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THE DISCRIMINATORY
POWER OF TIME-PHASE PATTERNS
IN TAT STORIES

by
George Ridley Lewis

A Thesis Submitted to the Faculty of the Graduate School of
Loyola University in Partial Fullfillment of
the Requirements for the Degree of
Master of Arts

January

1954

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George R. Lewis

LIFE

George Ridley Lewis was born in Kansas City, Missouri, September 11, 1917.

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CHAPTER I

INTRODUCTION

A. Thematic Apperception Test. The Thematic Apperception Test, commonly known as the TAT, was developed by Morgan and Murray in 1935.¹ Within less than two decades the test has become one of the most widely used projective techniques in this country. In its present form the test consists of a series of pictures about which the subject is requested to tell stories. The fundamental assumptions underlying the TAT are that the stories told by a subject will reveal significant components of his personality. The characteristics which the subject projects onto the standard ambiguous stimuli are assumed to be samples from his own repertory of personal experiences and private meanings; his past, his present, and his future -- anticipated and/or fantasied.

Beyond the administration of the TAT and the fundamental assumptions underlying its use, there is relatively little agreement among the various users of the technique. This is

¹ C. D. Morgan and H. A. Murray, "A Method for Investigating Phantasies: The Thematic Apperception Test," Archives of Neurology and Psychiatry, 34, 1935, 289-306.

particularly noticeable with regard to interpretation. In this area there are to be found almost as many methods of interpretation as there are users of the test. In 1947, Wyatt defined the status of the TAT as having multiple guiding principles into interpretation; but all retain the intuitive approach in the clinical use of the test.² At another point Wyatt states:

... There are some good reasons for systematic analysis and quantitative treatment of the TAT which even the most callous intuitionist cannot overlook if he wants to make the most of the rich potentialities of the test, and obtain information the relevance of which can be appraised with reasonable accuracy. Apart from validation there are two major practical reasons which make systematic analysis desirable: training and future diagnostic differentiation.³

Murray,⁴ in commenting on the blind analysis of MAPS (Make a Picture Story) test and TAT protocols by a group of experts, has this to say:

The fact, if it is a fact, that those who gave their intuitions freest play came closer to the mark can hardly be hailed as a prophetic sign. For some of the psychologists who in this experiment held most conscientiously to the ruts of a

2 Frederick Wyatt, "The Scoring and Analysis of The Thematic Apperception Test," Journal of Psychology, 24, 1947, 324.

3 Ibid., 320.

4 Henry A. Murray, "Foreword" in Edwin S. Schneidman, Thematic Test Analysis, New York, 1951.

particular conceptual scheme may be contributing most, now and later, to the development of an instrument which will someday be unanimously accepted as the one which yields the highest percentage of valid diagnoses. Thus, in all likelihood, the more methodical tortoises will as usual be the first to arrive at the scientific goal -- a reliable system instead of unreliable flashes of the imagination.⁵

Hartman,⁶ in the conclusions of his experimental examination of the TAT, states:

Regardless of the comparative value of intuitive, global, or organizational interpretations, the analytic and quantitative treatment of the TAT yields statistically and clinically significant results in the prediction of behavior and personality.⁷

He further concludes that specific personality variables are statistically significant in relation to the objective components of the TAT.⁸

B. Time-Phase Patterns. The phases of time -- past, present and future -- are objective components of the TAT. It is generally recognized that a subject or patient, in responding to

5 Ibid., ix.

6. A. A. Hartman, "An Experimental Examination of the Thematic Apperception Technique in Clinical Diagnosis," Psychological Monographs, 303, V 63, 8, 1949.

7 Ibid., 35.

8 Ibid., 35.

the stimulus materials, is usually asked to include something about each of the three phases of time in his responses. Past, present, and future are structural aspects of the test which are explicit in the instructions. Watson, in his survey of the literature on the TAT, rightly says:

In essence, all methods of administering the TAT consist of asking the patient to tell a story about each picture with due regard for what is going on at the present, what events preceded the ongoing activity, what the outcome will be⁹

If one randomly examines TAT protocols, it seems as though people differ in their concern with the past, present and future. Some subjects appear to be predominantly concerned with the past, giving secondary and tertiary emphasis to the present and future respectively; others seem to combine the array differently; and finally, others omit from one to two of the requested temporal characteristics. Henceforth, we shall refer to the quantitative organization of the past, present and future in combination as a Time-phase Pattern.

C. Purpose. The purpose of this research is to ascertain the discriminating power of Time-phase Patterns in the TAT stories of normal, neurotic, and psychotic subjects. An effort will

9 Robert I. Watson, The Clinical Method in Psychology, New York, 1951, 441.

be made to isolate any paradigms which exhibit differential validity with regard to the three groups of subjects. In order to accomplish this purpose an attempt will be made to develop an objective system of scoring. In this system, the scoring elements will be operationally defined; no attempt will be made to deal with the system in an interpretive manner. Hence, in this study psycho-dynamic correlates are neglected in the interest of empirical validity.

D. Hypothesis:

1. The phases of time are objective, quantifiable characteristics of TAT stories.
2. Variations in time-phase relationships can be reliably rated by experienced TAT examiners.
3. Time-phase relationships will differ significantly in normal, neurotic, and psychotic subjects.

E. Objectives: The objectives of this study are to evaluate experimentally the above hypothesis:

1. Quantify the time-phase relationship through the construction of an objective rating technique.
2. Determine the reliability of the ratings for the two experienced TAT examiners.
3. Determine the distribution of the ratings of time-phase relationships in normal, neurotic and psychotic subjects.

CHAPTER II

REVIEW OF THE RELATED LITERATURE

A. Theories. Korzybski considered the plant to be the chemistry-building class of life; animal the space-building class of life; and finally, he defined Humanity "in the universal tongue of mathematics and mechanics, to be the Time-Binding Class of Life."¹⁰ According to Murray this is a way of saying:

.... by conserving some of the past and anticipating some of the future, a human being can, to a significant degree, make his behavior accord with events that have happened as well as those that are to come. Man is not a mere creature of the moment, at the beck and call of any stimulus or drive. What he does is related not only to the past but also to a shadowy preconception of what lies ahead.¹¹

In the opinion of the present writer it appears that Murray not only pays tribute, but that he also tends to incorporate Korzybski's Time-Binding Theory into his own theory of personality. At another point Murray describes social

¹⁰ A. Korzybski, Manhood of Humanity, Lakeville, Conn., 1951, 59.

¹¹ H. A. Murray et al., Explorations in Personality, New York, 1938, 49.

organization in terms of:

.... the time-place-mode-object (tpmo) formulas which are allowed or insisted upon for the expression of individual needs. A child is allowed to play during the day but not at night (time). He may defecate in the toilet but not on the floor (place). He may push other children but not hit with a mallet (mode). He may ask his father but not a stranger in the street for money (object). If the individual is of the right age and chooses the permitted time, the permitted place, the permitted mode and the permitted object, he can objectify any one of his needs.¹²

There is a high degree of similarity between Murray's tpmo formula and what Frank calls "the surrender of physiological autonomy to cultural demands."¹³ This transformation of physiological impulses into socially acceptable patterns of behavior is supposedly the basis for Time Perspectives.¹⁴ This means that the individual must comply with a serial order of intervening patterns or cultural demands prior to the consummation of his response to the initial stimulus. Thus, in time, the response may be only remotely related to the stimulus. Accordingly then, Frank holds that the response "in terms of its

¹² Ibid., 136.

¹³ L. K. Frank, "Time Perspectives", Journal of Social Philosophy, 4, 1939, 295.

¹⁴ Ibid., 293-312.

consequence then becomes the prototype of value behavior with an almost infinite regression toward the future."¹⁵ He further asserts that past, present, and future are but names for the modified organism -- his learned attitudinal background for responding (past); a step in the sequence of events (present); and the mode of dealing with present situations in compliance with social expectations (future).¹⁶ Hence, it is the sequential patterns of value oriented behavior which are thought to be essential to personal integrity. The individual is continuously confronted with the problem of organization and reorganization of values. The process is essential to the well being of the person in that it enables him to approach life with verve. Pre-occupation with a particular phase of time typifies the valuelessness of the remaining phases and indicates a narrowing of time perspectives. With the collapse of values the time perspectives are so disrupted that the individual is reduced to the psychotic state of only spurious realizations -- dreams and delusions.¹⁷

According to Lewin, contemporaneity is characteristic of the psychological field, but the individual perceives not

15 Ibid., 295.

16 Ibid., 304

17 Ibid., 308

only his present but also his past and his future. The phenomenon of guilt is a derivative of the discrepancy between the reality-level and the irreality-level of the psychological past. Hopes and plans are structural aspects of the psychological future.¹⁸ Hence, actions, emotions, and morale depend upon the broadness of the time perspective and the differentiation of wishes from expectations.¹⁹ Ketchum shares with Lewin, the Gestalt approach. He rightly contends that temporal organization is a grossly neglected aspect of psychology. For him, past, present, and future are but a single cognitive structure from which the values of any given social organization are derived.²⁰

Similarly, but from a sociological approach, Kluckhohn attempts to formulate a conceptual scheme to delineate the central type of value orientations.²¹ She lists five "Basic Human Problems" and applies a three point range of variability to their solutions.²² One of the five Human Problems contained in the

18 Kurt Lewin, Field Theory in Social Science, Ed. by Dorwin Cartwright, New York, 1951, 53.

19 Kurt Lewin, Resolving Social Conflicts, Ed. by G. W. Lewin, New York, 1948, 105.

20 J. D. Ketchum, "Time, Values, and Social Organization," Canadian Journal of Psychology, 5, 1951, 97-109.

21 Florence R. Kluckhohn, "Dominant and Variant Orientations," Personality, Ed. by Clyde Kluckhohn, Henry A. Murray, and David M. Schneider, New York, 1953, 342-357.

22 Ibid., 346.

conceptual scheme is the Time Dimension; the types of dominant-variant solutions to this Problem are: (1) Past, (2) Present, and (3) Future. This is not an atomistic approach; the proposed threefold division is aimed primarily at delineating the profiles of Value Orientations of whole groups. Kluckhohn states:

Obviously all societies at all times must deal with all the three time-problems. All have some conception of the past, all have a present, and all give some kind of attention to the future time-dimension. They differ, however, in their emphasis on past, present, or future at a given period, and a very great deal can be told about the particular society or part of a society being studied, much about the direction of change within it can be predicted, with a knowledge of where that emphasis is.²³

Other workers have also given consideration to the factor of time. Cooper and Erickson in their experiments with time and hypnosis have demonstrated that there is a sharp distinction between physical time and psychological time.²⁴ Eissler contends that physical time is a continuum and that psychological time is structured.²⁵ He writes:

23 Ibid., 348.

24 Linn F. Cooper and M. H. Erickson, "Time Distortion in Hypnosis II," The Bulletin, Georgetown U., 1950, 4, 50-68.

See also Linn F. Cooper, "Time Distortion in Hypnosis," The Bulletin, Georgetown U., 1948, 1, 214-221.

25 K. R. Eissler, "Time Experience and the Mechanism of Isolation," Psychoanalytic Review, 39, 1952, 1-22.

Psychological time may proceed slowly when we feel bored and pass with uncanny speed for two lovers. For the devout Christian time is infinite and his physical existence is only a short episode in view of the impending eternal bliss. He remains unruffled by the passage of physical time.²⁶

Oberndorf considers time in relation to reality.²⁷

According to him, reality depends upon perception with an adequate emotional counterpart. The object of perception may be the self (subjective) or it may be the environment (objective). Where there is a disturbance in subjective reality the phenomenon of depersonalization is present; when objective reality is disturbed derealization is present. "Such a severance of affect results in the production of marked disturbance in time registration."²⁸ Dooley holds a similar point of view but she contends that the perception of duration is the connecting link between the subjective and the objective.²⁹ Schilder in classical analysis concludes that "we experience time as an expression of our strivings and that every change in the libidinous situation

26 Ibid., 14.

27 G. P. Oberndorf, "Time - Its Relation to Reality and Purpose," Psychoanalytic Review, 1941, 28, 1939-155.

28 Ibid., 140-141.

29 L. Dooley, "The Concept of Time in Defense of Ego Integrity," Psychiatry, 1941, 4, 14.

changes the time experience."³⁰ In a like manner, Bergler and Roheim employ the "pleasure principle" to assert that the perception of time is disturbed whenever "childlike omnipotence is fantasied."³¹

B. Social and Developmental Studies. McArthur used the TAT and the Value Orientation theoretical frame of reference of Kluckhohn³² to differentiate subculture differences.³³ He found private school boys (upper class) to be predominantly Past Oriented; public school boys (middle class) on the other hand were found to be Future Oriented. The conceptual scheme by which TAT differences were deduced was derived from sociological and anthropological literature dealing with sub-culture groups similar

³⁰ P. Schilder, "Psychopathology of Time," Journal of Nervous and Mental Diseases, 83, 1936, 536.

³¹ E. Bergler and G. Roheim, "Psychology of Time Perception," Psychoanalytic Quarterly, 1946, 15, 198.

³² Florence R. Kluckhohn, "Dominant and Variant Value Orientations," Personality, Ed. by Clyde Kluckhohn, Henry A. Murray, and David M. Schneider, New York, 1953, 342-357.

³³ Charles McArthur, Culture Values as Determinants of Imaginal Productions, unpublished Ph.D. thesis, Harvard University, 1952.

to those compared in the study.³⁴ Hence, content rather than formal characteristics were the basic scoring elements in this instance. In any event the time dimension and its applicability to analysis through the use of the TAT appears to have been well demonstrated.

LeShan conducted a study in which he compared the time orientations of middle and lower class children.³⁵ The aggregate populations consisted of 117 children ranging from eight to ten years of age. The measured time orientations were derived from the children's responses to the stimulus "Tell me a story." Stories were compared on the bases of the period of time covered between the beginning and the end of the action of the stories. A chi-square technique was employed to test the null hypothesis; differences at the .001 level of confidence were found. Hence the hypothesis of no difference was rejected as untenable. Middle-class children told stories covering a significantly longer period of time than the lower-class children. LeShan feels that his study may have implications which will lead to a better understanding of psychopathy and delinquency.³⁶

Two experiments were conducted by Israeli in which

³⁴ Ibid., 247.

³⁵ Lawrence L. LeShan, "Time Orientation and Social Class," Journal of Abnormal and Social Psychology, 47, 1952, 589-592.

³⁶ Ibid., 591-592.

the questionnaire method was used to determine the intellectual judgments about, and the subjective values attached to, the passage of time.³⁷ The subjects were 607 college students. Israeli totaled the percentages of those favoring each phase of time. He found that the combined groups regarded the present as 1.2 times as important as the future, and 12.7 times as important as the past. In the second experiment, the findings suggested that past was not of great importance in the emotional time behavior of the subjects. Only 13 per cent reported much worry about the past. 94.5 per cent of the subjects claimed that they were hopeful about the future, and 67.4 per cent felt that most of their worries were about present problems. Day-dreaming about the future was reported by 56.3 per cent. Israeli was rather confident that the results demonstrated that the future was most important and past of least importance in the orientation of his subjects.³⁸

Ames studied the time-phase development in young children and found the sequential order to be present-future-past.³⁹ These results were derived from spontaneous verbalizations and

³⁷ Nathan Israeli, "The Social Psychology of Time," Journal of Abnormal and Social Psychology, 27, 1932, 209-213.

³⁸ Ibid., 212.

³⁹ Louise B. Ames, "The Development of the Sense of Time in the Young Child," Journal of Genetic Psychology, 68, 1946, 97-125.

the answers which the children gave to questions. In concluding, it was found that the greater percentage of time words used by children from eighteen through thirty months, dealt predominantly with the present. There are a few references to the future but practically none to the past. By 36 months of age, the future is nearly equal to the present with regard to the number of words used. At 42 months there is a tri-otomous distribution of words between past, present, and future. This is the age at which words and phrases indicating past time really come into play.⁴⁰

C. TAT Studies. One important experimental work which deals with the phases of time is a study by Hartman.⁴¹ He included emphasis on past time, emphasis on present time, and emphasis on future time among the formal characteristics of his categories for analysis of TAT responses. Altogether some fifty-six TAT categories were analyzed for their relation to forty-two bi-polar behavior and personality variables. The subjects were thirty-five white boys of average or superior intelligence between the ages of thirteen and seventeen who were undergoing examination in the Psychiatric Department of the Cook County

⁴⁰ Ibid., 110.

⁴¹ A. A. Hartman, "An Experimental Examination of the Thematic Apperception Technique in Clinical Diagnosis," Psychological Monographs, 303, V. 63, 8, 1949.

Juvenile Court.⁴² In this study emphasis on past time was found to correlate with the following personality variables: no nervous symptoms; good behavior prognosis; perceives home as pleasant; realistic; stable emotionally and close attachment to mother. Emphasis on present time correlated with: rejects father; asthenic appearance; perceives home as unpleasant. Emphasis on future time correlated with: feels superior; extroverted; popular; realistic; prefers group recreation.⁴³

Roe, in her study of eminent biologists found their stories to be predominantly in the present and future. This time trend among the group, is attributed to "the fact that for most of these men the present and the probable future are very satisfying, more so than the remote past."⁴⁴ In another study by Roe in which biologists, physical scientists, and social scientists are compared, the full time range is found to occur significantly more frequent among the social scientists. This characteristic is attributed to greater verbal willingness among social scientists.⁴⁵

⁴² Ibid., 4-5.

⁴³ Ibid., 12.

⁴⁴ Anne Roe, "A Psychological Study of Eminent Biologists," Psychological Monographs, 331, V.65, 14, 1951, 40.

⁴⁵ Anne Roe, "A Psychological Study of Eminent Psychologists and Anthropologists, and a Comparison with Biological and Physical Scientists," Psychological Monographs, 352, V.67, 2, 1953, 36-37.

Balken studied the language and thought of seventy-five schizophrenic patients at the Cook County Psychopathic Hospital.⁴⁶ These patients were found to cling predominantly to the present in their TAT stories. This tendency was interpreted as a reflection of the schizophrenics obscured awareness of the difference between past, present, and future. She contends that the schizophrenic's orientation toward present time is supposedly a manifestation of his efforts to cling to reality in the presence of his diminution of awareness between subject and object. The tempo of the collapse of awareness is presumed to be accelerated by the restricting characteristics of anxiety. On the other hand it is held that anxiety is the activator of the whole process of schizophrenic disorganization. Hence, when the threshold of tolerance is crossed, there is no longer a guide to action, and time becomes, "an endless lethargy, having no past, present or future."⁴⁷

D. Systems of Analysis. Aside from the experimental studies which have made use of the phases of time, there are also a number of systems of analysis of the TAT in which the past, present, and future are an integral part. Piotrowski in

⁴⁶ E. R. Balken, "A Delineation of Schizophrenic Language and Thought In a Test of Imagination," Journal of Psychology, 16, 1943, 239-272.

⁴⁷ Ibid., 268-269.

Rule Number 4 of his New Evaluation of the TAT states that stories in which there is no reference to the future are suggestive of depression.⁴⁸ Vorhaus in her method of analysis assumes that the failure to comply with the time category requirement reflects the subject's psychological unreadiness to think along that particular line.⁴⁹ The phases of time are also considered to be "qualifiers" -- the more specific aspects of Tomkins vectors, levels and conditions.⁵⁰ Wyatt includes a time trend along with fourteen other categories which are treated as quantitative indicators of a patient's tendencies.⁵¹ Included among Sanford's 234 "mechanical," grammatical, "psycho-grammatical" and lexical categories are the tenses of verbs.⁵² Both Rapaport and Henry consider the phases of time in terms of compliance with instructions rather than as factors of

48 Z. A. Piotrowski, "A New Evaluation of the TAT," Personality, Symposium No. 2, 1950, 18.

49 Pauline S. Vorhaus, TAT Summary Record Blank Manual of Directions, World Book, 1952, 7.

50 Silvan S. Tomkins, Thematic Apperception Test, New York, 1947, 32.

51 Ibid., Wyatt, "The Scoring and Analysis of the TAT," 326.

52 Fillmore H. Sanford, "Speech and Personality: A Comparative Case Study," Character and Personality, 10, 1942, 169-198.

time.^{53,54} One of the most thorough considerations of the phases of time is contained in the work of Stein.⁵⁵

E. A Neglected Technique. In a later publication Israeli used a projective technique which he developed to study the apperceptive response of abnormal patients to the future phase

53 David Rapaport, M. Gill, and R. Schafer, Diagnostic Psychological Testing, V. II, Chicago, 1946, 424.

54 W. E. Henry, The Analysis of Fantasy, Unpublished Paper U. of Chicago, 1950, 25.

55 Morris I. Stein, The Thematic Apperception Test, Mass., 1948.

On pages 41-42, Stein states: The instructions demand that the patient include the three periods of time -- past, present, and future -- in his stories. On the basis of the manner in which and how well the patient complies with the instructions, the psychologist may make certain judgments concerning:

- (a) the patient's attitude toward the past, present and future.
- (b) the period in time about which the patient is most anxious.
- (c) the patient's time perspective.

Experience has shown that the following has proved to be valuable clues to the significant material.

1. The technique which the patient adopts to deal with the problem of time.

- (a) strict adherence to the instructions may at times reflect the patient's rigidity
- (b) smooth free flowing style which rarely refers to the order of the time sequence but follows it implicitly frequently reflects the patient's creativity, his organizational ability or his control over his emotions.
- (c) lack of any reference to a time sequence

of time.⁵⁶ The technique is known as "Future Autobiography" in which the patient is given instructions similar to the following:

"Suppose it is now 1975. You are to look back over the last five years and to write briefly the story of your last five years from 1970 through 1975, using the past tense, just as if it were really 1975."⁵⁷

manifested in a concrete and descriptive approach usually is indicative of one or a combination of the following factors: narrow time perspective, anxiety, low intelligence level, poor organizational ability.

2. The amount of the story devoted to each period of time may indicate the period in time which the patient considers important in his own life.
3. The significance of the events in the story that occur in each period of time indicate the periods of the patient's life which are significant.
4. The past, present or future may be avoided by the patient because the associations and memories that the patient has of these periods may stimulate too much anxiety in him.
5. The Hero's feelings and attitudes toward the past, present, and future in the stories themselves frequently reflect the patient's own attitude of these periods of time . . .
6. Changes or consistencies in the hero's behavior pattern as the story is developed from past to the future should be noted. This may reflect changes or consistencies in the patient's pattern of adjustment . . .

⁵⁶ Nathan Israeli, Abnormal Personality and Time, New York, 1936.

⁵⁷ Ibid., 82.

The obtained Future Autobiographies were evaluated on the basis of "Outlook Patterns."⁵⁸ The types of outlooks are as follows: (1) constructive or positive outlook; (2) catastrophic or negative outlook; (3) limited outlook; (4) conditional outlook; (5) confused outlook; and (6) delusory outlook.

Because of the small size of Israeli's sample and the use of percentage for the interpretation of his results in this study, there are obvious distortions which the writer will not at this time pause to discuss. However, it is worth noting in a follow-up study Israeli found that, "Patients classified as limited in outlook, two years after this experiment was made had the least number of recoveries or took the longest to recover."⁵⁹

More than two decades have passed since Israeli began his systematic inquiry into the functions of time as related to the study of personality. During this period the projective approach to the understanding of man, his society, and his culture has come into its own. Yet, one of Israeli's great contributions -- the projective technique of Future Autobiography -- has not found its proper place in the annals of science.

58 Ibid., 43.

59 Ibid., 118.

Perhaps, the great paradox is most aptly stated by Gordon Allport.⁶⁰ He writes:

And the future is what concerns people most of all. The chief shortcoming of American psychology up to now . . . is its poverty in representing the future. While most people are absorbed in planning for, working for, dreaming for, the future, psychology for the most part is busily engaged in tracing their lives backward.⁶¹

F. Summary. Theoretically the phenomenon of psychological time has never been widely explored. Existing theories of time for the most part appear to be resting upon a few flashes of insight, wide-ranging ad hoc procedure, and general elusiveness. Aside from these limitations, there is general agreement on the assumption that physical time and psychological time are not identical. Psychological time is said to be structured, whereas physical time is a continuum. In addition most theories hold that time is directly related to the value orientations of cultures and subcultures.

Social and developmental studies of time are by no means extensive at this time. However, the studies found in these areas are generally of the quantitative and comparative types of investigations. These studies have demonstrated that subcultural groups could be differentiated on the basis of their

60 Gordon M. Allport, The Individual and His Religion, New York, 1950.

61 Ibid., 1929-130.

time dimension. Developmentally, the sense of time in children has been found to follow the sequential order of present-past-future.

In TAT studies the different phases of time have been found to correlate with specific personality variables. In addition, studies of eminent scientists reveal that biologists tell TAT stories in which the present and future are predominant. The full time range is most frequently employed by social scientists in the responses to the TAT.

Clinically, time among other characteristics has been studied in the TAT stories of schizophrenic patients. However, these studies for the most part have failed to make use of control groups to justify their implied comparative conclusions.

Many workers have included the past, present, and future time variables as integral parts of their schemes for analyzing the TAT. However, the fact that these components are included in a scheme does not always mean that the inventor is wholly sure or even clear as to their significance.

Psychology in its preoccupation with the individual's past has largely neglected the individual's perception of his future. Sharing this neglect, is the projective technique known as Future Autobiography. This technique appears to hold promise for a more thorough understanding of personality and the significance of time.

Finally, explicit or implicit in most theories and some studies which deal with the dimension of time is the assumption that the phases of time have differential validity for nosological groups. If this assumption is true, then significant differences in the Time-phase Patterns of TAT stories for normal, neurotic, and psychotic groups are to be expected.

CHAPTER III

PROCEDURE

A. Subjects. The TAT protocols used in the present study were taken from the Laboratory and Clinic Files of Loyola University. The cases contained in these files consist of cases which have been completed by graduate students taking the Practicum in Projective Techniques and the Diagnostic Internship courses. In the former, the student is given the opportunity to administer, score, and analyze the projective data of the "normal" population. In the latter, the procedure is the same but the population consists of in-patient and out-patient, hospital and clinic cases respectively. In all instances the work of the student on each case has been carefully supervised by a qualified clinician.⁶²

The cases used in this study were those of 15 "normal" subjects; 15 neurotic, and 15 psychotic patients. The normal group consists of mainly college students, and some high school

⁶² The person in charge of this supervision is Dr. Frank J. Kobler, professor of psychology, Loyola University, Chicago, Ill.

students. In any event, there is no known record of maladjustment or psychiatric treatment on any of these subjects. In several instances, however, mild instabilities were reflected in these protocols and noted by the examiners. None of these cases however, was eliminated from the study because it was felt that such a practice would be an inexcusably arbitrary manipulation of the data. The neurotic protocols were obtained from the files of patients who had received a psychiatric diagnosis of neurosis and who subsequently received prolonged psychotherapy. The psychotic protocols were gotten from the records of patients who had received a psychiatric diagnosis of schizophrenia.

The three groups of subjects were distributed according to sex, race, age, education and Wechsler I.Q. as shown in Table I. By inspection it is apparent that the groups are comparable with respect to sex. Chi-square was used to test the null hypothesis on the race variable. No significant difference were found (Chi-square = .049, 2df, $P = .98$) and the null hypothesis was not rejected. In addition, the CR's calculated for the age variable revealed no significant differences (normal-neurotic, $t = .61$; normal-psychotic, $t = .11$; neurotic-psychotic, $t = .48$). On the other hand the CR's for the education variable indicate that the mean education of the group of normal subjects is significantly higher than the neurotic ($t = 2.38$, $P = .02$)

TABLE I
SUMMATED CHARACTERISTIC OF THE
THREE GROUPS OF SUBJECTS

Population Variables	Normals	Neurotics	Psychotics
Sex			
Males	7	7	7
Females	8	8	8
Race			
White	14	13	14
Negro	1	2	1
Age			
M	24.4	25.5	24.6
S.D.	6.38	5.81	7.20
Range	17-38	16-38	15-36
Education			
M	13.9	11.4	11.1
S.D.	1.69	2.44	4.61
Range	11-16	8-15	8-16
Wechsler IQ			
M	*	105.9	101.5
S.D.		15.36	11.53
Range		76-136	71-129

*Wechsler I.Q.'s were not available on the group of normal subjects.

or the psychotic ($t = 2.15$, $P = .05$) groups. Between the neurotic and psychotic groups, no significant difference in mean education was found ($t = .22$). Finally, the CR revealed no significant difference in mean I.Q. between the neurotic and psychotic groups. Wechsler I.Q.'s were not available on the normal subjects. However, just as this group was found to be higher in mean education, it is highly probable that it would be significantly higher in mean Wechsler I.Q. were these data available. It could hardly be expected that neurotic and psychotic patients (random with regard to I.Q.) would be comparable to a group composed mostly of college students - known to be stratified with regard to I.Q. As a whole the groups are reasonably comparable in terms of the sex, race, and age population variables.

B. Material and Administration. The TAT materials used in this study were the 11 neutral cards and 13MF, making a total of twelve cards. A description of each of the cards is given in Appendix I. The tests were administered individually. After all of the protocols used in the study had been collected, it was found that eighteen different examiners had administered the TAT to our forty-five selected subjects. The distribution of protocols obtained by different examiners is shown in Appendix II.

C. Design of Scoring Technique. In the preliminary phases

of this research, thirty TAT story responses to Card 13MF were selected from thirty randomly obtained protocols from the laboratory and clinic files of Loyola University. These stories and a list of forty-two tentatively selected time-phase scoring patterns were submitted to five independent raters. The list of Time-phase Patterns contained a description of each paradigm. Raters were requested to score each of the TAT stories with one of the possible Time-phase Patterns given on the list. In addition, each judge was requested to write out the criteria which he used for making his judgments.

As suspected, there was very little agreement between the judges in the scoring of the stories. This lack of agreement may be explained partly on the basis of an absence of standard criteria; and partly because of the fineness of the list of time-phase scoring patterns. This preliminary work and analysis led to several important changes: (1) the list of time-phase scoring patterns was reduced from forty-two to fifteen paradigms; (2) quantitative indication of the possible range of each phase of time within a given pattern was added to the list; (3) from the criteria submitted by each independent judge, common elements were culled and standard criteria established.

The final form of Scoring Symbols, Method of Rating, and the List of Time-Phase Pattern Ratings are given in Appendices III and IV. Appendix V gives the Instruction and criteria

for Time-Phase Scoring. Initially, there was some hesitancy on the part of this experimenter as to the suitability of considering the forms given in Appendices III, IV and V as "final" without further preliminary study. It was finally decided that the present form of the criteria and list of scoring patterns were adequate, and that additional preliminary research would be unnecessary.

D. Judges. In the design of this study it was specified that "experienced TAT examiners" would be used to rate the stories. This specification was based upon two assumptions. First it was assumed the construction of a scale or method of scoring the phases of time which would be adaptable to persons inexperienced in the use of the TAT, might not be an easy matter. Secondly, it was anticipated that some of the stories would possibly be so confused that the established criteria for the ratings might not be applicable. In these instances it was felt that the judgments of the experienced judges might possibly be more reliable. The original specifications were not changed and two experienced TAT examiners were used as the judges.

E. Rating Procedure. The stories to be rated by each of the two judges were bound into a 540 page book-like form. All that was contained on a given page was the story, its TAT card number, the number of the page, and E's code for locating

the protocol to which the story belonged. One bound copy of 540 stories was given to each judge in a 9" x 11" file envelope. Included in each envelope were complete copies of Appendices III, IV and V. No other information concerning the stories to be rated was given.

After each judge had completed the ratings of his stories and returned them to the experimenter, fifty additional stories were randomly selected from the same group of 540 stories. These fifty stories were then submitted to the same two judges with a request for ratings. Again, Appendices III, IV and V were included with the stories.

Both judges estimated the rating time for the first 540 stories to be approximately six hours. However, one judge returned the stories three weeks from the date that he received them; the other judge returned his ten days after he received them. Both judges rated and returned the additional fifty stories within a half-hour after receipt of them.

F. Statistical Procedures. The data collected in this study were all of a frequency type. There was no basis for assuming that the List of Time-Phase Scoring Patterns were continuously distributed. Hence, each time paradigm is treated as a discrete entity. In order to obtain some measure of association as to the agreement of the two judges' ratings, the Contingency Coefficient formula was employed. The formula was

one suggested by Garrett.⁶³ Since it was decided that one of the two judges' ratings would also be used for comparing the Time-phase Patterns of the three groups, the same formula was also used as a measure of reassociation between the first and second rating for each judge.

After the decision of the ratings to be used for comparing the groups had been made, the next problem was to compare the Time-phase Patterns of the groups to determine the presence or absence of time-phase discriminatory powers. Three statistical steps were involved in the process:

(a) First the groups were compared on the basis of the total number of responses which each group contributed to a specific Time-phase Pattern. The chi-square test of homogeneity was employed.

(b) Secondly, the fifteen Time-phase Patterns were grouped into three broad groups (1. Past, 2. Present, and 3. Future) on the basis of categorical predominance, i.e., there are five Time-phase Patterns in which the past time-phase is predominant, five in which the present time-phase is predominant, and five in which future is predominant. The three groups of subjects were then compared on the basis of categorical predominance in a

⁶³ Henry E. Garrett, Statistics in Psychology and Education, New York, 1950, 363-365.

threefold contingency table and the chi-square test of independence applied.⁶⁴

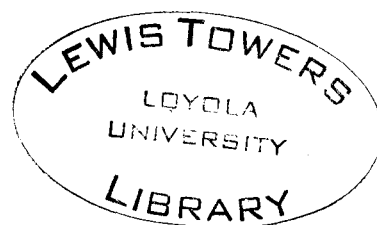
(c) Finally, in order to obtain some measure of general agreement or similarity of the distribution of Time-phase Patterns among the three groups, Kendall's technique known as Coefficient of Concordance was employed. The formula for concordance is reported by Walker and Lev:⁶⁵

$$W \text{ (coefficient of concordance)} = \frac{12 S}{m^2 N (N^2 - 1)}$$

The .05 level of confidence was adopted as the criterion of significance. All differences significant at or beyond this level were noted, both in the Chi-square tests and in the F test of significance for the coefficient of concordance.

64 Garrett, Statistics in Psychology and Education, 251-253.

65 Helen M. Walker and Joseph Lev, Statistical Inference, New York, 1953, 283-286.



CHAPTER IV

RESULTS AND DISCUSSION

In the introductory chapter of this research the experimenter adopted three provisional suppositions as the foci of this study. The findings, relative to these hypothesis, will be discussed at this time. Consider the first hypothesis. Here it was stated:

1. The phases of time are objective, quantifiable characteristics of TAT stories.

The validity of this hypothesis seems to rest upon the logic underlying the development of the system of Time-phase Patterns. The methodology and fundamental assumptions pertinent to the system have already been given in Appendices III, IV and V. Here it was demonstrated that interest was primarily in the rating of a story as a whole, with regard to time--past, present and future. It is generally recognized that a request for all three phases of time is inherent in the TAT instructions. The concern here is with the way in which each phase is quantitatively distributed to form different time patterns in various TAT stories. However, this system of scoring does not negate

due consideration of categorical predominance (the particular phase of time that is emphasized in a story); rather, it sharpens acuity of judgment because treatment of the whole is forced.

The list of time-phase patterns includes fifteen different paradigms. No magical power is postulated for the number "15;" it is simply presented as one of the many possible numbers of time-phase patterns -- optimum perhaps -- for this particular study. It is to be noted that the system of time-phase scoring presented here, contains no assumptions of linear continuity along which the different patterns might vary. However, just as a matter of interest, if one examines again the list of time-phase scoring patterns given in Appendix I, it becomes apparent that pattern 1 is related to pattern 15 as 5 is to 15, as 10 is to 11. Thus, the patterns as they were presently organized seem to form a closed figure. Speculations about the nature of the figure and its implications, is not a matter of concern at this time. The more relevant consideration is based upon the second hypothesis.

2. Variations in time-phase relationships can be reliably rated by experienced TAT examiners.

The distribution of the ratings by the two judges is given in Appendix VI. The coefficient of contingency (C) calculated from the two judges' TAT story ratings is .92. The maximum value of C in a fifteen fold table is .96. The rough test,

suggested by Garrett,⁶⁶ for testing the significance of an obtained C was applied. It was found that the C of .92 is nearly 21 Standard Error of C removed from a C of .00. The obtained C of .92 is a high and significant degree of correlation between the Time-phase Pattern ratings of Judge A and Judge B. Thus the ratings by the two judges are considered to be highly reliable in terms of inter-judge agreement. In addition, these results support the first hypothesis on an empirical level by substantiating the assumption that the phases of time are objective and quantifiable.

Inasmuch as there was a problem concerning the possibility of using the ratings of the "most" reliable judge for comparing the three groups of subjects, each judge scored an additional fifty TAT stories randomly selected from the original 540 stories. The contingency distribution of Judge A's first and second ratings is given in Appendix VII; Judge B's ratings are shown in Appendix VIII. The calculated C for each judge is .91. The rough test of significance for each judge's obtained C of .91, revealed that this coefficient is approximately 7 Standard Error of C removed from a C of .00. Therefore, the obtained C of .91 by each judge, appears to be equally reliable. However, such is not the case; the calculated indices of reliability are not comparable because the value of C is not stable.

359-360. 66 Garrett, Statistics in Psychology and Education,

It varies with the size of the table. Judge A's ratings fall into a 12 x 10 fold table while Judge B's ratings fall into a 12 x 13 fold table. It follows that if the value of C fluctuates with the size of the table, then a C of .91 does not have the same meaning for each judge's ratings. As a solution to this problem, it is here argued that if the two judges are equally reliable in their ratings, then there should be no significant differences in absolute agreements beyond chance expectancy.

Judge A had 36 out of 50, or 72 per cent absolute agreements between his first and second ratings; Judge B had 19 out of 50, or 38 per cent absolute agreements between his first and second ratings. The Chi-square test of homogeneity for absolute agreements in a twofold table with one degree of freedom yielded a Chi-square value of 5.25. This value is significant at the .023 level of confidence. Hence, we reject the hypothesis of no difference, and we assert that Judge A is significantly more stable in his absolute agreement ratings. The ratings of Judge A will be used to compare the groups.

3. Time-Phase relationship will differ significantly in normal, neurotic, and psychotic subjects.

In Table II the frequency, percentages, and comparisons of time-phase scores are tabulated for each of the three groups of subjects -- normal, neurotics and psychotics. In the above mentioned table it should be noted that none of the normal

TABLE II
COMPARISON OF TIME-PHASE PATTERNS
BETWEEN GROUPS

Time-phase Patterns	Normals		Neurotics		Psychotics		Chi-Square*
	R's	%	R's	%	R's	%	
PFN	0		0		1	.6	
PF-	0		1	.6	1	.6	
P--	9	4.1	6	3.6	12	7.3	2.00
PN-	16	9.1	13	7.7	17	10.4	.56
PNF	12	6.9	8	4.7	10	6.1	.80
NPF	5	2.9	8	4.7	4	2.4	1.53
NP-	20	11.4	18	10.7	12	7.3	2.08
N--	70	40.0	74	43.8	73	44.5	.12
NF-	28	16.0	26	15.4	23	14.0	.49
NFP	7	4.0	5	2.9	5	3.1	.35
FNP	5	2.9	3	1.8	1	.6	2.67
FN-	3	1.7	3	1.8	1	.6	1.15
F--	0		2	1.2	2	1.2	
FP-	0		1	.6	1	.6	
FPN	0		1	.6	1	.6	
Totals	175	99.0	169	100.1	164	99.9	

* With 2 df, chi-square must reach 5.99 to be significant at .05 level.

subjects had time-phase patterns above P-- or below FN-. For the psychotic group there is only one response to each pattern below NFP, except for F-- which has two responses. Since there is doubt as to the adequacy of Chi-square approximations when the expected frequency in any cell is below two, the groups were compared on that range of Time-phase Patterns between P-- and FN-. The Chi-square test (see Table II) reveals no significant differences in Time-phase Patterns between the groups.

Next, all responses were grouped into three broadly predominant categories. The incidence of each groups' responses are given in Table III. Again the test of independence revealed no significant difference: Chi-square equals 3.84; 4 degrees of freedom; and P lies between 0.30 and 0.50.

Inasmuch as no significant group differences have been demonstrated by the Time-phase Patterns, attention is directed to the question: How similar are the groups in this respect? In order to answer this question the statistical technique known as the coefficient of concordance (W) was employed. The obtained results equalled a W coefficient of .916, with an F value of 32.71

From the results it is needless to say that these data have shown a significant concordance (.916). The Time-phase Patterns in the TAT stories of the normal, neurotic, and psychotic groups show general agreement far beyond what might be

TABLE III
INCIDENCE OF CATEGORICAL
PREDOMINANT SCORES, BY GROUP

Time-phase Pattern	Categorical Predominance	Normals R's	%	Neurotics R's	%	Psychotics R's	%
PFN PF- P-- PN- PNF	Past	37	21.1	28	16.6	41	25.0
NPF NP- N-- NF- NFP	Present	130	74.3	131	77.5	117	71.3
FNP FN- F-- FP- FPN	Future	8	4.6	10	6.0	6	3.6
Totals		175	100.0	169	100.1	164	99.9

produced by sampling variance. It is concluded that there are no significant differences in Time-phase Patterns among the three groups of subjects used in this study. The hypothesis favoring the discriminatory power of Time-phase Patterns in differentiating normal, neurotic, and psychotic subjects has not been substantiated.

CHAPTER V

SUMMARY AND CONCLUSIONS

A. Procedure. An effort has been made to explore the discriminatory powers of the phases of time in the TAT stories of normal, neurotic, and psychotic subjects. The stories were taken from protocols in the Laboratory and Clinic files of Loyola University. The selected stories were the responses to the 11 neutral TAT cards and 13 MF, making a total of 12 stories per subject. Approximately 540 TAT stories were taken from 45 protocols: 15 "normals"; 15 psychotics; and 15 neurotics. The three groups of subjects were comparable with regard to sex, race, and age.

A special system was designed for rating the phases of time in TAT stories. The system design, called the Time-phase Pattern Ratings, was developed to provide a practical means of obtaining relatively objective judgments of the phases of time. Altogether there were 15 different patterns by which the phases of time in the TAT stories could be rated.

The stories of the three groups of subjects were bound into a 540 page book-like form and submitted to two independent,

experienced TAT examiners for Time-phase Pattern ratings. After the ratings had been completed and returned, the results were then tabulated. The Coefficient of Contingency (C) was used to obtain an index of correlation for the Time-phase Pattern ratings of the two independent judges.

An additional 50 TAT stories were randomly selected from the original 540 stories and submitted to the same two independent judges for Time-phase Pattern ratings. These ratings were used to determine intra-judge reliability. The idea in back of this technique was to use the ratings of the most reliable judge for comparing the groups. Initially, the Coefficient of Contingency was employed in an attempt to determine the intra-judge reliability. However, because of certain limitations of Contingency, a Chi-square technique based upon absolute agreements in intra-judge ratings was used to decide the ratings for comparing the groups.

Three statistical steps were taken to compare the groups on the basis of Time-phase Patterns. First, Chi-square was employed to compare the groups in terms of specific Time-phase Patterns. Secondly, the 15 Time-phase Patterns were grouped into three broad classifications on the basis of categorical predominance; again the Chi-square test of independence was employed. Finally a Coefficient of Concordance (W) was computed to determine the degree of similarity in Time-phase Patterns

among the groups.

B. Results. Within the limits of this research, there is evidence to support the tenability of the following findings:

1. The phases of time are objective, quantifiable characteristics of TAT stories. The system of Time-phase Pattern Ratings was found to provide an objective and quantifiable means of rating the phases of time within TAT stories.

2. Variations in time-phase relationships can be reliability rated by experienced TAT examiners. The independent Time-phase Pattern ratings of approximately 540 TAT stories, rated by two experienced TAT examiners, produced a high and reliable degree of association ($C = .92$).

3. Time-phase relationships do not differ significantly in normal, neurotic, and psychotic subjects. When the rated TAT stories of normal, neurotic, and psychotic groups were compared, it was observed that no significant differences (Chi-square tests did not reach the .05 level of confidence) in Time-phase Patterns prevailed. On the other hand, the similarity of group Patterns was far beyond what might be produced by sampling variance. Thus, the postulated time-phase discriminatory power has not been borne out.

C. Conclusions. Justification for the use of emphasis on a particular phase of time, reported in the literature, for

the differentiation of nosological groups has not been substantiated. Not only the psychotic subjects of this study, but also the neurotics, and even the normals told stories in which the emphasis was upon the present.

There are a number of studies reported in the literature which appear to hold potential possibilities for the understanding of time. Such studies are those which seek to find the specific personality correlates of time emphasis; and those which relate time emphasis to the value orientations of social matrices. Systematic research along these lines may ultimately lead to an understanding of the meaning and function of time for the individual, the group, the culture.

The present study of Time-phase Patterns in TAT stories has not been undertaken as a definitive investigation. The omission of dynamics from the experimental design placed heavy restrictions upon the possibility of the study being more than a narrow exploration of time. Hence, this investigation is to be considered a pilot study which should be followed by a broad and more dynamic approach.

Finally, it is questionable that the present investigation has dealt with the factor of time to any degree. It is likely that the real factor investigated was the differences in compliance with TAT instructions among normal, neurotic and psychotic groups. In order to explore the dimension of time in

TAT stories, time must be left free to vary. If time is to be investigated, then the experimental design must be such that time is not the structured factor.

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APPENDIX I

DESCRIPTION OF THE TAT CARDS USED⁶⁷

Card Number	Description
1.	A young boy is contemplating a violin which rests on a table in front of him.
2.	Country scene: in the foreground is a young woman with books in her hand; in the background a man is working in the fields and an older woman is looking on.
4.	A woman is clutching the shoulders of a man whose face and body are averted as if he were trying to pull away from her.
5.	A middle-aged woman is standing on the threshold of a half-opened door looking into a room.
10.	A young woman's head against a man's shoulder.
11.	A road skirting a deep chasm between high cliffs. On the road in the distance are obscure figures. Protruding from the rocky walls on one side is a long neck and head of a dragon.
13MF.	A young man is standing with downcast head buried in his arms. Behind him is the figure of a woman lying in bed.
14.	The silhouette of a man (or woman) against a bright window. The rest of the picture is totally black.

⁶⁷ H. A. Murray, Manual for the Thematic Apperception Test, Cambridge: Harvard University Press, 1943, pp. 19-20.

15. A gaunt man with clenched hands is standing among gravestones.
16. Blank card.
19. A weird picture of cloud formations overhanging a snow-covered cabin in the country.
20. The dimly illumined figure of a man (or woman) in the dead of night leaning against a lamp post.

APPENDIX II

DISTRIBUTION OF PROTOCOLS OBTAINED BY
DIFFERENT EXAMINERS

Examiner	Normals	Neurotics	Psychotics	Totals Cases
#1	1	0	3	4
#2	4	0	0	4
#3	2	0	0	2
#4	4	0	0	4
#5	2	0	2	4
#6	2	0	0	2
#7	0	3	1	4
#8	0	2	2	4
#9	0	3	0	3
#10	0	1	0	1
#11	0	2	1	3
#12	0	2	1	3
#13	0	1	0	1
#14	0	1	0	1
#15	0	0	1	1
#16	0	0	1	1
#17	0	0	2	2
#18	0	0	1	1
				<u>45</u>

APPENDIX III

SCORING SYMBOLS AND METHOD OF RATING

Each story is to be rated for all three phases of time. The phases are to be symbolized as follows: for the past, the capital letter "P" will be used; for the present use the letter "N"; and let "F" represent the future. Symbols are to be applied in the order of time-phases dominance from left to right. Suppose for a given story the predominant emphasis was upon the future with some consideration of the present and relatively little concern with the past. In this instance the rating would be FNP. It is probable that in some stories, one or more of time-phases will not be used. In order to symbolize the absence of a phase, the (-) will be used. Let us suppose for a given story that the past and future phases are missing; the rating would then be N--. If there is only one phase missing from a story, then the symbol for the missing phase should always be placed to the extreme right of the other symbols. For example: a story may be rated PN- but never should the rating be P-N or -PN. The point which we are trying to make is that the absence of one particular time-phase is always less than the presence of any apparent amount of the other two phases.

In this study we are primarily concerned with the

quantitative estimate of the extent to which each phase of time is represented in the total time dimension of a given story. For this purpose we have set up a list of fifteen (15) possible time phase-patterns according to which each story is to be rated. This list of time-phase scoring patterns with their meanings are given in Appendix IV.

APPENDIX IV

LIST OF TIME-PHASE PATTERN RATINGS

1. PFN : Predominant past (50-65%); moderate future (30-45%); little present (5-25%).
2. PF- : Predominant past (55-95%); moderate or little future (5-45%); absence of present (less than 5%).
3. P-- : Total past (90-100%); absence of present and future (less than 5% on each).
4. PN- : Predominant past (55-95%); moderate or little present (5-45%); absence of future (less than 5%).
5. PNF : Predominant past (50-65%); moderate present (30-45%); little future (5-25%).
6. NPF : Predominant present (50-65%); moderate past (30-45%); little future (5-25%).
7. NP- : Predominant present (55-95%); moderate or little past (5-45%); absence of future (less than 5%).
8. N-- : Total present (90-100%); absence of past and future (less than 5% on each).
9. NF- : Predominant present (55-95%); moderate or little future (5-45%); absence of past (less than 5%).
10. NFP : Predominant present (50-65%); moderate future (30-45%); little past (5-25%).
11. FNP : Predominant future (50-65%); moderate present (30-45%); little past (5-25%).
12. FN- : Predominant future (55-95%); moderate or little present (5-45%); absence of past (less than 5%).

- 13. F-- : Total future (90-100%); absence of past and present (less than 5% on each).
- 14. FP- : Predominant future (55-95%); moderate or little past (5-45%); absence of present (less than 5%).
- 15. FPN : Predominant future (50-65%); moderate past (30-45%); little present (5-25%).

APPENDIX V

INSTRUCTIONS FOR TIME-PHASE SCORING

The purpose of these instructions is to describe a method of recognizing and estimating the relative emphasis upon the three phases of time as they find expression within TAT stories. By time-phase we mean those aspects of the time dimension which are commonly referred to as the past, present and the future.

Your task in scoring a story is to determine how much of a given story is devoted to each of the three phases of time. Every story is to be given one of the ratings shown in the List of Time-Phase Scoring Patterns.

In order to determine the time-phase pattern score for any given story the first step is to read the story and as you do so underline any verbs or verb phrases which seem to indicate a phase of time or a shift from one phase to another. Mark off the sentence or clause which the verb includes if it is different from the proceeding or succeeding tense.

In general, it is important to pay particular attention to the history, movement and conclusion of a story. The history is the exposition that leads up to the action of the story. Movement reflects the shifts in space and time of the characters of the story as they change positions. The conclusion

is where the complications developed in the body of the story are settled--if they are settled.

It is anticipated that some stories will be so confused that they may defy the application of the above criteria. In such instances it is requested that you use your own judgment with these stories. Remember that your scoring of each story will be checked against the scoring of another experienced person.

Place the score which you give to each story in the lower right hand corner of the page on which the story appears.

CONTINGENCY DISTRIBUTION OF RATINGS
BY THE TWO JUDGES

JUDGE B

JUDGE B																
PPH PP- P-- PN- PNP NPP NF- N-- NP- NPF PNF PN- P-- PT- PTH TOTAL																
J U D G E A	PPH														1	1
	PT-														2	2
	P--		1			1	2				1	7	11	2	2	27
	PN-					1	1	3	1		35	2	2	1		46
	PNP					3		1		18	3				5	30
	NPP					1		2	14							17
	NP-		1			5	2	35	3	3					1	50
	N--		2		1	24	181	5	2						1	216
	NF- 1		2		1	68	2	1	2						1	78
	NPF		1	1	9	5			1						1	18
	PNP			7	1											8
	PN-		5	1		1										7
	P--		1	3												4
	PP-		2													2
	PPH					2										2
TOTAL		1	2	1	15	9	12	111	188	47	23	22	45	13	6	508

$$C = .92$$

CONTINGENCY DISTRIBUTION OF JUDGE A'S
FIRST AND SECOND RATINGS

First Rating

	FFN	FP-	F--	FN-	FNP	NFP	NF-	N--	NP-	NPT	PNF	PN-	P--	PF-	PFN	TOTAL
FFN																
S PT-																
e P--													1			1
o PN-									1	1		4				6
o PNP										1	2					3
n NPT									1	1					1	3
d NP-									1		4					5
H--										7	1					8
R NP-		1						7	1				1			10
a NFP									6		1					7
t PNP									3	1			1			5
i PN-											1					2
n F--																
g FP-																
FFN																
TOTAL		1		1	3	8	7	9	8	3	3	5	1		1	50

$$C = .91$$

CONTINGENCY DISTRIBUTION OF JUDGE B'S
FIRST AND SECOND RATINGS

First Rating

	FFH	FP-	F--	FN-	FNP	NFP	HF-	H--	HP-	NPF	PNF	PN-	P--	PF-	FFH	TOTAL
	FFH														1	1
S	FP-															
e	P--												1			1
o	FN-											1				1
o	PNF										1			1		2
n	NFP				1	1		2	1							5
d	HP-					1	1	3	1							6
	H--				1	2	6	3		1						13
R	HF-					2	3	1	1	2						9
a	NFP				1	2				1						4
t	FNP			1	2											3
i	PN-				2					1						3
n	F--															
S	FP-	1														1
	FFH					1										1
TOTAL		1		1	4	4	8	10	9	5	3	2	1		2	50

$$C = .91$$

APPROVAL SHEET

The thesis submitted by George Ridley Lewis has been read and approved by three members of the Department of Psychology.

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

The thesis is therefore accepted in partial fulfillment of the requirements for the Degree of Master of Arts.

January 26, 1954
Date

Frank J. Obler
Signature of Adviser