



1958

An Investigation of a New Method of T.A.T. Analysis By a Prediction Study of High and Low Academic Achievers

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AN INVESTIGATION OF A NEW METHOD
OF T.A.T. ANALYSIS

By a Prediction Study of High and Low
Academic Achievers

Leo Alex. McCandlish

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

June,

1958

VITA

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CHAPTER I

INTRODUCTION

The essential result of the administration of a Thematic Apperception Test is a series of stories. Reaction time, card rejection, test behavior, etc. may have valuable clinical significance but the primary import of the test is the verbal product.

The rationale underlying the study of personality through verbal production is extremely logical. For that which principally characterizes a being, as human, is his ability to talk. Likewise, verbal expression, as indicative of conceptual reasoning, is generally the best indicator of both intellectual and personality characteristics. As far back as 1838, the French physician Esquirol (11,) studied a group of retarded children and adolescents with principally physiological tests and yet reached the conclusion that the use of language was the best indicator of "mental and social abilities." Galton (15) with his "breakfast-table" questionnaire and Kraepelin (24) with his response to stimulus words attempted to classify personalities through verbal production. This trend toward the study of the verbal product as indicative of personality structure took on an entirely new meaning with the introduction of the Rorschach Inkblot Test in 1921. This new form of personality testing, called by L. K. Frank (14) "projective technique", led to an analysis of the verbal product in a very unique way; not it is studied to find out how the patient projects his characteristic

fears, anxieties, aggressions, etc. In other words, the new trend attacks the verbal production in a strange way. It is not interested in what the subject says, but what is he "projecting".

This leads to subjective interpretation, frequently fragmenting and distorting what the subject is actually saying. Whereas, the method used in this study holds that the story must be kept intact; it is based on the assumption that the import of the story, when freed from accidental details will indicate what the story-teller is saying about his life-situation. When these statements of the import of each story are taken down in order, they will reveal the subject's outlook upon life and the way in which he plans and solves his problems.

Since the T.A.T. is a personality test, it is not sufficient to outline a method of analysis, but it must also be shown that such a T.A.T. analysis will discriminate between two groups presumably having different personality characteristics. Besides discriminating, a further empirical verification of a personality test interpretation is to predict from the test alone which individuals belong to which group. That has been the purpose of this study of T.A.T. Sequential Analysis. This investigation then obviously involves a two-fold problem:

The Problem:

1. To show that the sequence-analysis of the T.A.T. can discriminate between High Academic Achievers and Low Academic Achievers.
2. To show that a scoring method developed from Sequence Analysis can predict which are High and which are Low Academic Achievers.

Successful prediction is then the criterion that we have set up to validate our T.A.T. scoring system which is derived from Sequence Analysis. This does not make it an indirect validity criterion. It is truly a direct validity criterion based on the nature of the instruments used in the research. We are using a Personality Test and a clinical method of interpretation. With these instruments, we are attempting a large scale prediction of two groups who presumably have different personality characteristics. Now, a clinical method is intended to give individual personality assessment, but if a sufficient number of individual assessments indicate a consistent pattern of personality characteristics, these can be used on another sample to predict which subjects belong to which group. Then prediction on your second sample becomes a valid criterion for your method of test interpretation. Such is the reasoning underlying the methodology used in this study.

That prediction is a valid criterion is emphasized by Guilford (16, P. 363): "One of the most important fruits of investigation and one of the most exacting tests of any hypothesis is the ability to make predictions". Nor is it necessary to demonstrate strictly the connection between the test interpretation and the predicted behavior. Commenting on this point, Anastasi (2, P. 22) says, "It should be noted in this connection (referring to prediction) that test items need not resemble closely the behavior which the test is intended to predict. It is only necessary that an empirical correspondence be demonstrated between the two. The degree of similarity between the test sample and the predicted behavior may vary widely. At one extreme, the test may correspond completely with a part of

the behavior to be predicted. At the other extreme, one finds projective personality tests, such as the Rorschach Inkblot test, in which an attempt is made to predict from the subject's associations to inkblots how he will react to other people, to emotionally toned stimuli, and to other complex, every-day-life situations. Despite their superficial differences, all these tests consist of samples of the individual's behavior. And each must prove its worth by an empirically demonstrated correspondence between the subject's performance on the test and in other situations."

Of course, we will present what we consider to be the connection between our technique of test interpretation and the behavior we are predicting. This will involve the rationale underlying our technique and ultimately a whole personality theory. Whether one accepts this or not, or substitutes a theory of his own, the successful empirical prediction stands as the scientific verification of this new technique of T.A.T. analysis.

CHAPTER II

REVIEW OF THE LITERATURE ON THE PROBLEM

Except for the Rorschach, no other projective test has been reported in the literature to the extent the T.A.T. has. W. Henry (20, P. 274) lists a T.A.T. bibliography containing five-hundred and seventy-five titles; this covers adequately the period from the initial publication by Murrar in 1935 to December, 1954. The Psychological Abstracts for 1955 and 1956 list a hundred and twenty-two more titles referring to the T.A.T. Besides this vast array of books and articles, there is also a T.A.T. Newsletter, published quarterly by Robert R. Holt.

With such a formidable array of scholarly publications, it becomes necessary to limit our study of the literature to the problem at hand. For the purposes of this study, we are particularly interested in a) methods of T.A.T. analysis and b) their validation.

A. Methods of T.A.T. Analysis

The most ingenious experiment in this area was made by Edwin S. Shneidman (33). He asked fifteen psychologists to work up a single clinical case in terms of their own method of T.A.T. analysis. There appeared a great variety of methods, but nearly all were lengthy, complicated and time-consuming. Likewise, except for Arnold, the methodologies have a common similarity in using "needs and presses", "hero identification", "ego-functions", "aggression tendencies", etc. as a basis for interpretation.

In recording their data, they varied from a highly intuitive method (Holt, P. 101) to an attempted precise psychometric method (Hartman, P. 83).

The only method reported by Shneidman that in any way approaches the one used in this study is the method of Jose Lasaga (25, 26, 28). Both Lasaga's method and our method use the story summary; likewise both emphasize the use of the T.A.T. as revealing life problems which can be directly handled in psychiatric treatment; as also does another Spanish author, Siguan (34). However, Lasaga's method differs on several essential points:

1. The story summary or meaning is the very marrow of our method, whereas for Lasaga, it is only one part of a seven point procedure: "The actual procedure consists of the following: reading the record for general impression; underlining phrases which express the main idea or important aspects of the main idea; summarizing each story in terms of the main idea; finding clues for discovering the main conflicts; studying anomalies among the main ideas or among reaction times; taking into consideration 'basic data' about the patient and knitting these impressions together into a summary evaluation." (33, P. 144).
2. Lasaga's summary of the story answers literally the question: "What does the story talk about?"; whereas, our summary, answers the question: "What is the actual meaning or significance of the story?". This difference is best seen by an example:
 Lasaga: "3, EM - N. found guilty of prostitution; very ashamed; fears sister knowing it; thinks it too late to change; stabs herself."

Our "summary" of this same story would be: "If you do something shameful, you will bring odium on an innocent loved one and since it is too late to change, the solution is suicide."

3. Nowhere does Lasaga mention the sequence or pattern of story-summaries, which is all-important in "Sequential Analysis."

As mentioned above, this method of Lasaga's approaches in some respects "Sequence Analysis". However the only explicit literature on this method is by Arnold (3, 4, 5) and a doctoral dissertation by Louis Snider (35, 36). Since Arnold's articles will be reviewed in the next section explaining the method in detail, we have only to review Dr. Snider's use of this method.

Since the basic data for this study was the same stories used in Snider's study, it is necessary to point out precisely how these two researches differ. They differ on four very essential points:

1. the purpose of the studies
 2. the treatment of basic data
 3. the method of analysis and derivation of categories
 4. the use made of the categories
1. Prior to his T.A.T. analysis, Snider made a Rorschach study of his cases and found certain personality factors characteristic of High Achievers, and others, characteristic of Low Achievers; thus his purpose in using the T.A.T. was to find further distinguishing characteristics. His primary purpose was to get a clear personality picture of a High and Low Achiever, and he used these two tests to do it. Our purpose was primarily to test a specific method of T.A.T. analysis and see whether it would differentiate between two

groups and whether it could predict which candidate belonged to which group. To some extent we might oversimplify the difference by saying: in Snider's study the main purpose was to get a clear personality picture of his two groups and the tests used were somewhat secondary; whereas in this study, the power of the test-analysis to differentiate (and predict) is the essential point and the personality picture that resulted was more or less a by-product.

2. With this essential difference in purposes naturally the two studies differ in the treatment of the same basic data. Snider during his T.A.T. analysis knew at all times whether the case he was analysing was a High Achiever or a Low Achiever. In the first part of this study, the cases were divided into pairs and it was necessary to determine on the basis of their T.A.T. alone which member of the pair was the High Achiever and which, the Low; in the second part of the study, all the cases were scrambled and it was necessary to predict each case individually by means of the categories derived in the preliminary study.
3. Snider used what might be called Arnold's original method which involved four steps: (P. 129-133)
 1. synopsis of the stories,
 2. situational analysis,
 3. analysis of attitudes,
 4. sequential analysis.

Our method includes only steps (1) and (4). This likewise accounts for the entirely different categories used by Snider. He definitely

used the "situation" (Step 2) in the derivation of his categories... "These categories include stories in which some catastrophe befalls the hero. The catastrophe selected is the death of a parent." Our categories were derived entirely from step (4), the "sequential analysis" (as explained in Chapter 5) and are completely different from the "situational" categories used in the previous study. Snider's study (as published in the "Human Person") is criticized by Riggs: "Procedure, however, is so vaguely specified that replication would be impossible." This we found to be true when trying to verify Snider's categories. The categories are very broad and what makes it even more difficult is that one and the same story may be scored in several (even contradictory) categories. In this study we have defined and described the categories (almost ad infinitum), so that there can be no doubt in the mind of the reader that a specific category means this and nothing else. Likewise each story fits into one category only. To further verify the objectivity of the categories, three independent judges classified 520 stories (40 cases) according to our categories and reached ninety-eight percent agreement.

4. A further difference between Snider's categories and those used in this study is that we used them for differentiating the groups and for prediction, he used them only for a description of the personality.

B. T.A.T. Reliability and Validation Studies

Although the literature on T.A.T. interpretation is extensive (Henry,

P. 274), the attempts at assessing reliability and validity (Henry, P. 279) have been neither numerous nor too successful. Since a number of methods, Bellak (6), Fine (12), Hartman (19), Klebanoff (23), etc. use a quantitative technique, it is rather strange that there have not been more attempts at measuring reliability by having independent judges judging the same T.A.T. with the same instrument and then checking for reliability between the judges.

An attempt at a type of inter-interpreter reliability was attempted by Davenport (10) using six independent psychologists' judgments of interpretive statements. He found that judges "tended to hedge" and "in no case was an interpretive statement used with complete accord by all six judges." He attributes the failure of agreement to the personality theories underlying each psychologist's interpretation.

Harrison and Rotter (18) made a study of inter-judges reliability and got a fairly high correlation between judges ($R = .77$), however, the study is very weak since only two judges were used and only five T.A.T. cards; also as the author notes "Unfortunately, there has been no adequate opportunity to validate the ratings (i.e., the psychologists' judgments) against any outside criteria." (P. 98)

Harrison (17) also made a validation study of the T.A.T. on mentally disordered patients. Since the author administered the tests personally and the subjects were seriously disturbed patients, how much of the interpretation was derived from "cues and behavior in the testing situation" is open to serious question, as the author admits.

Samuels (32) testing the validity of personality-trait ratings by means of projective techniques found the correlations to be "predominantly positive but by usual standards low." ($R = .31$ to $.35$)

By our use of categories, we are attempting an objective scoring system for research purposes. There have been many attempts at objective scoring systems (Hartmann 19, Bellak 6, etc.) but they have not proved of great predictive value.

An objective scoring system was attempted by Watson (38) on the basis of Perceptual Organization (PO) which is intended to give a personality description and the degree of psychopathology present. Only one attempt (Dana 9) at validating this method has been published and only five stories were elicited from each subject so that the objectivity of this method is still in need of further research.

A further attempt to validate the T.A.T. by determining its contribution to a direct assessment of personality by interviews was conducted at Northwestern University last year (Winch & More:39). Applying strictly the dichotomies of "needs and presses" to a complicated statistical formula, it was determined that "the T.A.T. makes no statistically discernible contribution" (i.e., any more than what was obtained by direct personality assessment).

The only clearly predictive study using the T.A.T. seems to be the large scale research done by E. Lowell Kelly and Donald W. Fiske (22). This was a very costly and extensive research, involving 75 psychologists over a four year period to determine the characteristics of successful clinical

psychologists for predictive purposes. The candidates were tested just prior to entering college and for four years thereafter and over a 1000 scores were collected on each candidate. One of the tests used was the T.A.T. It did not work out at all for predictive purposes. It correlated .08 with Academic Performance and its highest correlation was .24 with Diagnostic Competance and these were in no way statistically significant as predictors. (The Rorschach fared a little worse.) It is impossible to assess the significance of the T.A.T. in this study, because it never mentions what method of T.A.T. analysis was used. As a matter of fact, most probably quite a variety of analyses were used, because the report states, "No staff member analyzed more than one projective test for any one subject." So the most that can be concluded is that according to the methods of analyses used the T.A.T. was not a good predictor in Kelly and Fiske's "Prediction of Performance in Clinical Psychology."

Nowhere in the literature was there found any technique for validating T.A.T. interpretations by the method of empirical prediction, as used in this study.

CHAPTER III

PRINCIPLES UNDERLYING T.A.T. SEQUENCE-ANALYSIS

As the literature shows, most large scale studies with the T.A.T. have not yielded satisfactory results from the standpoint of either validity or reliability and most of all, prediction. All of these studies employed the usual variety of techniques for test-analysis, namely hero-identification, needs and presses, projectionism, psycho-analytic interpretations, etc. Could this lack of success with the T.A.T. be due principally to the common methods of interpretation currently employed? In other words, would a new method of approach, employing an entirely different technique of interpretation, yield better results with the T.A.T., especially in the difficult area of prediction?

It was with this hope, that we initiated a large-scale study of the T.A.T. by a new method called: T.A.T. Sequence-Analysis. Since this technique involves an entirely new approach to T.A.T. interpretation, it seems appropriate to point out the underlying presumptions involved in this method before describing the empirical study itself. Of course, this chapter will be dealing with theories and hypotheses, explaining what mental processes we consider to be operative when a subject takes a T.A.T. Many readers may not accept these hypotheses and the premises on which they are based. But, independently of accepting or rejecting these underlying principles, the true value of the method must be determined by an objective

empirical study, which is the purpose of the next five chapters.

As pointed out in the opening chapter of this study, the primary result of a T.A.T. is a verbal product - a series of stories. Therefore, any theory underlying T.A.T. analysis must account for stories, story-telling and the story-teller.

A story is defined by Webster as a "connected narration of events; an account of some incident; an anecdote; a narrative in prose or verse". Obviously a story is not a simple series of verbal images (such as are the productions of the Rorschach Test). A story is an action-picture, a verbal portrayal of action. Nor does this action have to take place, or even be possible. Many of our great stories are fairy tales -- "Gulliver's Travels", "Alice in Wonderland", etc. Thus a story does not have to conform to truth or reality, but it does have a moral.

Story-telling is simply the production of a story by a human person. Animals cannot tell stories. Obviously, story-telling involves the use of man's higher faculties; i.e. the use of those abilities that unequivocally distinguish him as a human being. Story-telling may be prompted by an external stimulus or there may be no obvious external stimulus. In the case of the T.A.T. there is obviously a twofold external stimulus: the card itself and the request of the administrator that the subject tell a definite form of story with a past, present and future. However, even when there are definite external stimuli, such stimuli are merely the occasion for telling a story, not the efficient cause of the definite story that follows. This is a very important point. Story-telling is essentially a function of

the story-teller and not of the stimulus. If a necessary causal connection is posited between the card-stimulus and the story, then there may be some merit in interpreting the T.A.T. according to "Manifest Stimulus Demand of the Card; Form Demand of the Card; etc.", as does William Henry in his recent book, "The Analysis of Fantasy" (20). This reduction of the T.A.T. to a stimulus-response function is a distortion of the simple human activity of story-telling. We are not saying here that the presentation of the card with the accompanying instructions is not a stimulus (though we would rather call it an "initial factor"; one of a whole series of factors that produce the resultant story). What we are saying is that if the card is considered as a stimulus it is only accidentally related to the resultant story and not the necessary cause of the definite story that follows. If there is a necessary connection between card-stimulus and the story, how are we to account for the subject who voluntarily presents a second and very different story to the same card (stimulus). Likewise, any T.A.T. tester of experience must have noticed how some subjects will use every detail of the card in some stories, while in others they can be considered to have used the stimulus-card only by a stretch of the imagination. These phenomena could not happen if there were a true S-R bond between card-stimulus and story.

Our first premise then is: that story-telling is primarily and essentially an intrinsic activity of the story-teller. Only when we know what human abilities are involved and how they function will we be able to correctly interpret the story.

What happens when a subject is asked to tell a story? We have pointed out that a story is not a "dead" description, but an action picture; actually, it is an ordered series of pictures involving a plot and a definite conclusion. Thus when a subject is asked to tell a story, he tries to give a verbal portrayal of action and its consequences. This obviously involves the use of memory and imagination. But it involves more than this. Both memory and creative imagination combined produce images that are ordered into a unified plot that gives meaning to the story. This ability that gives order to man's thoughts is called by the scholastics the faculty of intellect; roughly speaking, modern psychologists mean the same by intelligence. The scholastics, by inference from experience, posit in man a "speculative" intellect to know truth and a "practical" intellect to direct him in action; these terms, perhaps roughly correspond to what modern psychologists call "academic intelligence" and "social intelligence".

Since story-telling is the presentation of an action-picture, we are concerned with the purpose and activities of the "practical" intellect. Unlike the "speculative" intellect which is guided by truth, the "practical" intellect is governed by the appetites. By the "appetites", the scholastics meant what modern psychologists would call "drives, urges, emotions, desires, etc.". This clear-cut distinction between the nature and function of man's intellectual abilities is explained by Jacques Maritain, as follows:

(27, P. 423)

"In the case of the speculative intellect - ...once the intellect is at work, the appetites have nothing to do with this work, which depends only, as far as normal knowledge through concepts is concerned, on the weapons of reason.

On the other hand, in the case of the practical intellect, the appetites play an essential part in the very work of knowledge. In one way or another and to quite varying degrees (for practicality admits of a vast scale of varying degrees) reason, then, operates in conjunction with the will.

For the intellect, taken in itself, tends uniquely to grasp being; and it is only as permeated, in one way or another, by the movement of the appetites towards their own ends that the intellect concerns itself, not with being to be grasped, but with action to be brought about". (*italics, mine*).

It is to be especially noted that the "speculative" intellect, since it is concerned solely with knowledge, admits of only truth and falsity, whereas the "practical" intellect since it is moved by desires and emotions ("in conjunction with the will") admits of right and wrong.

This ability to use memory and creative imagination under the direction of the practical intellect to explore "action to be brought about" is called by Maritain, "creative intuition". It is not bound by truth or logic; it is the well-spring of fantasy; it is the source and fecundity of man's art; it is the testing ground of his future activities.

Hence, our second premise is that story-telling is the fruit of man's "creative intuition". By this we mean that when a man tells a story he is using his creative imagination under the direction of his practical intellect to portray "action to be brought about". Note that this exploration of future action is "permeated by the movement of the appetites towards their own ends". Thus "creative intuition" gives the emotions, drives and urges an opportunity to have their say in this exploration of future activity. By requiring an outcome, as explicit T.A.T. instructions demand, the subject reveals his evaluation of the emotions enacted in the story. By his approval or disapproval of the consequences of the actions portrayed in the

story, he reveals his principles and ultimately his philosophy of life. Moreover, if the subject has a grave problem to solve, again and again it will appear in the stories and the sequence will show how he is exploring future possibilities of solving it with the help of his "creative intuition".

Thus by putting down in order the significant meaning of the stories, we will have a reflection of the operations of man's "creative intuition". This gives us a true picture of his motivation and principles, his major problems and their possible solutions, and ultimately his basic philosophy of life.

Our final premise then is simply that since the intrinsic function of man's "creative intuition" is to help him plan his activities, an analysis of the products of his creative intuition should lead to a knowledge of his attitudes towards life and its problems.

Finally, although this theory has its origins in the Aristotelian philosophy of the scholastics, the notion and function of "creative intuition" is very closely akin to Jung's ideas of "creative imagination:"

(21, P. 66)

"All the works of man have their origin in creative fantasy. What right have we then to depreciate imagination? In the ordinary course of things fantasy does not easily go astray; it is too deep for that, and too closely bound up with the tap-root of human and animal instinct. In surprising ways it always right in itself. Again the creative activity of the imagination frees man from his bondage to the 'nothing but' and liberates in him the spirit of play."

Thus, Jung attributes to "creative imagination" most of the functions that we give to "creative intuition";

1. - its principal function is to help man plan the future...
"all the works of man have their origin in creative fantasy";
2. - although it may use fanciful imagery, it portrays man's life-situation and portrays it accurately..."in surprising ways it is always right in itself".
3. - it is not bound by logic but is free to explore unhindered,
"... (it) frees man from his bondage to the 'nothing but'".

We also attribute to "creative intuition" two other attributes:

a) its direction by the "practical intellect" (influenced by the emotions), and b) the notion that it always implies morality when it speaks of human acts, whether it intends to carry them through or not.

Thus, our rationale underlying "Sequential Analysis" is that story-telling is a product of man's "creative intuition" and hence the product must be analyzed according to the function it fulfills. By putting down in order the import of the stories, we are bound to acquire the fruits of man's "creative intuition", i.e. we will get a true picture of his subjective life-situation, his problems and their possible solutions, his hierarchy of principles and ultimately his philosophy of life.

Of course, this is a theory. It seems to account for the facts involved in story-telling and hence provides a valid framework for T.A.T. analysis. Independently of acceptance or rejection of the theory, the value of "Sequential Analysis" must be demonstrated empirically. It will be the function of this study to do that. But, before proceeding to the empirical

group-study of this method, it is valuable to show the original use of Sequence Analysis as a clinical instrument in an individual case.

CHAPTER IV

T.A.T. SEQUENTIAL ANALYSIS

Sequential Analysis was originally developed as a clinical method by M. B. Arnold (3, 4, 5). In explaining the method in this chapter, we will show its clinical value; while in the two following chapters, we will show how it can be applied and refined, so that its validity can be tested by predicting group differences.

The technique involved in Sequential Analysis is comparatively simple and easily learned. There are three major steps:

1. **Story Summary:** Each T.A.T. story is summarized according to its significant meaning. The story is kept intact; no meaning is "projected" into it; simply the meaning of what the story says is summarized. The meaning of the story is stated in a somewhat generalized form, as if it applied to the story-teller's own life-situation. (While the import of the story is held to apply to the story-teller's life-situation, it must be pointed out that it is not presumed that the story-teller is always talking of his own life-situation, but at least he is indicating his principles, i.e. what he thinks is right or wrong in the situation he is portraying.

This is very different from "hero-identification" or "projection". For even when he obviously identifies with the hero, it is his assessment of the action and attitudes of the hero, which make up the story-summary and reveal the principles of the story-teller.)

2. Sequence: The story summaries are written down in sequence. As the "sequence" unfolds a pattern is generally found to emerge. A problem presented in one story is frequently explored in the next story or the next few stories; or possible problem solutions will be given in following stories.
3. Analysis: An analysis of the pattern found in step #2 will lead to a great deal of information concerning the subject's motivational processes - his problems and their possible solutions and the principles he uses to handle his life affairs.

The easiest way to demonstrate a method is by an example. The following example will show the clinical value of this technique even when used with "normals". The following T.A.T. was collected when the test was given to a group of college students in order to collect data for research; nothing was known about the subjects to whom the tests were administered except that they were ordinary college students.

I.

Why had Daddy been so insistent on my practicing my violin? I know that I loved the sound that different instruments could produce, but I felt such a yearning to do other things besides play the violin. Why can't I be out with the others playing ball? I so wish that I could have friends. I guess my friends will be the violin and the sheet of music. Maybe someday I'll be able to win friends by the music I produce on this violin. Maybe Dad knows what is best.

Summary: Though our work may be our own choice, we still yearn for the fun we could have without it. But some day, perhaps will give us what we really want in life.

II.

Her mother looked at her despidingly. "There she goes," said the mother. Off with her books and her learning; she thinks she is better than the rest of us. What does she know of life, this seeker after knowledge. Does she know what a struggle it was to live on the farm; to bear her and the other children? Why does she have to be different? All us farm folks want is a hard working man to support us and feed us. No, but she has to go looking for the pot of gold at the end of the rainbow. Why, Why, the mother asks.

And the girl thinks, "I can't stand the state of poverty and ignorance any longer. I shall strive to leave this place. I know Pa and Ma mean well, but why does my life have to be the same. Surely there is something better. Maybe in the book learning I'll find what my heart yearns for. Is it security? Is it a man? What is life all about? I shall strive to find out."

Summary: An older person may look on their life situation bitterly and resentfully; but youth faces the same situation with hope and striving, looking forward to what life holds for them.

III.

Why couldn't she do it? She had almost succeeded in slashing her wrists. What had stopped her from doing this thing? Had she not decided that she could do nothing else? How could she face her family with the knowledge of what she had done and what had occurred because of it. Yes, she was pregnant. She had so little knowledge of what consequences one paid for playing with fire. She had no idea that the fun and good time she was having would lead to this. Yes, Frank was cruel to have lead her to this. Was this what life had to offer her? Cheapness? Had not he really just used me as an instrument of his pleasure. How I wish I could

hurt him. Maybe that's what made me stop before I slashed my wrists. Yes, I'll spend my life getting even. No man will ever make a fool of me again. I'll make my way -- but first I must do something about my present condition.

And off she went -- her life from now on a tool of Satan!

Summary: If you get into trouble (Sexual) through your own recklessness and another's cruelty, you may think of suicide or spending your life in getting revenge becoming "a tool of satan."

IV.

Why was he turning away from her in such anguish? Yes a glimpse a flood of remembrance ran across his mind. Wasn't Sally now waiting and praying and counting the days till his return. Yes, Sally, so good and so clean, so honest, and generous. And he, what was he? A common cur who thought that "what's the use, tomorrow or the next day I'll be killed in this hideous war?" Why am I here? Yes, there he was with hundreds of others, facing death maybe. So why shouldn't he taste of life and pleasure? Who was to say it was wrong to taste of the forbidden fruit reserved for more blessed conditions. Yes he and the fellows had to meet to drink, and naturally in these holes there are always loads of women selling themselves cheaply, so he left his realm of reason and let his body rule his mind and decided to go ahead. Why not! Yes, and here he was now, not able to consummate -- for he knew he would not be able to. He drew away in disgust and went into the air hoping that the air would cleanse him, but he knew that he could be thankful for that flash of remembrance, so as he walked a spot of joy filled his heart, that still there was some goodness in him to prevent him from sinking to the very lowest. What that something was he wished he knew.

Summary: The thought of a good woman can deter you from evil (sexuality) in a moment of recklessness; but maybe it is some mysterious force that has prevented you "sinking to the very lowest".

V.

What was that noise? As the woman opened the door she was wondering who in the world could be in this room. But upon entering the room she could see nothing and no one. Strange. Had not the same kind of thing happened several times in the last month in the neighboring home. What could it be. She, as were all the other neighbor women, was now becoming quite frightened by these occurrences. Yes, it always occurred about 5 in the afternoon; a strange noise that always occurred in the dining room. She had never believed in spirits nor had her neighbors, but she was beginning to think there was something to this. Oh, but now this was too

fantastic. One thing all had noticed was that on entering the room a strange smell could be perceived, - dank and moldy; it was as if someone had come from the depths of the earth. Could it be an evil spirit? One thing is certain; that in the near future this neighborhood in a small Western town will be deserted. Why? No one will know for sure.

Summary: But there is another deep mysterious force, "dank and moldy," that will drive people away for sure. No one knows what it is.

VI.

Yes, now he was crawling back asking his mother's advice. She had a right to be bitter. Had she not told and warned him in the first place. Yes, he should finish his medical training, start his practice, and then think about getting married. No, but he knew better. He had met Sally at one of those pre-med dances. She was a beauty and this is what captivated him most. Now that he had married her, he knew just what she was -- a bum from across the tracks. A husband hunter without scruple. And now she was pregnant -- with him working his way through med school. All his plans were all fouled up. So although he had not seen his mother since his marriage, he knew she was his only help. But he was wrong. Mother had no intention of interfering any longer. She had done her share of warning. What was he to do now? Yes, he had made the mess himself. He began to see that now he would either have to grow up or just call it quits. As he wandered back home he wondered if his wife would cooperate with him. He knew now that he would never again act in haste.

Summary: If you have made a terrible mistake in judging by appearance only and now find yourself caught with no one to turn to, the only solution is "to grow up or just call it quits."

VII.

Father was right. I was thinking much too negatively. All these years so unproductive. Now is it that I blinded my mind to so much common sense? All my apprehension about myself was purely emotional. It had no reality objectively. But where do these things arise from? Yes, I was confiding in my father for the first time. Strange, because he was such a good and patient man always. Why had I rebelled from confiding in him? Now I was telling him all my fears about my being unable to fall in with any group. I really felt like a misfit, so consequently my life had become so introspective and introverted. But I wanted to change that. I felt a need to be exterior. Father is right. I had gotten myself to believe in the false self I had developed. Maybe now with some guidance I'll be able to live a fuller life. I yearn so to give myself to people. At least I can be thankful that the future does look brighter and more hopeful.

Summary: Maybe I am thinking "much too negatively...and...all my apprehensions are purely emotional;" if I talk it over "with a good and patient man...and get some guidance...the future will look brighter and more hopeful."

VIII.

Ned was thinking "Yes, today is the fourth anniversary that I won my way back to life. How long ago it seems that I was stretched out on a cot awaiting an operation. This was really an operation without anesthesia or any supplies necessary for the kind of operation. Strange right on the battle line to have a ruptured appendix. Now it seemed so very foolish, but then it was so serious. Two med men had to perform the operation. Neither knew exactly what they were doing. Providence really brought him a long way since then. Funny that all of them are now studying to be M.D.'s. Funny how people do get together and a lasting friendship is born — even a vocation. Yes, to see how brave each of us three fellows had been was enough to show us that we could offer our lives to humanity. I wonder how often similar situations arise. Many modes of life must be chosen just as ours was. Will the future show that we were wise? Time alone can tell.

Summary: It seemed serious at the time but maybe it was just foolish; maybe the experience actually led him toward "his vocation"... but is his choice a wise one?

IX.

Here they were again all piled up on a haystack taking another afternoon siesta. Day after day, week after week, year after year, the same pattern. When had they first started out? Yes after the great sand-storm of Oklahoma they began to migrate. Aimlessness was their creed. Just give us a little work, just a little. That is enough that we earn our food and a bed of boards. Let us alone otherwise. What had gotten into these men? Where had their drive gone? Why was it so hopeless for them? It was of course due to the many failures that accompany their lives. But why were these men unable to rise again and start over again? Could it be that they are inherently lazy? Maybe these men must wonder at times if there is more to life. Someday, something, someone will enter their lives and fill them with new vitality. How can men such as these really continue in their state? Surely one out of all these will one day see the need for more than the mere essentials of life.

Summary: Sometimes one calamity can start a man wandering aimlessly through life...life without meaning.

X.

Where had she heard this one before. Yes she had been around. Had not 35 years of living taught her something? Yes she knew a line when she heard one. This was definitely one. This guy thought he was putting a fast one over on her. How many times before in this racket she was in did she have to put up with sneaks like this one? How she hated this life at times, but she had to make a buck and wasn't there Mom and Dad to feed and support? No, she couldn't do better than this. She had a reputation -- a bad one -- so she made the best use of it..She by no means let it hinder her. No, she got into the right crowd where her reputation was the thing that year. But now after so many years she still had to cheapen herself by a contact with a bum like this guy. Sweet nothings indeed. She was thinking "this is the last straw. Why can't I just cut these awful ties and chains of my past. Yes, I'll go to another city; another state. Life is still new. I am bright. I could learn some good and clean work." Yes, she felt, like hundreds of others, a need for a clean interior but was so chained by the exterior. Will she succeed?

Summary: Sometimes we slip into something very evil, (sexual) unintentionally; but we don't have to stay there. We should try for "a clean interior...will we succeed?"

XI.

As Dante and Virgil continued down ridges that led into the inner circle of Hell they suddenly came upon a monster most hideous in shape, almost like a giant beetle. Has not Dante already been frightened enough? Had he not almost turned away several times yearning to get out of this hideous hole. As they approached the monster Dante screamed with anguish "Too much, too much. Let me go back." But Virgil insisted that he continue downward. The monster then saw them and spoke angrily, wanting to know how this mortal had dared enter these regions. Dante almost swooned with fear. Why had he made this journey anyway? What was he thinking of anyway when he had contemplated coming here. His past master here needed retribution so he probably thought a trip to Hell would stimulate him to lead a better life. Can Dante continue his tread downwards? Will he succeed in reshaping his life and earn a reward? Dante does now know, but he knows now that he must continue bravely.

Summary: A man can be led down a frightful path for the sake of a friend; it is fearful and terrifying. Will he ever "succeed in reshaping his life...he must continue bravely."

XII.

It was the same pattern repeated year after year when sickness and disease hit the little community up in the mountains cut off from modern civilization. Little Tim was lying with a raging fever in bed. Bending over him was old Jack the so-called wonder-man of the village. He was working over Tim like a made Zulu as if the fever was caused by evil spirits and he could ward them off by a few stupid words. Doctor Hadly had to contend with all this ignorance. He wasn't given a chance to practice his medicine. Yes at times, but as a last resort they would call on him and the poor creature was already dying so naturally he was blamed for their deaths. How could he ever prove to them that his methods were sound? Old Jack had such a control over these people. Maybe someday he would be able to get hold of a case before it was too late and save a life for a change. Only time could tell. How he wished for success. His aim was not material gain but the saving of lives. Could he ever convince these mountain people of this?

Summary: But maybe he will not be given a chance to show what he can do because of the ignorance of those "in control". "His aim is not material gain but the saving of lives." Will he ever convince people of this?

XIII.

Mike had done it again. He turned away in horror. What had come over him. It happened every time. Mike was one of those unfortunate people with a mental affliction who did not fully realize it. Yes he was a sadist. He took an unnatural joy in mutilating the bodies of the women he had loved. Time and time again this had occurred. He wondered in anguish just what drove him to do these horrid things. His affairs were innocent enough. The good times he shared with these women proved very enjoyable to him. But as soon as the relationship became intimate he went haywire and he took delight in the thoughts of mutilating their bodies. It had always ended this way. Yes, downright murder. What was he to do? He had contemplated turning himself in many times. Was he brave enough to realize that he was a real harm to society? As he walked through the door leaving another dead body he seemed to feel that this was the only thing to do.

Summary: The impulse driving him to action was unnatural and uncontrollable. The only thing to do is to turn himself in.

XIV.

Night after night John had taken up this rendezvous at the window. It was actually a conversation carried on with himself. There was something about the moonlit sky and the silence of the night that was right for thinking deeply. As he looked into emptiness of the sky he called with a

yearning to his God. He had felt the yearning for a long long while. At first he could not identify it with any certainty. But through many hours of silent thinking he came to the knowledge that his Maker was calling him to service for Him. He pondered how he would do this effectively. Yes he was giving himself to the service of God. He seemed to think it was really necessary for him to serve God in this kind of atmosphere of silence and peace. He was truly tired of the way the world thought they sought God in turmoil and unrest. What was driving these people on? He knew that if his service to God was sincere he would not follow the path of the world but a more narrow straight path.

Summary: He has come "to the knowledge that his Maker is calling him to His service...to serve God in an atmosphere of silence and peace."

XV.

Rev. Jones was a man who carried on the function of a minister but inwardly had lost all faith in what he was performing. This especially became evident at funerals where as a minister he handled all the burials of the town. Having lost all faith in a body possessed of a soul inwardly he felt foolish at these functions. And his heart filled with bitterness. He laughed at all people who still carried over a belief in the hereafter. Yes he laughed, but the thought of his own death sent shivers down his spine. Yes he did not believe in another life, but what should he do with this one? Why carry on this fiasco? Where was it getting him? It was an easy life, yes, but he had to conform so. He was tired of this. After the last funeral he decided to leave. We know little of Rev. Jones after he left, but with his outlook you may be sure that he began to live it up.

Summary: But if he is not sincere in the service of God, it will all be an unholy mockery and eventually he will leave and "live it up".

XVI.

I see here what must really be an intellectual vision of some truth; abstract truth. Say the quality of goodness or purity, shown by the whiteness of the card which shows the limitlessness of the truth. It may actually be a representation of God.

A saint living close to God knows much about God, but through a veil so to speak. His vision of God is at its best when he lives in the darkness of faith. But God makes himself known to a soul yearning for Him by many intellectual graces. The saint knows of His presence. But really anything they have to say about Him really detracts from Him so silence speaks of God the best, so the emphasis on representing God on paper as a pure white card will always be better than a portrait of what men think God looks like.

Summary: The best way to serve God is in silence and no man can picture Him.

XVII.

Quasimodo had been a bell ringer in this Italian Cathedral for more than 30 years. He loved his bells and nothing gave him more enjoyment than to swing from rope to rope as he rang the bells at the intervals.

One day Quasimodo was not so happy, for he had learned that his biggest bell, Genevieve, was to be recast. He felt badly to have to part with his favorite Genevieve. Genevieve had faithfully served the church for every big occasion. On Easter and Christmas she had especially sounded forth joyfully. Now she would be completely stripped of her power. It was too much for Quasimodo. He went to the tower to ring Genevieve for the last time and in his sorrow he was not careful enough and fell from the ropes to his death. So Genevieve and her ringer went to their final rest together.

Summary: It is bitterly hard to part from a loved one; but we will be together in our "final rest".

XVIII.

Mike was never too quick, and before he knew what happened, someone grabbed him from behind and dragged him to the alley and gave him a quick work-over. Poor Mike. Always an innocent by-stander. But poor Mike made it a habit of frequenting places where he could get into trouble. Mike loved to gamble. It was his one weakness. He would take on anything, but boy, when it came to quickness in defense Mike really had it tough. He was forever getting slugged. Well, this night was too much for him, so Mike began to frequent these places with a certain Red who was notorious for his defense. Maybe now Mike can enjoy his vice and not have to pay for it later in the way of a beating. As long as Red is with him it seems that no more dragging into the alleys will happen to Mike.

Summary: When you have a bad habit and can't get over it, at least you should protect yourself from the consequences of it.

XIX.

Tom and Tim, two tropical fish, for the last five years or so were forced to make their abode in the stomach of a huge whale. Not that they were not happy. Oh yes, they had every convenience -- running water, and all the food they wanted. One thing, though they were very sad about never getting to see their cousins and friends. Oh yes, every once in a while when the whale took a big drink in would come one of their friends, but as swiftly as they came they were expelled before Tom or Tim could get

to them to say Hello. One day things were going pretty peacefully. All of a sudden a violent shake took place. They thought they must have been in the California region near the earthquake belt. But no, the giant whale was having some fun with the seals. He forgot his prisoners in his frolicking. They escaped. True, they were comfortable, but nothing like the whole sea to roam about. I don't think that now our little friends will wish to get near the vicinity of those nasty whales again.

Summary: Sometimes you have every convenience but you are cut off from friends and therefore you are not happy.

XX.

This was the spot appointed by the chief. It was the corner most frequented by those fiends, the dope peddlers. Dick had been appointed to masquerade as a peddler to see if he could sneak into the inner workings of the fiendish organization. Dick was always doing some fantastic work like this. One moment he is a pimp, another a gunman, now a dope peddler -- and as always there was the fear of being found out. Standing there, he thought of his wife and children. Yes he must think of them, but was not his devotion to a cause important also? He did not know for sure. Sometimes he felt like forsaking his work. But he knew that it would be cowardly. He knew there were not enough men devoted to causes. He wondered whether there might be too many causes? Oh well, who ever (ran into) our (friend), to all actuality he was a dope peddler. He wondered what was in store for him. Life was in danger but then too the reward of having accomplished some good was in the future.

Summary: But is not devotion to a cause more important than friends and loved ones? "What is in store for him?...the reward of having accomplished some good in the future."

Step II: Story Sequences

Aligning our story-summaries in sequence, we get the following:

1. Though our work may be our own choice, we still yearn for the fun we could have without it. But some day, perhaps will give us what we really want in life.
2. An older person may look on his life situation bitterly and resentfully; but youth faces the same situation with hope and striving, looking forward to what life holds for them.
3. If you get into trouble (sexual) through your own recklessness and another's cruelty, you may think of suicide or spending your life in getting revenge, becoming "a tool of satan".
4. The thought of a good woman can deter you from evil (sexuality) in a moment of recklessness; but maybe it is some mysterious force that has prevented you from "sinking to the very lowest."
5. But there is another deep mysterious force, "dank and moldy" that will drive people away for sure. No one knows what it is.
6. If you have made a terrible mistake in judging by appearances only and now find yourself caught with no one to turn to, the only solution is "to grow up or just call it quits."
7. Maybe I am thinking "much too negatively...and...all my apprehensions are purely emotional;" if I talk it over "with a good and patient man...and get some guidance...the future will look brighter and more hopeful."
8. It seemed serious at the time, but maybe it was just foolish; maybe the experience actually led him toward "his vocation...but is his choice a wise one?"
9. One calamity can start a man wandering aimlessly through life... life without meaning.
10. Sometimes we slip into an evil (sexual) way of life unintentionally; but we don't have to stay there. We should try for "a clean interior. Will we succeed?"
11. A man can be led down a frightful path for the sake of a friend; it is fearful and terrifying. Will he ever "succeed in reshaping his life...We must continue bravely."
12. But maybe he will not be given a chance to show what he can do

because of the ignorance of those "in control". "His aim is not material gain, but the saving of lives." Will he ever convince people of this?

13. The impulse driving him to action was unnatural and uncontrollable. The only thing to do is to turn himself in.
14. He has come "to the knowledge that his Maker is calling him to His service...to serve God in an atmosphere of silence and peace."
15. But if he is not sincere in the service of God, it will be an unholy mockery and eventually he will leave and "live it up".
16. The best way to serve God is in silence and no man can picture God.
17. It is bitterly hard to part from a loved one, but we will be together in our "final rest".
18. When you have a bad habit and can't get over it, at least you should protect yourself from the consequences of it.
19. Even though you have everything you need, being cut off from relatives and friends is sad.
20. But is not devotion to a cause more important than friends and loved ones. "What is in store for him?...The reward of having accomplished some good in the future."

Step III: Analysis of the Sequence

For the sake of clarity, this analysis will be divided into two sections:

- I. Full detailed analysis - for the sake of demonstration
- II. Summarized Analysis - which is the way this analysis would be submitted in a clinical report

I. Detailed Analysis

Quite obviously this subject is deeply disturbed by two interdependent problems: a religious vocation and worry over a past sexual experience. The topic of a vocation, or deciding what to do with one's life, starts in stories 1 and 2...there is hope and striving. Then almost immediately (story 3) the problem of some past mistake arises. It is due to his own recklessness and another's cruelty. A force for good can hold him back (story 4) but there is also another force within him "dank and moldy" (story 5) and no one realizes it. He has definitely made some mistake in the past and he must face up to it (story 6); but maybe he is exaggerating the situation; what he should do is to get some guidance (story 7). In fact, this mistake is what turned him toward religion (story 8) and made him strive for a fruitful life (story 9). Since his mistake was unintentional he does not have to remain in this evil path, which is frightful and terrifying, but he must go forward bravely (stories 10, 11). But this mistake may interfere with his religious vocation (story 12); those "in control" may not permit him to help save lives. He must admit his mistake to the proper authorities (story 13). He is convinced he is called "to serve God in silence" (story 14); but what if he is not sincere, it will be a mockery (story 15). He does want "to serve God in silence" (story 16). He must protect himself against his past mistakes (story 18). His desired vocation will require separation from loved ones (stories 17 and 19); "but is not a high dedication more important" (story 20).

II. Summarized Analysis

This subject's T.A.T. Sequential Analysis reveals a young man, seriously disturbed in the vocational area due to some mistake he has made in the past. Obviously he has strong desires "to give himself to the service of God in silence." However, this strong desire is interfered with because of some "past mistake". There is every indication that the mistake was sexual overt behavior. He feels great need to talk this over with "the proper authorities" but remains reticent in fear that he will not be permitted to follow his vocation. There is strong evidence of high motivation and sincerity, coupled with a deep and disturbing fear. He definitely has need of immediate help to cope with his problems.

The Clinical Follow-Up

Although this subject was one of a large group tested to gather T.A.T. data, it was considered proper, in accordance with the A.P.A. "Ethical Standards of Psychologist" (1) section 2.51:6, that this subject should be offered psychological help. He gladly accepted the offer of assistance. In the clinical interviews that followed, two results are especially significant: 1) the material provided by the T.A.T. Sequential Analysis helped establish immediate and excellent rapport; 2) the picture of the subject's problem-life, hierarchy of motives, fear sources, etc., as revealed in the T.A.T. Sequential Analysis were completely verified in detail in the clinical interviews.

Maintaining the anonymity of the subject, the clinical follow-up revealed that the subject's major problem was in the area of vocational

choice. He wished to enter a strict religious order of men, but several years previously there had been a mild overt act of homosexuality and he was in great trepidation that the superiors of the Order he wished to enter would not accept him if they knew of his past. With the assistance of both religious and psychological counselling the subject was able to arrive at a satisfactory adjustment to his problems. Thus, quite obviously, the blind "Sequential Analysis" of this subject's T.A.T. revealed his true life-situation.

CHAPTER V

OVERALL EXPERIMENTAL DESIGN AND PILOT STUDY

Basic Data: The basic data for this study were derived from two sources: the doctoral dissertation of Louis B. Snider (36) and a master's thesis by J. E. Brown. Snider took a group of 40 Chicago High School Seniors, who were dichotomized into twenty High Achievers and twenty Low Achievers; the criterion for high achievement was standing in the upper third of their class for six semesters and the criterion for low achievement was standing in the lower third of their class for six semesters. Then the two groups were matched in pairs on the basis of a three-fold criterion:

1. Hannon-Nelson I.Q. scores
2. A.C.E. percentile ranking
3. Class grades for six semesters

The same control procedure was used by Brown in matching forty Kansas City High School seniors and his variables were the same: High Achievers (standing in the upper third of their class for six semesters) and Low Achievers (standing in the lower third of their class for six semesters).

Thus our basic data consisted of eighty cases (i.e. forty pairs) of High School seniors from two large American cities.

We divided this basic data in half and assigned forty cases (twenty pairs) to our pilot study and forty cases (twenty pairs) to our prediction study. Each of these samples contained an equal number of cases from Chicago and Kansas City to maintain as heterogeneous a sample as possible.

Overall Experimental Design

Although this study had a single purpose, namely, to test a given method of T.A.T. analysis to see if it would yield successful prediction, the nature of technique demanded a two-fold methodology. At the time T.A.T. Sequential Analysis was used in this experiment it had been refined to a point where it yielded good global personality assessments. But such global assessments could hardly be used for prediction. Therefore the first part of this experiment, which we call our Pilot Study, was designed for the purpose of reducing these global judgments to a precise scoring system. We then used this scoring system on a second sample, which we call our Prediction Study, to see if we could successfully predict who would be High Achievers and who would be Low Achievers. By determining an objective scoring system we are actually defining personality characteristics of these two groups; thus group description became a valuable by-product of this study. It might be pointed out here, that because the primary purpose of our study was to test this technique by successful prediction, the personality description remains a valuable by-product; but if Sequential Analysis proves valid in this study, there is no reason why future experiments cannot be designed primarily for the purpose of determining motivational

characteristics differentiating groups, as the primary purpose of the experiment. We emphasize the point here that successful prediction is the fruit of this experiment and the resultant personality description is a logical by-product, because this highlights very clearly the difference in purpose between this study and that of Louis B. Snider's (36).

The Pilot Study

The immediate purpose of this Pilot Study was to differentiate between High and Low Achievers by a "blind" Sequential Analysis of their T.A.T's; but the ultimate aim of this initial study was to formulate in as objective manner as possible the basis on which we made this differentiation between the two groups - hoping to set up an objective scoring system, which could be used on another group for predictive purposes.

Thus this two-fold purpose of our Pilot Study led to a procedure that involved three distinct steps:

Step I - A Sequential Analysis of each of the forty cases involved in the Pilot Study and on the basis of this Sequential Analysis, a global personality assessment of each case and finally a judgment as to whether this individual would be a High or Low Achiever.

Step II - Verification of our judgments and the development of categories which would allow objective scoring.

Step III- The application of this objective scoring system to the cases involved, to determine the statistical significance of our scoring system. (As a result of this third step we were

able to formulate a hypothesis, which we were able to test in our later predictive study.)

To explain this methodology more extensively, we will now proceed to describe the procedure involved in each step.

Step I - Group Differentiation

As explained above, the basic data were twenty cases from Kansas City and twenty cases from Chicago (i.e., forty cases or twenty pairs). In this initial study, we did know the pairs and the problem was to determine which member of each pair was a High Achiever and which a Low Achiever. (In our later predictive study, the remaining forty cases were scrambled so that we did not know the pairs.)

Our first step was to make a T.A.T. Sequential Analysis of each of the forty cases involved. Then on the basis of this Sequential Analysis we would formulate a general personality assessment; as a result of this we would infer in each case whether the individual was a High Achiever or a Low Achiever.

To demonstrate this step for the sake of clarity, we will give the Sequential Analysis, the global assessment and inference of High and Low Achievement of two of the cases involved in this study. (We are including the category beside each story for reference purposes so as to avoid repetition.)

Case #1: Story-Summary Sequence

(The actual stories on which this Sequential Analysis is based can be found in Appendix I.)

- Story 1: By working hard you can become successful; but your success really depends on something extrinsic (a gift from the parents) and if anything happens to that, it cannot be replaced and you will fail miserably. (Categ. 2-)
- Story 2: You may want a career-life and circumstances may favor you at first, but later crush you ("moral: we should not try to be what we are not"). (Categ. 2-)
- Story 4: When faced with your moral lapses, you may laugh at them, but you will receive a "fitting" punishment. (Categ. 6+)
- Story 5: But those who try to find you out won't escape either, because "curiosity killed the cat". (Categ. 1+)
- Story 6: Even though you are innocent, you may be judged guilty and you cannot escape punishment, because for some people there is no escape. (Categ. 4-)
- Story 7: And if you try to "double-cross" another, both of you will perish. (Categ. 1-)
- Story 8: Sometimes circumstances force you to act courageously and when you see your success, you are inspired and succeed in doing great things...or do you? (Categ. 2-)
- Story 10: You may be lucky and be saved from certain death and do great things with your life; or maybe you just become a champion soap-box racer. (Categ. 2-)

- Story 12: You may use other people to pull a trick for you,
but all your cleverness won't help; everyone will be
the loser. (Categ. 6-)
- Story 14: (Almost identical theme as story #6): You will try
to escape (just when your delivery is at hand) and
you will perish. (Categ. 3-)
- Story 16: You may try to be tough, but you are really making
a fool out of yourself and pressure will be brought
to bear to keep you in line. (Categ. 1-)
- Story 17: If you try to handle too many things at once, the
result will be confusion and fatigue. (Categ. 1-)
- Combina- By your cruelty you may amuse others "with a twisted
tion: sense of humor," but you will be punished for it,
because "crime does not pay". (Categ. 6+)
- Story 20: Good eventually triumphs and evil is punished. (Categ. 6+)

Categ. Score: 4 + 10-

Sequential

Analysis: Success can be had by hard work, but it really depends on
extrinsic factors and is easily lost; or sometimes it
comes by accident (stories 1, 2, 8, 10, 17).

Mischief and even fear is seen as a strong motivating
factor (stories 4, 5, 12, 14).

Pre-occupation with escape, by shrugging things off,
using violent means, rather than constructive action.

Global
Personality
Assessment:

This "Sequential Analysis" reveals:

- that no really constructive motives are present;
- the recognition of failing in life is given full-blown consideration;
- and success is not insured by sincere efforts;
- cynicism towards people and life.

Inference: This candidate was accurately judged as a low achiever on the basis of these motivational characteristics revealed in his "Sequential Analysis".

As we proceeded with our study of twenty cases, we came across several motivational characteristics, that we considered indicative of a low achiever. From these motivational characteristics we formed categories; but before listing our categories, let us examine the opposite member of this pair:

Case #14: Sequential Analysis

- Story 1: Sometimes a father dies for his country and faith and it is up to the child to avenge his death. (Categ. 6 +)
- Story 2: When it becomes impossible to make a living one place, one can establish a peaceful home somewhere else. (Categ. 2 +)
- Story 4: But peace can be shattered by discontent stirred up by propaganda; however, a strong mind can stand against it. (Categ. 6 +)

- Story 5: Your dreams can come true, it may mean leaving your loved ones, but you will come back. (Categ. 2+)
- Story 6: Evil companions can lead you to wrong doing; then you must confess; you will be understood and you will have learned your lesson. (Categ. 6+)
- Story 7: As with individuals, so with nations; evil men seeking ever greater power, strike at last. (Categ. 1+)
- Story 8: But one can heal as well as harm, if one makes up one's mind to do so. (Categ. 2+)
- Story 10: If you give in to evil desires, you may get into trouble and it will be a long time before you return to your loved ones. (Categ. 6+)
- Story 12: But if you are over-confident, you will be the loser. (Categ. 2+)
- Story 14: And without forethought, your plans will backfire. (Categ. 2+)
- Story 16: Even after defeat, you can still hope; but sometimes one's hopes are completely crushed. (Categ. 2-)
- Combina- People won't believe there is an end to hope and
tion: so they perish. (Categ. 4-)
- Story 11: But in the end God will halt His Wrath. (Categ. 6+)
- Story 19: For God does hear our prayers. (Categ. 6+)

Categ. Score: 12+2-

Sequential Analysis: This subject faces his problems squarely (#1, 2, 6, 7, 10, 16). He emphasizes forethought (#10, 14) and the dangers of over-confidence (#12). He reveals solid ethical principles and

strength of mind and character in stories 4, 5, 6, 8, 10. Success may mean separation, but he is willing to pay the price (#5); ambition and serious thinking are the key to success (#8). He shows a keen sense of humor in story 12.

Inference: As a result of the above motivational characteristics revealed by this "Sequential Analysis" this candidate was accurately judged as high achiever.

Step II - Formulation of an Objective Scoring System

On the basis of a global Sequential Analysis, such as we have demonstrated above, we made our prediction of High and Low Achievers. We accurately predicted sixteen out of twenty pairs (80%) by this method. Now the next step was to refine the method by examining more thoroughly our reason for classifying an individual as a High or Low Achiever. Re-examining our forty "Sequential Analyses", it was quite apparent that the total sequence of story-meanings reflected motivational characteristics. The sequence analysis revealed either definite positive, constructive attitudes or negative, destructive or apathetic attitudes. Breaking this down further we found that these positive and negative attitudes were expressed in six definite areas: 1) attitudes towards people; 2) attitudes toward success; 3) attitudes towards a problem; 4) attitudes towards uncontrollable external forces; 5) attitudes of self-reliance; 6) attitudes towards duties and obligations. It is to be particularly noted that these areas were not pre-selected or chosen by the experimenter; positive and negative attitudes in these areas clearly "emerged" from a careful examination of the "Sequential

Analysis" of the five hundred and twenty stories used in this preliminary study. We called these areas: categories. In order to objectify the exact limits of each category, we have defined each one extensively. In refining our categories, we have adhered almost completely to the words and phrases found in the "Sequential Analysis" and frequently in the very stories themselves.

We now proceed with a description of the categories. These categories may be tested on the two cases given previously in this chapter, where we marked the category opposite each story.

Description of the Categories

Category #1 - Attitude Towards Others

Does the meaning of the story, as revealed in "Sequential Analysis", primarily reflect his attitude towards others? If so, is it a well-adjusted, helpful, constructive attitude towards others (positive) or it is a mal-adjusted, hostile, disparaging attitude towards others (negative). Thus, if the Sequential Analysis reveals primarily how he relates to other people, we classify the story in one of the following categories:

Negative Attitude Towards Others:	disparaging or resentful, distrustful towards others; indifferent towards the feelings or sufferings of others, gloating over their ill-fortune; shallow in his feelings towards others; revengeful; unjust anger towards others; timid and fearful of others; always misunderstood by others.
Positive Attitude Towards Others:	in general, he relates well to people; has reasonable trust and confidence in his fellow man; sympathy for

the sufferings of others; is grateful for the help of others; has co-operative and constructive relationships with others.

Category #2 - Attitudes Towards Work and Success

Does the story talk about work and achievement? Does the "Sequential Analysis" of the story reveal success or does it show failure and why? If the story essentially shows in its "Sequence Analysis" a striving or accomplishing, we can place it in one or the other of the following attitudes:

Negative Attitudes Towards Success: failure despite legitimate efforts; just gives up, doesn't try; success comes by luck or accident or through external circumstances; success is not worth working for; hard work is for fools; just day-dreams of success.

Positive Attitudes Towards Success: success comes through one's own effort and sacrifices; success comes through planning and by having legitimate goals and aspirations; a sincere interest is shown in work and achieving; tenacity and perseverance despite failure; recognition that failure resulted through his own lack of effort; learning from the failures of others.

Category #3 - Problem Category

The Sequential Analysis of the story definitely indicates that the subject is wrestling with a problem. This method of analysis not only shows up (often vividly) that the individual has a problem, but how he intends to handle it and what are the possible solutions.

**Negative Attitudes
Towards His Problem:**

the problem is overwhelming; there is no solution; no escape; or he proposes an irrational, criminal or fantastic solution to his problem, doesn't want to face his problem; just escape from it; just hopes everything will turn out all right; all is fear and worry; just wants to forget his problem, tells himself he is imagining it; remorse, guilt and fear, with no constructive attitudes towards the problem.

**Positive Attitudes
Towards His Problem:**

rational recognition and analysis of a problem; obstacles are overcome; strives to solve his problem in a realistic and rational manner; shows a tolerance of the stress and worry connected with the problem; asks for help from legitimate sources (parents, teachers, counsellors); accepts reasonable responsibility for the problem and its solution.

Category #4 - Attitudes Towards Uncontrollable External Forces

The essence of the story is the influence of external forces in his life, such as fate, calamities, etc. Such stories sometimes indicate his basic philosophic attitude towards life.

**Negative Attitudes
Towards Uncontrol-
lable Forces:**

pessimistic, relentless, cruel inevitable fate; blames these external forces for all his woes; no use in trying; morbid fear of death, the devil, the elements, etc.; a weak-kneed resignation to the inevitable, often using resignation as an excuse for his own weakness and lack of trying; life is guided solely by fate,

life is unreal, a dream; death is the end of everything.

**Positive Attitudes
Towards Uncontrol-
lable Forces:**

optimistic, hopeful in the face of these forces; fitting death, calamities, losses, etc. into a total optimistic outlook on life; an acceptance of the inevitable, without being overwhelmed by it.

Category #5 - Attitudes of Self-Reliance

Essentially the story reflects his attitude towards those upon whom he is dependent. Actually, this category could be subsumed under category 1 or category 6. However, since all the subjects of this study are young men between the ages of seventeen and nineteen, their attitudes of dependency are frequently an important area of difficulty, hence we constructed a special category of "attitudes towards self-reliance".

**Negative Attitudes
of Self-Reliance:**

1. There is unreasonable dependence ("momism"); he is pampered; an over-dependency for the sake of the ease and joys it brings; submits to domination; frequently expressed by a desire for the comforts of home and Momma rather than the responsibilities of marriage.
2. There is unreasonable independence: usually expressed by rebellion; it is smart to disobey or ridicule one's parents or elders; rebellion against legitimate discipline (at home, or in school, etc.)

**Positive Attitudes
of Self-Reliance:**

1. Reasonable dependence: recognition of the need and advantages of legitimate dependency; it is wise to follow the advice of parents or elders, we need their help at times; immoderate independence or rebellion brings punishment; moderate degree of homesickness, responsibility for aged parents, etc.
2. Reasonable independence: justifiable assertiveness and responsibility in decisions involving marriage, vocation, etc.; suffering pain or loss for the sake of justifiable independence.

Category #6 - Attitudes Towards Duties and Obligations

The story essentially reflects the subject's attitude towards certain obligations he feels he should fulfill or wishes he did not have to fulfill. Apart from religious beliefs, every normal human being feels some obligations towards himself, towards society and towards God.

**Negative Attitudes
Towards Duties and
Obligations:**

commits or justifies criminal acts; ridicules or punishes those who do good; fool-hardiness; thrill-seeking; defending evil or evil-companions; recognizably not doing his duty through weakness, fear or negligence, guilt or remorse without an attempt to make amends.

**Positive Attitudes
Towards Duties and
Obligations:**

recognition and acceptance or responsibilities according to one's age and position in life; doing the just or prudent thing; just punishment for the commission of crime or the deliberate neglect of one's duties;

guilt and remorse for the past with an attempt to make amends or do right in the future; justice triumphs; evil or crime sometimes may go unpunished (for realistic reasons) but it is clearly pointed out that it is evil or criminal.

With this extensive and objective description of the categories it was found that each story could be usually very easily placed in one (and only one) category. It was further found that the dichotomy of positive and negative clearly differentiated High and Low Achievers. High Achievers earned more positive than negative scores, while Low Achievers earned more negative than positive. Three separate judges evaluating stories in terms of this positive-negative dichotomy gave the same judgments in approximately ninety-seven percent of the five hundred and twenty stories. Now instead of a general intuitive or clinical judgment, our method was yielding an objective judgment that could be statistically verified.

Thus we came to our final step in this Pilot Study, namely, the testing of our objective scoring system by a statistical analysis.

Step III - Results of the Statistical Analysis of the Categories

We are indebted to H. Rimoldi for his suggestions in the arranging and analysis of our data.

Each story of each candidate was assigned either positively or negatively to a definite category. The summation of this data is to be found in the following table:

TABLE I

Number of Stories Assigned to Different Categories of
High & Low Achievers

	I	II	III	IV	V	VI		
	Attitude Towards Others	Attitude Towards Work & Success	Attitude Towards a Problem	Attitude Towards External Forces	Attitudes Toward Self- Reliance	Attitudes Towards Duties & Obl.		
							<u>Total</u>	<u>Mean.</u>
Positive Attitudes	27	56	14	22	30	48	197	9.85*
Negative Attitudes	10	9	18	12	11	3	63	3.15*
Total # of Ach. stories	37	65	32	34	41	51	260	
%age in ea. categ.	14%	25%	12%	13%	16%	20%	100%	
<hr/>								
Positive Attitudes	10	12	2	5	12	16	57	2.85**
Negative Attitudes	38	42	57	23	28	15	203	10.15**
Total # of Ach. stories	48	54	59	28	40	31	260	
%age in ea. categ.	19%	21%	22%	11%	15%	12%	100%	

* Thus High Achievers averaged approximately ten positive stories and only three negative stories.

** While Low Achievers averaged only three stories indicative of positive attitudes and ten stories indicating negative attitudes.

Even a cursory examination of the above table reveals that High Achievers score predominantly in the positive-attitude column and Low Achievers predominantly in the negative-attitude column. In every single category the number of negative stories far exceeded the number of positive stories for Low Achievers (except Attitudes Towards Duties and Obligations in which they told almost an equal number of positive and negative stories). High Achievers used every single category predominantly in a positive manner (except Attitudes Towards a Problem, which reveals an almost equal number of positive and negative stories).

What obviously stands out in this table is the clear differentiation of High and Low Achievers by their use of positive (for High Achievers) and negative (for Low Achievers) categories. Applying an Analysis of Variance to the total of Positive and Negative stories (the second last column in Table I) we got an $F=50.38$. An $F=4.06$ would be significant at the .01 level of confidence.

This statistically significant use of positive categories by High Achievers and negative categories by Low Achievers reveals that we now have an objective scoring system which clearly differentiates between High and Low Achievers.

Now our next step is to test this scoring system on another group of High and Low Achievers. That is the purpose of our next chapter.

CHAPTER VI

THE PREDICTION STUDY:

BY MEANS OF THE SCORING SYSTEM BASED ON T.A.T.

SEQUENTIAL ANALYSIS

As a result of the Pilot Study, T.A.T. Sequential Analysis had yielded an objective scoring system that had definitely indicated the difference between High and Low Achievers among the group used in the Pilot Study. Now the next step was to test it on another group from the same population. The test we set for ourselves was to predict on the basis of the T.A.T. categories alone who would be High and who would be Low Achievers in the second sample. Thus successful prediction became the criterion for the validity of the categories derived by means of T.A.T. Sequential Analysis.

The basic data was the remaining forty cases; twenty from Chicago and twenty from Kansas City. There was a slight difference in our handling of our basic data in this prediction study. In our Pilot Study we knew the pairs, i.e., we knew which case belonged to which pair and occasionally in doubtful cases this clue was valuable in deciding which member of a pair would be High or Low. To strengthen the "controls" and make prediction depend entirely on the categorical scoring system, we "scrambled" the pairs. Thus, we had no idea who were High Achievers or who were Low Achievers, nor even whether a given case was a member of a definite pair. This left the

prediction dependent solely on the scoring system and thus our hypothesis was:

On the basis of his T.A.T. Sequential Analysis, a High Achiever will have more positive stories than negative and a Low Achiever will have more negative than positive.

On the basis of this hypothesis, we made our predictions in each case. Our procedure, which is almost obvious from our Pilot Study, was:

1. to do a Sequential Analysis of each of the forty cases;
2. classify each story on the basis of its Sequential Analysis in a definite positive or negative category;
3. make a prediction in each case according to number of algebraic signs; those that had more positive stories than negative would be predicted as High Achievers and those with the opposite ratio as Low Achievers.

Results

Following this procedure, we made forty individual predictions. In thirty-nine out of forty cases our predictions were correct. Thus our prediction was 95% correct on the basis of the scoring system derived from T.A.T. Sequential Analysis. Actually testing the significance of predicting thirty-nine out of forty cases (when chance-prediction is 20-20) gives a Chi Square of 36.11, which is significant far beyond the .01 level of confidence.

The single case inaccurately predicted as a Low Achiever when in reality he was a High Achiever can be found in Appendix 3. This case was submitted

to three independent judges (one a psychiatrist); all put him down as a Low Achiever and the comments varied from "definite schizophrenic" to the "obvious presence of a full-blown delusional system." Thus the T.A.T. definitely revealed a serious mental disturbance. Apparently when the T.A.T. Sequential Analysis shows a fully developed clinical syndrome no prediction of achievement should be attempted.

Finally, testing our hypothesis on the whole eighty cases, we obtained the following differences between High and Low Achievers:

TABLE II

Significance of Positive and Negative Stories
of High and Low Achievers

	<u>Positive Stories</u>	<u>Negative Stories</u>	
High Achievers	392	128	9.84
Low Achievers	128	392	11.88
	11.69	10.88	t ratios

Obviously, all the "t" ratios in this table were significant at better than the .01 level of confidence, as also was an $F=42.65$. Thus the positive and negative dichotomy clearly differentiated the group and also held up in differentiating individuals in thirty-nine out of forty cases.

Thus we verified the major hypothesis of this experiment; but, as pointed out above, a logical by-product (which could easily be the principal aim in other studies) would be a personality description of the groups involved. A careful analysis of such extensively defined categories (which

proved so clearly differentiating) should give us a rather accurate description of the motivational characteristics of a High Achiever as differentiated from a Low Achiever.

CHAPTER VII

AN ANALYSIS OF THE CATEGORIES TO DETERMINE PERSONALITY CHARACTERISTICS OF HIGH AND LOW ACHIEVERS

In order to obtain the largest number of category-differences we pooled all our data. Thus the following table includes all eighty cases, representing 1040 T.A.T. stories.

TABLE III

Categorical Differentiation of High and Low AchieversHigh Ach.

Attitude Towards:	Others		Success		A Problem		Ext. Forces		Self-Reli.		Duties & Obligs.	
	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.
No. of stories	61	24	86	16	48	50	38	14	55	11	105	13
"t" ratio	<u>4.00</u>		<u>5.30</u>		0.15*		<u>2.86</u>		<u>5.24</u>		<u>22.35</u>	
% of all stories	16%		20%		19%		10%		13%		22%	

Low Ach.

Attitude Towards:	Others		Success		A Problem		Ext. Forces		Self-Reli.		Duties & Obligs.	
	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.
No. of stories	24	61	22	76	21	154	6	28	22	49	32	25
"t" ratio	<u>3.91</u>		<u>5.19</u>		<u>7.88</u>		<u>3.05</u>		<u>2.59</u>		0.95*	
% of all stories	16%		19%		34%		6%		14%		11%	

*A "t" = 2.58 is significant at the .01 level of confidence; therefore, except for the two "t" ratios marked with an asterisk, all the others are significant at the .01 level of confidence.

In making our predictions, we showed that individuals could be differentiated into High and Low Achievers according to the number of positive and negative stories present. In Table II, we showed how this dichotomy clearly differentiated the two groups. Now here in Table III, in the comparison of categories, we again have a further proof of the strength of this criterion of positive and negative differences. All High Achievers scored in every category but one with a statistically significant number of positive stories; all Low Achievers scored in every category but one with a statistically significant number of negative stories. (The one category that was not significant in each group will be discussed later when studying the individual categories.)

Remembering that the categories were defined as often as possible in the very terms of the Sequential Analysis and frequently the very words of the story, obviously they should give quite a clear picture of the true attitudes of the story-teller. It is in the light of this premise -- that we have tapped the true and significant attitudes of the story-teller -- that we draw the following deductions from the above Table.

The statistical results of the categories allow a two-fold analysis:

- a) by individual categories
- b) by a study of the overall categorical picture.

a. Discussion of the Individual Categories

I. Attitudes towards people: as defined previously, this primarily reflects how the subject relates to people. Does he relate negatively towards people: "disparaging or resentful towards others," "gloating over

their ill fortune," "timid and fearful," "misunderstood by others," etc. Or, does he react positively towards people: "reasonable trust and confidence in his fellow-man," "co-operative and constructive relationships with others," "grateful for the help of others," etc.

With this picture in mind, we find that both High and Low Achievers used this category equally: 16% of the time. - But, High Achievers have constructive attitudes in their relationship with others; whereas Low Achievers show a predominantly negative attitude towards others, sometimes even to the point of cynicism. (Actually, "a cynical attitude" was one of the first we isolated in our "Pilot-Study," but further reflection showed that this cynicism was primarily a strongly negative attitude towards other persons.)

Thus, at a statistically significant level, High and Low Achievers can be differentiated according to their attitudes towards others.

II. Attitudes towards success: this category was not limited to academic success or failure but was broadened to include success in life, sports or any other field, as long as the "Sequential Analysis" revealed an attitude of success or failure.

Again, both High and Low Achievers used this category with almost equal frequency. But High Achievers showed success "coming through one's own effort and sacrifice," with "planning, aspirations and clear-cut goals" as an essential component of success; but Low Achievers considered a person successful, "if he is lucky;" but "success is easily lost," and "failure is definitely spoken of."

These quite opposite attitudes differentiated the groups well beyond the .01 level of confidence.

III. Attitude towards a problem: "Sequential Analysis" quickly and easily reveals the presence of a problem. (That is one of its major advantages as a clinical technique.) Although the presence of a problem is easily revealed, the exact nature of the problem often cannot be accurately determined by a "blind" T.A.T. analysis. However, the subject's attitude toward his problem will be indicated.

In our present study, Low Achievers showed much more pre-occupation with problems (34%) as compared with High Achievers (19%). Further, Low Achievers showed a significantly negative attitude towards problems and their solution; while High Achievers were able to handle some problems but not others. Perhaps the negative attitude of High Achievers could be accounted for

a) by the fact that problems in the process of being solved show up as negative attitudes. Sometimes High Achievers show negative attitudes towards problems until the last few stories when frequently a positive constructive solution appears.

or

b) by the age of the group involved (teen-agers on the verge of manhood) which might lead us to expect a respectable number of unsolved and difficult problems which might be revealed in negative attitudes.

At any rate, Low Achievers could be differentiated by their large number of problems and their significantly negative attitudes towards these problems. High Achievers had significantly fewer problems, but the difference in number

of their positive and negative attitudes was not statistically significant.

IV. Attitudes towards external forces: This category reflects one's outlook towards uncontrollable forces in our life (death, calamities, sickness, etc.). Such situations reflect what might be called a person's philosophy of life. Since this study involved a fairly young group of people, evidently these attitudes had not been strongly formed as yet. It was the least used of all the categories; High Achievers using it somewhat more frequently than Low Achievers (10% and 6% respectively).

However, High Achievers had a more "optimistic and hopeful attitude" significantly more often than when faced with uncontrollable forces; while Low Achievers were "pessimistic...and morbid" and used these situations as "an excuse for their own weaknesses and lack of trying." Likewise this difference of attitudes significantly differentiated each group beyond the .01 level of confidence.

V. Attitudes of self-reliance: Essentially this category is "reflecting the person's attitude toward those upon whom he is dependent" and since our group involves young men who are reaching early manhood (ages seventeen to nineteen), the principal problem here is the relationship to home and parents and marriage. Both groups used this category almost equally often, but revealed significantly different attitudes. Over-dependence on the parents, or its opposite "unreasonable independence" frequently amounting to rebellion against all authority characterized Low Achievers; while High Achievers revealed a reasonable recognition of parental rights and their own need for discipline yet at the same time a consciousness of bearing the responsibility when they make their own decisions.

Basically, this category truly distinguished the men from the boys. High Achievers with statistical significance showed mature attitudes toward parents, home and marriage; while Low Achievers showed exactly the opposite traits characteristic of the immature adolescent.

VI. Attitudes towards duties and obligations: This category (like the problem category) differentiated the two groups quite clearly by the number of stories relating to this category. High Achievers made use of this category 22% of the time; Low Achievers only 11%. Thus High Achievers seem quite conscious of their Duties and Obligations towards themselves, toward society and toward God. Low Achievers do not refer to this area nearly as often.

As would be expected, since all the subjects were in Catholic colleges, even Low Achievers gave more stories of Positive attitudes towards duties and obligations than they did Negative stories (though the difference was not significant). The criterion of Positive and Negative stories was not significant for Low Achievers but the small number of times they used this category was significant; while for High Achievers it was the most used category of all and had the highest statistical significance of either group.

Since this is a rather piece-meal view of the personality differences between High and Low Achievers, it seems desirable to study an overall view of the personality picture presented by the categories.

Discussion of the Over-All Category Picture

Taking the categories one by one gives us a rather clear differentiation of our two groups, but it is in fragments. Using a more holistic approach,

we should be able to get a picture of what characterizes a High Achiever as differentiated from a Low Achiever.

The High Achiever as shown in this study is a quite mature personality (categ. 4) who is deeply conscious of his duties and obligations (categ. 6). He relates well to others, showing a reasonable trust and confidence in his fellow-man (categ. 1); this he carries over in his relationships to parents and other authority figures (categ. 5). He wants success and is aware that he must work to achieve it; he is conscious of his responsibility for failures (categ. 2). He is not overwhelmed with problems and seems to endeavor to find constructive solutions but explores negative or unsatisfactory ones as well (categ. 3).

In general, the High Achiever seems to be a well-rounded personality with strong positive attitudes towards life and a strong realization of duties and obligations.

The Low Achiever, as shown in this study, seems to be overburdened with problems (categ. 3). These problems are overwhelming and insoluble. He has difficulties in relating to people (categ. 1) and this attitude is carried over into family relationships (categ. 5); it may even reach the point of external rebellion or a deeply cynical attitude of mind. He is conscious of failure (categ. 2) but seldom blames himself for it. He is but slightly influenced by any philosophy of life (categ. 4) and seldom approaches life or its problems from the standpoint of duties or obligations (categ. 6).

In general, the Low Achiever seems to be an immature personality, deeply immersed in insoluble problems, with little consciousness of his duties and obligations.

CHAPTER VIII

SUMMARY AND CONCLUSION

The primary purpose of this study is a new T.A.T. technique, called "Sequential Analysis". This method, first introduced by Arnold (3, 4), proved very valuable as a clinical instrument. In this study the individual personality assessments yielded by "Sequential Analysis" were defined according to objective categories. These categories were then used for predictive purposes. The value of "Sequential Analysis" was then judged on its merits as a predictive technique.

As the "Review of the Literature" (Chap. II) showed, previous methods of T.A.T. analysis had not fared well in predictive studies. Guilford (16, P. 363) has pointed out that "prediction is one of the most exacting tests of any hypothesis". Would a "blind" analysis of a large number of T.A.T.'s by "Sequential Analysis" yield a significantly high prediction or not? Such was the problem and such the criterion?

The basic data were two groups of High School Seniors: forty subjects from Kansas City and forty from Chicago. Each group was paired on the basis of I.Q. scores and differentiated as High Achievers and Low Achievers. Achievement was based on standing in the upper-third of the class for six semesters or the lower-third of the class for six semesters.

The procedure consisted in a) a pilot study, and b) a predictive study based on the categories determined in the pilot study.

In the pilot study, twenty cases were selected randomly from each group and subjected to a T.A.T. Sequential Analysis. This method involves a story summary, which recapitulates the significant meaning of the story. When these story summaries are put down in order, the sequence will give an accurate subjective picture of the individual's life situation and motivational principles. The reasoning behind this is that story-telling is primarily a function of man's "free fantasy" and, as Carl Jung (21, P. 66) points out, when man's imagination is given free rein it will explore one's problems and their possible solutions and the picture it portrays will be accurate. Thus the sequence of story summaries gives us a picture of the subject's life-situation and problems and also how he intends to face life and solve these problems; thus revealing a hierarchy of motivational principles. It can readily be seen how T.A.T. "Sequential Analysis" would yield extremely valuable data for clinical purposes. The principle function of the pilot study was to reduce these individual personality assessments, yielded by "Sequential Analysis", to an objective form that could be scored, subjected to statistical analysis and given ratings that could be used for prediction. This pilot study resulted in the formation of six categories. Each category was dichotomized into positive and negative attitudes. Three separate judges reached ninety-seven percent agreement in their ratings of positive and negative attitudes. The use made by subjects of the individual categories was not nearly so significant as their use of positive and negative categories, which differentiated the two groups far beyond the .01 level of confidence.

As a result of our pilot study, a hypothesis was set up that High Achievers would yield significantly more positive scores than negative (and vice-versa for Low Achievers) when their T.A.T.'s were subjected to "Sequential Analysis". Testing our hypothesis on the remaining forty cases, thirty-nine were accurately predicted. T.A.T. "Sequential Analysis" therefore fulfilled the criterion of prediction.

By carefully analyzing the description of the categories, individually and globally, a very detailed personality description could be given of a High and Low Achiever. Although this personality description was merely a by-product in this particular study, it points up how valuable "Sequential Analysis" could be for investigating group personality characteristics.

By refining T.A.T. "Sequential Analysis" to a sufficient degree of objectivity that it could be used for a statistical study, we have attempted to demonstrate how a clinical technique can be used as a research instrument. Using "Sequential Analysis" as a research method we have attempted to show that it reveals group motivational characteristics. If this be so, then T.A.T. "Sequential Analysis" can fulfill an important role in differentiating groups at a motivational level. It could be a valuable part of a battery of tests for college entrants and a consequent longitudinal study could determine its predictive value. This method is even now being used in research to differentiate good and poor teachers (S.M. Innocentia, unfinished doctoral dissertation, Loyola University). The number of situations where a method with such predictive value is applicable, seems almost limitless. Thus, it

is hoped, that further research will confirm the function of this study, namely, that T.A.T. "Sequential Analysis" is not simply a subjective clinical technique but an objective research instrument that will appreciably enhance the psychological arsenal of group investigative methods.

APPENDIX I

Case #1

1. This is the story of a young boy who has just received his first violin from his parents. At the moment it is late at night and he is sitting in his bedroom alone at his desk. He is dreaming of what a great success he will be in later life as a great violinist with the St. Louis Symphony Orchestra. On his desk in front of him is setting the new violin which has been given him. It is a beautiful instrument, having a soft and mellow tone.

From this day forth the boy practices very hard and gradually works his way up from a student of music to a great solo violinist.

On the day before he is supposed to give a concert for the President of the U.S. his violin is broken and strange as it seems, without that violin he never is able to play well again and soon dies of the shock of not being able to master the instrument as he did when his own violin was present.

2. Dolores, (the girl in the picture) is a young farm girl who lives a very ordinary life in which nothing of any interest ever happens. She is made (to) work hard on her parents' farm and the only time that she is ever allowed to see other girls and boys of her own age is when she goes to the country school a few miles down the road. At the school she sees magazines with pictures of the fancy, care-free life in the city and decides that she too will someday take part in that. One day for breaking a dish she is punished severely by her parents and runs away from home. She decides to hop a freight and ride to the Big City. A little while later she arrives at the railroad tracks and starts to hop a freight. As she jumps for the car her hand slips and she is ground beneath the wheels of the car. The moral of the story is we should not try to be something we are not.

4. As Mrs. John Smith comes home one night she finds her husband in the small apartment with another woman. She immediately asks him what he is doing in the apartment and he just looks at her and laughs. She demands to know just what he is thinking about and still he gives her no answer. Disgusted she leaves the apartment and starts walking down the street. As she is about a block away from the building, there is a sudden explosion and the structure is completely destroyed, killing all people in it. It was a fitting end to her husband.

5. This is the story of how some of the grade school teachers try to catch their pupils in the act of doing something wrong. Mrs. Flatwheel is just sneaking into her classroom by way of the door. Just as she steps inside, there is a whizzing sound and a sharp clang as her flower vase is knocked on the floor by a flying eraser. She immediately demands to know who flung the eraser and nobody answers. However, she has a good idea who has done it, and she walks over to the desk next to the window and grabs the young man sitting in it and begins shaking him vigorously. Just then there is a bank robber coming down the street having a running gun battle with two cops hot on his trail. One of the stray bullets goes through the window, and striking the teacher in the head kills her. It all goes to show that curiosity killed the cat.

6. A mother and son are pacing their apartment at about quarter to twelve in the evening. They are wondering if the pardon sent by the governor will reach the state prison in time to save their janitor who was convicted of murder, but just an hour ago found to be innocent of the crime. The minutes tick by slowly and then the clock strikes twelve times signifying midnight. Several minutes later the phone rings and it is the warden of the prison. He informs the son that the janitor had tried to escape from prison and had been killed by the bullet of a guard just two minutes before the pardon arrived saying that he was a free man.

7BM. Here is one of the funniest stories I have ever heard about. J. P. Lucy, a man of about seventy years of age, and Charles Sewell, a young man, are partners in a law firm. Several years ago they were notified that the firm was left a total of eight million dollars to be divided between the partners. However, both men being greedy, they didn't want to split the money two ways. They immediately begin thinking of ways to kill each other, making it look accidental. Lucy, the older man has a heart condition and takes pills to help his disease. However, too many of these would kill him. The next morning as Lucy comes in, Sewell has the pills waiting for him dissolved in a glass of water. But instead of one pill there are ten in the glass. Lucy starts to take them, but sees Sewell leaning out the window looking at a passing parade and steps over behind him and shoves him out the window and down fifteen stories to his death. Lucy then finishes his medicine and waits for the police to arrive. When they arrive, they find him dead.

8BM. It is a dark stormy night aboard the submarine S-37 and all eyes are focused on the state room of the captain. A man, belonging to the crew has had a sudden attack of appendicitis and since there is no doctor aboard the ship, the captain is the only one left to operate. The operation goes on with only the captain, his first mate and the brother of the ship-member, a secret service agent, looking on. After three hours the operation is finished and the life of the sailor is saved. Inspired by this feat of surgery the captain, upon landing back in the U.S. leaves the navy and attends medical school to become of the world's greatest surgeons, Dr. Slashes.

10. A soap box derby car rolls down a hill and across a railroad track right into the path of an oncoming train. The car belongs to a little child and he was in it when the accident occurred. The mother was on the porch when it occurred and is now being comforted by her husband. As the train passes on and people start to examine the mass of splinters, once the car, there is a movement from under the wreckage and it is discovered that the child is alive. When the car hit the rails, the bottom fell out and the child was saved from death when he fell between the ties of the track. This child, who was almost killed in a soap box derby, later went on to become champion soap box racer in the country by winning the national final at Akron, Ohio.

12. The strange Mr. Eyeballs had an uncanny power of hypnotizing any person he came in contact with. One day he devised a plan for getting rich. He was the gardener for the multi-billionaire Earl Pearl and came in contact with Pearl's young son, Earl, Jr. quite often. On finding Earl, Jr. asleep in the house one day he hypnotized him and commanded him to steal the vast sums of money of Mr. Pearl. The cash was kept in a cookie jar in Pearl's room and so it was very easy for the son to get the money. As he came walking out to the garden with the cash, since he was in a trance, he did not notice the well in front of him. He slipped and fell dropping the cash in the well. Since he did not know he had the money and the gardener wasn't around at the time, it was lost forever.

14. George Burke lived all alone in the third story of a lonely old house. He never saw any companions and his constant loneliness was driving him crazy. Hours on end he would see no one and finally as a last resort jumped out the window of his room and committed suicide. The next day his parents had planned to let him out and associate with others. A tragic end to a tragic figure.

16. The class of 2B has a history teacher who sometimes cannot come to class for some reason or other. When he is not there a certain Greek and speech teacher teaches them instead. The boy thinks he is pretty rugged, but still everyone gets away with murder with him. The usual sight that greets the class when they begin to mess around and cut up is this certain teacher, trying to look very dignified and tough, saying his famous last words, "Gentlemen, there will be no more of this now or in the future in any class taught by me whether it be speech or history." The boys sit there and laugh at this queer individual. But somehow he manages to give out a 2500 word jug now and then. This is unliked by the boys and shall be stopped in the future. The stopper is the fact that this teacher has a little brother coming to St. Louis U in the future and if our teacher wants him to stay healthy there won't be any more of these jugs. The mill wheels of the sox grind exceedingly small.

17. (Combination of all cards) A teacher steps into the classroom of 2B and breaks the sleepy atmosphere by calling out the names of ten or fifteen boys. We then see these boys sitting in a classroom, puzzled look on their faces as they rack their brains to think up some story which will fit the cards which have pictures of the dullest things imaginable on them. The poor boys feel miserable and can't think straight because the brains are so muddled up with different pictures of the different cards. About the only outcome of the things, at least for them, is a writing hand that probably will never be the same for the rest of their days.

19. A boy, by the name of Virgil Smith, comes blithely skipping into the classroom of a well-known high school. In his hands are five bottles of ink, each bottle a different color ink. Suddenly, a foot comes out from under a desk and goes between the feet of Virgil. Virgil falls forward and the ink bottles fly, Smack! Five ink bottles broken in the room, having a twisted sense of humor, think it is pretty funny and begin laughing. But the teacher doesn't think it is funny and grabs the instigator of the foul deed and puts him to the hard labor of a 3000 word jug. It all goes to prove that crime does not pay.

20. The time is dusk on the planet Mars. Commander Buzz Corey of the Space Patrol has been left by a villainous pirate to die. In the undergrowth behind him, Buzz finds a dusk-like creature following him with a hungry look. The thing is about thirty feet high and has little red feet. Instantly Buzz begins to run, with the creature in hot pursuit. They run for what seems like hours to Buzz. Suddenly in front of him, Corey sees another monster of about the same size but looking somewhat like an oversized cockroach. Ducking to the side he sees the two monsters clash head on in a fight to the death. He runs across a bridge and sets up a makeshift range finder which he uses to contact earth. A short time later, he is picked up and learns that the space pirate has been captured.

APPENDIX II

Case #14

1. It is in the year 1923; the place is Vienna, Austria. An old violin maker Frank Mafski wends his way home after a hard day's work. Franz has been working this way for many years now, ever since he was a small boy. He is troubled now, the state of Austria is in chaos. Every day he lives in fear of the revolutionaries. He knows that every nationalist, every Catholic is in danger. A few years later his small son looks over an old violin; it was his father's. He vaguely remembers his father. He was a small boy when his father was killed. He is thinking of some way to avenge his father's death.

2. It is in the early days of the West about 1873. John Russell, his wife and daughter have been on the homestead three years now. When they first arrived they had dreams of a beautiful farm, home and productive fields. Each year the sun seems to have gotten hotter and the land drier. The crops aren't as good as they used to be. John is finding it harder and harder to support his small family. Now out in their field they are all thinking, wondering, asking God why he has done this to them. They are also hoping that their land will regain its productivity, but their hopes are in vain for in the coming months the situation grows worse. They give up(in) and join a wagon train to California where they find a home in the peaceful San Joachim Valley.

4. John Miller and his wife Joyce have been living peacefully ever since John started working at the U.S. steel mills. They have a small home on the outskirts of Pittsburgh. All was happy in this small family until one day a new worker at the plant had started poisoning the minds of his fellow workers with Communist propaganda. Many had listened to him but not John. Now his wife knows there is something wrong at the plant. She asks John but he says nothing. In a few days it is reported that a Communist inspired riot had broken out.

5. Little Joe has always wanted to be a sailor. As a boy his uncle had told him fantastic stories of the sea battles of the first world war. As he grew older, Joe heard more and more about war and the Navy. Now he had his chance. Joe, just nineteen, had enlisted in the Navy. His fond mother now looks forlornly at his empty room, still remembering Joe's happy boyhood days. Where is Joe now? For the past three months Joe has not written home. The last his parents had heard of him was that he was embarking on some secret mission. Day after day, there was no word. Then, one Sunday night a telegram from San Francisco. Joe was coming home. He arrived.

6BM. Tom Werner was always a good kid, never hurting anyone. But a short time ago he had gotten in with some rough characters down at the shop. At first they seemed harmless enough to Tom, but soon their antics got to be no longer jokes but serious business. To have some fun at night after work they would slit tires on cars, smash windows and loot homes. The police caught up with the gang one night but Tom escaped. He felt terrible. He was going home and confess all to mom. He had a hard time breaking the news. When she had heard the story she knew her boy was innocent. At the trial a few months later, it came out that Tom was acquitted. Never again would Tom be careless in picking his companions.

7BM. The nations of the world have been at each others throats for years, ever since the end of World War II. Both Russia and her satellites as well as the Democratic peoples of the Western world had been strengthening their power at an alarming rate. The situation has now reached the crisis. Russia has attacked Yugoslavia. At the U.N. meeting at New York two delegates of the United States are discussing the situation; they are thinking of all the lives that will be lost with a third world war. They argue with the Soviet delegation but to no avail. The war has come.

8BM. Pete Taylor, now a senior in high school, is pondering over his future life. Ever since a small boy he has had the ambition to become a doctor. He thinks about his ambition often. He thinks that it would be wonderful if he could learn to save peoples lives, but he also thinks of the hardships that a doctor must endure. He recalls tales of his great grandfather, a surgeon in the Mexican war. He thinks of how in the midst of a battle he would have to remove bullets to save a man's life. He thinks for many weeks and he makes up his mind. He will be a doctor, perhaps as great as his great grandfather.

10. Bill and Mary Brown were very happy as a married couple until one year. Mary always knew Bill had faults but had paid little attention to them. One of these faults was drinking. One night Bill never came home from work. Mary called the police and they had every available man on the search but no Bill. It is three years later. Bill has returned to his wife's greatest surprise and joy. She wonders what in the world had he done since she had seen him last. It turned out that he had been shanghaied on a ship destined for trade in the East. But that is over now. Bill is home.

12. Uncle Bob always had dreams of becoming a hypnotist but had never responded to them. He had recently found a book on this subject, read it thoroughly, and decided to practice, on me. I had a plan in mind just to trick Bob. I pretended that he had really hypnotized me. He is now bending over me concentrating very hard while I just lie there in a successful effort to keep a straight face. Bob is taken. He goes right down to the neighborhood bar and promptly bets \$25 that he can hypnotize anyone of them. That night he returned home minus \$25 much to my enjoyment.

14. Adventure is what Mike is always after. Adventure! He has tried inventing numerous things but now comes the blow of the year; he is contemplating a trip to the moon. He thinks of all the glory that would be his. Imagine the first man to reach the moon. He sets out after his friend Prof. Al Lergic and they both set to work building Mike's rocket ship. In two years it was finished; they are ready for the great day. A crowd gathers, there is the tremendous roar of rockets and he's off. In only two months, and the day he reaches the moon, but finds much to his dismay that he has no fuel on which to return. Mike was first and only man to ever reach the moon.

16. It is the middle of September. The American League race is a tight one, with Boston, New York, Cleveland and the Browns in a battle for the flag. Manager Al Lopez of Cleveland stands at the mouth of the dugout at Municipal Stadium staring into the empty stands around him. He is sadly down-hearted. His beloved Indians, in first place just that morning, were knocked off twice by the battling St. Louis Browns. This means that the Hornsby-men are now two full lengths ahead of the nearest contender, Boston. He still hopes that his Indians will recover. Al's hopes are dashed upon rock, however, as the Browns go on to win the pennant and defeat the Pittsburgh Pirates (believe it or not) in the World Series.

Combinations: Jim Merson is an Astronomer, graduate of Colorado University. Working at the University, he has made a startling discovery. A large section, over 100 million times the size of the earth, has broken off of the star Arcturus in the constellation Bootes. This large piece of matter is hurtling through space at a tremendous speed toward our solar system. He is gazing into the sky, gazing at his discovery so far away and yet so close. He knows that in only five months the world will come to an abrupt end. He tries to convince people of this but they regard him as just an erratic scientist. But soon the day comes, the earth is no more.

11. Under the earth's surface, scientists have known that at some time or some place there will be the most terrific volcanic explosion in history. The day has come. In the Alps of Germany for hundreds of miles, there is nothing but fire, molten lava, and destruction. The ancient castles are demolished, people and animals are dying like flies. People the world over are praying to God that He may halt His wrath. At last the prayers are answered. The eruptions no longer blot the sky. Much of Europe has been ruined; many people have perished. But it will all gradually be rebuilt. New mountains have covered the old. God has been appeased.

19. Flood, the word does not move those who have never experienced one but to those who have, it means fear, death and misery. Floods are now striking the midwest. At Kansas City the ravaging water rises and rises. Harry and Margaret O'Brien watch from their window their neighbor's houses being swept away. Hoping and praying that their home and all their possessions will be saved. All through the night the water rises and rises; it

looks hopeless but on the sixth day after the advent of the flood, the skies clear and the sun shines once again. The river begins slowly to fall and soon all that is left is mud, dirt and filth but the O'Brien's are thankful; God has heard their prayers.

APPENDIX III

Candidate #37 High Achiever

(Mistaken as a Low Achiever -)

1. What seems to be a good idea, at first, can become so discouraging as to bring personal tragedy. 2-
(6-)
2. If you are deprived of certain pleasures for a long time, you will seek them so strongly as to bring crime and tragedy to all concerned. 6-
(3-)
3. You may have a conniving motive to start with, but circumstances can change it and everything turns out all right. 6-
(3-)
4. If you are doing wrong for a good reason, it is all right. 6-
(3-)
5. You may be quite successful in your evil ways, but if you use them on a parent, you will be caught and banished. 6-
(3-)
6. (Almost a repetition of the above story) You may almost conquer the world; but your power is rendered useless by your own parent. 3-
7. But if you only recognize the evil of your ways, you can make restitution, work hard, and become a great success. 2+
8. By ridiculously fantastic efforts, you may save others and be greatly rewarded. 3-
9. Maybe you can escape from all daily drudgery with one fantastic idea. 3-
10. One inventive idea could turn you away from crime and make you rich. 3-
11. One (even unimportant) idea can become so impressed on your mind that it will stay there forever. 3-
12. If you have money, you will get what you want and then a parent can straighten you out and all will be well. 6-

13. But getting a lot of money really won't help no matter what your life-situation is.

3-
(3+?)

14. Most important of all is to gain the respect of your friends by doing something really big.

1-

14-

1. Jim was going downtown with his mother on the bus. The bus had two decks and the top deck was bumping into branches of the trees. A violinist came into the bus, opened the window and sat down. They rode a few blocks then all of a sudden a big branch came into the window hit the man's violin case and bounced off onto his head. The violin dropped to the floor and the case snapped shut on the man's head breaking his neck. Jim retrieved the violin and then they found the man was dead. Jim kept the violin for a prize but his mother decided he should use it to take lessons. Jim was so discouraged after the first lesson that he took the new violin case that his mother bought him and closed it hard on his head breaking his neck and thereby killing himself.

2. The girl has been away at boarding school for girls for the last ten years, during this time she has never seen a boy. She finally graduates and after graduation and a few parties where she gets her first glimpse of the outside world she returns home to the farm and her mother. During the time she was gone her mother has employed a man to plow the fields and do odd jobs for her. She falls in love with the man the first time she sees him and immediately goes after him. He is not interested in her and keeps doing his work as if no change has taken place. Finally her mother talks to the man and threatens to fire him and kill him if he doesn't marry her daughter. He has no other choice and after killing the mother marries the girl.

4. The girl has worked in a night club as a singer for a few years and has met some of the toughest characters in the big city. The man, a farm boy who has just inherited a million dollars has come to the city to have a good time. The girl recognizes a good catch and she rents an apartment and buys a picture of a soldier. Pretending to be a war-widow who badly needs a companion she invites him to her "house". She tries to win him and his resistance is getting lower and lower and he is about to consent to marry her when his lawyer calls and tells him there was a mistake about the million dollars. The girl alarmed starts to jump out the window. Running down the six flights of stairs he arrives on the sidewalk just in time to catch her. She is grateful and they fall in love and marry and return to the farm.

5. Mother goes to her drawer and finds that ten dollars are missing. She looks all around the house for a week for the money. After a while she decides that maybe she overlooked it in her drawer. She goes back and finds three dollars of it. At the end of the next week she looks again and over half the money is back. She begins to expect that someone in her family took the money. On the Saturday before Mother's Day she again looks in her drawer and there she finds all the money. The next morning she walks into the living room and finds a large vase with flowers in it. She is overjoyed but she doesn't see any note explaining who they are from. Just then her ten-year-old son comes in and tells her the flowers are from him and that he took the money to buy it and regained it by doing odd jobs.

6BM. The man has run away from home at the age of eighteen. He has been gone for twenty years and nobody knows where he is. After he ran away he changed his name to Kelly the Killer. He started robbing people and killing cops at the age of nineteen. He pulled his first job in a small town grocery store and robbed the man of fifty dollars. It didn't last very long and he kept stealing after five years he was the most wanted criminal in the country. He had made 120 successful holdups including the Statue of Liberty, ten million dollars from Rockefeller and Fort Knox. On hearing that his mother had just inherited the ground on which the city of New York stands he went home to steal the little papers but his mother caught him and had a long talk with him and then sent him to hide in darkest Africa.

7BM. The young man is the son of the world's greatest inventor, the older man. Ever since he was a small boy he had been tinkering with parts of unsuccessful inventions. He had saved many of them until it became necessary to rent the Empire State Building for housing his wires, bolts, screws, and nuts. His father was alarmed by this and sent him on a trip to Europe. He took all his equipment with him and made a large army of robots. He started to conquer the world, country by country. He is now conqueror of all the world except the U.S. because his father is still living here. He came to talk with his father one day and his father invented a machine that made him forget his power and the world is safe.

8BM. The boy was cheated in a game of cards by a man and the boy shot him. The man was taken to the hospital and the world's greatest surgeon was called to try and save his life. The police held the boy and told him that he would be electrocuted if the man died. Fortunately the surgeon after operating continuously saved the man's life. The man was so happy about being alive that he didn't press charges against the boy. The boy was much indebted to the surgeon but he couldn't pay for the operation. He offered to study under the surgeon and became as great as he had become. For twenty years he turned over all the money he made from the many operations to the surgeon. He became an even greater surgeon himself.

10. At one o'clock in the morning the landlady smelled smoke. She immediately called the fire department and went about the work of saving all the people in the building. She ran down in the basement and gathered all the wood she could find and built a 150 foot ladder she placed it next to the building and all the people climbed down except for the man on the top floor because the ladder didn't reach that far. She ran into the house and collected all the chairs and brought them out. She climbed to the top of the ladder and began balancing the chairs on top of each other until the man could sit on the top one. She then climbed down thus saving the man's life. He kissed her and asked her to marry him. Together they built the burnt apartment into the Astor Hotel.

12M. The man is a magician. He has been giving shows nightly for thirty-one years with his wife as his helper. They have been living from hand-to-mouth for all the years and they are about to retire. One night while he is putting his wife to sleep and practicing mental telegraphy at the same time the idea of inventing a rocket ship comes into his mind. The idea is immediately transferred to his wife and while they put their act they are thinking of making the rocket ship. After the show they go home and built it in the backyard. They go to the moon and make millions of moon-dollars giving their magic shows.

14. The man has been thinking of this robbery for many years. He has the plan all worked out. Mr. and Mrs. Rich will be gone from their penthouse all evening and he will have plenty of time to get the jewels. He waits until nobody is in sight and then starts climbing from window ledge to window ledge up to the thirty-fifth floor where the penthouse is located. He pushes on the window which is unlocked and starts to climb in. Suddenly he loses his nerve and thinks how nice it is to be free on such a beautiful night and not in jail. He feels like singing. A tune comes to his head and he starts singing. He climbs down, rushes to a publisher and has the song published. He is now living in the same penthouse due to the writing of "Penthouse Serenade."

16. There are twelve boys sitting in a classroom. Fatigue shows on their face from writing stories. All are concentrating very hard. All of the boys had come to school to face school for one of the last times this week. Many had had interesting experiences on the way to school that morning and they told their friends about it before classes. They turn up a card that has no picture. Instructions are given to just imagine a picture there. Immediately the thought of the interesting experience comes into their head. The room is filled with scratches of pens as each boy lives again the event of only a few hours before. After school on the way home they think over the events of the school day. Again the experience brings itself forward and the boys think over the details again and again. The event of this day will stay in their minds forever.

Combinations: The boy had stolen many things during his career and he was ready to retire and live the life of a king. He had met a girl when he first started out and he would like to see her again. She had no use for him then but now he had money and that made it different. He went up to her house and immediately she tried to win him. He felt that he needed a companion and she thought his money was just the thing for her. She didn't want to give up the big city life but he wanted to go see his mother on the farm and get away from the police. They went to see his mother and she talked to him and straightened him out. He and wife lived happily forever on the farm.

19. The group of men had gone to Alaska to dig for gold. They had prospected for a long time without any luck and now they were getting low on supplies and money. The three men sat in the cabin at the foot of the steep hill. It was very cold and their heating system in the cabin was failing. They all just sat, nobody spoke. The first man was thinking about home, his wife, and kids. The second, a millionaire-play-boy who had come only for adventure was thinking of Florida. The third, an ex-convict still hadn't given up hope of gold. There was no way of getting help; they just had to wait and freeze. No words were spoken and all died each with his own thought of happiness.

11. The man had been studying caves for a long time. He wasn't recognized as any authority by any of his friends in fact most of them thought he was just wasting his time. One day while on a vacation he came upon a large cave. He almost passed it up because he was going to retire because he thought his friends were right. He went in with all his gear. It was even bigger than it appeared from the outside. There were many long tunnels. After exploring a while he began to think it might be the biggest cave in America. He hoped it was. He thought to himself it had to be in order to gain back the respect of his friends. He called in professional cave-explorers. They confirmed his statement that it was the largest. He is recognized as an authority now and he is mentioned in the encyclopedias and other such books but most of all he gained the respect of his friends.

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APPROVAL SHEET

The dissertation submitted by Leo Alex McCandlish has been read and approved by five members of the Department of Psychology.

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

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

June 3, 1918

Magda B. Arnold.