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I hereby recommend that the thesis prepared under my supervision by Harriet Quinn Bentley

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Approved by:

Arthur G. Bills

George W. Kisker

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THE DEVELOPMENT OF A SHORT FORM THEMATIC APPERCEPTION TEST BASED UPON SUBJECTS' SELF SELECTIONS

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Chapter I

AN INTRODUCTION INTO PROJECTIVE TESTING

Psychology, like all other sciences, is in a state of growth and development. Clinical psychology is that branch which is concerned primarily with the study of individuals. Under the impetus of growing knowledge and expanded techniques it has come more and more to focus on personality understanding. Gradually, clinical psychology is assimilating a dynamic approach to behavior. Such an approach demands that all behavior be regarded as active in the sense that individuals strive toward an adaptation with their physical and social environment. Further, it regards all behavior as purposive in the sense that behavior is oriented toward the achievement of some particular goal. In this light, personality may be regarded as the "process the individual uses to organize his experience in terms of a changing world of physical and social reality and to order such reality to his own needs and values." 1

The term "projection" is basic to the practice of modern clinical psychology. It was introduced as early as 1894 by Freud in his paper concerning "The Anxiety Neurosis" and was described: "The psyche develops the neurosis of anxiety when it feels itself unequal to the task of mastering excitation arising endogenously.

That is to say, it acts as if it had projected this excitation into the outer world." Two years later, Freud wrote in his paper "On the Defense of Neuropsychoses" an elaboration of his initial observations. He stated that projection was a defensive process whereby an individual might ascribe his own drives and feelings, to the world without, thereby allowing these "undesirable" phenomena to remain unrecognized within himself. During the last half century countless papers, academic and clinical - psychoanalytic have dealt with the phenomenon of projection in many contexts - religious, cultural, and psychopathologic. It was not until less than a decade ago that the concept of projection as a defense mechanism was generally described as having broader implications. In experimental investigation of the phenomenon, Bellak et al observed the external attachment of feelings agreeable and desirable to the individual.[2] Careful rereading of Freud[3] revealed a grossly overlooked statement. "But projection is not specially created for the purpose of defence. It comes into being when there are no conflicts. The projection of inner perceptions to the outside is a primitive mechanism which, for instance, also influences our sense perceptions, so that it normally has the greatest share in shaping our outer world." Freud's main assumption is that

memories of percepts influence perception of contemporary stimuli, and for purposes wider than the original purposes of defense.

It is in this sense that the term "projection" is given modern clinical application. It is upon this understanding that clinical psychology has given birth to its many so-called projective techniques. These are clinical instruments designed to gain insight into the functioning of an individual personality through study of his psychological structure as projected by him upon suitably designed ambiguous material. The use of projective tests assumes that the examiner is striving to ascertain something about the subject of which the subject either does not have conscious awareness or which he is unable to communicate freely and spontaneously. It is the characteristic of projective procedures that they allow the subjects to actively and spontaneously structure relatively unstructural material, and in so doing to make palpable to the clinician facts of his psychological structure. Projective tests seek to avoid the necessity for scrutinizing vasts amounts of life data, pertinent segments of which are frequently lost in obscurity. It is the claim of their originators, and the battlecry of their devotees that the projective techniques serve to elicit, to render observable, recordable and

communicable, the psychological elements of a subject inherent in him at any given moment.

Perhaps the earliest description of projective investigation was made by Sir Francis Galton in 1879. In observing his own free-associations, Galton found that those which occurred frequently over a four month period were traceable largely to boyhood and youth, with incidental and isolated ideas stemming from more recent experience. The diagnostic implicationsof his observations did not escape Galton. In his publication covering this work, there appears the following prophetic statement. One's own words . . . "They lay bare the foundations of man's thoughts with more vividness those he would probably care to publish to the world."[4]

Psychological testing progressed slowly for many years. Educators were largely responsible for focusing the psychologist's attention upon individuals and individual functioning. The work of Binet on the measurement of intelligence was in part an outgrowth of his work as a member of a commission appointed in 1904 by the French Minister of Public Instruction to make recommendations for teaching the feebleminded in the Paris public schools. A few months later, Ebbinghaus and others were commissioned to investigate the fatigue effects of continuous five-hour sessions

in the Breslau schools. The mental testing movement however, seems to have been too narrowly conceived, confining itself primarily to intellectual functioning. The psychologist of this era was not prepared to offer either theoretical or experimental knowledge to the germinating study of personality. It was inevitable then, that methods abundant with promise for the investigation of personality should remain dormant until the foundations for their meaningfulness became solidified.

The first actual investigation of personality through projective measures pertinent to this study was described by Brittain[5] in his paper, "A Study of Imagination", which appeared in 1907. A series of nine pictures was presented to a mixed group of subjects who ranged in age from 13 to 20 years. From an analysis of their stories, which were evaluated according to names, the use of the first person, the use of picture details, imaginative quality, unity and length, and the use of moral, social, and religious concepts, Brittain drew many conclusions concerning significant sex differences. Shortly thereafter, Libby[6] published a similar study describing his investigation of the relation between imagination and the feelings of school children. It was his finding that younger children give more "objective" stories while the stories of older children were more "subjective". According

to this author, the significant difference occurred between the thirteenth and fourteenth years.

For some twenty-five years this approach to the study of personality remained static. The next publication dealing with a similar procedure did not appear until 1932.[7] At that time, Schwartz, a psychiatrist, described "A S ocial S ituation Picture Test" which he had devised as an aid to psychiatric interviewing in the overcrowded Detroit Clinic for Juvenile Research.

The Thematic Apperception Test, which is the basis for this present study, came into being in 1935.

Chapter II

THE THEMATIC APPERCEPTION TEST AND THE MURRAY THEORY OF PERSONALITY

The Thematic Apperception Test (TAT) is a projective technique which purports to reveal the basic personality characteristics of a subject by interpretation of the phantasies produced by him in response to a series of stimuli pictures. It was first described by Morgan and Murray in a brief eighteen page article outlining the fundamentals of the procedure but giving no detailed method for interpretation.[8] Indeed one had not yet been developed. Murray has described the inception of the test, "A conversation I had with a student . . . was the spark that started us collecting pictures in 1933. At the beginning (Chris Morgan's) part was to help in the selection of the pictures (looking through magazines, etc.); to redraw a few of the selected pictures; and to administer the test to half our subjects (or half the test to all our subjects, I don't remember which). We wrote the article together rather quickly — in about two weeks as I remember."[9]

Three years after the initial publication, Murray's Explorations in Personality[10] put forth the general theory of personality developed by the workers at the Harvard Psychological

Clinic. In this volume the preliminary TAT results were integrated with their need-press theory. The work of the Murray group in building a system of personology ("instead of 'the psychology of personality', a clumsy and tautological expression") was a direct outgrowth of their dissatisfaction with existing schemes. "The literature is full of accurate observations of particular events, statistical compilations, and brilliant flashes of intuition. But taken as a whole, personology is a patchwork quilt of incompatible designs. In this domain men speak with voices of authority saying different things in different tongues, and the expectant student is left to wonder whether one or none are in the right." Murray distinguished clearly between "peripheralists" who are apt to emphasize the physical patterns of overt behavior, and the "centralists" who stress the direction or ends of behavior. Their work was considered by the Harvard group to be an at least partially successful reconciliation of the two.

The data out of which their original concepts emerged were: "our own experience, and the lives of others: patients treated at the Clinic, acquaintances, and the characters in history and fiction." These workers were guided in developing their generalizations by the theories of Freud and McDougall, as well as those of Jung, Rank, Adler, Lewin and others. Eventually, this new

theory evolved as a theory of directional forces within the subject which seek out or respond to various objects or total situations in the environment. Such forces are commonly termed "instincts" by the Freudians and early McDougall followers. (McDougall later adopted the term "propensities".) Although the Freudians explicitly cite only two instincts, sex and aggression, they do refer to numerous other forces in behavioral phenomena. McDougall enumerated most of these in his classification of propensities, and it is more accurately upon these that the Murray workers based their variables of personality.

The conceptual scheme set forth by the Murray group is based upon certain primary propositions. These general postulates include the following points:

1. Individual organisms, not aggregates of organisms are the objects to be studied.

2. The whole organism and its parts are interrelated. "Wholeness" is a characteristic of the organism from the beginning; parts are derived by self differentiations.

3. The organism undergoes "changing states" rather than being an inert body merely responding to external stimulation.

4. The history of the organism is the organism. It consists of a vastly complex series of temporally related activities extending from birth to death.

5. The organism and its milieu always must be considered together, since the organism is always within an environment and confronted by physical, social, and emotional situations which largely determine its behavior.

6. The organism attends and reacts to that part of the total environment which creates a stimulus situation. This stimulus is either facilitating or obstructing in the effect it exerts upon the organism. Such a force in the environment is termed a PRESS, and is a temporal gestalt of stimuli which usually appears in the guise of a threat of harm or promise of benefit to the organism.

7. The reactions of the organism to its environment are usually organized and unified to achieve activity that is survivalistically purposeful.

8. Adaptive behavior may be analyzed into the movements (actones) of accomplishing behavior and the effects achieved by the movements. These are connected in such a way as to promote a certain behavioral trend of unity in the organism.

9. Behavioral trends may be attributed to hypothetical forces (drives, propensities, NEEDS) within the organism. Although it is difficult to conceptualize this force, it is felt to be one which leads to activity which in turn seeks to satisfy the original need.

10. Most frequently environmental press incite needs within the organism although the process is, on occasion reversed. In some instances a need within the organism may lead it to seek out a certain external press. The simplest formulation of behavior is a need-press combination. (Murray has used the term "thema" to describe such an interaction between organism and environment.)

11. The extent to which the interaction of a need and a press meets with gratification or frustration is important in determining the future development of the organism.

12. Both the organism and the environment change with the passage of time and events. Success and failure, learning and maturation — all produce their effects so that at each moment the organism becomes one which will never repeat itself exactly.

13. Uniformities, rather thanidentities, are observable in the life of an organism. Individuals tend to react in similar ways to similar situations, and increasingly so with age. Consistency, then, as well as change is present. Because of this trend to sameness, any organism can be depicted by listing the most recurrent needs and press.

14. That consistencies occur is due, at least partially, to enduring "traces" which may be activated by the appearance of similar situations. The principle of redintegration tells us that an organism is apt to respond to new situations in terms of its earlier response to a previous situation.

15. Specific modes of behavior become connected with specific experiences as the individual learns, with age, to discriminate and coordinate.

16. Since brain processes are responsible for the reception, integration, and conservation of complex internal and external impressions, and since a need or drive is defined as a hypothetical process following stimulation but preceding active response, it must then be located in the brain region.

17. Certain mutually dependent processes may be isolated which constitute dominant configurations in the brain. These Murray has labeled "regnant" processes. Each regnancy is at the summit of a hierarchy. To this extent, regnant needs or drives dominate the individual.

18. During a given moment only certain regnant processes are in consciousness. Hence, unconscious or latent regnancies must be conceptualized as regnant even though they are not observable even to introspection.

It is upon the basis of the preceding points that the Murray group understands personality. Points 6 and 9 state specifically the personality variables which must be isolated in order to understand behavior — Press and Need.

Need is defined and described by Murray as "a construct (a convenient fection or hypothetical concept) which stands for a force (the physico-chemical nature of which is unknown) in the brain region, a force which organizes perception, apperception, intellection, conation and action in such a way as to transform in a certain direction all existing, unsatisfying situation. A need is sometimes provoked directly by internal processes of a certain

kind (viserogenic, endocrinogenic, thalmicogenic) arising in the course of vital sequences, but more frequently (when in a state of readiness) by the occurrence of one of a few commonly effective press (or by anticipatory images of such a press). Thus it manifests itself by leading the organism to search for or to avoid encountering, or when encountered, to attend and respond to certain kinds of press. It may even engender illusory perceptions and delusory apperceptions (projections of its imagined press into unsuitable objects.) Each need is characteristically accompanied by a particular feeling or emotion and tends to use certain modes to further its trend. It may be weak or intense, momentary or enduring. But usually it persists and gives rise to a certain course of overt behavior (or phantasy), which (if the organism is competent and external opposition is not unsurmountable) change the initiating circumstances in such a way as to bring about an end situation which stills (appeases or satisfies) the organism."(1)

From this definition, a need may be regarded as the immediate outcome of certain internal and external occurrences. It is a readiness of the organism to respond in a certain way under given conditions. With successive activations, each need

(1) Murray, H., Explorations in Personality, Oxford Univ. Press, 1938, p. 123-124

tends to become more firmly associated with the behavior patterns which have met with the greatest satisfactions in the past. The term "need" does not always refer to a fact that is observable to either the individual himself, other persons, or both. It may be present on an overt or manifest level; it may never become objectified in real action when evoked and remain on a covert or latent level. A need may be distinguished as conscious or unconscious. Whatever a subject can directly report upon may be considered conscious, while everything else may be regarded as unconscious. According to such a criterion, verbalization is mandatory for consciousness (according to the Murray Need-Press Theory). Either a conscious or an unconscious need may be objectified (manifest) or latent. It is a matter of si mple observation to recognize that many conscious desires are never put into action while many unconscious needs become transparent to others through action.

Press, the second major variable which interacts with needs to stimulate specific reactions in individual organisms is, perhaps, somewhat easier to comprehend and identify since its locus is (except in some few instances of intra-organic stimuli) external to the individual. It is a force inthe environment which produces an effect (actual, potential, or intended) upon

the subject. ("Effect" used in this sense is not taken to mean the aroused response but rather what is done to the subject before he responds or what might be done to him if he did not respond.) The process in the subject which recognizes what is being done to him at the moment and what might be done to him if he reacts in any of a variety of ways, has been termed "pressive apperception". The process is certainly egocentric and, it is important to note, usually unconscious.

It was within this Need-Press theory of personality that Murray first described his method of interpreting the phantasy productions elicited from subjects in response to the stimuli pictures which he selected to compose the Thematic Apperception Test. Since the original publication sixteen years ago, tremendous importance has been attached to this method of personality investigation since it gives pri marily and more so than any other clinical test currently in use, the actual dynamics of interpersonal relationships. By the very nature of the pictures it gives basic data concerning the testee's relationship to male and female authority figures, to contemporaries of both sexes, and it frequently shows the genesis of these interpersonal relationships in terms of family relations.

Two basic assumptions underlying the test itself must be kept in mind in understanding why the TAT accomplishes its aim. The first may be termed "externalization" and refers directly to the phenomenon of projection as previously outlined. Externalization is a phenomenon that characterizes many TAT responses. It applies to that dynamic material within an individual which is present on a preconscious level and can readily be brought into the conscious. It is a common experience for clinicians to encounter subjects who at least partially recognize they are speaking of themselves in their stories although they report the awareness was not present until the story was produced. This does not imply that such material is capable of being brought wholely into consciousness. Rather, it is presumed that much preconscious material also has deeper unconscious determinants which remain below the threshold of awareness.

The second basic assumption essential for TAT analysis is psychological determinism whichmay be regarded as a special case of the law of cause and effect -- i.e., that there is uniform coexistance and sequence between psychologic events. Further, the principle of overdetermination must be admitted since behavior, motor or verbal, may have more than one meaning. A story given to a TAT picture may have been obviously

and consciously taken from a movie plot, yet it is recalled and reported since it reflects preconscious patterns in the subject's psychologic makeup, and further, it may be recalled because it has a symbolic, disguised meaning on an unconscious level.

The pictures have been changed over the years so that they might facilitate the complex process of projection. The present TAT pictures(1) are the third revision since 1935. Aside from the additions and omissions which have been made since the original series was issued, the last two series have been expanded in size. This probably enhances the process of identification with the pictures. The test consists of a total of thirty pictures. Experience has shown that people find it easier to project their needs, experiences, etc., when they can ascribe them to human figures. The majority of the pictures depict life situations involving one or more persons. Since it appears easier for subjects to identify even more readily with characters of similar sex and age, the thirty pictures are so arranged so that ten are administered to all subjects -- children and adults -- and the remainder so designated that ten are assigned to adult males, ten to adult females, ten to boys and ten to girls. Each individual is, according to standard instructions, tested with a set of twenty pictures. (Card XVI, although

(1) The cards are printed by the Harvard Printing Office, Cambridge, Massachusetts

termed a "picture", is a blank white surface which leaves the subject free to construct his own picture and hence a completely "personalized" story.)

Many methods of interpretation have grown out of the enlarged application of this projective test. They range from the simplest subjective inspection technique to very elaborate analyses of both formal structure and content characteristics of each individual story. Rapaport[11], for example, suggests the following two major classifications with specific subdivisions.

A. The formal characteristics of the story structure.

1) Compliance with the instructions (omissions, distortions, misplaced emphasis, introduction of figures or objects not depicted, etc.)

2) Consistency within the productions of any subject (both inter and intra individual consistency is considered).

B. Formal characteristics of story content.

1) Prevailing "tone" of the narrative (includes moods, attitudes, etc.)

2) The figures of the study (either self

representations or figures who loom large in the present psychological "life space").

3) Strivings and attitudes.

4) Obstacles and barriers.

Tomkins[12], in his elaborately systematic attempt at consistent analysis has distinguished four major categories.

A. Vectors comprising needs (as shown by the quality of striving "for", "against", "under", "away", "from", "by", "of".

B. Levels of phantasy (wish, daydreams, etc.).

C. Conditions of external forces (Murray' s press) or inner subjective states (anxiety, elation, etc.)

D. Qualities such as intensity of the story, certainty, etc.

Stein[13] has outlined seven major factors involved in analysis and interpretation of the TAT.

A. The hero

B. Environmental stimuli (Murray's press)

C. The hero's behavior (Murray's needs)

D. Cathexes

E. Inner states

F. The manner in which behavior is expressed

G. Outcomes

The original technique as defined by Murray and his staff depends upon an analysis of the stories according to the needs and press therein represented. Each sentence of every story is scrutinized for the needs of the hero (the character with whom the subject is identifying himself) and the environmental forces or press to which he is exposed. A very much simplified example of this scheme is illustrated by the statement, "He wanted to join the group but they would not admit him to their circle". Analysis reveals: need (for) affiliation met by press (of) rejection. Following such an analysis, the Murray system tabulates a rank order of needs and press so that the hierarchal relationships may be enalyzeed. The necessity of establishing such a hierarchy is not peculiar to the Murray method alone. One of the features concerning TAT interpretation which has been consistently emphasized by most investigators is the caution that personality factors should not be based upon a datum revealed in a single story. As stated by Bellak in his Projective Psychology, "impressions gleaned in only one instance can be considered a very tentative inference only, for which one must try to find corroboration in other stories or some source of information external to the TAT. A repetitive pattern is the best assurance that one does not deal with an artifact." Rotter[14] emphasizes frequency as a criterion of importance. ". . . . . a

principle may be applied which states that a theme or plot which occurs repetitively is likely to be a greater significance than one which does not." Stein[13] also takes note of this point when he says, "The relative importance of the various needs (and press) in the individual case frequently may be estimated on the basis of frequency . . . . . in the TAT stories." Further, he feels that "no hypothesis should be accepted unless it is confirmed by data obtained from at least two stories". Murray himself was careful to state the importance of repetition when he used "frequency" as one of the basic criteria for determining the strength of a personality variable.

Along with expanding attention to the actual problems of administration and interpretation, attention has been forcused directly upon the ever important questions of reliability and validity of data obtained. The problem of reliability is two-fold: to what extent do independent interpreters agree in their evaluations of the TAT, and to what extent does similarity occur between TAT protocols of a given individual in successive testings. Inter-interpreter reliability seems dependent primarily upon the conceptual acheme employed in the analysis, and the varying ability and acquaintance of interpreters with the plan utilized. As a consequence, the reliability coefficients reported in various publications range from + o.30 to +0.96.

Clark[15] classified the results of content-analyses by two judges on one story from fifty patients and obtained tetrachoric correlations on their agreement. All tetrachoric correlations were ±0.90 or above for the following categories: effect of the environment on the organism, reaction of the organism to the environment, adequacy of the principal character, and the nature of the endings. However, the correlation dropped to ± 0.30 on the ratings of "needs" expressed in the story. Clark attributes this in part to the lack of clarity of definition in the scoring categories.

Combs[16] reported a reliability study on ratings rendered by himself and three other judges on ten protocols. The mean percentage of agreement between the judges was 60%. Checking on the reliability of his own ratings, Coombs reanalyzed his own scorings six months later. The mean percentage of agreement here was 68.8%. He considered both of these figures to be "disappointingly low".

Harrison and Rotter[17] considered reliability in their study of officer candidates for the Armored Officer Candidate School at Fort Knox. Using five pictures in a group administration, they rated the stories blindly, once on a three point scale, and once on a five point scale. The corrected contingency

coefficient for the three point scale was + 0.73 with 64% of the cases showing complete agreement. On the five point scale they obtained a corrected contingency coefficient of + 0.77 with "essential concurrence" in 74% of the ratings.

The study of validity is peculiarly difficult when dealing with material underlying overt behavior but which usually cannot be observed per se. The most widely used approachto this problem has been the comparison of the TAT with other data such as case histories, autobiographies, etc. Harrison[18] administered the TAT to forty psychiatric patients in the absence of factual knowledge. He noted all the information he could infer from the story cues. Checking this against case history information, he obtained a "surprisingly high" mean validity index which indicated that his thematic analyses had a mean of 82.5% correct inference with the validating criterion.

Combs[19] attempted to determine the validity and congruity of interpretation from TAT stories and autobiographical data, using a check list to standardize terms. Agreement between external analysts ranged from 50% to 60% but agreement of an analyst with Combs was 63% to 68%. This is interpreted by Combs to demonstrate higher "validities" than "reliabilities"

of interpretation from such materials.

Other major approaches to validation have been made through comparisons between the TAT and other projective techniques, and through psychoanalytic interpretations of various TAT stories in the light of known historical data.[20] Research in this direction is currently progressing on an ever widening scale. Standardization is essential if this technique is to become a practical clinical tool. Fruitful evaluation of results is unfeasible until some degree of uniformity of understanding has been achieved.

Chapter III

SHORT FORMS OF THE TAT

THE PRESENT STUDY — ITS PURPOSE

At the present time wide dissatisfaction exists with the TAT because of its physical length. Despite the recognition that each card which has been included in the battery has been inserted to stimulate a specific type of material, practical considerations such as time consumed and fatigue engendered by both examiner and subject make the problem of a shortened form TAT an extremely critical one. As the test becomes prolonged, subjects tire, become bored and restless, and productivity becomes impaired. The examiner's level of alertness is sometimes lessened and exact verbatim recording of what the subject is saying becomes less accurate. In response to these conditions, most clinicians informally and spontaneously delete various pictures. It is probable that the random battery thus selected and ultimately delivered(and which is peculiar to each examiner), has evolved as much out of the examiner's own projections as it has out of consistent experimentation.

Recent publications have reported studies directed at diminishing the number of cards to be administered. There appears to have been, however, little objective, scientifically controlled effort directed at the selection of these fewer cards. For example, Murray[21] in collaboration with Stein reports "reasonably good results" by using only five pictures (1) selected from the usual twenty, and scored on the frequency and intensity of eight variables, three of which they had previously found to be positively correlated with leadership capacity and five of which were negatively correlated. No data is given in their report to justify their choice of cards or to clarify their variables.

Harrison[18] conducted an auxiliary study in his work on validity to determine whether a shorter test would be as productive and as valid as the full length battery. Five of what he considered to be the poorest cards of the series were eliminated.(2) One analysis was made on the basis of the fifteen preferred pictures and another was made with the benefit of all twenty pictures. The average additional number of checkable points for the whole battery as opposed to the fifteen card battery was 1.4, of which .4 were considered incorrect. Harrison concluded from this work that the

(1) These cards were not taken from the current revision. Four, however, are still included in the latest series—Cards IV, VI, IX, XII. The fifith depicted the head and shoulders of a man with uplifted hands and mouth open as of shouting.

(2) This study was also done with an earlier edition of the pictures. From today's revision, CARDS VII, XI, XII, and XVIII were used in their project.

five least informative cards could be eliminated with results "as valid and practically as productive". The publication does not shed light on the methods for designating "poorest" cards for elimination.

The study of reliability by Harrison and Rotter[17] which has already been cited was conducted with a five picture series.(1) These authors concluded on the basis of obtained contingency coefficients that it is possible to secure good interpersonal reliabilities for ratings on the emotional suitability of officer candidates from a limited number of TAT stories.

Rotter[22], in another investigation reduced the number of cards administered to fifteen. He states that about five of the twenty pictures were "poor" in that the stories elicited contributed little to the analysis of a subject's personality. "The omission of these pictures would proportionately reduce the amount of time spent ingiving and in analyzing the test and raise its economic value."

Western Reserve University has proposed research on this general problem. Levinson[23], when at that school, wrote, "Nearly a year ago a bunch of us here at the Psychology Lab got

(1) It is not stated which revision of the TAT was used. The pictures were those currently numbered III, V, X, XIV, and that of a lightly clad female in a chair, asleep or fatigued.

together and agreed on these eleven (2; 3/BM/ 6 BM or 6 GF depending on sex; 7 BM or 12F; 12 M; 13 MF; 14; 15; 16; 18 BM/ and 20) on the basis of our intuitive impressions of which were the most fruitful cards. As a result almost everyone in the Cleveland area is using the same short series (few people have time to use all twenty) and everyone doing research can depend on quite a variety of comparison groups. It seems now that a few of the cards included are not too good and that a few replacements ought to be made, e.g., the violin card (no. 1) to replace the farm scene (no. 2)." Although effort was made through personal communications to obtain further information concerning the choice of these pictures, such data to this date, has not been forthcoming.

Eiduson[24] has reported on the short series of cards which she has used in her work as psychologist at the Hacker Clinic in Los Angeles. With the assistance of Dr. Bruno Klopfer, she has chosen the following twelve cards for use withboth male and female patients: 1; 2; 3 BM; 4; 9 BM; 11; 12 M; 13 MF; 15; 16; 18 BM; 18 GF; and occasionally 17 and 20.

Garfield and Eron[25] in a recent study used only twelve cards to investigate mood and activity as seen through the TAT.

"These were selected in terms of previous clinical study as being the most significant in personality investigation." The cards chosen were 2; 3 BM; 4; 5; 6; BM; 7 BM; 10; 12 M; 13 MF; 14; 18 BM; 20. In reply to a personally addressed letter, Dr. Garfield has written, "The twelve cards that were used in my previous article were selected on a subjective basis in terms of our own experience. It was our impression that more complex plots and greater identification and projection were evident in these pictures than in some of those that we did not use." Speaking of short forms in general, Dr. Garfield says, "I cannot give you very much specific or detailed information on my experience and success with a shortened series of TAT pictures. Obviously the significance depends a great deal on the type of subject being examined. In most cases, however, I have used from twelve to fourteen cards rather than the full set. Subjectively, I have felt that the results were worthwhile but have no objective evidence to support this view. At times the number of cards administered has been determined by the relative amount of data secured in the early part of the test period."

Rotter, at Ohio State University, has said in personal correspondence, "We have no experimental criteria for the

selection of cards for adults on the TAT. In general, we have attempted to consider cards as less useful if they tend to produce brief, unproductive stories or stereotypes and sometimes if they duplicate another picture. When working in a clinical situation and using a limited number of cards, I have tried to select cards which are likely to produce stories bearing directly on he subject's hypothesized problem and mix them equally with "neutral" cards. That is, "neutral" in that they are not likely to produce stories of the same kind as the others". This view is amplified in his article, "Thematic Apperception Tests: Suggestions for Administration and Interpretation."[14]

Bellak, long considered as an authority on the Thematic Apperception Test, expressed his feeling about shortened series in a private communication. "I consider cards #1 and #2 necessary for every administration, but otherwise select them in such a way as to elicit material on the problems whichthe manifest clinical picture seems to point to". In his chapter entitled, "The Thematic Apperception Test in Clinical Use" which appears in Abt and Bellak's Projective Psychology[1], Bellak writes, "Again, for practical reasons it has become more and more

the custom to give only ten or twelve pictures. These may be either the first ten or preferably such asselection as may seem most indicated, most likely to illuminate the details of presumably existent problems of the patient." In this same chapter, Bellak writes that he prefers "to have only a single session for time-saving in administration and in interpretation", and that he believes "that usually an optimum of material is obtained from ten or twelve pictures".

The case in favor of a short form TAT is certainly clear. It is now a question of determining how much an abbreviated series is to be selected. A review of the work already done along these lines points to selections which are largely empirically and intuitively based. The dearth of agreement concerning the chosen pictures is also evident.

Since previous efforts have stemmed from the examiners' clinical preferences, it is the purpose of this present study to conduct a subject-oriented study -- an investigation into the development of a short form Thematic Apperception Test based upon subjects' self selections of those pictures to be presented. As has been previously stated, this test is a projective technique and requires the subject to involve himself in the pictures to the extent that he feels, thinks,

speaks, and acts for it. It seems psychologically logical that if the mechanism of projection occurs when creating stories about ambiguous pictures, the process must begin prior to the achievement of the story. This research is designed to study the preferences for the pictures which are obtained from subjects during a brief preliminary period and to determine whether in some way these preferences may initially reveal which cards will, upon standard administration, yield the greatest abundance of clinical material. It is hypothesized that each subject would, on first viewing the cards, express preference for those pictures with which he can most readily identify. Consequently, it is anticipated that the more "liked" any picture is, the greater will be the relative amount of clinical material forthcoming from a story given to that picture. The procedures for investigation were planned accordingly.

Chapter IV

PROCEDURE OF THE STUDY

For the purposes of conducting this investigation, white male veterans of World War II were selected as the representative subject population. At the time they were studied, these men were hospitalized in the Veterans Administration Hospital, Fort Thomas, Kentucky, for rehabilitation purposes. They had been referred to the Department of Psychological Medicine as part of their routine hospital admission, and were given the experimental procedure as part of the normal course of events. From a total of eighty patients who were studied for this research, thirty were ultimately chosen to compose the experimental group whose 600 Thematic Apperception Test stories would be treated according to the experimental design. These specific subjects were designated for inclusion because they met the following criteria.

1. The TAT protocol which they produced was complete in that all pictures yielded sufficient material for clinical evaluation.
2. Their hospital charts were current and complete.
3. Their psychological test battery included, in addition to a TAT, at least a Wechsler-Bellevue

Intelligence Scale and a Rorschach which were adequate for interpretation.

4. They must have had no previous projective psychological tests.

The group thus selected ranged in age from 21 years to 44 years, with a meanage of 27.6 years. Of the thirty, nine (30%) were married while twenty-one (70%) were single. Intelligence quotients, as measured by Form I of the Wechsler Bellevue had a range of 71 to 130 with a mean full scale I.Q. of 112. The educational backgrounds of these subjects varied from completion of the seventh grade through college graduation. Three of the subjects had had only grade school work. Ten members of the group had had some high school training, while eleven others were high school graduates. Of the six subjects who had received some college instruction, only three had completed their four year college requirements. The physical disabilities (based upon Veteran's Administration medical diagnoses and ratings) which were sampled in this group included ailments both purely physical and neuropsychiatric in nature. Two subjects were partially paraplegic as a result of some traumatic central nervous system damage.

Two subjects were amputees as a result of injury, another had lost a limb as the result of Buerger's Disease. One subject bore the medical diagnosis of multiple sclerosis. Physical involvements such as rheumatoid arthritis and fractures accounted for six of the subjects. Twleve individuals were classified neurotics. The remaining six were considered to be psychotics in remission. In tabular form, the population appears:

Subject	Age	Marital Status	I.Q.	Education (Grs. Comp.)	Disability
A	38	M	92	12	Neurotic
B	25	S	97	16	Paraplegic
C	25	S	104	12	Fractures
D	31	M	128	10	Amputee
E	27	M	114	10	Amputee (Buerger's)
F	26	S	79	7	Neurotic
G	26	S	119	12	Neurotic
H	32	S	120	16	Multiple Sclerosis
I	44	M	121	9	Arthritis
J	30	S	108	12	Neurotic
K	29	S	127	12	Post-psychotic

Subject	Age	Marital Status	I.Q.	Education (Grs. Comp.)	Disability
L	23	S	111	10	Neurotic
M	21	S	124	12	Neurotic
N	22	S	123	13	Arthritis
O	25	S	110	9	Neurotic
P	29	S	114	12	Neurotic
Q	30	M	121	12	Neurotic
R	27	S	130	16	Neurotic
S	26	M	102	8	Post-psychotic
T	24	S	99	11	Post-psychotic
U	26	S	106	10	Post-psychotic
V	27	M	71	8	Paraplegic
W	25	S	124	9	Neurotic
X	33	M	120	10	Amputee
Y	31	M	111	12	Post-psychotic
Z	23	S	101	9	Arthritis
AA	28	S	122	12	Neurotic
BB	24	S	124	13	Ileostomy
CC	32	S	122	12	Post-psychotic
DD	27	S	124	13	Toxic reaction

The materials and equipment required by this experiment were simple. They consisted of those twenty cards from Set D (the third revision) of the Thematic Apperception Test whichcomprise the adult male series, and paper and pencils to be used for verbatim recording of subjects' phantasy productions.

Prior to standard administration of the test, each subject was conducted through an initial "sorting procedure" designed to obtain from him his rank order preference for the several cards. He was presented with nineteenpictures (the blank card, No. 16, was eliminated at this point since preliminary work showed unfavorable reactions of suspicion, anger, levity, to it) and instructed to select the three pictures which he "liked" best. Subjects who requested elaboration of the instructions were answered with evasive, non-directive phrases, such as "Anything about it that strikes you". This was done deliberately in an effort to eliminate any clues or suggestions that might influence the impression of preferences. In this way each individual was made to rely solely on himself and the unbiased quality of each preference ranking was assured.

When the initial three selections had been made, each subject was instructed to assign to them a rank order. His attention was then redirected to the remaining pictures with

the instructions to select the three which he "liked next best". These, in turn, were also assigned rank orders. The procedure was continued until all nineteen cards had been chosen and ranked. Groups of threes had no meaning other than that of convenience and simplification for the subjects. Incompleting the ranked preference order, no subject was permitted to ponder over his selections for any length of time. A maximum of five minutes was allowed for this preliminary exposure of the test materials. Although subjects were uninformed at this time about the story-telling nature of the test, brief exposure time was deemed advantageous in order to forestall conscious associations to the pictures preliminary to the period when phantasy productions were invited. At the conclusion of this sorting procedure, there was available for each subject a 1 to 19 list of ranked order preferences for the pictures of the adult male series of the TAT pictures. Rank 1 was, for each subject, the card to which he had assigned the greatest degree of "liking", rank 2 was the picture each individual liked second best, etc. By virtue of their delayed selection, the pictures which were assigned to the latter ranks of this 1 to 19 scale possessed the quality of being "liked" less than those pictures which were given early preference.

Although the term "dislike" was never introduced into the instructions given for the sorting, it is logical that the higher the rank assigned to any card by a given subject, the greater is his degree of rejection or "lack of liking" for that card.

Consequent to this ranking, the full set of cards was administered in one session and according to standard instructions. Each subject was told, "This is a test of imagination, one form of intelligence. I amgoing to show you some pictures, one at a time; and your task will be to make up as dramatic as story as you can for each. Tell what led up to the event shown in the picture, describe what is happening at the moment, what the characters are feeling and thinking; and then give the outcome. S peak your thoughts as they come to your mind".(1) The stories were recorded verbatim simultaneously with their creation.

Since this study was designed to uncover the existing relationship between stated preference for a picture and the clinical material available from the story stimulated by that

(1) These are the instructions cited in the manual accompanying the Thematic Apperception Test pictures.

picture, an objective method for evaluating the clinical importance of each story was sought. The goal here was to isolate the "raw material" from which personality integration could subsequently be made, rather than to seek, per se, a measure of the dynamic personality constellation. Mandatory for any such method was the requisite that it must lend itself to an eventual rank ordering of the cards in terms of the relative abundance of important clinical material to be derived about a subject from his TAT. More specifically, the pictures must be arranged on a 1 to 19 scale where rank 1 has the essence of being the card most heavily weighted with clinical material, rank 19 being the picture least heavily loaded with clinical data.

To accomplish this clinical rank order, thirty seven personality variables were designated and defined for application to the experimental data. These variables were taken directly from those which the Murray theory terms "psychogenic" needs (they have to do with mental or emotional satisfactions in contrast to the physical focus of the "viserogenic" factors) and press. They were based

directly upon the Murray definitions. Modifications were made only when necessary for simplification and clarification. As applied in this study, these variables may have been represented in the stories on varying levels of behavior ranging from wish fulfillment to definite motor action. To be scored, a variable must have been manifestly pfesent in the story. Assessment of symbolic values and meanings was not considered in this study.

Twenty of the total variables were descriptive of internal forces or needs. These needs, along with their definitions are:

1. ABASEMENT: The basic form here is the passive acceptance of personal guilt, inadequacy, or humility. Examples: To submit to external forces. To accept injury, blame,criticism, punishment. To surrender. To become resigned to fate. To admit inferiority, error, wrong doing or defeat. To confess or atone. To blame, belittle or mutilate the self. To seek and enjoy pain, punishment, illness and misfortune.
2. ACHIEFEMENT: To desire or to actually accomplish something difficult by the successful exercise of personal abilities. Examples: To master, manipulate, or organize physical objects, human beings,

or ideas. To overcome obstacles and attain a high standard. To excel one's self. To rival and surpass others. To increase self regard. The desire to become self-reliant and independent.

3. AFFILIATION: To draw near and cooperate or reciprocate on a platonic, friendly level with an allied, animate object. Examples: To desire or actually please and win the affection of a cathected object. To adhere and remain loyal to a friend. To desire or seek friendships.

4. AGGRESSION: To physically or verbally express, or experience the impulse to express, hostility. Examples: To overcome opposition forcefully. To fight. To revenge an injury. To attack, injure, or kill an object. To oppose forcefully or punish an object. To steal or take forcefully another's property. To belittle, censure, curse or ridicule maliciously an object. To depreciate or slander.

5. AUTONOMY: To free one's self from felt restraint and restriction by the exercise of negativistic self will. Examples: To break out of confinement.

To resist coercion. To avoid or quit activities prescribed by domineering authorities. To be independent through above measures. To be unattached and unconditioned. To defy conventions.

6. COUNTERACTION: To compensate or in some way make up for a past failure, real or imagined by restriving. Examples: To obliterate an humiliation by resumed action. To overcome weaknesses, to repress fear. To efface a dishonor by action.

7. DEFERENCE: To admire and support a superior subject. Examples: To praise, honor, or eulogize. To yield eagerly to the influence of an allied object. To emulate an exemplar. To conform to custom.

8. DEFENDANCE: To vindicate the Ego. Examples: To actively defend the self against assault, criticism or blame. To conceal or justify a misdeed, failure or humiliation. To rationalize.

9. DOMINANCE: To induce an object to act in a way which accords with one's sentiments and needs by suggestion, seduction, persuasion, or command. Examples: To get objects to cooperate. To convince an object of the rightness of one's opinion. To dissuade, restrain, or prohibit.

10. EXHIBITION: To bring one's self to the attention of others in dramatic fashion. Examples: To make an impression. To excite, amaze, fascinate, entertain, shock, intrigue, amuse or entice objects.

SECLUSION: Taken as the negative, opposite value of Exhibition. Examples: To retreat or withdraw from others. To seek isolation. To dream. To desire or seek escape through death.

11. HARMAVOIDANCE: To escape from a physically threatening or dangerous situation. Examples: To take precautionary measures. To avoid pain, physical injury, illness and death.

12. INFAVOIDANCE: To avoid emotional trauma--humiliation, embarrassment, and the scorn or indifference of others. Examples: To refrain from action because of the fear of failure.

13. NURTURANCE: To be emotionally or physically "giving" and supportive. Examples: To give sympathy and gratify the needs of a helpless, weak, disabled, tired, inexperienced, infirm, defeated, humiliated,

lonely, dejected, sick, mentally confused object. To assist an object in danger. To feed, help, support, console, protect, comfort, nurse, heal.

14. ORDER: To put things in order. Examples: To achieve cleanliness, arrangement, organization, balance, neatness, tidiness, and precision. To be concerned by the lack of these things.

15. PLAY: The tendency to act for "fun" without further purpose. Examples: Playful, gay, jolly, merry, blithe, jovial, easy-going, light-hearted sportive activity.

16. REJECTION: To separate one's self from a specific negatively cathected object. Examples: To exclude, abandon, expel or remain indifferent to an inferior object. To snub or jilt an object. To feel disgusted by an object.

17. SEX: To form and further an erotic relationship. Examples: To be sexually attracted to an object. To have sexual intercourse.

18. SENTIMENCE: To seek and enjoy sensuous impressions.

19. SUCCORANCE: To have one's dependent or regressive needs gratified by the sympathetic aid of an allied object. Examples: To be nursed, supported, sustained, surrounded, protected, loved, advised, guided, indulged, forgiven, consoled. To remain close to a devoted protector. To always have a supporter.

20. UNDERSTANDING: The tendency to ask or to answer broad questions, to be interested in theory, and to be inclined toward analyzing and generalizing events. Examples: To discuss and argue. To emphasize logic and reason. Self-correction and criticism, based on objective findings. To have a deep interest in abstract formulations--science, mathematics, philosophy. To think things through. To seek educational expansion.

The remaining seventeen variables were press, the "kind of effect an object or situation is exerting or could exert upon the subject". The press which were applied, along with their definitions are:

1. FAMILY INSUPPORT (INSUPPORT): Those chief occurrences which disrupt the sameness, regularity, consistency, or dependability of family life.

Examples:

a. Cultural discord

b. General family discord

c. Capricious discipline

d. Parental discipline

e. Inferior parent

g. Dissimilar parent

h. Poverty

ETC.

2. DANGER: Some danger, threat, or misfortune on an infra-human level.

Examples:

a. Physical insupport

b. Water

c. Aloneness, darkness

d. Inclement weather, lightning

e. Fire

f. Accident

g. Animals

ETC.

3. DENIAL: Danger, threat, or misfortune on a human, personal, emotional level. The withholding for any reason of desired or necessary objects.

Examples:

a. Of Nourishment

b. Of Possessions

c. Of Companionship

d. Of Variety

e. The statement of an unresolved problem.

4. REJECTION: The feelings of unconcern or scorn from some object. Examples: Being unwanted, ignored, omitted, sent away, etc. Being deserted (actually or imagined as through death or illness).

5. RIVAL: The presence, real or imagined, of a contemporary who is competing actively or passively for either material or emotional gain.

6. BIRTH: (of a sibling)

7. AGGRESSION: Maltreatment, either verbal or physical, by either an older person or a contemporary.

Examples:

a. Punishment

b. Being the object of striking, physical pain

c. Being restrained, confined.

ETC.

8. DOMINANCE: Attempts to influence one by suggestion and persuasion toward a certain goal of achievement (Physical, economic-vocational, caste, intellectual, etc.)

Examples:

a. Coercion

b. Discipline

c. Prohibition

d. Religious training

e. The possessive parent

f. An over-solicitious attitude

9. NURTURANCE: Here are classed examples of cherishing affection, leniency, sympathy, generous bestowals, (gifts), and encouragement.

10. SUCCORANCE: Demands for tenderness. Examples: Attempts to control through playing on one's tenderness and chivalry with tears, illness, and recitals of sacrifices. Bids for recognition, gratitude, devotion.

11. DEFERENCE: To be the recipient of praise, recognition, etc. Examples: A child may be given much recognition

and praise by parents or he may enjoy the obedient respect of siblings or other contemporaries. He may be an acknowledged leader, captain of a team, receive prizes and honors.

12. AFFILIATIONS: To have friendships and to be companionable with congenial persons who like and respect the subject.

13. SEX:

Examples:

a. Exposure

b. Seduction, homosexual or heterosexual

c. Primal scene

14. DECEPTION: To be deceived, betrayed, or disappointed.

Examples: Facts may be concealed from, or lies told to the subject. Unkept promises.

15. ILLNESS:

Examples:

a. Prolonged, frequent illness

b. Nervous

c. Respiratory

d. Cardiac

e. Gastro-intestinal

f. Infantile paralysis

g. Convulsions

ETC.

16. OPERATION: (Surgical)

17. INFERIORITY: General unattractiveness, lack of social talent, and the inability to get along with others and establish enduring friendships.

Examples:

a. Physical inferiority

b. Social inferiority

c. Intellectual inferiority

Accurate application of the described needs and press was dependent upon a preliminary identification of the hero within any given story. It is always upon the determination of the story character with whom the subject is most closely identified that needs and press may be distinguished. In certain instances it became impossible to pin-point a single hero since the subject had shifted his identification among several heroes. Stories showing this pattern required that the variables be applied in the light of each new hero who was introduced into the story. In general, however, the

hero of a TAT story may be identified by any one or a combination of the following factors:

1. The first character about whom the subject chooses to speak
2. The character who occupies the subject's attention throughout most of the story
3. The character who initiates the important activity
4. The character about whom the story revolves
5. The character who is being acted upon by most of the other individuals
6. The character who is most like the subject in terms of age, sex, physical appearance, psychological makeup, etc.

The procedure whereby the individual stories of a protocol were assigned ranks on a 1 to 19 scale grew out of the general agreement in TAT circles that the frequency of appearance of a specific need or press is coincidental with its importance for that personality. Therefore, for each protocol, the frequency of every need and press represented was tabulated. Since personality, as understood by the framework herein set up, may be regarded as a process constantly influenced by an

individual's interactions with his physical and social environment, on the one hand, and by the intensity of his needs, on the other, a separation of needs and press is an artificial one. Hence, using the frequency of each need and press as its weight, and applying it to each appearance of the variable, a combined total weight for each story within the protocol was obtained. The story yielding the strongest needs and press would also be the story having received the highest total weight, etc. The desired 1 to 19 rank order was readily constructed: that story having the greatest weight was assigned rank 1, the story having second greatest weight was assigned rank 2, etc. As an hypothetical, and grossly simplified example, if a protocol contained a total of six variables and each had a specific frequency:

Need Achievement	-	frequency 6
Need Affiliation	-	frequency 4
Need Deferance	-	frequency 3
Press Insupport	-	frequency 5
Press Rejection	-	frequency 4
Press Rival	-	frequency 1

then, a story combining needs achievement, affiliation and press insupport would receive a total weight 15, and be assigned a rank higher than a story combining needs affiliation with press insupport and rejection which totals a weight of 13.

At this point in the research two rank order scales were available for each subject--the first, a 1 to 19 ranking of the cards according to preferences of "liking", the second, a 1 to 19 clinical ranking of the cards according to the abundance of the experimental variables. In order to investigate the validity of the hypothesis, i.e., to ascertain the degree of relationship existing between subjects' statements of preferences and clinical judgments of importance, the direct method for statistically determining probability[26] was chosen as the most applicable. This method, in that it lends itself to comparison of groups of figures, is especially suited for inquiry into the stated problem. Calculations were made using a table of logarithms of factorials as described by Gouldin.[27] Because ten to twelve cards are considered an optimum short form TAT, and because it is the hypothesis of this study that the greater the amount of preference attributed to

pictures, the greater would be the amount of clinical data forthcoming from them, it was necessary to demonstrate for every case, the significance of correlation between three sets of figures. Direct probabilities were first computed to show the relationship between the ten cards most preferred by any subject and the ten cards which were judged clinically most productive for that subject. In turn, direct probabilities were computed for groups of eleven cards, and then groups of twelve cards. The formula employed in these calculations is written:

$$\left(\frac{T_1!\,T_2!\,T_b!\,T_c!}{T!}\right)\left(\frac{1}{b_1!\,b_2!\,c_1!\,c_2!}\right)$$

For each of the three conditions, a two-by-two table was constructed:

		CLINICAL RANKING: Median and Above	CLINICAL RANKING: Below Median	Total
SUBJECT REFERENCE	Median and Above	b_1	b_2	T_b
	Below Median	c_1	c_2	T_c
	TOTAL	T_1	T_2	T

Clinical Ranking (cont'd.)

	First Eleven	Last Eight	Total
First Eleven	b_1	b_2	T_b
Last Eight	c_1	c_2	T_c
TOTAL	T_1	T_2	T

	First Twelve	Last Seven	Total
First Twelve	b_1	b_2	T_b
Last Seven	c_1	c_2	T_c
TOTAL	T_1	T_2	T

The appropriate value for each cell was derived from an analysis of those cards appearing within the specified range of the two previously described rank orders.

Another major portion of this study concerned itself with an evaluation of the reliability of the clinical scorings. In order to demonstrate that the defined variables could be applied again and that a significantly reliable clinical rank order could be repeated, the following procedure was designed. The six hundred stories involved in the study were submitted to reanalysis by nine auxiliary raters, six of whom were responsible for three protocols and three of whom were responsible for four protocols. All subjects were given coded identifications which were arranged in random order for selection by the auxiliary raters. These raters had been prepared for their analyses in two sessions -- an early meeting when the entire procedure was explained, and a session immediately preceding the selection of protocols when the variables and their definitions were reviewed, and sample stories discussed.

Following assessment by the auxiliary rater, each protocol was treated in a manner identical to that pursued in establishing the original clinical rank order for the stories involved. The frequency of each variable represented in a protocol was tabulated and, using those figures as

the weighted values for the variables, a total weight for each of the stories was obtained. As was done previously, a rank order based, this time, upon the independent clinical evaluations of the auxiliary rater, was constructed. Spearman's rank difference correlation method was applied to each set of clinical ratings (the initial rank order founded upon the experimenter's work and the second rank order growing out of the auxiliary analysis) in order to establish the degree of relationship between them as a measure of the reliability inherent in the clinical analyses.

Chapter V

RESULTS AND DISCUSSION OF FINDINGS

The several processes of the previously described experimentation have made the following data available for interpretation.

The initial sorting procedure accomplished by all subjects reveals great variability among the preferences expressed toward any one picture. The minimum range of preferences was fourteen (for two pictures), and increased in spread to the extent that five of the nineteen cards (better than 26%) extended over the entire nineteen-point preference scale. Most of the cards were assigned both high degrees of "like" and "dislike". Even those few cards which show a definite tendency to cluster at either end of the scale show noteworthy exceptions. Table 1 indicates in tabular form the frequency distribution of all preference ranks as expressed by all subjects. At the most obvious level this points to the considerable discrepancy which exists between individuals as far as their stated "likes" and "dislikes" of the test pictures. Perhaps more important than individual differences, for the purpose of this study, is the fact that the mere graphic content of a picture, alone, does not determine how well that

TABLE 1. - FREQUENCY DISTRIBUTION FOR SUBJECTS PREFERENCES*

CARD NO.	SUBJECTS PREFERENCE RANK NUMBER																		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	1	6	3	3	2		3	1	2			2	4	3					
2	11	3	7	2	1	2	1			1					1				1
3				1		1		1	1	2	2	3	2	3	4	2	5	1	2
4	3	3	1	3	3	5	4			4	1	2					1		
5.	1	2	1	2	2	2	2	3	3		3	3	1	2		1	2		
6		3		5	1	3	2	1	1	7		1		2	1	2		1	
7	1	2	4	3	4	3	3	2	1		5	1					1		
8		2	6	2	3		1	5		3		2		1	2	1		2	
9		1		1	4	3	3	2	2	2	2	1	3	1		1		2	2
10	2	3	1	4	2	1	2	3	4	1	2	1	3	1					
11	1		1	1	1	4			1	2			2	2	1	5	6	1	2
12			1		1		1	4	5	2	4	2	3	3	1	2	1		
13	1		2		1		3	2	1	1	1	1	3	3	2	4	3	2	4
14	5		2	1		1	2	1	4		2		2			1	4	2	3
15		1	1	1	1	1			1				2	2	4	1	3	8	4
17	4	1		1	1	3	1	3	3	1	2	4	2		2		1		1
18					2					1	1	2		5	6	4	2	5	2
19		1					1				1	2	2	3	4	4		3	9
20		2			1	1	1	2	1	3	4	4	1	2	2	2	1	3	

* The figures indicated in the body of the table show the number of subjects who assigned specific ranks (incolumns) to specific cards (in rows)

picture will be "liked". It seems rather that some other factor, apparently one unique to each individual, plays a guiding role in the assessment of preferences to the TAT pictures.

The rank orders which were assigned to the various cards on the basis of their weighted clinical values are tabulated in Table 2. The spread of ranks given the several pictures attests to the variability (from subject to subject) with which any one card was judged to be clinically important. In this clinical distribution, the minimum range of ranks was ten (only one card --Card XIX). The dispersion increased to the extent that six of the cards (better than 31%) were ranked over the entire scale. It would seem, from this segment of the results, that there is little consistency (from subject to subject) regarding the clinical import of the data to be derived from the stories given to any particular picture. A particular picture may stimulate and yield pertinent personality variables in one subject but be highly unproductive for some other individual.

Similarity between Tables 1 and 2, i.e., similarity between the distributed preference ranks of all subjects for all cards and the clinical ranks for all cards of all subjects, becomes apparent upon inspection. From this we may infer that for the

TABLE 2. - FREQUENCY DISTRIBUTION FOR CLINICAL RATINGS*

CARD NO	CLINICAL RANK NUMBER																		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	1	2	1	2	2		1	2	2		3	2	1	2	7	1		1	
2	3	4	2	2	1	1	4	1	4		3			1	1	1	2		
3				1		2	2	4	3	3	3	1	2	2	1	2	1		2
4	7	6	3	1	3	5	1					1	2		1				
5	1			2	1		3	3	3	2	2	2	1	3	1	1	1	3	1
6	5	4	4	3		1	1	3	3	1		2	2		1				
7	4	3	5	4	4	3	1		2	1		2	1						
8	2	2	2	2		1	1	3	3	2		1	2		1	5	7		1
9	1	1	1	1	2	2		1		5		4		5		1	3	2	1
10			1		7	1	3	1	5		6		2		1	3			
11	1					1	3	1		1	1	2	4	1	3	4	2	5	1
12		2		3	3	5	3	1	1	2	2	1	1	2	1	1		1	1
13	2	2	4	3	1	2	2	3	2	1	1	3	1			3			
14	1		2	1	1	2	1	1	1		1	1	1	4	3	4	4	1	1
15		1				1	2		4	1	1	2	3	1	3	1	4	6	
17				2	2	2	1	1		4		1	2	3	2	2	2	5	1
18		2	1	2	1	1	1	1		2	2	5	3		3	2		2	2
19										1	1		1	1	1	1	2	4	18
20	2		4	1	2			4		1	4		3	3	1		4		1

* The figures in the body of the table show the frequency with which specific cards (in rows) were assigned specific ranks (in columns) in terms of the total weighted variables contained therein.

group, there exists a positive relationship between the expressed preferences for the pictures and the clinical values of the pictures. More simply, this means that, for the total population, the distribution of subjects' preference ranks tended to resemble the distribution of clinical ranks assigned to all cards in the test battery.

The extent to which this tendency is present in individual cases is shown in Table 3. Here is tabulated the results of direct probabilities calculated for series of ten cards, eleven cards, and twelve cards.

TABLE 3. - DISTRIBUTION OF PROBABILITIES FOR TEN, ELEVEN AND TWELVE CARD-SERIES

PROBABILITY LEVEL	GROUPS OF CARDS		
	TEN	ELEVEN	TWELVE
Beyond .01	6	8	9
.05 - .01	10	12	16
.10 - .06	1		
Higher than .10	13	10	5

These figures indicate that when the first ten cards selected by any subject are correlated with the first ten cards whose stories for that subject were deemed clinically most valuable, six cases of the total population showed a relationship beyond the .01 level of significance, ten cases showed significance between the .05 and .01 levels, and the remaining fourteen cases showed probabilities higher than the .05 level and, therefore, not significant. The number of cases falling within any probability level changes when computations are applied to an eleven card group. When the first eleven card choices of a subject are compared with the cards on whichhhe has produced the eleven clinically most pertinent stories, eight cases now fall beyond the .01 level and may be considered very significant while twelve additional cases yield a significant probability level. Three fewer cases fail to appear significant with an eleven card series than do with a ten card series. A third group of calculations was made whereby, for each subject, his twelve best "liked" pictures were statistically compared with the twelve pictures in which his stories were most heavily weighted with the scored personality variables. As is seenin Table 3, the inclusion of twelve cards produces more significant results than either the ten or eleven card batteries. Using a shortened series of twelve cards, nine

cases showed a very significant relationship between those cards selected among the first twelve preferences and the twelve cards judged to be the most valuable from a clinical point of view. Sixteenother cases were significant at the .05 level. In total, 83% of the cases were significant with a twelve card battery. In the five cases which did not meet the criterion for significance, the very low probabilities were seen to drop out so that even though these five cases do not satisfy the criterion for significance they more closely approach it than did the non-significant cases of the ten and eleven card series.

The reliability of the clinical rankings is an important factor in understanding the results of this study. As measured by the rank difference method of Spearman, inter-rater reliabilities ranged from .605 to .873. Table 4 presents a frequency distribution of the computed reliabilities.

TABLE 4. - DISTRIBUTION OF CORRELATION COEFFICIENTS (RHOS) SHOWING THE RELIABILITIES OF CLINICAL RATINGS

RHO	.89-.85	.84-.80	.79-.75	.74-.70	.69-.65	.64-.60
NUMBER OF CASES	4	9	7	5	3	2

When the relative nature of the reliability concept is understood, it then appears from these coefficients that the clinical rankings are capable of repetition with a significant degree of reliability. This degree of reliability permits the acceptance of the relationship existing between clinical rankings and preference rankings.

Having demonstrated that the clinical evaluation of TAT stories by the described system is reliable, and having shown that there are significant relationships between the first ten, eleven, and twelve cards chosen by a subject and the ten, eleven, and twelve cards judged clinically most productive for that subject, it is necessary to consider the amount of clinical data forthcoming when only ten, eleven, or twelve cards are used. For each subject the total number of needs, press, and needs ÷ press which were scored in the total protocol were summed. The number of these variables sampled by using only the first ten cards selected by the subject was isolated and percentages of the whole amounts were calculated. An identical procedure was followed to ascertain the percentages of total variables sampled by eleven cards and twelve cards. The complete figures for all subjects are shown in Table 5. This Table pinpoints the percent of variables gained by each subject when an eleventh story (his eleventh preference) is included and again, when the twelfth

TABLE 5. - PERCENT OF TOTAL NUMBER OF VARIABLES SAMPLED BY SHORTENED SERIES

SUBJECT	TEN CARDS			ELEVEN CARDS			TWELVE CARDS		
	Need	Press	Both	Need	Press	Both	Need	Press	Both
A	80	86	82	80	86	82	80	86	82
B	75	90	83	88	90	89	88	90	89
C	75	86	80	88	86	86	100	86	93
D	75	56	65	75	56	65	75	78	76
E	60	88	72	60	88	72	60	88	72
F	89	80	86	89	80	86	89	80	86
G	69	86	75	77	100	85	77	100	85
H	85	80	83	85	80	83	85	80	83
I	60	100	75	67	100	79	73	100	83
J	86	40	74	86	60	79	86	80	84
K	91	83	88	91	83	88	91	100	94
L	89	75	82	89	87	88	89	87	88
M	82	57	72	82	57	72	82	57	72
N	75	86	80	75	86	80	75	86	80
O	85	89	86	92	89	91	92	89	91
P	67	75	74	80	75	78	87	75	83
Q	91	89	90	91	89	90	91	89	90
R	83	80	82	89	90	89	89	90	89
S	73	90	81	82	90	86	82	90	86
T	86	62	74	92	62	77	92	62	77
U	75	67	72	75	67	72	75	83	78
V	78	86	81	78	86	81	89	86	87
W	81	80	81	81	80	81	88	80	85
X	80	86	82	80	86	82	89	100	86
Y	69	89	76	81	89	84	81	89	84
Z	87	83	86	87	83	86	87	83	86
AA	80	86	82	80	86	82	87	86	86
BB	69	75	71	69	75	71	75	75	75
CC	80	50	70	87	50	74	87	75	83
DD	87	88	87	93	88	91	93	88	91

story is incorporated. The first three subjects serve nicely to illustrate three types of change which occurred. In the case of subject A, ten cards yielded 80% of the total needs scored in his protocol, 86% of the total scored press, and 82% of all variables which were clinically judged to be present. These percentages did not change with the addition of the eleventh card, nor did they vary with the twelfth card. This indicates that, for Subject A, neither eleven or twelve cards were superior to a ten card battery in so far as the number of personality variables sampled is concerned. Rather than augment the number of variables derived from ten cards, the additional stories served only to elaborate further personality variables already obtained. The figures for Subject B reveal a somewhat different sequence. Whereas from ten cards,75% of his needs, 90% of his press, and a total of 83% of all variables were measured, an eleventh story provided sufficient new data to make these percentages read 88% of needs, 90% of press, and 89% of all variables recorded. In this particular case, the twelfth story did not reveal additional data. A third type of change which occurred is illustrated by Subject C for whom each additional story provided new material. Thus, on ten cards, 75% of his needs, 86% of his press, and 80% of all variables were selected. With the eleventh card,88% of subject C's needs were sampled, raising

the total percent of variables to 86%. This trend continued with the twelfth picture so that twelve cards revealed 100% of his needs, 86% of his press, and 93% of all variables. In Table 6 the percentages of variables sampled by the three abbreviated series of pictures for the entire population are shown.

TABLE 6. - NUMBER OF TOTAL VARIABLES SAMPLED BY ABBREVIATED SERIES OF CARDS FOR ENTIRE POPULATION (EXPRESSED IN %)

	NEEDS	PRESS	BOTH
Ten Cards	78.7	79.1	78.9
Eleven Cards	82.2	80.9	81.6
Twelve Cards	84	84.2	84

In the original clinical scorings weights were assigned to the variables in accordance with their frequencies since repetition was taken as the measure of relative importance. It is therefore necessary to know how much of the total weight contained in any one protocol is reflected by the abbreviated ten, eleven, and twelve card series. Table 7 indicates the percentages of

TABLE 7. - PERCENT OF TOTAL WEIGHTED VALUES

SAMPLED BY SHORTENED SERIES

SUBJECT	TEN CARDS			ELEVEN CARDS			TWELVE CARDS		
	Need	Press	Both	Need	Press	Both	Need	Press	Both
A	92	93	92	92	93	92	92	93	92
B	85	95	90	95	95	95	95	95	95
C	91	94	92	95	94	94	100	94	97
D	86	76	80	86	76	80	86	90	88
E	78	91	83	78	91	83	78	91	83
F	94	93	94	94	93	94	94	93	94
G	80	89	84	85	100	92	85	100	92
H	94	90	93	94	90	93	94	90	93
I	74	100	83	79	100	87	82	100	88
J	93	44	81	93	78	89	93	89	92
K	92	88	90	92	88	90	92	100	95
L	96	77	88	96	82	90	96	82	90
M	93	80	88	93	80	88	93	80	88
N	90	95	92	90	95	92	90	95	92
O	92	96	94	97	96	96	97	96	96
P	84	74	81	87	74	83	90	74	85
Q	98	96	97	98	96	97	98	96	97
R	94	82	90	95	96	96	95	96	96
S	89	96	92	92	96	94	92	96	94
T	94	76	85	96	76	87	96	76	87
U	87	71	80	87	71	80	87	88	88
V	91	94	92	91	94	92	95	94	95
W	88	84	87	88	84	87	92	84	89
X	92	94	92	92	94	92	92	100	94
Y	75	88	80	89	88	89	89	88	89
Z	94	90	93	94	90	93	94	90	93
AA	86	85	86	86	85	86	93	85	90
BB	85	82	84	85	82	84	90	82	88
CC	91	64	84	94	64	86	94	82	91
DD	86	95	89	94	95	95	94	95	95

total weights of needs, press, and needs + press which are sampled by the three shortened groups of cards for each subject. To obtain these figures the weight of the needs shown by each subject on ten cards, eleven cards, and twelve cards was divided by the total need weight to obtain a percentage. Similar calculations were made to determine the percentage of the total weights of press as well as the percentage of the total combined need-press weights elicited from eleven and twelve card series. As was seen in Table 5, four possible conditions may occur with the addition of the eleventh and then twelfth pictures. In some cases the percentages are not enhanced by the additional cards. In some cases the eleventh card provides sufficient material to raise thepercentage level, but this remains constant with the twelfth picture. In certain other cases the percentages are seen to rise from ten to eleven cards, and again from an eleven to a twelve card series. A fourth type of case is seen whereby the first additional card (eleven) does not provide further data, but the percentage of total weight is increased with the twelfth supplement. Table 8 reflects the percentages of total weight gleaned from the three abbreviated series for the entire population.

TABLE 8. - PERCENTAGE OF WEIGHTED VALUES SAMPLED BY ABBREVIATED SERIES OF CARDS (TOTAL POPULATION)

	NEEDS	PRESS	BOTH
Ten Cards	89	86.9	88.3
Eleven Cards	91.3	88.7	90.4
Twelve Cards	92.3	91	91.8

Tables 6 and 8 show that for the group there is a discernible rise in both the number of variables sampled and the percentage of total weight to be gained when the eleventh picture is added, and again when the twelfth is included in an abbreviated series of cards. When individual subjects are considered (Tables 5 and 7), 43% of the cases gain by an eleventh picture, and 43% of the cases gain when a twelfth story is elicited.

To more thoroughly understand the value of these shortened batteries, attention is directed at that material which is not sampled. Table 9 is a graphic representation of all variables which are not obtained from ten, eleven, and twelve cards. The figures within the body of the table indicate how many variables

TABLE 9. - NUMBER OF WEIGHTED VARIABLES NOT SAMPLED IN SHORTENED SERIES

SUBJECT	TEN CARDS							ELEVEN CARDS							TWELVE CARDS						
	Need			Press				Need			Press				Need			Press			
	1	2	3	1	2	3	4	1	2	3	1	2	3	4	1	2	3	1	2	3	4
A	2			1				2			1				2			1			
B	1	1		1				1	-		1				1	-		1			
C	2			1				1			1				-			1			
D	1	1		3	1			1	1		3	1			1	1		2	-		
E	4			1				4			1				4			1			
F	1			1				1			1				1			1			
G	4				1			3				-			3				-		
H	2			1				2			1				2			1			
I	3	3						3	2						2	2					
J	2			2		1		1			2		-		1			1		-	
K		1			1				1			1				1			-		
L	1			1		1		1			-		1		1			-		1	
M	2			3				2			3				2			3			
N	3	1		1				3	1		1				3	1		1			
O	1	1		1				1	-		1				1	-		1			
P	3	1		1		1		3	-		1		1		2	-		1		1	
Q	1			1				1	1		1				1			1			
R	3			1			1	2			1			1	2			1			1
S	2	1		1				1	1		1				1	1		1			
T	2			3	2			1			3	2			1			3	2		
U	3				1	1		3				1	1		3				1	-	
V	2			1				2			1				1			1			
W	3			1	1			3			1	1			2			1	1		
X	3			1				3			1				3			-			
Y	4		1		1			3		-		1			3		-		1		
Z	2			1					1		1				2			1			
AA	2	1			1			2	1			1			2	-			1		
BB	4	1		1	1			4	1		1	1			4	-		1	1		
CC	3			4				2			4				2			2			
DD		1	1	1					1	-	1					1	-	1			
TOTAL	66	13	2	34	10	4	1	58	9	0	33	9	3	1	53	7	0	28	7	2	1

of the weights specified at the heads of the columns failed to appear. As an example, from the first ten cards of Subject B's preferences, one need weight 1, one need weight 2, and one press weight 1 were not reflected. With the inclusion of the card ranked eleventh by this subject, the need weight 2 was sampled, leaving only one need weight 1 and one press weight 1 not accounted for by these eleven stories. In this particular case, the addition of the twelfth picture wrought no change as far as new variables are concerned. The totals for the entire population appear at the bottom of Table 9. In the entire group 100 variables (66 needs and 34 press) did not appear when only ten cards were administered to each subject. Twenty-three variables (13 needs and 10 press) having a weighted value of 2 were omitted. Six variables (2 needs and 4 press) weighted 3 and only one variable (a press) weight 4 were not obtained. These omissions decrease progressively when the eleventh and twelfth stories are evaluated to the extent that twelve card series slights eighty-one variables having a weight of 1 (53 needs and 28 press) but loses only 14 variables of weight 2 (7 needs and 7 press), only two variables weighted 3 (2 press), and the one press weighted 4. Combined, these figures demonstrate

that ten card batteries, drawn from the first ten preferences selected by subjects, reveal 79% of the total variables and, of the 21% not sampled, 78% are composed of variables having only a weight of 1. Thus, of the total material to be derived, only 4.7% of those variables which are significant, as shown by their appearance at least twice in a protocol, do not appear on a ten card series. Eleven card Thematic Apperception Tests based upon subjects' preferences produce 82% of the total obtainable variables and fail to uncover only 3.5% of those variables considered to be of interpretive value. Abbreviated series composed of twelve cards disclose 84% of all scored variables. In this latter series the percentage of meaninful factors which are lost is reduced to 2.7%.

Chapter VI

SUMMARY AND CONCLUSIONS

The data issuing from the described experiment provides material pertinent to the selection of a short form Thematic Apperception Test. That modern clinical practice requires the economy of a shortened test is an accepted tenet. The derivation of an adequately productive abbreviation has been considered by many clinicians who utilize this instrument. A review of the work done in this direction, however, discloses widely divergent and intuitively fostered opinions concerning card selections. Research is peculiarly lacking when the magnitude and implications of this practical problem are deliberated.

It has been the objective of this study to investigate the feasibility of permitting each submect to individually select the cards with which he is to be tested rather than to confront all subjects with a series that is either rigid and predetermined or flexible but empirically based. It was hypothesized that each subject would be able to reveal an adequate amount of the total material to be derived from a complete TAT if permitted, consciously or unconsciously, to select without restraint those pictures which he could use most economically as stimuli for his phantasy productions.

To accomplish this end, rank order preferences for the full series of pictures were obtained from the subject population preliminary to standard administration. All stories were then clinically evaluated according to thirty-seven psychogenic needs and press. Through a system of weightings all stories within each protocol were ranked according to clinical importance. The degree of relationship between the two rank orders was tested by application of the direct probability statistic. The reliability of clinical ratings was inspected with the assistance of nine auxiliary raters, each of whom independently examined and rerated several protocols.

It was the initial finding of this study that the preferences expressed by the studied subjects showed great individual differences. The minimum dispersion of ranks for any picture was fourteen. Five of the nineteen cards were ranked on all possible points of the scale. The distribution of ranks assigned to the TAT pictures on the basis of clinical evaluation produced a frequency distribution similar to that stemming from the preferences given the cards by the subjects. This finding may be taken to indicate that, for the group, there is a marked similarity existing between the ranks assigned according to both subjects' preferences and clinical values.

The optimum number of TAT cards for practical administration has generally been prescribed at ten to twelve. Therefore, the ten,

eleven, and twelve cards judged clinically most important for each subject were correlated with the ten, eleven, and twelve cards which the subject said he "liked" best so that the degree of relationship between the groups might be established for each subject. The results of these computations showed that for a ten card series, 53% of the cases within the population showed a significant or very significant degree of relationship. For an eleven card series, 66% of the cases were significant and very significant. With the inclusion of an additional card some 83% of the cases met the criterion for significance.when the first twelve cards selected by subjects were compared with the twelve most clinically valued cards. It was further seen that those cases which did not show significance for twelve cards more closely approached the significant level than did those cases falling below when only ten or eleven cards were used. The reliability study of clinical ratings showed sufficiently high inter-rater correlations to warrant acceptance of the clinical rank orders.

The actual amount of data to be had with the use of an abbreviated series was examined. With the administration of ten cards (the first ten preferences of a subject) the clinician might expect to sample approximately 78.7% of the needs presented by a full series of pictures and 79.1% of all the press. Combined, a ten card series might produce 78.9% of all personality variables.

A test administration composed of eleven cards yields 81.6% of all variables (82.2% of the needs and 81.6% of the press). Twelve cards given to a subject tapped 84% of all variables, reflecting 84.2% of his needs and 84% of his press. It is important to consider what amount of the total weighted value is sampled by shortened series as well as the number of variables abstracted. Group results indicate that a ten card batter results in the isolation of 88.3% of the total weight of protocols. This percentage is composed of 89% or the total weight given to needs and 86.9% of that weight given to press. When an eleven card battery was employed 90.4% of the total weighted values of a full TAT is secured. Of this, 91.3% of need weight and 88.7% of press weight become available. With the administration of twelve cards, the 91.8% of the total weighted value which is sampled is composed of 92.3% of the total weight assigned to needs and 91% of the weight assigned to press.

These results indicate that the percentage of the total weight of a protocol which is obtained through an abbreviated test is higher than the percentage of total number of variables therein reflected. Inquiry into this difference uncovers the fact that those variables which fail to appear with a limited administration are primarily those variables which were scored

only in isolated instances and hence of lesser importance to an understanding of the individual personality. The number of variables receiving a weight higher than 1 which were omitted in a ten card series diminished progressively with additional cards. Whereas ten cards did not bring out 4.7% of those variables thought to have interpretive significance, with eleven cards this loss was reduced to 3.5%, and was still further reduced to 2.7% when a twlefth card was included. This loss appears negligible when it is noted that the highest weight not sampled was a single press of weight 4 in a study where six hundred stories were evaluated and where individual variables had a weight range from 1 to 9.

CONCLUSIONS

The data resulting from this research lends itself to the following conclusions:

1. Through a process operating within the selection procedure, subjects are able to express earliest preference for those cards which will be productive of the greatest amount of manifest clinical material.

2. The amount of "liking" ascribed to any picture is not solely a product of the graphic content of that picture. Rather, some individualized factor seems operative. Therefore, this study supports the selection of a shortened series of TAT cards individually "tailored" to each subject and refutes the advisability of formulating a standard short battery for all subjects.

3. For practical purposes, a twelve card Thematic Apperception Test made up of the first twelve cards for which a subject expresses preference will be productive of sufficient material to give a representative picture of the important needs and press to be measured by a complete TAT. Further, this twelve card series will screen material of primarily lesser interpretive import.

4. The material derived from a twelve card battery justifies the use of the selection procedure.

5. A shortened battery selected according to the recommended procedure satisfies the requirements of economy for both time and effort in TAT administration.

IMPLICATIONS FOR SUBSEQUENT RESEARCH

Certain related problems, not directly within the scope of this present research, are suggested as topics around which further work might fruitfully be planned.

Because the blank card (Card XVI) was ill suited to the selection procedure it was not included in this study. This was not intended to imply that the blank card is of little clinical value. On the contrary, clinicians are enthusiastic in their tributes to the merits of this ingenious design. Some TAT workers have gone to the extent of declaring that an adequate story production to the blank card usually contains within it a statement of the subject's basis personality problem. Theoretically, it does seem logical that any considerationof this card must closely reflect the personality since it must come directly from the experiential gestalt of the individual. Even complete rejections of the card are pertinent in suggesting a lack of spontaneity and freedom in the subject's phantasy life. Further controlled investigation along these lines should be a great benefit in determining the discrete value of the blank card-- the types and levels of material which may be anticipated from it.

A second avenue for future research implied by the current study concerns itself with the personality variables.

(needs and press) which were applied. Examination of individual protocols shows that certain subjects give stories replete with needs, certain others give stories replete with press, and from still others, the needs and press to be derived seem balanced in number. Even though this observation had no bearing on the findings of this study, it was provocative of some speculation. Cursory inspection suggests that the balance of needs and press has little relationship to age, intelligence, educational achievement, or gross type of disability. This author has the very tentative impression that a preponderance of need material in a TAT may be related to relative emotional immaturity and even to problems of dependency. Investigation along these lines seems warranted.

Finally, the need for validation studies of the Thematic Apperception Test is again stressed. Although the current study neither was nor purported to be a validity study, the necessity for standardization is recognized. Not until the time when its validity is sufficiently established will this clinical instrument receive the recognition and acceptance which it deserves.

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