	
Quan 27 B	
Loca 25	
Cl B	
Loca 19	10.2
A K	
CF K	
A% K	
Quan 23 B	
H K	
Loca 20	
Loca 16	

TABLE 3 continued

SEQUENTIAL RANK OF EACH ITEM FOR
THREE QUESTIONS COMBINED

Items	Ranks
Qual 36	183
RT 7	184
Loca 18	185
Loca 17	186
RT 9	187
RT 4	188
Cl B	189
Verb 31	190
RT 5	191
Loca 15	192
Quan 33 B	193
FC K	194
F% K	195
Verb 32	196
Verb 33	197
Quan 17 B	198
Quan 19 B	199
Quan 31 B	200
P K	201
Quan 32 B	202
Quan 25 B	203
Quan 30 B	204
Loca 16	205
Quan 28 B	206
Loca 25	207
Loca 29	208
Loca 19	209
Quan 22 B	210
Loca 27	211
Ar B	212
H K	213
Quan 20 B	214
Loca 31	215
CF K	216
Quan 26 B	217
Loca 20	218
Quan 27 B	219
Fd B	220
Loca 10	221
A K	222

TABLE 2 continued

UTILITY LEVEL OF EACH ITEM FOR
THREE QUESTIONS COMBINED

Items	Utility Indices
Loca 1	10.2
Loca 30	
Loca 32	9.2
Loca 24	
Loca 33	
Ar B	
Dd K	
8-9-10% K	
Fd B	
Loca 26	
d K	8.3
Loca 23	
W% K	
Art B	
Loca 21	
Loca 10	
C' K	
Fc K	
Hy B	
Hd K	
Quan 34 B	
Loca 22	
F K	7.4
Bt B	
Sex K	
K K	
Quan 31 K	
Loca 28	
Ge B	
FK K	
k K	
AvgRT K	
Na B	
Hh B	6.5
C K	
Loca 34	
RTChr K	
RTAch K	
c K	
Ad K	

TABLE 3 continued

SEQUENTIAL RANK OF EACH ITEM FOR
THREE QUESTIONS COMBINED

Items	Ranks
Quan 21 B	223
A% K	224
My B	225
Quan 23 B	226
Art B	227
Verb 34	228
Loca 24	229
Loca 30	230
Dd K	231
Loca 26	232
8-9-10% K	233
Fc K	234
Ge B	235
Loca 23	236
W% K	237
Loca 21	238
Loca 22	239
C' K	240
Bt B	241
Na B	242
Loca 32	243
Hd K	244
d K	245
K K	246
FK K	247
k K	248
F K	249
Quan 1 K	250
Sex K	251
Loca 33	252
Hh B	253
Quan 34 B	254
Loca 28	255
AvgRT K	256
Quan 31 K	257
Ay B	258
C K	259
Oj B	260.5
Quan 10 K	260.5
c K	262

TABLE 2 continued

UTILITY LEVEL OF EACH ITEM FOR
THREE QUESTIONS COMBINED

Items	Utility Indices
Verb 35	6.5
Ay B	5.6
FK+% K	
Oj B	
Succ K	
Quan 1 K	
Verb 36	
S K	
Verb 37	
Quan 35 B	
Quan 10 K	
Quan 23 K	4.6
Quan 32 K	
Quan 36 B	
D% K	
Rej K	
Quan 37 B	
Quan 9 K	
Quan 8 K	
Quan 2 K	
Quan 11 K	
F1 K	
Quan 12 K	
Quan 13 K	
Quan 33 K	3.7
Art K	
At K	
Quan 4 K	
Quan 21 K	
Quan 7 K	
Loca 36	
Quan 15 K	
Dd+S% K	
Quan 22 K	
Quan 29 K	
Quan 19 K	
Quan 3 K	
Quan 20 K	
Quan 16 K	2.8
Quan 28 K	

TABLE 3 continued

SEQUENTIAL RANK OF EACH ITEM FOR
THREE QUESTIONS COMBINED

Items	Ranks
Quan 2 K	263
Verb 35	264
Quan 8 K	265
Quan 9 K	266
Ad K	267
FK+% K	268
Quan 13 K	269
Quan 12 K	270.5
Quan 11 K	270.5
Loca 34	272
RTAoh K	273
RTChr K	274
Fire K	275
Quan 35 B	276.5
S K	276.5
Quan 3 K	278
Quan 4 K	279
Rej K	280.5
Verb 36	280.5
Quan 7 K	282
Verb 37	283
Quan 23 K	284
Succ K	285
Quan 36 B	286
Quan 15 K	287.5
Quan 37 B	287.5
D% K	289
Art K	290
Quan 19 K	291
Quan 20 K	292
Quan 5 K	293
Quan 32 K	294
Quan 6 K	295
Quan 21 K	296
At K	297.5
Quan 22 K	297.5
Quan 14 K	299
Quan 16 K	300
Quan 29 K	301
Quan 17 K	302

TABLE 2 continued

UTILITY LEVEL OF EACH ITEM FOR
THREE QUESTIONS COMBINED

Items	Utility Indices
-------	--------------------

Loca 35	2.8
Quan 17 K	
Quan 26 K	
Quan 18 K	
Quan 34 K	
Quan 6 K	
Quan 27 K	
AAt K	
Fd K	
Loca 37	
Quan 30 K	
Quan 25 K	
Quan 14 K	
Quan 24 K	
Quan 5 K	

Very Low Utility: 0-1%

Quan 37 K	1.8	
Quan 36 K		
Quan 35 K		
Add K		
Obj K		
Na K		
d% K		
Sc K		.9
AObj K		
Cl K		
Pl K		
Geo K		

TABLE 3 continued

SEQUENTIAL RANK OF EACH ITEM FOR
THREE QUESTIONS COMBINED

Items	Ranks
-------	-------

Dd+S% K	303
Fd K	304
Quan 18 K	305
Quan 33 K	306
Loca 36	307
AAt K	308
Quan 24 K	309
Quan 25 K	310
Quan 26 K	311
Quan 27 K	312
Quan 28 K	313
Quan 30 K	314
Quan 34 K	315
Obj K	316
Na K	317

Loca 35	318
Loca 37	319
d% K	320
Add K	321
Quan 35 K	322
Quan 36 K	323
Quan 37 K	324
Pl K	325
Sc K	326
AObj K	327
Cl K	328
Geo K	329

Tables 2 and 3 showed important variations, according to the phase of interpretation involved. That is, when the data were divided into tenths and separate Spearman rho correlations calculated for each of the ten subgroups, different degrees of agreement were obtained, as explained below.

The results of Table 4 indicate that the correspondence between frequency and sequence of information selection is highest during the initial stages of Rorschach interpretation, and at terminal stages (including information not selected at all, or information having little utility value). During the middle stages of interpretation, the correlations between what information is

TABLE 4

SPEARMAN RHO CORRELATIONS BETWEEN UTILITY INDICES AND
MEAN RANKS OF TEN SUBGROUPS OF CARDS FOR
THREE PROTOCOLS COMBINED

Subgroups	rho	t	p
1	.939	15.16	.001
2	.016	12.69	.001
3	.566	3.82	.001
4	.237	1.36	.20
5	-.155	- .87	NS
6	-.629	- 4.50	.001
7	.294	1.71	.10
8	.568	3.84	.001
9	.277	1.58	.20
10	.813	7.76	.001

used and how it is used decline to non-significance and negative significance. These middle stages likely represent the critical stages of variation in Rorschach interpretation, influenced by both the clinical question asked and the stylistic differences of individual clinicians.

Summary results for the number of cards selected and time taken for each of the three questions are provided in Table 5.

TABLE 5
SUMMARY RESULTS FOR CARDS SELECTED AND
TIME TAKEN PER QUESTION

Measures	Questions				x_r^{2*}
	I Diagnosis	II Anxiety	III Intelligence	I-II-III Combined	
Number Cards Selected					
Mean	70.8	71.9	47.9	63.5	22.96
SD	37.6	35.0	39.0	33.8	
Range	7-157	12-154	5-151	24-431	
Number Minutes Taken					
Mean	26.3	29.7	14.9	23.6	31.85
SD	14.6	20.0	13.0	13.2	
Range	5-67	7-120	2-64		

* Friedman two-way analysis of variance results both significant at .001 level

The Rorschach interpretations required an average of sixty-four separate information items judged "necessary and sufficient," and twenty-four minutes time with prepared data. The Friedman Analysis of Variance results support the major hypothesis that interpretative approach is influenced by the type of clinical question asked.

Table 5 shows that there were significant differences in the number of cards selected and in the amount of time taken to arrive at answers to the three clinical questions. It may be noted, however, that these particular χ_r^2 significances are due largely to the influence of the Intelligence question. Tests of t between the means of the Diagnosis and Anxiety questions in both instances failed to reach significance (Cards = t of .34, Minutes = t of 1.13). Intelligence estimation as a question presented least difficulty for the clinicians. The Anxiety estimation task proved to be the most difficult of the three, requiring the largest number of cards and the most time. The question of Diagnosis was only slightly lower in difficulty than that of Anxiety. The high degree of individual variation among clinicians may be seen by the relatively wide standard deviations and ranges obtained.

The Utility Index and Mean Rank results in Tables 6 and 7 show the usages of each information card for the three questions. These results are accompanied by Friedman χ_r^2 's to indicate which items showed differential utility across questions. The non-

parametric Friedman two-way analysis of Variance test determines the likelihood of different columns of ranks having come from the same population. In computing the Friedman tests, N was equal to thirty-six (clinicians) and K was equal to three (protocols). The items in Tables 6 and 7 have been grouped according to their traditional Rorschach categories, in the order in which the information items appeared on the apparatus. Results of these two tables will be combined in the following discussion of information categories. Where applicable, the primary focus will be on the Beck categories, as the Klopfer categories generally failed to contribute significances, due to sample limitations. Also, the overall Utility Indices for each category will be based on the percentage of cards selected within each of the categories, in order to equalize the varying number of cards across categories (range = 9-37).

The first of the categories to be discussed is the non-Rorschach Personal Data category which provided background information on each of the test subjects. It was predicted that the utility value of Personal Data would be highest for the task on Protocol I, next highest for the task on Protocol II, and lowest for that on Protocol III. The prediction was partially confirmed. The general utility value of this category was lowest for Protocol III (UI = 29.2), but slightly higher for Protocol II (UI = 46.6) compared with Protocol I (UI = 46.4). The Anxiety question elicited significantly greater interest in the subject's Marital

TABLE 6

UTILITY INDICES (UI) AND UTILITY LEVELS (UL)
FOR PERSONAL DATA ITEMS

Items	Questions						χ_r^2 *	P
	Diagnosis		Anxiety		Intelligence			
	UI	UL	UI	UL	UI	UL		
Sex	75.0	AH	80.5	AH	69.4	AH	3.96	
Age	77.7	AH	86.1	H	77.7	AH	3.83	
Ed	69.4	AH	61.1	AH	77.7	AH	4.59	
Occ	61.1	AH	52.7	AH	38.8	AL	5.51	.10
Nty	30.5	AL	25.0	AL	19.4	AL	3.96	
Rel	27.7	AL	22.2	AL	8.3	L	5.09	.10
Mar	50.0	AL	66.6	AH	13.8	L	15.34	.001
SPo	33.3	AL	36.1	AL	11.1	L	6.52	.05
Sibs	30.5	AL	27.7	AL	8.3	L	5.85	.10
Mo	38.8	AL	38.8	AL	13.8	L	6.86	.05
Fa	38.8	AL	38.8	AL	13.8	L	6.86	.05
Sxl	50.0	AL	63.8	AH	22.2	AL	10.81	.01
Mty	30.5	AL	16.6	AL	8.3	L	5.51	.10
Int	36.1	AL	36.1	AL	25.0	AL	4.13	

* Friedman two-way analysis of variance.

TABLE 6 continued

UTILITY INDICES (UI) AND UTILITY LEVELS (UL)
FOR LOCATION ITEMS

Items	Questions						χ_r^2 *	P
	Diagnosis		Anxiety		Intelligence			
	UI	UL	UI	UL	UI	UL		
Klopfcr								
W	11.1	L	11.1	L	22.2	AL	4.13	
D	11.1	L	13.8	L	16.6	AL	3.58	
d	5.5	L	8.3	L	11.1	L	3.58	
Dd	8.3	L	11.1	L	8.3	L	3.50	
S	5.5	L	8.3	L	2.7	L	3.58	
W%	5.5	L	5.5	L	13.8	L	3.83	
D%	5.5	L	2.7	L	5.5	L	3.50	
d%	2.7	L	2.7	L	0.0	VL	3.50	
Dd+S%	5.5	L	2.7	L	2.7	L	3.50	
Succ	2.7	L	5.5	L	8.3	L	3.58	
Beck								
W	36.1	AL	30.5	AL	47.2	AL	4.63	.10
D	25.0	AL	30.5	AL	22.2	AL	3.75	
Dd	33.3	AL	27.7	AL	19.4	AL	4.25	
S	36.1	AL	27.7	AL	13.8	L	5.51	.10
App	25.0	AL	27.7	AL	33.3	AL	3.75	
Seq	19.4	AL	16.6	AL	19.4	AL	3.50	
AffR	22.2	AL	30.5	AL	8.3	L	5.51	.10
Zf	5.5	L	5.5	L	22.2	AL	4.97	.10
Zcum	8.3	L	13.8	L	50.0	AL	11.81	.01

TABLE 6 continued

UTILITY INDICES (UI) AND UTILITY LEVELS (UL)
FOR DETERMINANT ITEMS

Items	Questions						x_r^{2*}	P
	Diagnosis		Anxiety		Intelligence			
	UI	UL	UI	UL	UI	UL		
Klopfers								
M	19.4	AL	13.8	L	22.2	AL	3.75	
FM	22.2	AL	19.4	AL	22.2	AL	3.50	
m	13.8	L	22.2	AL	16.6	AL	3.75	
k	8.3	L	11.1	L	2.7	L	3.75	
K	8.3	L	11.1	L	2.7	L	3.75	
FK	8.3	L	11.1	L	2.7	L	3.75	
F	8.3	L	8.3	L	5.5	L	3.50	
Fc	11.1	L	11.1	L	2.7	L	3.83	
c	5.5	L	11.1	L	2.7	L	3.75	
C'	8.3	L	13.8	L	2.7	L	3.96	
FC	16.6	AL	13.8	L	5.5	L	4.00	
CF	16.6	AL	11.1	L	2.7	L	4.25	
C	11.1	L	5.5	L	2.7	L	3.75	
Beck								
M	55.5	AH	52.7	AH	58.3	AH	3.58	
C	52.7	AH	41.6	AL	16.6	AL	9.04	.05
CF	50.0	AL	44.4	AL	16.6	AL	8.66	.02
FC	50.0	AL	41.6	AL	13.8	L	9.29	.01
Y	36.1	AL	47.2	AL	5.5	L	11.06	.01
YF	36.1	AL	44.4	AL	5.5	L	10.30	.01
FY	41.6	AL	44.4	AL	5.5	L	11.14	.01
T	30.5	AL	30.5	AL	2.7	L	7.66	.05
TF	33.3	AL	25.0	AL	2.7	L	7.53	.05
FT	36.1	AL	30.5	AL	5.5	L	7.78	.05
V	33.3	AL	33.3	AL	5.5	L	7.66	.05
VF	33.3	AL	30.5	AL	8.3	L	6.52	.05
FV	33.3	AL	33.3	AL	8.3	L	6.86	.05
F+	27.7	AL	25.0	AL	11.1	L	4.76	.10
F-	30.5	AL	25.0	AL	11.1	L	5.09	.10
Fo	22.2	AL	13.8	L	8.3	L	4.25	
Db11	30.5	AL	25.0	AL	11.1	L	5.09	.10
Db12	30.5	AL	0.0	VL	11.1	L	7.36	.05
Db13	30.5	AL	0.0	VL	11.1	L	7.36	.05

TABLE 6 continued

 UTILITY INDICES (UI) AND UTILITY LEVELS (UL)
 FOR CONTENT ITEMS

Items	Questions						x_r^2 *	P
	Diagnosis		Anxiety		Intelligence			
	UI	UL	UI	UL	UI	UL		
Klopper								
H	8.3	L	11.1	L	11.1	L	3.50	
Hd	5.5	L	11.1	L	8.3	L	3.58	
A	11.1	L	11.1	L	8.3	L	3.50	
Ad	5.5	L	8.3	L	5.5	L	3.50	
At	2.7	L	8.3	L	0.0	VL	3.75	
AAt	2.7	L	2.7	L	2.7	L	3.46	
AObj	0.0	VL	0.0	VL	2.7	L	3.50	
Art	5.5	L	2.7	L	2.7	L	3.50	
Cl	0.0	VL	0.0	VL	2.7	L	3.50	
Fd	2.7	L	2.7	L	2.7	L	3.46	
Fire	5.5	L	5.5	L	2.7	L	3.50	
Geo	0.0	VL	0.0	VL	0.0	VL	3.46	
Na	2.7	L	0.0	VL	2.7	L	3.50	
Obj	2.7	L	0.0	VL	2.7	L	3.50	
Pl	0.0	VL	0.0	VL	2.7	L	3.50	
Sc	0.0	VL	0.0	VL	2.7	L	3.50	
Sex	11.1	L	5.5	L	5.5	L	3.62	
Beck								
H	33.3	AL	30.5	AL	13.8	L	5.26	.10
Hd	30.5	AL	30.5	AL	5.5	L	6.86	.05
A	27.7	AL	19.4	AL	19.4	AL	3.83	
Ad	27.7	AL	22.2	AL	11.1	L	4.63	.10
An	27.7	AL	30.5	AL	5.5	L	6.52	.05
Anal	19.4	AL	16.6	AL	5.5	L	4.34	
Ar	8.3	L	5.5	L	13.8	L	3.75	
Art	16.6	AL	5.5	L	2.7	L	4.34	
Ay	8.3	L	5.5	L	2.7	L	3.58	
Bt	13.8	L	5.5	L	2.7	L	4.00	
Cl	16.6	AL	11.1	L	5.5	L	3.96	
Fd	16.6	AL	8.3	L	2.7	L	4.25	
Fi	19.4	AL	16.6	AL	8.3	L	4.00	
Ge	8.3	L	5.5	L	8.3	L	3.50	
Hh	11.1	L	5.5	L	2.7	L	3.75	
My	11.1	L	8.3	L	5.5	L	3.58	
Na	13.8	L	5.5	L	2.7	L	4.00	
Oj	8.3	L	5.5	L	2.7	L	3.58	

TABLE 6 continued

UTILITY INDICES (UI) AND UTILITY LEVELS (UL)
FOR TOTALS ITEMS

Items	Questions						x_r^2 *	P
	Diagnosis		Anxiety		Intelligence			
	UI	UL	UI	UL	UI	UL		
Klopper								
R	16.6	AL	16.6	AL	25.0	AL	3.83	
AvgRT	5.5	L	8.3	L	8.3	L	3.50	
RTAch	8.3	L	8.3	L	2.7	L	3.62	
RTChr	8.3	L	8.3	L	2.7	L	3.62	
F%	11.1	L	13.8	L	11.1	L	3.50	
FK+%	5.5	L	8.3	L	2.7	L	3.58	
A%	11.1	L	11.1	L	8.3	L	3.50	
P	11.1	L	11.1	L	11.1	L	3.46	
SumC	22.2	AL	16.6	AL	11.1	L	3.96	
8-10%	5.5	L	13.8	L	8.3	L	3.75	
Add	2.7	L	2.7	L	0.0	VL	3.50	
Rej	5.5	L	8.3	L	0.0	VL	3.75	
Beck								
R	58.3	AH	52.7	AH	55.5	AH	3.58	
F%	36.1	AL	36.1	AL	25.0	AL	4.13	
XF%	11.1	L	16.6	AL	13.8	L	3.58	
F+%	72.2	AH	58.3	AH	61.1	AH	4.34	
XF+%	30.5	AL	33.3	AL	33.3	AL	3.50	
A%	30.5	AL	36.1	AL	25.0	AL	3.96	
P	50.0	AL	44.4	AL	25.0	AL	6.27	.05
AvgRT	27.7	AL	16.6	AL	5.5	L	5.47	.10
RTAch	19.4	AL	19.4	AL	2.7	L	4.97	.10
RTChr	19.4	AL	19.4	AL	2.7	L	4.97	.10
Add	13.8	L	11.1	L	11.1	L	3.50	
Rej	25.0	AL	30.5	AL	8.3	L	5.64	.10

TABLE 6 continued

 UTILITY INDICES (UI) AND UTILITY LEVELS (UL)
 FOR QUANTITATIVE SCORING ITEMS--KLOPPER

Items	Questions						χ^2	P
	Diagnosis		Anxiety		Intelligence			
	UI	UL	UI	UL	UI	UL		
1	2.7	L	8.3	L	5.5	L	3.58	
2	2.7	L	2.7	L	8.3	L	3.62	
3	2.7	L	2.7	L	5.5	L	3.50	
4	2.7	L	2.7	L	5.5	L	3.50	
5	2.7	L	2.7	L	2.7	L	3.46	
6	2.7	L	2.7	L	2.7	L	3.46	
7	5.5	L	2.7	L	2.7	L	3.50	
8	5.5	L	5.5	L	2.7	L	3.50	
9	2.7	L	8.3	L	2.7	L	3.62	
10	2.7	L	8.3	L	5.5	L	3.58	
11	5.5	L	5.5	L	2.7	L	3.50	
12	2.7	L	8.3	L	2.7	L	3.62	
13	2.7	L	5.5	L	5.5	L	3.50	
14	2.7	L	2.7	L	2.7	L	3.46	
15	2.7	L	2.7	L	5.5	L	3.50	
16	2.7	L	2.7	L	2.7	L	3.46	
17	2.7	L	2.7	L	2.7	L	3.46	
18	2.7	L	2.7	L	2.7	L	3.46	
19	2.7	L	2.7	L	5.5	L	3.50	
20	5.5	L	2.7	L	2.7	L	3.50	
21	5.5	L	2.7	L	2.7	L	3.50	
22	5.5	L	2.7	L	2.7	L	3.50	
23	8.3	L	2.7	L	2.7	L	3.62	
24	2.7	L	2.7	L	2.7	L	3.46	
25	2.7	L	2.7	L	2.7	L	3.46	
26	2.7	L	2.7	L	2.7	L	3.46	
27	2.7	L	2.7	L	2.7	L	3.46	
28	2.7	L	2.7	L	2.7	L	3.46	
29	2.7	L	5.5	L	2.7	L	3.50	
30	2.7	L	2.7	L	2.7	L	3.56	
31	2.7	L	13.8	L	5.5	L	4.00	
32	2.7	L	2.7	L	8.3	L	3.62	
33	2.7	L	2.7	L	5.5	L	3.50	
34	0.0	VL	2.7	L	5.5	L	3.58	
35	0.0	VL	0.0	VL	5.5	L	3.62	
36	0.0	VL	0.0	VL	5.5	L	3.62	
37	0.0	VL	0.0	VL	5.5	L	3.62	

TABLE 6 continued

 UTILITY INDICES (UI) AND UTILITY LEVELS (UL)
 FOR QUANTITATIVE SCORING ITEMS--BECK

Items	Questions						x_r^2	P
	Diagnosis		Anxiety		Intelligence			
	UI	UL	UI	UL	UI	UL		
1	19.4	AL	22.2	AL	13.8	L	3.75	
2	22.2	AL	19.4	AL	16.6	AL	3.58	
3	16.6	AL	25.0	AL	16.6	AL	3.83	
4	25.0	AL	16.6	AL	22.2	AL	3.75	
5	22.2	AL	16.6	AL	19.4	AL	3.58	
6	27.7	AL	16.6	AL	19.4	AL	4.00	
7	19.4	AL	16.6	AL	16.6	AL	3.50	
8	22.2	AL	25.0	AL	16.6	AL	3.75	
9	22.2	AL	19.4	AL	19.4	AL	3.50	
10	16.6	AL	13.8	L	11.1	L	3.58	
11	13.8	L	22.2	AL	13.8	L	3.83	
12	13.8	L	19.4	AL	8.3	L	3.96	
13	13.8	L	25.0	AL	5.5	L	5.01	.10
14	16.6	AL	19.4	AL	8.3	L	4.00	
15	13.8	L	19.4	AL	8.3	L	3.96	
16	19.4	AL	22.2	AL	8.3	L	4.34	
17	19.4	AL	13.8	L	2.7	L	4.63	.10
18	16.6	AL	19.4	AL	5.5	L	4.34	
19	16.6	AL	13.8	L	5.5	L	4.00	
20	11.1	L	16.6	AL	5.5	L	3.96	
21	11.1	L	16.6	AL	5.5	L	3.96	
22	11.1	L	16.6	AL	5.5	L	3.96	
23	19.4	AL	8.3	L	2.7	L	4.63	.10
24	16.6	AL	13.8	L	11.1	L	3.58	
25	19.4	AL	8.3	L	8.3	L	4.13	
26	16.6	AL	11.1	L	5.5	L	3.96	
27	13.8	L	13.8	L	5.5	L	3.83	
28	13.8	L	11.1	L	11.1	L	3.50	
29	22.2	AL	13.8	L	16.6	AL	3.75	
30	16.6	AL	8.3	L	11.1	L	3.75	
31	13.8	L	11.1	L	13.8	L	3.50	
32	11.1	L	8.3	L	19.4	AL	4.00	
33	16.6	AL	8.3	L	16.6	AL	3.83	
34	2.7	L	8.3	L	13.8	L	3.96	
35	0:0	VL	2.7	L	13.8	L	4.34	
36	0.0	VL	0.0	VL	13.8	L	4.51	
37	0.0	VL	0.0	VL	13.8	L	4.51	

TABLE 6 continued

 UTILITY INDICES (UI) AND UTILITY LEVELS (UL)
 FOR FREE ASSOCIATION ITEMS

Items	Questions						x_r^2	P
	Diagnosis		Anxiety		Intelligence			
	UI	UL	UI	UL	UI	UL		
1	83.3	AH	83.3	AH	61.1	AH	6.14	.05
2	77.7	AH	80.5	AH	55.5	AH	6.52	.05
3	69.4	AH	80.5	AH	55.5	AH	6.02	.05
4	69.4	AH	75.0	AH	55.5	AH	5.09	.10
5	69.4	AH	72.2	AH	58.3	AH	4.34	
6	86.1	H	75.0	AH	52.7	AH	8.16	.02
7	88.8	H	72.2	AH	44.4	AL	11.69	.01
8	72.2	AH	75.0	AH	44.4	AL	8.12	.02
9	66.6	AH	75.0	AH	55.5	AH	5.01	.10
10	69.4	AH	69.4	AH	55.5	AH	4.51	
11	58.3	AH	77.7	AH	38.8	AL	9.63	.01
12	52.7	AH	77.7	AH	33.3	AL	11.56	.01
13	66.6	AH	77.7	AH	30.5	AL	13.41	.01
14	61.1	AH	66.6	AH	38.8	AL	6.98	.05
15	66.6	AH	66.6	AH	38.8	AL	7.66	.05
16	66.6	AH	69.4	AH	36.1	AL	9.04	.02
17	61.1	AH	52.7	AH	30.5	AL	7.53	.05
18	61.1	AH	66.6	AH	25.0	AL	11.81	.01
19	66.6	AH	69.4	AH	25.0	AL	13.58	.01
20	63.8	AH	75.0	AH	25.0	AL	14.71	.001
21	66.6	AH	69.4	AH	30.5	AL	11.14	.01
22	61.1	AH	61.1	AH	30.5	AL	8.54	.02
23	50.0	AL	55.5	AH	33.3	AL	5.64	.10
24	69.4	AH	50.0	AL	30.5	AL	9.63	.01
25	63.8	AH	50.0	AL	33.3	AL	7.28	.05
26	58.3	AH	52.7	AH	33.3	AL	6.27	.05
27	61.1	AH	50.0	AL	30.5	AL	7.36	.05
28	69.4	AH	47.2	AL	47.2	AL	6.14	.05
29	61.1	AH	55.5	AH	44.4	AL	4.63	.10
30	55.5	AH	55.5	AH	41.6	AL	4.51	
31	55.5	AH	50.0	AL	38.8	AL	4.63	.10
32	52.7	AH	44.4	AL	47.2	AL	3.75	
33	47.2	AL	41.6	AL	38.8	AL	3.75	
34	22.2	AL	44.4	AL	41.6	AL	5.85	.10
35	2.7	L	19.4	AL	38.8	AL	8.79	.02
36	2.7	L	0.0	VL	38.8	AL	11.14	.01
37	0.0	VL	2.7	L	41.6	AL	12.32	.01

TABLE 6 continued

UTILITY INDICES (UI) AND UTILITY LEVELS (UL)
FOR VERBALIZATION AND EXAMINER OBSERVATION ITEMS

Items	Questions						χ_r^2	P
	Diagnosis		Anxiety		Intelligence			
	UI	UL	UI	UL	UI	UL		
1	33.3	AL	47.2	AL	30.5	AL	4.76	.10
2	38.8	AL	41.6	AL	30.5	AL	4.00	
3	36.1	AL	47.2	AL	25.0	AL	5.47	.10
4	33.3	AL	27.7	AL	22.2	AL	3.96	
5	30.5	AL	27.7	AL	16.6	AL	4.34	
6	36.1	AL	22.2	AL	19.4	AL	4.76	.10
7	30.5	AL	27.7	AL	22.2	AL	3.75	
8	22.2	AL	38.8	AL	22.2	AL	4.97	.10
9	16.6	AL	27.7	AL	25.0	AL	4.00	
10	19.4	AL	19.4	AL	22.2	AL	3.50	
11	22.2	AL	22.2	AL	16.6	AL	3.62	
12	19.4	AL	25.0	AL	13.8	L	3.96	
13	13.8	L	27.7	AL	11.1	L	4.76	.10
14	13.8	L	19.4	AL	16.6	AL	3.58	
15	13.8	L	16.6	AL	13.8	L	3.50	
16	16.6	AL	25.0	AL	13.8	L	4.00	
17	19.4	AL	13.8	L	11.1	L	3.75	
18	22.2	AL	27.7	AL	8.3	L	5.09	.10
19	19.4	AL	27.7	AL	8.3	L	5.01	.10
20	16.6	AL	36.1	AL	8.3	L	6.77	.05
21	16.6	AL	25.0	AL	11.1	L	4.25	
22	16.6	AL	16.6	AL	11.1	L	3.62	
23	27.7	AL	16.6	AL	11.1	L	4.63	.10
24	19.4	AL	11.1	L	13.8	L	3.75	
25	22.2	AL	11.1	L	13.8	L	4.00	
26	16.6	AL	13.8	L	11.1	L	3.58	
27	19.4	AL	19.4	AL	11.1	L	3.83	
28	13.8	L	11.1	L	19.4	AL	3.75	
29	22.2	AL	22.2	AL	16.6	AL	3.62	
30	13.8	L	19.4	AL	13.8	L	3.62	
31	16.6	AL	11.1	L	13.8	L	3.58	
32	13.8	L	8.3	L	19.4	AL	3.96	
33	13.8	L	11.1	L	16.6	AL	3.58	
34	2.7	L	16.6	AL	13.8	L	4.34	
35	0.0	VL	2.7	L	16.6	AL	4.76	.10
36	0.0	VL	0.0	VL	16.6	AL	4.97	.10
37	0.0	VL	0.0	VL	16.6	AL	4.97	.10

TABLE 6 continued

 UTILITY INDICES (UI) AND UTILITY LEVELS (UL)
 FOR INDIVIDUAL LOCATION ITEMS

Items	Questions						χ^2	P
	Diagnosis		Anxiety		Intelligence			
	UI	UL	UI	UL	UI	UL		
1	16.6	AL	8.3	L	5.5	L	4.00	
2	30.5	AL	25.0	AL	5.5	L	6.27	.05
3	19.4	AL	25.0	AL	5.5	L	5.09	.10
4	22.2	AL	22.2	AL	13.8	L	3.83	
5	19.4	AL	25.0	AL	2.7	L	5.64	.10
6	13.8	L	22.2	AL	5.5	L	4.59	
7	11.1	L	22.2	AL	8.3	L	4.34	
8	8.3	L	25.0	AL	8.3	L	4.97	.10
9	16.6	AL	8.3	L	16.6	AL	3.83	
10	5.5	L	13.8	L	5.5	L	3.83	
11	19.4	AL	13.8	L	11.1	L	3.75	
12	16.6	AL	27.7	AL	8.3	L	5.01	.10
13	8.3	L	47.2	AL	8.3	L	11.69	.01
14	11.1	L	41.6	AL	16.6	AL	7.78	.05
15	8.3	L	22.2	AL	2.7	L	5.09	.10
16	16.6	AL	8.3	L	5.5	L	4.00	
17	19.4	AL	8.3	L	8.3	L	4.13	
18	19.4	AL	11.1	L	5.5	L	4.25	
19	8.3	L	16.6	AL	5.5	L	4.00	
20	11.1	L	13.8	L	5.5	L	3.75	
21	11.1	L	8.3	L	5.5	L	3.58	
22	8.3	L	11.1	L	5.5	L	3.58	
23	13.8	L	5.5	L	5.5	L	3.83	
24	8.3	L	13.8	L	5.5	L	3.75	
25	16.6	AL	11.1	L	5.5	L	3.96	
26	11.1	L	11.1	L	5.5	L	3.62	
27	13.8	L	13.8	L	5.5	L	3.83	
28	5.5	L	11.1	L	5.5	L	3.62	
29	19.4	AL	8.3	L	8.3	L	4.13	
30	13.8	L	8.3	L	8.3	L	3.62	
31	16.6	AL	11.1	L	8.3	L	3.75	
32	5.5	L	8.3	L	13.8	L	3.75	
33	8.3	L	11.1	L	8.3	L	3.50	
34	0.0	VL	5.5	L	13.8	L	4.25	
35	0.0	VL	0.0	VL	8.3	L	3.83	
36	0.0	VL	0.0	VL	11.1	L	4.13	
37	0.0	VL	0.0	VL	8.3	L	3.83	

TABLE 6 continued

 UTILITY INDICES (UI) AND UTILITY LEVELS (UL)
 FOR CARD SUMMARY ITEMS

Items	Questions						x_r^2	P
	Diagnosis		Anxiety		Intelligence			
	UI	UL	UI	UL	UI	UL		
Number of Responses to Each Rorschach Card								
Card1	22.2	AL	25.0	AL	16.6	AL	3.75	.05
Card2	22.2	AL	25.0	AL	11.1	L	4.34	
Card3	30.5	AL	36.1	AL	22.2	AL	4.25	
Card4	16.6	AL	38.8	AL	8.3	L	7.53	
Card5	11.1	L	19.4	AL	11.1	L	3.83	
Card6	22.2	AL	33.3	AL	5.5	L	6.65	
Card7	22.2	AL	33.3	AL	11.1	L	5.47	
Card8	22.2	AL	30.5	AL	8.3	L	5.51	
Card9	25.0	AL	22.2	AL	16.6	AL	3.75	
Card10	22.2	AL	30.5	AL	22.2	AL	3.83	
Reaction Time to Each Rorschach Card								
Card1	25.0	AL	19.4	AL	8.3	L	4.63	.10
Card2	22.2	AL	19.4	AL	8.3	L	4.34	
Card3	19.4	AL	16.6	AL	8.3	L	4.00	
Card4	13.8	L	13.8	L	5.5	L	3.83	
Card5	13.8	L	13.8	L	5.5	L	3.83	
Card6	13.8	L	16.6	AL	5.5	L	4.00	
Card7	13.8	L	16.6	AL	5.5	L	4.00	
Card8	16.6	AL	19.4	AL	5.5	L	4.34	
Card9	11.1	L	13.8	L	11.1	L	3.50	
Card10	11.1	L	16.6	AL	11.1	L	3.62	

Status, Sexual history, and Sibling Position. The Education card was selected significantly earlier for interpretation of the Intelligence question, which also elicited little interest in information concerning Mother and Father. The Diagnosis question elicited relative interest in Occupation, then Military history, Sibling description, and Religion, with all of the latter only approaching significance at the .10 level.

It was predicted that Location scores would be given greatest emphasis on Protocol III. The prediction was confirmed. The utility value of this category was highest for the Intelligence question (UI = 26.2), and lowest for the Anxiety and Diagnosis questions (UI = 23.4). The use of Beck's ZSum and W scores reached significance here, with Zf and Approach nearing significance at the .10 level. Also approaching significance were the selections of Beck's Affective Ratio for the Anxiety question, and of S for that of Diagnosis.

The prediction for the Determinant category was that it would receive greatest emphasis on the Anxiety question. The prediction was confirmed only partially, due to differential use of subgroups of determinants within the category. The general utility value of the category was lowest for Protocol III (UI = 11.5), and highest for I (UI = 36.5) over II (UI = 31.0). However, as expected, the shading determinants Y, YF, and FY were selected significantly more often and earlier for the Anxiety question, along with earlier selections of the pure shading

scores V and T. Earlier selections of VF and FV approached the .10 significance level. Unexpected was the greater emphasis placed on the shading scores TF and FT in relation to the question of Diagnosis, suggesting that these items have interpretative utility beyond that of "anxiety indicators." The color scores C, CF, and FC also were selected significantly more often and earlier on the Diagnosis protocol, with F+, F-, and Blend scores approaching significance at the .10 level in frequency of usage. The Intelligence question elicited M significantly earlier, but not more often, than did the two other questions.

No predictions were made concerning the Content category. The findings indicate that this category was highest in utility for Protocol I (UI = 17.7), next highest for Protocol II (UI = 13.3), and lowest for Protocol III (UI = 6.8). Only two of the cards in this category showed differential utility. The Anatomy card was selected most often for the Anxiety question, where, along with Hd, it also approached significance as being selected earliest. Hd was used least for the Intelligence question. Cards H and Ad approached significance in amount of usage on the Diagnosis question.

No specific prediction was made for the Totals category. There was, however, the general hypothesis that quantitative data would be given greater emphasis in interpretation on Protocol III than on Protocol II, and least emphasis on Protocol I. The general hypothesis was not supported. The Totals category showed

lowest utility value for the Intelligence question (UI = 22.4), highest utility for the Diagnosis question (UI = 32.9), and middle utility for that of Anxiety (UI = 31.2). The number of popular responses (P) was elicited significantly more often and earlier by the Diagnosis question, with reaction time information (AvgRT, RTAch, RTChr) approaching significance at the .10 level. The Intelligence question elicited earlier selection of F+%, and little concern with RTAch and RTChr. Approaching significance on the Anxiety question was the Rejections item.

Beck Totals ranked third out of the sixteen categories in its overall Utility Index (UI = 28.8, AL), behind the Qualitative (UI = 53.0, AH) and Personal Data (UI = 40.7, AL) categories, based on the percentage of cards selected within each category. This finding supports the prediction that initial but temporary emphasis would be given to quantitative data, geared toward general orientation to the protocol. The finding is consistent with the early results appearing in Tables 2 and 3.

No prediction was made regarding the relative utility of the Quantitative scoring category, which provided Beck and Klopfer scorings of each of the free associations. The utility level of this category was Low overall (UI = 13.0), but relatively higher for Protocols I (UI = 15.7) and II (UI = 14.7) than for Protocol III (UI = 11.7). Of interest concerning this category were three Beck scorings which approached significance at the .10 level in differential frequency and sequence of usage. The clinicians

TABLE 7
 MEAN RANKS (MR) AND RELATIVE RANKS (RR)
 FOR SEQUENTIAL SELECTION OF
 PERSONAL DATA ITEMS

Items	Questions						χ^2_*	P
	Diagnosis		Anxiety		Intelligence			
	MR	RR	MR	RR	MR	RR		
Sex	52	5	48	3	61	3	4.56	
Age	47	1	40	1	45	1	4.73	.10
Ed	68	8	89	18	48	2	12.19	.01
Occ	89	16	113	31	118	20	5.82	.10
Nty	142	65	153	88	150	61	3.62	
Rel	146	74	162	114	173	164	5.02	.10
Mar	109	33	81	15	164	102.5	16.22	.001
SPo	138	56	141	62	166	111	5.65	.10
Sibs	141	63	154	91	172	144	4.90	.10
Mo	129	48	137	56	161	86	5.01	.10
Fa	128	46	137	57	161	88	4.90	.10
Sxl	111	35	96	23	150	62	9.04	.02
Mty	144	71	171	142	172	147	5.40	.10
Int	138	58	141	60	143	48	3.64	

*Friedman two-way analysis of variance

TABLE 7 continued

MEAN RANKS (MR) AND RELATIVE RANKS (RR)
FOR SEQUENTIAL SELECTION OF
LOCATION ITEMS

Items	Questions						χ^2	P
	Diagnosis		Anxiety		Intelligence			
	MR	RR	MR	RR	MR	RR		
Klopfer								
W	180	193	185	213.5	153	71	4.34	
D	182	202	181	184	163	67	3.68	
d	192	257	190	248	172	154.5	3.51	
Dd	187	233	186	222	177	197	3.51	
S	191	254	190	245	186	323	3.64	
W%	192	259	192	269	168	119	3.72	
D%	192	261	198	303	182	260	3.51	
d%	196	281	198	304.5	189	327	3.50	
Dd+S%	192	262	198	306	186	324	3.64	
Succ	198	309	195	280	177	198	3.55	
Beck								
W	131	49	143	66	105	16	8.01	.02
D	152	86	143	68	149	58	3.68	
Dd	142	64	148	79	152	66.5	3.47	
S	138	57	151	87	162	91.5	4.00	
App	154	87	151	85	133	35	5.57	.10
Seq	164	104	169	133	155	73	3.97	
AffR	160	96	149	81	174	168	5.51	.10
Zf	189	245	190	242	150	60	5.53	.10
ZSum	184	216	177	171	102	15	15.65	.001

TABLE 7 continued

MEAN RANKS (MR) AND RELATIVE RANKS (RR)
FOR SEQUENTIAL SELECTION OF
DETERMINANT ITEMS

Items	Questions						xr ²	P
	Diagnosis		Anxiety		Intelligence			
	MR	RR	MR	RR	MR	RR		
Klopfcr								
M	170	130	177	170	152	66.5	3.75	.10
FM	165	111	170	135	154	72	4.97	
m	178	177	165	121	163	100	3.55	
k	187	235	183	196	186	312	3.81	
K	187	236	182	193	186	313	3.75	
Fk	187	234	183	195	186	314	3.72	
F	187	238	188	235	181	248	3.47	
Fc	183	208	182	194	186	315	3.83	
c	193	266	183	200	186	316	3.62	
C'	188	241	179	175	186	317	3.96	
FC	176	162	180	180	181	256	3.81	
CF	176	161	184	202	186	318	4.35	
C	184	210.5	191	257	186	319	3.81	
Beck								
M	100	25	106	28	89	9	9.10	.02
C	106	31	125	44	161	85	8.89	.02
CF	111	37	122	40	162	89	8.89	.02
FC	111	38	127	47	166	110	11.03	.01
Y	135	53	112	30	180	237	12.21	.01
YF	135	52	117	34	180	237	9.94	.01
FY	128	47	118	35	180	237	10.40	.01
T	147	78	146	72	185	299	7.53	.05
TF	144	68	155	92	185	300	6.86	.05
FT	139	60	147	73	180	230.5	7.28	.05
V	143	66	142	63	179	224	6.77	.05
VF	144	72	146	71	175	176	5.74	.10
FV	144	70	143	65	175	178	5.74	.10
F+	155	89	157	100	172	150	4.25	
F-	151	84.5	157	101	172	151	4.59	
Fo	163	103	175	159	176	184	3.85	
Db1 1	149	80	157	99	171	135	4.25	
Db1 2	151	81	201	319.5	171	137.5	6.61	.05
Db1 3	151	83	201	319.5	171	139	6.61	.05

TABLE 7 continued

MEAN RANKS (MR) AND RELATIVE RANKS (RR)
FOR SEQUENTIAL SELECTION OF
CONTENT ITEMS

Items	Questions						χ^2	P
	Diagnosis		Anxiety		Intelligence			
	MR	RR	MR	RR	MR	RR		
Klopfers								
H	188	244	185	210	171	140	3.72	
Hd	193	267	185	211	176	189	3.75	
A	184	215	185	213.5	177	191	3.64	
Ad	193	269	190	250	181	257	3.62	
At	196	287	189	237	189	327	3.85	
AAt	196	285.5	198	309	184	290	3.46	
AObj	200	319.5	201	319.5	184	283	3.50	
Art	191	255	197	291	184	284	3.47	
Cl	200	319.5	201	319.5	184	286	3.50	
Fd	196	291	197	292	184	287	3.47	
Fire	192	256	192	268	184	288	3.50	
Geo	200	319.5	201	319.5	189	327	3.46	
Na	196	288	201	319.5	184	282	3.50	
Obj	196	284	201	319.5	184	276.5	3.50	
Pl	200	319.5	201	319.5	184	279	3.50	
Sc	200	319.5	201	319.5	184	281	3.50	
Sex	183	209	194	273	179	220	3.64	
Beck								
H	144	69	148	77.5	165	106	4.35	
Hd	147	77	148	75	179	208	6.02	.05
A	156	93	167	125	156	77	3.72	
Ad	154	88	162	115	170	132	3.96	
An	155	91.5	148	76	179	211	5.74	.10
Anal	169	126	175	157	179	217	3.89	
Ar	186	227	191	261.5	166	109	4.14	
Art	173	152	191	261.5	183	268	4.52	
Ay	186	228	191	261.5	183	269	3.64	
Bt	178	178	191	261.5	183	270	4.14	
Cl	173	145	183	201	179	216	3.85	
Fd	175	160	187	226	183	272	4.31	
Fi	170	133	174	153.5	174	170	3.68	
Ge	186	230	191	261.5	174	172	3.72	
Hh	183	203	191	261.5	184	274	3.85	
My	182	199	187	225	179	215	3.55	
Na	178	181	191	257	184	276.5	4.14	
Oj	186	231	192	265	184	279	3.64	

TABLE 7 continued

MEAN RANKS (MR) AND RELATIVE RANKS (RR)
FOR SEQUENTIAL SELECTION OF
TOTALS ITEMS

Items	Questions						x _r ²	P
	Diagnosis		Anxiety		Intelligence			
	MR	RR	MR	RR	MR	RR		
Klopfers								
R	170	131	171	139	144	49	4.48	
AvgRT	192	264	191	254	177	194	3.47	
RTAch	191	250	190	240	186	320	3.62	
RTChr	191	251	190	241	186	321	3.62	
F%	185	219	180	179	172	153	3.62	
FK+%	193	270	186	217	186	322	3.64	
A%	185	221	186	218	177	193	3.50	
P	183	205.5	185	212	172	148	3.47	
SumC	167	116	175	161	172	146	4.51	
8-10%	193	271	180	183	177	200	3.64	
Add	196	294	198	307	189	327	3.50	
Rej	191	248.5	189	238	189	327	3.72	
Beck								
R	88	15	101	27	89	11	4.35	
F%	132	51	135	53	147	54	3.81	
XF%	179	184	175	160	164	101	3.46	
F+%	67	7	96	22	83	5	8.87	.02
XF+%	147	76	144	69	131	30	3.51	
A%	144	67	136	55	146	51	3.47	
P	110	34	128	49	146	53	8.26	.02
AvgRT	151	82	172	143	180	225.5	5.01	.10
RTAch	167	119	168	129	184	292	4.63	.10
RTChr	167	120	168	131	184	293	4.63	.10
Add	176	164	183	199	172	145	3.75	
Rej	155	91.5	144	70	174	169	5.32	.10

TABLE 7 continued

MEAN RANKS (MR) AND RELATIVE RANKS (RR)
FOR SEQUENTIAL SELECTION OF
QUANTITATIVE SCORINGS--KLOPPER

Items	Questions						χ^2	P
	Diagnosis		Anxiety		Intelligence			
	MR	RR	MR	RR	MR	RR		
1	194	272	184	203	179	206.5	3.75	
2	194	273	194	274	173	165	3.58	
3	195	274	194	275	179	210	3.55	
4	195	275	195	276	179	213	3.55	
5	195	276	195	277	183	266	3.51	
6	195	277	195	278	183	267	3.51	
7	191	248.5	195	279	183	271	3.47	
8	191	253	190	243	184	273	3.55	
9	195	278	186	223	184	275	3.85	
10	195	279	186	224	180	229	3.81	
11	191	252	190	253	184	285	3.55	
12	195	280	186	221	184	289	3.85	
13	196	282	190	249	179	221	3.64	
14	196	283	196	281	184	291	3.51	
15	196	285.5	196	282	180	228	3.55	
16	196	289	196	283	184	294	3.51	
17	196	290	196	284	184	295	3.51	
18	196	292	196	285	184	296	3.51	
19	196	293	196	286	180	241	3.55	
20	192	258	196	287	185	297	3.47	
21	192	260	196	288	185	298	3.47	
22	192	263	196	289	185	301	3.47	
23	188	243	196	290	185	302	3.51	
24	197	295	197	293	185	303	3.51	
25	197	296	197	294	185	304	3.51	
26	197	299	197	296	185	306	3.51	
27	197	300	197	297	185	307	3.50	
28	197	301	197	299	185	309	3.51	
29	197	302	194	271	185	310	3.55	
30	197	304	197	300	185	311	3.51	
31	197	305	181	187	182	264	4.25	
32	197	306	197	301	178	205	3.85	
33	197	307	197	302	182	258	3.64	
34	200	319.5	198	304.5	182	259	3.64	
35	200	319.5	201	319.5	182	261	3.62	
36	200	319.5	201	319.5	182	262	3.62	
37	200	319.5	201	319.5	182	263	3.62	

TABLE 7 continued

MEAN RANKS (MR) AND RELATIVE RANKS (RR)
FOR SEQUENTIAL SELECTION OF
QUANTITATIVE SCORINGS--BECK

Items	Questions						χ^2	P
	Diagnosis		Anxiety		Intelligence			
	MR	RR	MR	RR	MR	RR		
1	166	114	161	113	165	105	3.55	
2	161	99	168	127	160	81	3.50	
3	171	138	159	103	160	83	3.89	
4	158	94	173	146	151	64	3.96	
5	164	108	173	148	156	75	3.81	
6	155	90	173	151	156	76	4.31	
7	169	127	174	155	162	94	3.62	
8	166	113	161	110	162	95	3.50	
9	165	112	170	136	158	78	3.62	
10	174	154	180	177.5	172	154.5	3.47	
11	178	179	167	124	167	112	3.97	
12	178	180	172	144	176	181	3.96	
13	179	182	164	118	180	239	5.01	.10
14	174	153	171	141	176	188	3.83	
15	179	185	172	145	176	187	3.97	
16	172	142	168	130	176	190	4.18	
17	173	151	181	186	185	305	5.32	.10
18	177	173	173	150	181	246	4.52	
19	176	167	182	191	181	249	4.35	
20	185	222	179	174	181	252	4.14	
21	185	225	180	177.5	181	254	4.00	
22	185	218	177	172	181	251	4.00	
23	173	149	190	246	185	308	4.73	.10
24	177	170	182	192	173	161	3.68	
25	173	150	190	251.5	177	202	4.31	
26	178	176	187	227	181	247	3.85	
27	182	200	183	197	180	243	3.72	
28	183	204	187	229	172	143	3.47	
29	171	137	182	190	164	102.5	3.47	
30	180	187	189	239	172	149	3.47	
31	184	210.5	187	231	169	121	3.51	
32	188	240	191	257	161	87	3.83	
33	180	190	192	266	165	104	3.62	
34	197	308	192	267	169	122	4.00	
35	200	319.5	198	308	169	125	4.34	
36	200	319.5	201	319.5	169	126	4.51	
37	200	319.5	201	319.5	170	127	4.51	

TABLE 7 continued

MEAN RANKS (MR) AND RELATIVE RANKS (RR)
FOR SEQUENTIAL SELECTION OF
FREE ASSOCIATIONS

Items	Questions						xr ²	P
	Diagnosis		Anxiety		Intelligence			
	MR	RR	MR	RR	MR	RR		
1	48	2	47	2	78	4	4.34	
2	59	6	55	4	87	7	3.64	
3	74	9	57	5	88	8	3.85	
4	76	10	68	6	89	10	3.62	
5	77	11	73	10	86	6	3.85	
6	52	4	71	7	97	14	5.02	.10
7	49	3	76	14	110	17	7.21	.05
8	77	12	73	9	111	18	3.64	
9	88	14	74	12	93	12	4.31	
10	85	13	83	16	95	13	3.58	
11	103	27	72	8	122	23	7.50	.05
12	111	36	74	11	131	32	9.63	.01
13	90	17	76	13	136	39	11.14	.01
14	99	23	95	20	124	24	6.65	.05
15	92	18	97	25	125	25	7.75	.05
16	94	19	91	19	130	28	9.10	.02
17	103	28	120	38	138	43	9.85	.01
18	104	29	98	26	147	55	10.68	.01
19	96	20	95	21	148	56	12.37	.01
20	101	26	87	17	148	57	12.96	.01
21	98	22	96	24	140	44	9.43	.01
22	107	32	108	29	141	45	8.26	.02
23	124	44	116	33	137	40	4.81	.10
24	97	21	125	43	141	46	8.34	.02
25	105	30	126	46	138	42	6.66	.05
26	114	41	123	41	138	41	5.82	.10
27	112	39	127	48	142	47	6.65	.05
28	100	24	132	51	116	19	7.08	.05
29	114	40	119	36	121	22	4.81	.10
30	120	42	121	39	127	26	4.48	
31	121	43	128	50	131	31	4.86	.10
32	126	45	139	58	118	21	6.52	.05
33	136	54	143	67	133	34	6.24	.05
34	169	125	141	61	128	27	5.40	.10
35	197	297	174	156	134	37	9.67	.01
36	197	298	201	319.5	135	38	11.70	.01
37	200	319.5	197	298	131	33	12.92	.01

TABLE 7 continued

MEAN RANKS (MR) AND RELATIVE RANKS (RR)
FOR SEQUENTIAL SELECTION OF
VERBALIZATIONS AND
OBSERVATIONS

Items	Questions						χ^2	P
	Diagnosis		Anxiety		Intelligence			
	MR	RR	MR	RR	MR	RR		
1	139	59	113	32	130	29	7.36	.05
2	132	50	124	42	134	36	4.98	.10
3	137	55	119	37	145	50	5.85	.10
4	141	62	150	82	149	59	3.64	
5	147	75	151	84	159	80	3.85	
6	139	61	162	116	155	74	3.64	
7	148	79	151	83	151	65	3.72	
8	163	102	134	52	151	63	6.20	.05
9	171	139	153	69	146	52	5.23	.10
10	167	121	168	128	153	69	4.14	
11	164	106	164	117	162	93	3.62	
12	169	128	160	107	166	108	4.13	
13	177	168	156	96	171	133	5.23	.10
14	177	172	170	137	162	91.5	3.89	
15	177	175	175	158	167	114	3.51	
16	175	157	161	111	167	116	4.13	
17	171	136	179	176	172	142	3.75	
18	168	124	159	106	176	183	5.19	.10
19	172	143	160	109	176	185	4.39	
20	175	159	148	77.5	176	186	6.91	.05
21	177	169	165	120	172	157	4.51	
22	176	165	176	167	173	159	3.47	
23	160	98	176	166	173	162	4.48	
24	173	147	185	207	169	120	3.51	
25	170	129	185	209	169	123	3.58	
26	177	174	181	188	173	166	3.50	
27	175	156	174	153.5	174	167	3.72	
28	182	201	186	220	160	84	4.51	
29	172	144	170	134	165	107	3.62	
30	183	207	176	164	170	128	3.72	
31	180	188	185	216	170	130	3.68	
32	184	213	191	255	163	98	4.31	
33	184	217	187	228	167	113	3.97	
34	197	303	180	182	171	137.5	4.31	
35	200	319.5	197	295	167	115	4.76	.10
36	200	319.5	201	319.5	167	117	4.97	.10
37	200	319.5	201	319.5	168	118	4.97	.10

TABLE 7 continued

MEAN RANKS (MR) AND RELATIVE RANKS (RR)
FOR SEQUENTIAL SELECTION OF
INDIVIDUAL LOCATIONS

Items	Questions						χ^2	P
	Diagnosis		Anxiety		Intelligence			
	MR	RR	MR	RR	MR	RR		
1	171	135	184	204	177	192	4.52	
2	145	73	156	97	177	195	6.49	.05
3	164	109	155	95	177	196	4.97	.10
4	160	97	159	104	163	99	3.75	
5	167	118	155	94	183	265	5.53	.10
6	176	163	160	108	177	199	4.00	
7	180	194	161	112	172	152	4.06	
8	185	220	158	102	173	163	3.85	
9	172	141	186	219	159	79	4.81	.10
10	190	246	176	165	180	225.5	3.55	
11	167	122	178	173	169	124	4.14	
12	173	146	155	93	175	174	5.01	.10
13	186	229	126	45	175	175	10.11	.01
14	181	197	136	54	162	90	6.58	.05
15	186	232	166	123	184	279	4.35	
16	174	155	188	232	179	222	4.73	.10
17	170	132	188	233	176	182	4.98	.10
18	170	134	183	198	180	227	4.63	.10
19	187	239	175	162	180	230.5	3.89	
20	184	212	182	189	180	234	3.89	
21	184	214	188	236	180	235	3.85	
22	187	237	185	208	180	240	3.64	
23	179	183	192	270	180	242	4.31	
24	188	242	180	181	180	244	3.72	
25	176	166	185	206	181	245	4.39	
26	185	223	185	205	181	250	3.75	
27	181	196	181	185	181	253	4.00	
28	192	265	185	215	181	255	3.55	
29	175	158	190	244	177	201	4.52	
30	182	198	190	247	178	203	3.97	
31	180	186	187	230	178	204	3.72	
32	193	268	190	251.5	171	134	3.75	
33	190	247	188	234	179	212	3.47	
34	200	319.5	194	272	171	136	4.39	
35	200	319.5	201	319.5	179	223	3.83	
36	200	319.5	201	319.5	175	179	4.13	
37	200	319.5	201	319.5	180	232	3.83	

TABLE 7 continued

MEAN RANKS (MR) AND RELATIVE RANKS (RR)
FOR SEQUENTIAL SELECTION OF
CARD SUMMARY ITEMS

Items	Questions						χ^2	P
	Diagnosis		Anxiety		Intelligence			
	MR	RR	MR	RR	MR	RR		
Number of Responses to Each Rorschach Card								
Card 1	161	101	156	98	160	82	3.55	.05
Card 2	164	105	159	105	170	129	4.48	
Card 3	151	84.5	143	64	153	68	3.51	
Card 4	173	148	139	59	175	177	6.49	
Card 5	183	205.5	170	138	170	131	3.89	
Card 6	164	107	148	80	180	233	6.16	
Card 7	166	115	147	74	171	141	4.63	
Card 8	165	110	151	86	175	180	4.98	
Card 9	161	100	167	126	163	96	3.72	
Card 10	168	123	154	90	153	70	3.96	
Reaction Time to Each Rorschach Card								
Card 1	159	95	164	119	173	160	4.97	.10
Card 2	167	117	165	122	174	171	4.56	
Card 3	171	140	171	140	175	173	4.14	
Card 4	180	189	176	163	179	206.5	4.14	
Card 5	180	191	177	169	179	209	4.06	
Card 6	180	192	173	147	179	214	4.48	
Card 7	181	195	173	149	179	218	4.48	
Card 8	177	171	169	132	179	219	4.73	
Card 9	185	224	176	168	172	156	4.00	
Card 10	185	226	174	152	172	158	4.34	

considered three of the free associations in greater detail than they did the other responses. Looked at more closely were two responses on the Diagnosis protocol:

Response #17, Card VII--"Profile of man's face. In illustrations of famous legends, stories. (Nose. Old shriveled up mouth and chin. Back of head.)" (Scored D F+ Hd P)

Response #23, Card VIII--"Ice. (Conventional rendition. Smearred. Large chunks. Casualness of rendering.)" (Scored D F+ Na)

The response looked at more closely on the Anxiety question was the following:

Response #13, Card III--"People standing on their heads. Arms. Hand extending for each arm." (Scored D M+ H P 3.0)

Differential interest in the latter response was influenced by a technical factor--the same verbal response appeared twice in the protocol but received two scorings (M-, M+) due to differences in location. Interest in the two Diagnosis responses was influenced by needs for information regarding the location and accuracy of the percepts, which would have meaning for evaluating type and severity of pathology. The phrases "conventional rendering... casualness of rendering" in Response #17 elicited introspective comments from clinicians that the response was "unusual" or "strange", at least.

The Qualitative response category ranked first among all of the sixteen categories in overall utility for the three questions (UI = 53.0). The prediction that Qualitative responses would be given greatest emphasis in interpretation on Protocol I compared

with Protocols II and III was not confirmed. The utility value of these free associations was highest for the Anxiety question (UI = 59.7), followed closely by the Diagnosis question (UI = 58.8), and was lowest for the Intelligence question (UI = 40.6). A second prediction that qualitative information would show sequentially later emphasis on the Anxiety question, while showing greater balance with quantitative data, also was not confirmed.

The Qualitative category, however, did contribute the strongest evidence in support of the major hypothesis that information choices would be influenced by the clinical question asked. Eight of the free associations were selected significantly more frequently and earlier for Diagnosis, while eleven were selected more frequently and/or earlier for Anxiety. For Intelligence estimation, three cards were selected significantly earlier and three significantly later. Five additional items approached significance at the .10 level for the three questions.

A common influence was discernible as underlying the pattern of significances for the free associations. Differentially high utility resulted for responses on the Diagnosis question which were given to Rorschach Cards II, III, VII, and IX. Responses significantly highest in utility on the Anxiety question were those given to Rorschach Cards III, IV, VI, and VIII. Responses approaching significantly high utility on the Intelligence question were those associated with Rorschach Cards IX and X.

The important influence of qualitative features of responses

was highlighted especially on the Intelligence question. Intro-spective comments indicated that some responses had high "attraction" value for clinicians in estimating intelligence, especially in the direction of above average and superior. Four associations were prominent here: "Section of tree. Sunlight through it. Foliage....Beautifully blue satin pillows....Delicious orange and strawberry sundaes....Surrealist painting." Cues related to vocabulary usage and syntax were viewed to be operative in eliciting the "attraction" comments.

Verbalizations and Examiner Observations were predicted to have greatest utility value for the Diagnosis question, but this prediction was not confirmed. The category had highest utility for the Anxiety question (UI = 21.4), next highest utility for the Diagnosis question (UI = 19.2), and lowest utility for the Intelligence question (UI = 16.4). The sole item selected significantly more often and earliest in this category was that accompanying the first response to Rorschach Card VII on the Anxiety protocol, "Little rabbits. Running in wrong direction." As neither the Klopfer nor Beck scoring of this response showed differential utility in the Quantitative category, the suggestion is that additional qualitative data was judged comparatively more useful in meeting the clinicians' need for a "closer look" at the free association in question. Selected significantly earlier for the Anxiety question was the Verbalization accompanying the last response to Card I, "Mouse-shaped things. Piercing the

central body of a bat. (Biting.)." Introspective comments by some of the clinicians indicated that this response conveyed qualitative overtones of "anxiety" or "disturbance." The first Verbalization to Card I on the Intelligence question also was selected significantly earlier, at the .05 level. The response was "Eagle. (Wide spread of wings.)." Nine other Verbalization items approached significance at the .10 level, appearing on Rorschach color Cards II and VIII for the Diagnosis question, Cards I, III, and VI for Anxiety, and Cards I and III for Intelligence. However, the influence of the Rorschach Cards was seen to be secondary to that of the particular free associations involved.

The individual Location category proved to have highest utility value for Protocol II (UI = 14.8), middle utility for Protocol I (UI = 12.3), and lowest utility for III (UI = 7.8). The Anxiety question elicited significant interest in the third and fourth responses to Rorschach Card III, "People standing on their heads. Arms. Hand extending from each arm. (A,V)."

The Diagnosis question elicited significant attention to the second response to Card I, "Large pair of wings. Of flying red horse...." Three of the four responses to Card VII approached the .10 level in earlier sequence of selection. "Caterpillar... Profile of man's face....Vertebrae," while a similar tendency characterized two responses to Card I and one to Card III on the Anxiety protocol. Significantly earlier interest occurred on the Intelligence protocol for the first association to Card III,

TABLE 8

UTILITY INDICES (UI) AND MEAN RANKS (MR) OF
INFORMATION CATEGORIES FOR THREE QUESTIONS

Categories	Questions							
	Diagnosis		Anxiety		Intelligence		ALL	
	UI*	MR**	UI	MR	UI	MR	UI	MR
Personal Data	46.4	113	46.6	119	29.2	135	40.7	122
Locations K***	6.4	190	7.2	191	9.2	175	7.6	186
Locations B***	23.4	157	23.4	158	26.2	142	24.4	152
Determinants K	12.2	182	12.6	181	7.3	178	10.7	180
Determinants B	36.5	137	31.0	145	11.5	170	26.4	151
Content K	3.9	194	4.1	195	3.9	182	4.0	191
Content B	17.7	171	13.3	178	6.8	177	12.6	175
Totals K	9.5	186	10.6	185	7.6	177	9.2	183
Totals B	32.9	140	31.2	146	22.4	150	28.8	145
Quantitative K	3.1	195	3.8	194	4.0	183	3.6	191
Quantitative B	15.5	177	14.7	179	11.7	171	14.0	176
Qualitative	58.8	106	59.7	105	40.6	123	53.0	111
Verbalizations	19.2	170	21.2	167	16.4	163	18.9	167
Locations	12.3	181	14.8	177	7.8	176	11.6	178
Number Responses	21.7	165	29.4	154	13.3	167	21.5	162
Reaction Time	16.1	177	16.7	172	7.5	176	13.4	175

* Based on percentage of cards selected within category.

** Rounded off to nearest whole number.

*** K indicates Klopfer category and B indicates Beck category.

TABLE 9
SOME ITEMS SHOWING DIFFERENTIAL UTILITY*
AMONG QUESTIONS

Categories	Questions		
	Diagnosis	Anxiety	Intelligence
	Items		
Personal Data		Marital Status Sexual History Sib Position	Education
Locations			Z Sum W
Determinants	C CF FC TF FT	Y YF FY T V	
Content		Hd At	
Totals	P		F+%
Free Associations to Cards	II III VII IX	III IV VI VIII	IX X
Number of Responses to Cards		IV VI	

* $p < .05$, at least.

"Skeleton."

The category Number of Responses Per Card contained information indicating the number of free associations to each of the ten Rorschach Cards, along with the numbers of these responses, so that the clinicians would be able to focus directly on a single Rorschach Card if desired. The category ranked sixth in overall utility (UI = 21.5), and evidenced highest utility for Protocol II (UI = 29.4), then I (UI = 21.7), and lowest utility for Protocol III (UI = 13.3). Differential significances were obtained for Rorschach shading Cards IV and VI in relation to the Anxiety question, with Rorschach Cards VII and VIII approaching significance at the .10 level.

The initial Reaction Time category was of nearly equal utility value for Protocols II and I (UI = 16.7, 16.1), and lowest for Protocol III (UI = 7.5). The Reaction Time to Rorschach Card I approached significance at the .10 level for the question of Diagnosis. The Reaction Time to Card VIII approached significance for earlier selection on the Anxiety question.

In summarizing the findings in Tables 6, 7, 8, and 9, the following generalizations appear to be supported.

1. The utility levels of different sources of information used in Rorschach interpretation do vary.
2. Variations in the utility levels of information are primarily a function of the type of clinical question asked for only certain sources of information.
 - a. The more specific the source of information, the more significant its variation as a function of the clinical question asked (e.g., free association #1 or #2 or a single numerical score such as R or W).

- b. The more general the source of information, the less significant its variation as a function of the question asked (e.g., Determinants as a category, or "qualitative" vs. "quantitative" groupings of information).
 - c. Traditional Rorschach categories of information show relatively constant utility levels across questions, with highest constancy occurring for the Anxiety and Diagnosis questions, especially when compared against the Intelligence question.
 - d. Free associations, personal data, and summary scores show highest utility as information categories in Rorschach interpretation.
 - e. Individual locations, content summary scores, initial reaction times, and individual response scorings show lowest utility as categories of information, for experienced clinicians.
3. The Diagnosis question elicited relatively greater use of the Determinant, Content, Totals, and individual Quantitative scorings and Location categories. Differentially high utility was found for color and textural determinants, popular response total, and free associations to Rorschach Cards II, III, VII, and IX.
 4. The Anxiety question elicited relatively greater use of the Personal Data, Qualitative response, Verbalizations, Number of Responses Per Card, and Reaction Time categories. Differentially high utility was found for sexual and interpersonal background information, light and dark shading determinants, pure shading determinants, Hd and Anatomy content scores, and free associations to Cards IV, VI, III, and VIII.
 5. The Intelligence question elicited relatively greater use only of the Location category. Differentially high utility was found for educational background information, Z Sum, W, M, and F+ scores, and for free associations to Cards IX and X.
 6. The clinicians' approaches to interpretation were most similar for the questions of Diagnosis and Anxiety estimation. The Intelligence question was most influential in determining the differential utility of information across the three protocols. While requiring the least amount of information and time to answer, the Intelligence estimation question was the one most accurately answered.

7. Particular Rorschach responses were able to "attract" detailed attention from clinicians. Clinicians would seek further clarification of individual responses, sometimes using the Quantitative scoring or Location of the response, and sometimes the accompanying Verbalization. Individual responses also were able to elicit immediate reactions and hypotheses from clinicians, such as "That's a superior response....I don't think this gal is married....I was expecting something healthier than that."
8. The influence of certain Rorschach cards in guiding the clinicians' interpretative approach was clearly discernible. Interest in the color shock (II), interpersonal (III, VII), and most complex (IX) cards was high for the Diagnosis question. The shading and masculine cards (IV, VI), and color cards (III, VIII) guided information selections on the Anxiety question. The differential approach to the Intelligence question was guided by the two difficult W cards (IX, X).

The degree to which the clinicians in this study showed common agreement in their card selections for each of the clinical questions was determined by computing Kendall coefficients of concordance (W). Table 10 summarizes the Kendall results for the clinicians' sequence of card selections for each of the three questions. Kendall W's for the selected-not selected dimension were not computed due to the excessive ties which would have been involved.

TABLE 10

KENDALL COEFFICIENTS OF CONCORDANCE (W) FOR THREE
QUESTIONS BASED ON SEQUENCE OF CARD SELECTIONS

Clinicians	Questions		
	Diagnosis	Anxiety	Intelligence
Total	.27	.27	.20
Beck	.35	.34	.26
Klopfer	.34	.33	.28

Table 10 shows that the correlations generally ranged in the .20's and low .30's. However, using chi square values and a modification of Fisher's Z distribution, the W's resulting for the total clinician group all were significant at or above the .01 level. Agreement among clinicians interpreting from a single orientation would be expected to be higher than when two orientations were combined. Higher agreement in fact did result when separate W's were computed for the Beck and Klopfer groups. No clear pattern of significances for the latter W's was obtained. However, both orientations showed similar degrees of agreement in their approaches to all three protocols, with least agreement shown in relation to the Intelligence question.

It was stated in Hypothesis II that clinicians would show distinguishable patterns of approach to Rorschach interpretation. That is, some clinicians would employ a basically quantitative approach which emphasized summary scores, numerical ratios and percentages, and determinants, while other clinicians would employ a basically qualitative approach which emphasized free associations, background data, and accompanying subject verbalizations and examiner observations.

Although the majority of clinicians in this study maintained a general balance between qualitative and quantitative sources of information in their interpretations, it was possible to identify a small subgroup of nine clinicians who focused mainly on qualitative data and another small subgroup of four clinicians who focused

mainly on quantitative data. These identifications were made by determining the mean per cent usage of the three categories Qualitative, Personal Data, and Verbalizations for the thirty-six clinicians (Mean usage = 52.8%), and then separating those clinicians falling above and below the first standard deviation (SD = 14.4%). Those clinicians whose qualitative information usage represented at least 67.2 per cent of their total card selections were separated from the group as high qualitative users (N = 9). Clinicians whose usage of qualitative information represented 38.4 per cent or lower of their total card selections were separated out as high quantitative users (N = 4). The finding that twice as many clinicians were identified as qualitative rather than quantitative users may point to the generally higher utility value of this information in Rorschach interpretation.

An attempt was made to determine some of the characteristics of the above two subgroups. However, in view of the small number of clinicians represented in the subgroups, generalizations drawn from the following descriptions must be evaluated with caution. The intent of the discussion is to suggest research ideas for further investigation.

Five of the nine high qualitative users and all four of the high quantitative users employed Beck's method. The remaining four qualitative users represented 36 per cent of the Klopfer sample. None of the high users were among the five clinicians

who answered all three clinical questions according to the criteria, although one of the high quantitative users appeared among the top eight most accurate clinicians. Compared with the total group mean of 266 Rorschachs administered or supervised during the past five years, the mean number for the quantitative users was 244, while that for the qualitative users was 183.

Systematic differences in outcome characterized the two subgroups. Of the fourteen clinicians who checked the alternative "Neurotic" on the Diagnostic question, seven were high qualitative users and three were high quantitative users, together accounting for 70 per cent of the clinicians responding to this alternative. The fourth quantitative user checked the alternative "Basically Adjusted," while the two remaining qualitative users checked "Personality Disturbance." The criterion answer for the Diagnosis question was "Psychotic."

On the Anxiety question, seven of the nine qualitative users and three of the four quantitative users answered by checking either of the acceptable categories "Much" or "Severe" anxiety. The numbers here represented 77 per cent accuracy for the two subgroups combined, which was only slightly below that of the remainder of the clinician group (87% accuracy), and not meaningfully different from the latter.

Hypothesis II_B stated that clinicians characterized by a quantitative approach to interpretation would show relatively lower success in estimating the severity of anxiety on Protocol

II, due to the absence of determinant indicators of anxiety in the protocol (shading scores, m). The hypothesis, not supported by the outcomes of the high quantitative subgroup identified in this study, could not be tested due to the fact that determinants and free associations had been used by nearly every non-qualitative clinician in interpreting this protocol. Suggestive only was the observation that the two clinicians in the high qualitative group who underestimated the severity of anxiety ("Normal") were those who had selected the determinant anxiety indicators. The remaining qualitative clinicians selected almost none of these indicators. Of the twenty-three clinicians characterized by a more balanced approach in their use of quantitative and qualitative information, only three underestimated the criterion level of anxiety. No features common to these latter three clinicians were discernible.

On the Intelligence question, the mean estimation of IQ by the total group was 115.3 (SD = 8.5). This result was less than three points away from the Stanford-Binet criterion IQ of 118. Eight of the thirty-six clinicians specified their IQ answers to within +1 point of 118, with an additional eleven specifying the IQ to within +5 points. The specific accuracy of this result is especially noteworthy when it is considered, first, that use of the Rorschach for intelligence estimation traditionally has been disadvised, and, second, that nearly 80 per cent of the experienced clinicians in this study rated the Rorschach as having lowest utility for intelligence questions, compared with highest

utility for diagnosis (72%). The Diagnosis question was the one on which the clinicians showed least agreement in outcome.

Comparison of the outcomes of the two subgroups on the Intelligence question showed that their estimates were equivalent to those of the majority group of clinicians who used a balanced approach to interpretation. The mean IQ estimates for the majority, high quantitative, and high qualitative groups were 116, 117, and 114, respectively. Differences between these means were not statistically significant. However, of the eight clinicians who answered with the alternative "Average," four were from the high qualitative subgroup, as were two other clinicians whose estimates were the most extreme (IQ = 135, 130).

One conclusion which can reasonably be drawn from the above discussion is that an interpretative approach which was balanced between qualitative and quantitative sources of information generally resulted in greater accuracy of outcome. Although a high quantitative approach tended to be the "safer" of the two extremes, resulting in equivalent accuracy on the Intelligence and Anxiety questions compared with the majority group, no clinicians in this subgroup appeared among the five clinicians who met the criterion answers for all three questions. A high qualitative approach was by far the most variable and the least accurate approach, although somewhat "safer" in relation to the Anxiety question. A relationship was suggested between high qualitative usage and relatively lower Rorschach administration

and supervision by clinicians.

Table 11 shows the outcomes obtained for the three clinical questions asked of the clinicians in this study. Hypothesis III_B stated that clinical accuracy would be higher for Protocol III than for Protocols I and II. The hypothesis was only partially supported.

TABLE 11
PERCENTAGE OF CLINICIANS ANSWERING
EACH ALTERNATIVE FOR
THREE QUESTIONS

Diagnosis				
Basically Adjusted	Neurotic	Personality Disturbance	Psychotic*	Organic
5%	39%	42%	14%	0%
Anxiety				
No	Little	Normal	Much*	Severe*
0%	11%	6%	72%	11%
Intelligence				
	Below Average	Average	Above Average*	
	0%	22%	78%	

*Criterion answer

The Intelligence question was answered far more accurately than that of Diagnosis, but slightly less accurately than that of Anxiety estimation. In order to test the significance of the difference between the outcomes on the Anxiety and Intelligence questions, the answer alternatives for both questions were collapsed to two, right or wrong. The acceptable answer for the Intelligence question was "above average" whereas both "much" and "severe" were acceptable for Anxiety estimation, the equivalent of "above average." Computation of chi square in a 2x2 contingency table failed to show significance between the accuracy of outcome for the two questions ($\chi^2 = .18$, $df = 1$).

Hypothesis IIIA stated that clinical accuracy would be higher at the more general levels of interpretation than at more specific levels. The hypothesis was supported by the outcomes to the Anxiety and Intelligence questions, but less so by the outcomes to the Diagnosis question. For example, although only five of the clinicians answered the Diagnosis question with the criterion alternative "Psychotic," five other clinicians who had checked the alternative "Personality Disturbance" specified this general level conclusion with the statements "Schizoid Personality....marginal adjustment....incipient schizophrenia." The latter specifications could be viewed as being more in the direction of the criterion answer "Schizophrenia," than would be "Personality Disturbance." A number of clinicians in fact questioned the five-category format employed in relation to the Diagnosis question.

A second instance which highlighted the difficulty of determining answers to clinical questions at general levels occurred with the Anxiety question. Two common reactions were expressed by the clinicians. First, that the judgment line between the alternatives "Much" and "Severe" anxiety seemed quite arbitrary, with the determining factor related to the presence of sufficient evidence of the subject's being totally "overwhelmed" by anxiety or being without adequate defenses. Second, there was a more immediate question concerning what was meant by "anxiety." The latter concern could be reduced to two considerations--manifest anxiety or latent anxiety, i.e., anxiety as conscious or unconscious.

The accuracy of the specific IQ estimates made by the majority of the experienced clinicians in this study (Mean estimate = 115.3, criterion IQ = 118) is indeed noteworthy, especially when consideration is given to the amount of potential information lost in clinical judgment studies which utilize only general levels of interpretation.

Hypothesis IIIc stated that clinicians interpreting from either the Beck or Klopfer methods would show similar levels of success in their final conclusions. The hypothesis was supported in all three cases. Again using the dichotomous framework "right" or "wrong," chi squares obtained for accuracy of outcome between Beck and Klopfer orientations on Diagnosis ($\chi^2 = .23$), Anxiety estimation ($\chi^2 = .03$), and Intelligence estimation ($\chi^2 = .30$)

all failed to reach significance.

Hypothesis IV stated that clinicians in the present study would show a lower degree of self-constancy across protocols than was shown by clinicians in Tabor's 1959 study, because of the three different questions asked. The hypothesis was confirmed partially. The mean number of cards selected by the thirty clinicians in Tabor's study for three diagnostic questions were 22, 20, and 23 (cards available = 52). The mean number of cards selected for the three questions in the present study were 71, 72, and 48 (cards available = 329). The similarity between the means on the Diagnosis and Anxiety protocols supports Tabor's conclusion that the number of cards selected by clinicians was more a factor of their personal needs than of variations of complexity of the Rorschach problems. However, the clear dissimilarity of both of these means in comparison with the Intelligence mean supports the present conclusion regarding the influence of the type of question asked in Rorschach interpretation.

V. SUMMARY AND CONCLUSIONS

Recent surveys have shown the Rorschach technique to be the most widely used psychological test in American clinical settings, the psychological instrument used most in research, and the clinical tool given most emphasis in the American graduate curriculum. Despite wide evidence of Rorschach use, however, the validity of the technique has not been experimentally demonstrated. The purpose of the present research was to clarify the discrepancy between Rorschach utility and validity by examining implementation of the Rorschach through the interpretative approaches of experienced clinical psychologists. Rorschach validation research has largely failed to incorporate the critical influence of the clinician.

The present study attempted to determine the sources of utility in Rorschach interpretation. Utility was defined in two ways. First, what data is used by clinicians in Rorschach interpretation and, second, how or when this data is used by clinicians. Two general hypotheses were established. The major hypothesis stated that the utility value of different sources of information used in Rorschach interpretation would vary primarily as a function of the type of clinical question asked. A second hypothesis indicated that the sources of utility in Rorschach interpretation would vary as a function of the clinician's

approach, quantitative or qualitative.

Thirty-six experienced psychologists interpreted three Rorschach protocols, under conditions which permitted control over access to Rorschach information. The clinicians interpreted each protocol by selecting information cards they considered to be necessary and sufficient for answering each of three clinical questions, one question per protocol: Diagnosis, Anxiety, and Intelligence.

The major hypothesis was confirmed partially. On the general level, the Hypothesis was clearly supported when comparisons were made between the Intelligence question and the Diagnosis or Anxiety questions, but not when the comparisons were between Diagnosis and Anxiety. The Intelligence question required significantly less information and time to answer, yet it was the question most accurately answered.

On the specific level, only certain of the category and item sources of information were found to vary primarily in relation to the clinical question asked. The majority of the Rorschach information available for selection in this study evidenced average utility, or lower. Category sources consistently highest in utility were free associations, background data, and numerical summaries and ratios. Category sources composed of individual response scorings and locations, content summary scores, and initial reaction times showed consistently lowest utility value in Rorschach interpretation.

Differential utility across the three questions was found for 58 of the total 329 items, at or beyond the .05 level of significance. These findings were on the combined results of the frequency and sequence of selection dimensions. The number of significant items obtained accounted for about 18 percent of the total, and may be considered a conservative finding. First, the Klopfer sample was too limited to produce significant results in specifically Klopfer categories. None of the Klopfer scoring items, for example, contributed to the 58 significant items cited above. The Klopfer determinant FM was used sufficiently often by Beck-oriented clinicians to approach significance. This exception suggests that clinicians interpreting from Beck's orientation do find Klopfer's animal movement score to have utility, as Klopfer-oriented clinicians find utility in Beck's F+ and F- scores. It is predicted that greater support for the major hypothesis would be obtained if the number of Klopfer clinicians were doubled. Second, if those items which approached significance at the .10 level were to be added to the original result, the number of item sources of information varying primarily in relation to the clinical question asked would be raised to 83, or 25 percent of the total.

The second hypothesis also was confirmed partially. Sources of utility were found to vary as a function of the clinician's interpretative approach, but secondary to that of a generally qualitative approach, and mainly for small subgroups of clini-

clians. Clinicians characteristically proceeded in their interpretations from qualitative to quantitative sources of information, evidencing a significantly high degree of agreement in this initial approach. Ninety percent of the Rorschach free associations were selected earliest, within the upper 15 percent range, along with nearly 50 percent of the background information items. Also included here were occasional appearances of Beck summary, determinant, and location scores: F+%, R, P, M, C, CF, FC, and W.

Clearly, experienced clinicians found qualitative forms of Rorschach data, especially the free associations, to have the highest utility value in Rorschach interpretation. On the assumption that tentative personality hypotheses are formulated early in the interpretative process and progressively verified or "checked out" in the data analysis, quantitative Rorschach scores may be viewed as functioning in a secondary, supportive capacity. The verbalized approach of many of the clinicians in this study in fact was one of "checking out" hypotheses, accompanied by comments which expressed confidence or surprise with the selection of a confirming or contraindicating datum, or by anticipatory predictions about what information the card would contain.

As a group, the clinicians also showed much greater agreement concerning information which was least useful in interpretation than data which was most useful. None of the 329 information cards available was selected at the Very High or High levels of

utility, defined in this study as 85-100 percent frequency of selection, whereas 185 of the items, or 56 percent of the total number available, were selected at the Low or Very Low utility levels, defined as 0-15 percent frequency of selection.

The majority of the clinicians in this study maintained a general balance in their use of qualitative and quantitative Rorschach information. Consistent with the second hypothesis, however, was the identification of nine clinicians who focused mainly on qualitative information sources and four who focused mainly on quantitative sources. The observation that twice as many clinicians could be identified as high qualitative users than as high quantitative users again pointed to the higher utility value of qualitative category sources in Rorschach interpretation.

Among the two non-Rorschach factors seen as influencing the utility value of information sources in this study was the prominently high degree of variation in interpretative style and data needs of individual clinicians. For example, while the free association category proved to have highest utility for the clinicians as a group, five clinicians using the Beck method found this category to have Low utility value. Four clinicians used no Personal Data, which represented the second highest utility category for the group as a whole, while nine clinicians used no, or less than one, Verbalization item on the average. Further, one clinician required an average of only eight infor-

mation items for his interpretations, whereas another required 144 items. Both of these clinicians were among the five clinicians who answered all three questions according to the criteria.

The second non-Rorschach influence concerned the placement of information on the experimental apparatus, as it would appear in traditional Rorschach summary sheets. That is, the mere fact of certain Rorschach information preceding other information, as with R_1 appearing before R_2 , or W prior to D, enhanced the likelihood that the earlier appearing item would be selected more frequently and earlier in Rorschach interpretation.

The generality of these findings may be limited somewhat by the particular conditions imposed by the design of the study-- "blind" Rorschach interpretation, atomistic access to the data-- and by the moderately unequal representation of the Klopfer and Beck samples.

The theoretical intent of this study was to account for the discrepancy existing between Rorschach utility and validity. The following observations based on the findings of the study are suggested.

First, the large majority of past Rorschach validation studies have focused their attention on quantitative Rorschach scores. Number of Rorschach responses, movement and color scores, number of popular responses, $F+$, $W\%$, frequency of eye and water percepts, and other numerical summaries, percentages, and ratios have been employed in numerous validation studies. These same

quantitative scores also have been specially grouped into multiple regression equations, have been reduced by factor analytic techniques into two or three basic dimensions, and otherwise have been weighted statistically to predict one criterion group, while failing on the cross-validation to predict its counterpart. Characteristic of these studies, however, has been the non-incorporation of the origins of the quantitative scores, the free associations. In the present study, it was the free associations which the experienced clinicians found to have highest utility as a source of information, supported in the greatest number of instances by statistical significance concerning their utility for different clinical questions. The finding highlights the need to combine quantitative and qualitative information in Rorschach validation studies.

The failure of past Rorschach validation studies to incorporate free association material in their designs, although unfortunate, likely has had some realistic bases. Quantitative scores lend themselves more naturally to the experimenter's methodological goals of maximum definition and control of the variables he selects. Also, the key elements in verbal responses frequently are difficult to specify. The meaning of a Rorschach association, for example, is apt to be ambiguous, surrounded by subtle contextual and grammatical cues and influenced by selective factors in interpretation. The "important" elements may vary from one clinician to another. The dilemma posed by this

simultaneous striving for experimental control and representative Rorschach variables frequently has not met with a balanced resolution. Experimenters too often have opted in favor of the methodological consideration.

Continued failure to incorporate free association responses in Rorschach validation studies may require qualification of the findings as involving a distortion of the Rorschach's characteristic pattern of implementation. Conclusions about the "failure" of numerical signs, ratios, and summary scores to validate the Rorschach also may require qualification. Quantitative scores contribute only partially to the data typically used by experienced clinicians in Rorschach interpretation. In addition, quantitative scores serve in a secondary, supportive capacity for some clinicians, as a means of checking out tentative hypotheses initially established on the basis of free associations or individual Rorschach Card performances.

Characteristic of the majority of clinicians in the study was a balanced approach to interpretation, with high agreement shown concerning the earlier importance of qualitative information in the interpretation process. Especially did those clinicians characterized by consistently accurate outcomes utilize a balanced approach to interpretation. Clinicians who basically employed one or the other of the approaches proved to be the most variable and least accurate in their outcomes.

A second observation is related to the above discussion. Past validation research has for the most part focused on general sources of Rorschach information, using totalled or summary scores or holistic clinical judgments. However, experienced clinicians regularly attended to particular responses, especially in the context of a given Rorschach Card. Individual responses in this study showed a capacity for eliciting immediate clinical hypotheses from clinicians and for directing clinicians to other sources of information which might clarify or "check out" a hypothesis. Investigation of individual sources of Rorschach utility, and inclusion of these sources of information in validation studies, also is seen as a necessary complement to strictly quantitative approaches of past studies.

Third, the results of the present study support the concept of Rorschach-and-clinician as a single working unity. High accuracy of judgments was obtained for the three different clinical questions asked, against a variety of criteria. The experienced clinicians in this study showed 83% accuracy in estimating severity of anxiety, 78% accuracy in estimating level of intelligence--including a mean IQ estimate of 115 \pm 8 points against a Stanford-Binet IQ of 118, and a likely 56% accuracy in diagnosing a difficult psychiatric case.

The conditions under which the clinicians achieved their high degree of accuracy could not have been less favorable to successful outcome for Rorschach judgments. The interpretations were

done "blind." The experimental apparatus allowed information to be known only atomistically, one item at a time. The protocols used in the study were difficult ones, not of the typical "textbook" variety. The protocol employed for the Anxiety question, for example, was unusual in that traditional shading indicators of anxiety were entirely absent. Also, the psychiatric status of Gregor, whose Rorschach record was used for the Diagnosis question, was not definitively psychotic. Diagnoses made by 22 different psychological test experts and psychiatrists encompassed not only "Psychotic," but "Personality Disturbance" (Klopper) and "Neurosis" as well. Finally, the number of Rorschach responses (R) was controlled for in the three protocols.

As for the Rorschach method per se, it was clear that the clinicians were being guided in their data selections by traditional hypotheses about the relationship of the data to the question asked. Shading determinants and information on Rorschach Cards IV and VI--the shading Cards--were selected for the Anxiety question. Location, organization, and M scores were selected for the Intelligence question. Contrary to recent conceptualizations of the Rorschach as a disguised interview, the clinicians did not rely on secondary verbalizations of test subjects and examiner observations of behavior. The latter information had been separated from the actual free associations.

Fourth, if the research worker finds it desirable nevertheless to remain within the framework of quantitative and general

sources of Rorschach information, findings of the present study suggest that the framework may prove more successful for some clinical questions than others. For example, a high quantitative approach to interpretation was least successful in relation to the diagnostic question and relatively more successful for the question of intelligence estimation. Use of the quantitative framework for validation of the Rorschach as an intelligence measure likely would meet with greater success, as has been reported in the literature.

Finally, although the Rorschach technique has never been basically intended nor accepted as a measure of intelligence, the consistently successful outcomes which have been obtained in studies employing it for this purpose cannot be ignored. The success conveys importance for Rorschach practice as well as research. First, the criterion measure for the intelligence question, which provided the most specific accuracy of outcome in this study, was itself the most objective of the three criteria employed. Compared with psychological or psychiatric diagnostic judgments and with projective test measures of diagnosis or anxiety, the standard intelligence test repeatedly has been shown to have the highest reliability and validity. Failures in Rorschach validation research may bear a direct relation to the objectivity of the criterion measure used. Second, Bialick and Hamlin's (1954) judgment that intelligence represents the variable that clinicians know best is viewed as sound. Clinicians'

concepts concerning what is meant by "intelligence" evidence greater clarity and consensual validation than do their concepts of either "anxiety" or "diagnosis." No clinician in the present study asked for clarification of the intelligence question, while clarifications of the diagnosis and anxiety questions were requested. Clinicians evidence greater agreement in describing what they look for in estimating intelligence, and the operations involved, than in describing similar processes for diagnosis and anxiety estimation. Although intelligence is admittedly less multidimensional than personality, intelligence dimensions have been given more concrete definitions and there are a number of different measures of intelligence available for clinicians to use. More precise definitions and measures of anxiety, along with more reliable ways of describing severities of pathology, would be expected to increase success in outcomes for the latter two clinical questions.

ABSTRACT

In an attempt to determine sources of utility in Rorschach interpretation, 36 experienced clinicians were asked to interpret three Rorschach protocols under conditions which controlled access to information. The clinicians interpreted each protocol by selecting any of 329 information items they considered to be necessary and sufficient for answering Diagnosis, Anxiety, or Intelligence questions. Clinicians typically proceeded from verbal to numerical information sources. Free associations and background data had highest utility, followed by the scores F+%, R, P, M, C, CF, FC, and W. The hypothesis that utility of information would vary according to the question asked gained partial confirmation. Application of Friedman's analysis of variance test resulted in significant differences in utility for 58 of the 329 items. The Intelligence question required least information and time to answer. Accuracies of 83%, 78%, and 56% were obtained for the Anxiety, Intelligence, and Diagnosis questions, respectively. Discussion noted that many unsuccessful Rorschach validation studies failed to incorporate free associations and clinicians in their designs.

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APPENDIX I

Apparatus Used in
the Present Study

APPENDIX II

Question Forms for
Protocols A, B, and C

Protocol A.

Question: Determine the clinical diagnosis of this individual, on the basis of the Rorschach data available.

As soon as you feel quite sure of the diagnosis, check one of the five diagnostic categories below and write your own more specific clinical impression.

Basically Adjusted _____
Neurotic _____
Personality Disturbance _____
Organic _____
Psychotic _____

Specific Clinical Impression _____

Protocol B

Question: Estimate the severity of anxiety in this individual, name the types of events likely to heighten it, and name the defenses likely to be utilized in lowering it.

As soon as you feel quite sure of the estimated severity of anxiety, check one of the five categories below, and write down the heightening events and the defenses.

- No Anxiety _____
- Little Anxiety _____
- Normal Anxiety _____
- Much Anxiety _____
- Severe Anxiety _____

Heightening Events _____

Defenses Against _____

Protocol C

Question: Estimate the present level of intellectual functioning of this individual, on the basis of the Rorschach data available.

As soon as you feel quite sure of the estimated intellectual level, check one of the three intellectual levels below and write your own more specific clinical impression.

Below Average _____

Average (90-109) _____

Above Average _____

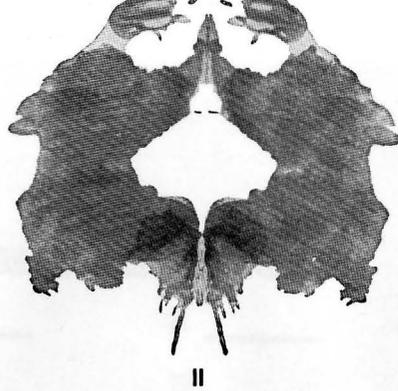
Specific Clinical Impression _____

APPENDIX III

Materials Available for
Use by Clinicians



I



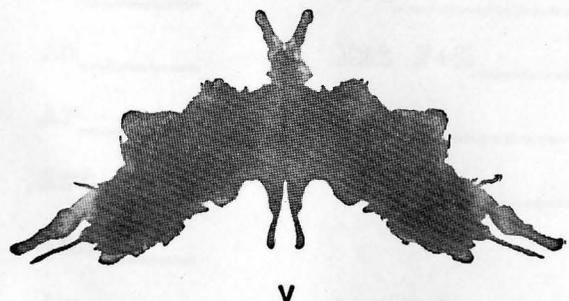
II



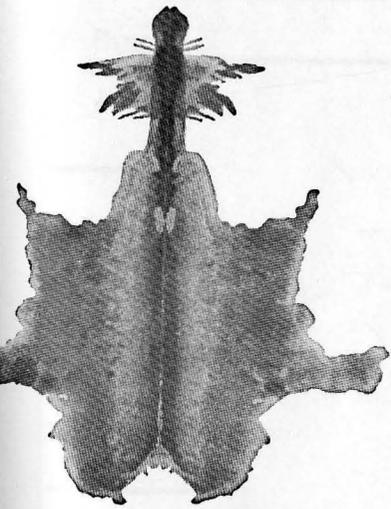
III



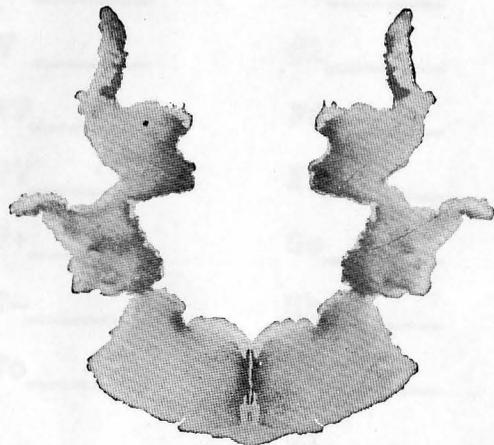
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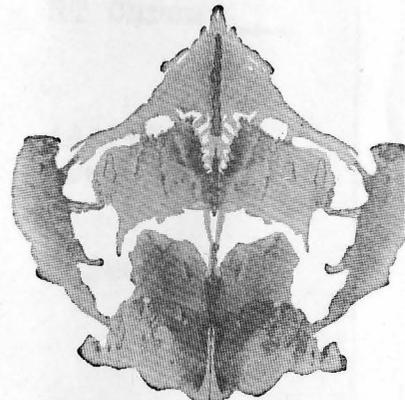
V



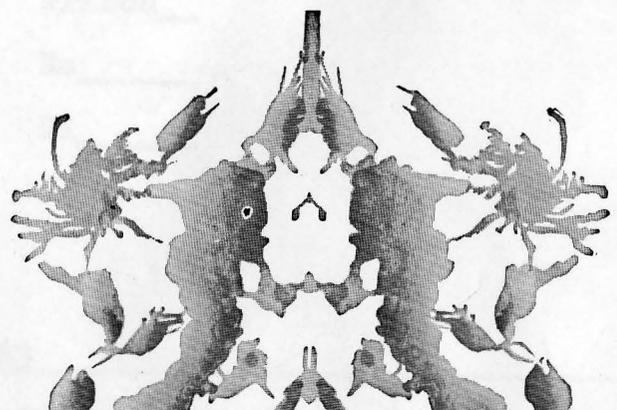
VI



VII



VIII



Rorschach Summary (Beck)

W _____	M _____	H _____	R _____
D _____	C _____	Hd _____	F% _____
Dd _____	CF _____	A _____	Ext F% _____
S _____	FC _____	Ad _____	F+% _____
Approach _____	Y _____	An _____	Ext F+% _____
Sequence _____	YF _____	Ar _____	A% _____
Aff. Ratio _____	FY _____	Art _____	P _____
Z freq _____	T _____	Anal _____	
Z Sum _____	TF _____	Ay _____	Avg RT _____
_____	FT _____	Bt _____	RT Achrom _____
_____	V _____	Cl _____	RT Chrom _____
_____	VF _____	Fd _____	
_____	FV _____	Fi _____	Additional Responses
_____	F+ _____	Ge _____	
_____	F- _____	Hh _____	Rejections
_____	Fo _____	Na _____	
_____		Oj _____	
_____	Doubles:	Prison _____	
_____	_____	Rc _____	
_____	_____	Rl _____	
_____	_____		
_____	_____		
_____	_____		
_____	_____		

(To be filled in by examiner)

M	FM	m	k	K	FK	F	Fc	c	C'	FC	CF	C
---	----	---	---	---	----	---	----	---	----	----	----	---

BASIC RELATIONSHIPS: Main Responses Only

Total Responses R _____

Total Time T _____ sec.

Average Time per Response T/R _____ sec.

Average Reaction Time:

Achromatic Cards (I, IV, V, VI, VII) _____ sec.

Chromatic Cards (II, III, VIII, IX, X) _____ sec.

$\frac{F}{R}$ _____ F%

$\frac{FK + F + Fc}{R}$ _____ %

$\frac{A + Ad}{R}$ _____ A%

(H + A) : (Hd + Ad) _____ :

Popular Responses P _____

Original Responses O _____

$\frac{FC + 2CF + 3C}{2}$ sum C _____

M : sum C _____ :

(FM + m) : (Fc + c + C') _____ :

Responses to Cards VIII + IX + X _____ %

$\frac{W : M}{R}$ _____ :

II. SUPPLEMENTARY RELATIONSHIPS: Main + $\frac{1}{2}$ Add

M : FM _____ :

M : (FM + m) _____ :

$\frac{FK + Fc}{F}$ _____

(Fc + cF + c + C' + C'F + FC') : _____ :
(FC + CF + C)

(FK + Fc + Fk) : (K + KF + k + kF + c + cF) _____ :

FC : (CF + C) _____ :

III. MANNER OF APPROACH

	Main Responses		No. Add. Scores
	No.	Actual %	
W			20-30
D			45-55
d			5-15
Dd+S			< 10

IV. ESTIMATE OF INTELLECTUAL LEVEL

Capacity _____

Efficiency _____

V. SUCCESSION

Rigid _____

Orderly _____

Loose _____

Confused _____

VI. FORM LEVEL SUMMARY

Average Unweighted FLR _____

Average Weighted FLR _____

APPENDIX IV

Research Information Form

APPENDIX V

Form Used to Record
Interpretation Sequence

N		H	R	1					
MM		Hd	AvgRT	2					I
m		A	RTAch	3					II
k		Ad	RTChr	4					I
K		At	F%	5					
FK		AAt	FK+	6					VI
F		AObj	A%	7					VII
Fc		Art	P	8					VIII
e		Cl	SumC	9					IX
C'		Fd	8-9-10	10					X
FC		Fire	Add	11					#
CF		Geo	Rej	12					Sm
C		Na	#	13					Mn
#		Obj	Sm	14					REACT
Sm		Pl	Mn	15					I
Mn		Sc	R	16					II
M		Sex	F%	17					III
IONS		#	xF%	18					IV
CF		Sm	F+	19					V
FC		Mn	xF+	20					VI
Y		H	A%	21					VII
YF		Hd	P	22					VIII
FY		A	AvgRT	23					IX
T		Ad	RTAch	24					X
TF		An	RTChr	25					#
FT		Anal	Add	26					Sm
V		Ar	Rej	27					Mn
VF		Art	#	28					BACKG
FV		Ay	Sm	29					1
F+		Bt	Mn	30					2
F-		Cl		31					3
F _o		Fd		32					4
Dbl		Fi		33					5
Dbl		Ge		34					6
Dbl		Hh		35					7
#		Hy		36					8
Sm		Na		37					9
Mn		Oi		#					

APPENDIX VI

Statistical Formulae

STATISTICAL FORMULAE

$$\text{Utility Index} = i_j = \frac{n_j}{N}$$

n_j = number of clinicians choosing card j

N = total number of clinicians

$$\text{Average Rank} = A_r = \frac{n + n_s + 1}{2}$$

n = total number of cards

n_s = number of cards selected

$$\text{Spearman rho}^* = r_s = \frac{\left(\frac{N_x^3 - N_x}{12} - \sum \text{Ties}_x\right) + \left(\frac{N_y^3 - N_y}{12} - \sum \text{Ties}_y\right) - \sum d^2}{2 \sqrt{\left(\frac{N_x^3 - N_x}{12} - \sum \text{Ties}_x\right) \left(\frac{N_y^3 - N_y}{12} - \sum \text{Ties}_y\right)}}$$

N_x = total number of cards, for frequency of selection

N_y = total number of cards, for sequence of selection

d = difference between ranks of N_x and N_y

*corrected for ties

STATISTICAL FORMULAE continued

Friedman Two-Way
Analysis of Variance = $x_r^2 = \frac{12}{Nk(k+1)} \sum (R_j)^2 - 3N(k+1)$

N = number of clinicians

k = number of protocols

R_j = sum of ranks of protocols

df = k - 1

Kendall Coefficient
of Concordance* = $W = \frac{s}{\frac{1}{12} k^2 (N^3 - N) - k \sum T}$

s = sum of squares of
deviation from mean
of card ranks

k = number of clinicians

N = number of cards

$$T = \frac{\sum (t^3 - t)}{12}$$

t = number of ties for a
given rank

$$x^2 = k(N-1)W$$

df = N - 1

*corrected
for ties

Fisher Z Distribution = $Z = \sqrt{\frac{x^2}{2}} - \sqrt{\frac{v-1}{2}}$

x² = chi square

v = number of cards

APPENDIX VII

Table of
Item Abbreviations

TABLE OF ABBREVIATIONS

A B,K*	Animal content
A% B,K	Animal content percent
AAt K	Animal anatomy content
Ad B,K	Animal detail content
Add B,K	Additional responses
AffR B	Affective ratio
Age	Age information
An B	Anatomy content
Anal B	Anal content
AObj K	Animal Object content
App B	Approach
Ar B	Architecture content
Art B,K	Art content
At K	Anatomy content
AvgRT B,K	Average reaction time
Ay B	Anthropology content
Bt B	Botany content
C B,K	Undiluted chromatic color determinant
c K	Shading as texture determinant
C ^o K	Achromatic surface color
CF B,K	Chromatic color modulated by form
Cl B,K	Cloud content

TABLE OF ABBREVIATIONS continued

D B,K	Large usual detail location
D% K	Large usual detail percent
d K	Small usual detail location
d% K	Small usual detail percent
Dbl 1, 2, 3	Double determinant or blend
Dd B,K	Unusual or rare detail location
Dd+S% K	Unusual detail and white space percent
Ed	Education information
8-9-10% K	Percent responses to last three Rorschach cards
F K	Pure form determinant
F% B,K	Pure form percent
Fa	Father information
FC B,K	Definite form dominant over chromatic color
Fc K	Differentiated shading determinant, as surface appearance
Fd B,K	Food content
Fi B	Fire content
Fire K	Fire content
FK K	Shading determinant, as three dimensional expanse of vista or perspective
FK+% K	Three dimensional shading percent
FM K	Animal movement determinant
F- B	Inaccurate form determinant
F+ B	Accurate form determinant
F+% B	Accurate form percent

TABLE OF ABBREVIATIONS continued

F _o B	Form determinant, accuracy not known
FT B	Form dominant over texture, determinant
FV B	Form dominant over vista, determinant
FY B	Form dominant over shading, determinant
Ge B	Geography content
Geo K	Geography content
H B,K	Human content
Hd B,K	Human detail content
Hh B	Household content
Int	Interests information
K K	Shading as diffusion, determinant
k K	Shading as three dimensional expanse on two dimensional plane, determinant
Loca 1 - 37	Location of individual responses #1 through #37, as appearing on the standard location chart
M B,K	Human movement determinant
m K	Inanimate movement determinant
Mar	Marital status information
Mo	Mother information
Mty	Military history information
My B	Mythology content
Na B,K	Nature content
Nty	Nationality information
Obj K	Man-made objects content
Occ	Occupation information

TABLE OF ABBREVIATIONS continued

Oj B	Man-made objects content
P B,K	Popular percepts
Pl K	Plant content
Qual 1 - 37	Qualitative response form #1 through #37, the free associations (e.g., "Bat")
Quan 1 - 37 B,K	Quantitative scoring of each qualitative response #1 through #37 (e.g., W F A P)
R B,K	Total number of scored responses
Rej B,K	Rejection of Card
Rel	Religion information
Res 1 - 10	Number of responses to each Rorschach card #I through #X (e.g., Card I = four responses, #1-4)
RT 1 - 10	Initial reaction time to each Rorschach card #I through #X (e.g., Card I = 14")
RTAch B,K	Average reaction time to achromatic cards
RTChr B,K	Average reaction time to chromatic cards
S B,K	White space location
Sc K	Science content
Seq B	Sequence of locations
Sex	Sex information
Sex K	Sex content
Sexual	Sexual information
Sibs	Number of siblings information
SPo	Sibling position information
Succ K	Succession of locations

TABLE OF ABBREVIATIONS continued

SumC K	Sum of color determinants
T B	Undiluted texture determinant
TF B	Texture modulated by form
V B	Undiluted vista determinant
VF B	Vista modulated by form
Verb 1 - 37	Subject verbalizations and examiner observations accompanying each qualitative response #1 through #37 (e.g., "Oh what a pretty color" ... S giggles)
W B,K	Whole location
W% K	Whole location percent
xF% B	Percent of responses beginning with form
xF+%	Percent of accurate form responses
Y B	Undiluted shading determinant
YF B	Shading modulated by form, determinant
Zf B	Frequency of organization scorings
ZSm B	Sum of weighted organization scorings

* Information common to both Beck and Klopfer is listed once, with B indicating Beck and K indicating Klopfer.

APPROVAL SHEET

The dissertation submitted by Charles R. Potkay has been read and approved by members of the Department of Psychology.

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 with reference to content and form.

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

February 14, 1968

Date

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