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## A Comparison of Structured Tests, Projective Techniques and Laboratory Procedures as Devices for Assessing Neurotic Personality

Francis J. Sweeney  
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**A COMPARISON OF STRUCTURED TESTS, PROJECTIVE TECHNIQUES  
AND LABORATORY PROCEDURES AS DEVICES FOR  
ASSESSING NEUROTIC PERSONALITY**

**by**

**Francis J. Sweeney**

**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**

**1953**

## LIFE

Francis J. Sweeney was born in Chicago, Illinois on January 31, 1909. He received the Bachelor of Arts degree from the University of Chicago in June 1939.

He attended Loyola University, Chicago, from September, 1939, to March 1943, as a graduate student majoring in psychology. During the same period he was successively graduate assistant, teaching fellow and lecturer in the Department of Psychology. He received the Master of Arts degree in August 1942.

In March 1943 he was inducted into the Army of the United States. Most of his work in the Army was psychological in nature. He was honorably discharged in June 1946.

From August 1946 to September 1950 he was employed by the Veterans Administration as Vocational Advisor, Personal Counselor and Clinical Psychologist, successively.

In September 1950 he returned to Loyola University and resumed his studies towards the Ph.D. degree in psychology.

In September of 1952 he became Director of Student Personnel, Loyola University, Los Angeles, California.

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## CHAPTER I

### INTRODUCTION

#### A. Statement of the Problem.

The problem of integrating findings from different tests is one faced by every clinical psychologist in his daily practice. A vast range of instruments and techniques is available for assessing abilities, interests, values, personality traits, personality structure, abnormal tendencies and other states or conditions of clients. The clinical psychologist is expected to be capable of administering and interpreting the results of at least a representative sample of the types of intelligence tests, aptitude and interests tests, personality inventories and projective techniques that are commonly used wherever clinical psychologists work. Mere familiarity with the various instruments, however, is not enough. Nor is a high degree of skill in the application and interpretation of any particular test or device an adequate preparation for the role of clinical psychologist. Rather, he must be able to choose psychological instruments that will yield needed, or desired, information about the client, and to put together the results of

applying the chosen instruments in such a way that a psychological "picture of the individual" results.

Since, then, in practice a client is practically never evaluated by means of a single test, and ordinarily other information about the client is also available from his social history, psychiatric examination, interviews with others and the client's own reports of his condition, situation and problems, the task of integrating all available information about the client presents a problem of some importance. Various schemes for accomplishing this task of integrating findings from various sources have been proposed in the literature of abnormal psychology and personality theory, in clinical psychology textbooks and elsewhere.<sup>1</sup> For various reasons no one of these integrative plans has proved to be entirely satisfactory. Yet, it is felt, many of them have something to contribute to a technique for getting at an understanding of the individual.

An outline suitable for analysis of the results from one test or device may not be, as such, suitable for application to the results of others. Yet, it may be possible to extend the range of concepts used in the analysis of any one instrument and make them applicable to other instruments. Not all instru-

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<sup>1</sup> For example, Saul Rosenzweig, Psychodiagnosis, Part 3, "The Process of Psychodiagnostic Integration", N. Y. 1949, 183-268.

ments can be expected to yield information on all aspects of personality. Each test was devised to uncover certain specific aspects of personality, but in actual practice more than this can be inferred from the results obtained by the use of any instrument. The basic problem then becomes one of devising an outline suitable for the analysis of personality. Such an outline could then serve to integrate the findings from the use of various instruments. The data of each instrument can be made to contribute to such an outline of personality factors. The outline then can be used as a basis for interpretation of all available test and other information.

Another way of looking at the problem is this. Each test or device tells something about some aspect of the person, his intelligence, personality structure, emotionality, mental content, etc. But the clinical psychologist does not want to know these aspects of personality for their own sake; he wants to know persons. Nor does he ordinarily seek to know all about persons. Many items of information he could gather would be irrelevant to the purposes of clinical psychology. The clinical psychologist is interested in determining the areas, the manner and the extent of the client's maladjustment, the nature of his problems, how he got that way, what can be done about it, etc. What kind of information about persons will lead to such understanding can, in part, be decided on the basis of the information tests actually yield. In so far as test results can



be interpreted from a more inclusive point of view than that provided by the rationale of the particular test, the range, effectiveness and utility of the test can be extended. This is one problem dealt with in the present study.

The other, more general, problem is the devising of a conceptual framework for the understanding of personality as such. This problem cannot be solved on the sole basis of information yielded by tests and measuring devices of any kind or of any number. Philosophical, historical, biological and social science data are also necessary to the understanding of personality. Test data may be related to, but are not an adequate substitute for, these other types of information. For the subjects of the present study little information, other than test data, is available. Even were more complete information of all relevant types available the task of integrating it into adequate pictures of the personalities of the subjects would be formidable. The aim of the present study, is, therefore, a more modest one. All that can be hoped for is the best possible generalized personality picture of the group that can be abstracted from the available test data. This, it is hoped, will lead to some understanding of what the neurotic personality is like. The view will be a partial one, but, it is felt, true as far as it goes.

## B. Purpose of the Present Study.

Therefore, in the present dissertation, it is proposed to present a plan for integrating the findings from seven different tests and techniques and to show what the application of this plan is able to reveal about a group of subjects diagnosed, by psychiatrists, as neurotic. In other words, the experimental group will be characterized, in terms of the data yielded by the instruments employed, in such a way that, it is hoped, a picture of what the neurotic personality is like will result.

Prior to this, however, the results of the application of each instrument to the group will be presented in separate chapters. From this presentation can be judged the following points:

1. What each technique, or device, reveals about the intellectual and emotional capacities of the group, their levels of functioning, personality structures, modes of adjustment, specific maladjustments and mental lives.
2. What each instrument indicates about impairment of mental function, specific neurotic symptoms and syndromes, abnormal mental content and other clues of diagnostic significance. In so far as evidence on which to base prognostic judgments is yielded by the tests it will also be pointed out.
3. Which technique best reveals personality structure,

which shows level of functioning and impairment, which best uncovers problems, preoccupations and other mental content and which yields the surest diagnostic and prognostic clues.

4. By thus pointing up clearly what each device reveals, when applied to the experimental group, there will be at least some basis for judging the devices themselves in terms of their adequacy to yield a "true picture" of what the neurotic personality is like.

This last point perhaps needs some emphasis since protagonists of various devices, especially of the Rorschach, have claimed that their favorite method yields the "truest", or at least the "best" picture of personality. The MMPI, the TAT and "pattern analysis" of Wechsler-Bellevue results all have strong advocates of their importance and usefulness in assessing personality. Experimentally trained psychologists are inclined to doubt the efficacy of any test and to rely on measures obtainable only under laboratory conditions. This attitude of the experimentalists is understandable. It appears to stem from the difficulty of applying adequate experimental controls in the testing situation and the large amount of subjective judgment that must be used in interpreting test results. On the other hand, laboratory methods, while presumably more "scientific" and less "artistic", have to date yielded few

results useful to the understanding of personality structure and functioning. It is because of a desire to compare laboratory results with test results that two laboratory techniques were employed in the present study.

### C. Basic Questions to be Answered.

The basic questions to which answers are sought in the present dissertation may be stated thus:

1. What can be learned about this neurotic group by the application of each test or device used in the study?
2. The answer to this question depends on the answer to a prior question: How can the results from each test or technique best be interpreted?
3. How do the various tests or devices complement, or supplement each other, so as to extend the range of information about the group, that could be gathered by the use of only, or any, one of them?
4. How can all the information about the group yielded by the tests and devices used best be synthesized so as to result in the most adequate picture of what neurotic personality is like?

It would be redundant to state the basic questions posed above in the form of definite hypotheses to be tested. Anyone who knows the tests and techniques here employed can,

to a large extent, anticipate the kind of information that can be derived from the use of each. Here the interest is not only in interpretation of test results in accordance with approved methods, but in extending as far as possible the range of interpretation by applying all interpretive techniques used to each instrument. The possible outcomes of this attempt could not be anticipated with the degree of definiteness necessary to state them in hypothetical terms. The intention was to apply the framework of interpretation appropriate to<sup>1</sup> each instrument to all the other instruments as well, in order to get as much as possible out of all of them. How this has been fulfilled can be judged from the sequel.

#### D. Anticipated Value of Results.

It is not expected that any additions to established psychological theory will result from the present study. It is hoped, however, that some of the methodological refinements here introduced may be of aid to others studying similar problems. It is also hoped that psychological practice involving use of the tests and techniques used in the present study can benefit from the modes of test interpretation and integration of results here exemplified.

## CHAPTER II

### REVIEW OF RELATED LITERATURE

The standard manuals for the various tests and devices used in the present study constitute the sources of most of the interpretative principles made use of in the present study. These manuals are listed in the bibliography. They are too well known to every clinical psychologist to make review of them necessary.

Periodical literature dealing with the individual tests here employed is extremely voluminous. Thousands of articles have been written on the Wechsler, the Rorschach, the MMPI and the TAT. The literature pertaining to the other instruments used, while not so extensive, is rapidly accumulating. The task of reviewing all this literature is impossible and fortunately unnecessary to the purpose of the present study. Reference is made in appropriate places throughout the text to all articles actually found helpful in the present undertaking. There is no need to summarize such articles here. A diligent search through the Psychological Abstracts failed to turn up any study identical with, or even one strictly comparable to

the present. Others have published comparisons of results obtained from applying to a group of neurotics various pairs of the techniques here used. Perusal of a sample of such studies did not yield anything pertinent to the present undertaking. Particularly lacking in the literature is reference to comparisons of data from either structured or projective tests with measures obtained through the use of laboratory devices. It is felt that extension of the procedures ordinarily employed to include such a comparison represents a worthwhile aspect of the present study. As far as could be discovered, then, no one has attempted to apply all seven of the devices here used to the same group of subjects and to synthesize the results in any manner closely similar to the plan of integration developed in the present dissertation.

There are, however, numerous books and articles dealing with schemes for summarizing, comparing and integrating data derived from different measuring instruments, tests, rating scales, interviews and case histories. Practically every textbook of clinical or abnormal psychology and of psychiatry contains a description of how to write a case report. These descriptions stress that all the relevant information obtainable about the client must be put together in such a way as to convey the most adequate idea possible of the client's assets and liabilities, his problems, methods of adjustment etc., or

in short, a picture of what the client is really like. Only a few such integrative plans examined were relevant to the present study and only those that were helpful, directly or indirectly, will be cited.

1. William E. Henry<sup>1</sup> describes a project involving psychological comparison of anthropological groups. An aspect of this project involved the integration of data from fifteen different devices, including interviews, objective tests and projective techniques. The framework for summarizing and comparing these data, as presented by Henry, stresses social interaction, community relationships, physical and other characteristics not germane to the present study. However, sections of Henry's outline, dealing with characteristics of the self, mental function, emotional reactivity, maturity levels and ideals, have been adapted to or have provided leads for the development of the interpretive framework employed in the present study. In fact, Henry's outline has proved to be more helpful than any other single one examined since it is based mainly on the data yielded by the instruments employed. It is thus empirical and relatively free from presuppositions concerning the nature of personality.

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<sup>1</sup> William E. Henry, "The Thematic Apperception Technique in the Study of Group and Cultural Problems", An Introduction to Projective Techniques, ed. Harold H. and Gladys L. Anderson, N. Y. 1951, 230-278.



2. Saul Rosenzweig,<sup>2</sup> whose book is a typical example of textbooks in clinical psychology, stresses the role of the clinical psychologist as the integrator of data yielded by the tests employed, the social history, the psychiatric study and other methods of observation and understanding. The result of such an integration should be "The Picture of the Individual." He states that there is no single method of integrating data applicable to all cases and so the purpose of the psychological report should govern what should be included and how it should be phrased. Since the reader is apt to find this advice vague, even if good, Rosenzweig, by way of exemplification, gives an outline that he considers as a generally useful guide to the writing of a psychological report. In this outline he emphasizes the integration of all findings from the point of view of their contribution to the final picture of the individual client, and not from the point of view implied by the individual test. Hence, data regarding intellectual, emotional and all other personality factors, no matter how these data are gathered, are to be summarized so as to show best the client's cardinal strengths and weaknesses, his drives, interests, attitudes, problems, symptoms etc., in terms of the minimum hypothesis that will account for the largest number of observed facts

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2 Rosenzweig, Psychodiagnosis, 183-268.

with the smallest number of explanatory principles.

In the present study some parts of Rosenzweig's outline are adopted, in modified form. He stressed the integration of findings pertaining to an individual. His method of synthesis has much in common with that taught in this university, in courses dealing with clinical psychology, and with the methods of writing psychological reports used by practising clinical psychologists. However, the present study goes beyond the individual and involves the synthesis of findings on a group. Since also the present study involves comparison of instruments, as well as synthesis of results from the application of these instruments, no methods of comparison hitherto employed seemed adequate. The method finally adopted was derived from many sources including Rosenzweig's outline.

3. Henry A. Murray has written parts of and edited the rest of an elaborate report on the procedures used by himself and twenty-seven collaborators in studying fifty men of college age.<sup>3</sup> At least thirty different investigative methods were used ranging all the way from autobiographies and casual conversations to highly refined laboratory procedures. A very comprehensive and elaborate conceptual scheme was developed as an interpretative framework into which, Murray implies, most

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<sup>3</sup> Henry A. Murray, Explorations in Personality, N. Y. 1938.

if not all of the findings can be fitted. A detailed criticism or evaluation of this work as a whole would be out of place here. It is the pioneering work in the field and individual contributions to be found in it are of far-reaching importance. For example, the Thematic Apperception Test was developed and first used in this study.

Of greatest relevance to the present project is Murray's summarization of his conceptual scheme in terms of the "Variables of Personality."<sup>4</sup> These variables include twenty "manifest needs," and seven that were added later, as well as eight "latent needs." "Needs" are defined broadly to include all sorts of wishes, wants and attitudes. Added to needs as instigators of activity are certain "internal factors" such as "ego-ideal," "narcissism," and Certain "general traits or attributes" such as "creativity," "emotionality," "endurance," "radicalism," etc. Thus in all there are 53 factors to be rated in terms of frequency and intensity when they can be inferred from the actions, words or ideas of a subject. Moreover, these needs and other factors may be directed towards the self, towards others, towards ideals etc. and the effects of their satisfaction or frustration must also be evaluated.

Needs are related to forces in the environment and

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<sup>4</sup> Murray, Explorations, 142-242.

emanating from other people. These forces Murray calls "press."<sup>5</sup> Press may be positive as well as negative forces. They may aid as well as hinder attempts to satisfy needs. The needs of one person may be press for another and so both can often be called by the same name. This reduces the number of terms that need be kept in mind in discussing needs and press. The interaction of needs and press constitute "themas." It is in terms of the dominant themas in his life that a person can be best described. That is, this type of analysis points up the needs an individual characteristically, or at a given moment, manifests; how he goes about attempting to satisfy his needs and what in his environment helps or hinders him.

Murray's formulation, while not completely acceptable because of some of its theoretical implications and because of the difficulty of applying it in practice, has proved very helpful in the present study. It was particularly useful in supplying leads to the interpretation and evaluation of test results, especially the TAT stories. Other parts of the complete work, like that on the "Level of Aspiration Test"<sup>6</sup> also proved helpful. However, little pertaining to the comparison

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<sup>5</sup> The same word "press" is used in the singular and plural senses.

<sup>6</sup> Jerome D. Frank, "Level of Aspiration Test," Murray, Explorations, 461-471.

of tests and measuring devices or to methods of summarizing data from a group of subjects can be inferred from these writings of Murray and his collaborators.

4. Edwin S. Shneidman<sup>7</sup> has edited a book in which sixteen experts on the TAT and the MAPS<sup>8</sup> tests evaluate the protocols of the same subject. Each describes his method of analysis and interpretation and presents the results obtained by its use. Shneidman compares these evaluations stressing areas of agreement. These agreements he summarizes in a list of eighteen categories under which various aspects of personality, brought out in the several analyses, can be summarized. Many of these categories imply assumptions from Freudian psychoanalytical theory, as do several of the analyses themselves. Others, however, point up important aspects of personality revealed by the tests used.

For the present study no single method of TAT interpretation presented in this book seemed adequate. Nor was Shneidman's synthesis of these methods adaptable without modification. Therefore, only a few items from the book are actually relevant to the present study. The book does, however, afford valuable background material on the TAT and the variety

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7 Edwin S. Shneidman, Thematic Test Analysis, N. Y. 1951.

8 The "Make a Picture Story Test," a modification of the TAT devised by Shneidman.

of ways in which its results may be interpreted and utilized. A few of the personality variables stressed by Shneidman in his synthesis of interpretative methods are to be found in the integrative framework employed in the present study. For the most part, these same variables are stressed by many others in their theories pertaining to personality.

5. Roy Schafer<sup>9</sup> points out the many difficulties in quantifying most aspects of behavior, mental life and personality. Even harder to quantify is the underlying mental process whereby a test response, or an item of behavior, for example, comes about. Yet it is the basic mental process that must be interpreted in psychodiagnosis. Test responses and the client's words and overt acts may very imperfectly reflect his actual mental life. To understand what is occurring in the mind of the client, Schafer thinks "a dynamically-oriented rationale of the functions or processes underlying the various test performances"<sup>10</sup> is needed. This rationale, on his view, turns out to be an aspect of a general theory of personality stated in psychoanalytical and organismic terms.

While the theory of personality Schafer favors need not be accepted he is right in stressing the fact that any

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9 Roy Schafer, "On the Objective and Subjective Aspects of Diagnostic Testing," J. Consult. Psych. XII, No. 1, Jan-Feb. 1948; 4-7.

10 Ibid., 6.

interpretation of test, or any other responses, always implies some theoretical assumptions regarding the nature of personality and its functioning. In the present study, likewise, aspects of a theory of personality are implied. The detailing and justification of this theory would comprise a dissertation in itself. Here all that need be said is that, in the opinion of the present writer, statements and implications regarding personality are in accord with views, concerning the nature of man, established in Scholastic metaphysics, psychology and ethics.

Schafer further points out that statistics can indicate the usual forms and locations of diagnostic relationships explained in a basic personality theory. Hypotheses can thus be verified and meaningful diagnostic conclusions established, or at least have their probability verified. He does not detail statistical methods for doing this but he implies that test findings should be compared only with logically relevant aspects of theory and the frequency of agreement and disagreement noted. Once this is done, various measures of association between the test findings and relevant theory can be employed.

In the present study attempts to employ comparisons between test results and aspects of theory yielded results that were too inconclusive and subjective for presentation. Nor did frequency comparison between test scores, or ratios, derived

from different tests but supposedly indicative of the same underlying aspect of mental life, yield any better results. This is not to say that the methods advocated by Schafer could not be applied to the raw data of the present study but doing so would be tangential to the main purposes of the study. Or, as is more likely, the whole project would have to be recast and the help of other judges obtained in order to determine extent of agreement between test findings and theory.

6. Lee J. Cronbach<sup>11</sup> describes a method for comparing any type of statement about an individual with any chosen criterion. This method is too long and involved to describe briefly. In some applications of the method judges are employed to make comparisons of items of information about an individual and the chosen criterion. The quantitative handling of the results of this method reduces to counting the frequencies of agreement and disagreement of statement and criterion and their chi-square comparison. The chi-square estimate of significance is then converted to a phi coefficient indicative of the intensity of the relationship. Cronbach's method is adaptable to groups of statements, test scores, ratings etc., dealing with any aspect of a person's behavior, mental life or personality

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11 Lee J. Cronbach, "A Validation Design for Qualitative Studies of Personality," J. Consult. Psych. XII, no. 6, Nov.-Dec. 1948, 365-374.



that it is meaningful to compare with a criterion, or criteria. It is also adaptable to the comparison of groups of persons with a criterion or criteria. All that is needed to start with is a count of the frequency with which there is agreement.

In the present study an adaptation of Cronbach's method was employed to compare test findings with diagnostic criteria and to compare tests and other devices with each other. Since, however, as will be pointed out in appropriate places, these comparisons did not result in chi-squares that were statistically significant, phi coefficients were seldom computed. When there is no relationship between two things it is meaningless to "measure" its intensity. The hope then of determining by this method the relative dependability of separate tests or devices, presumably measuring the same variable, was disappointed. For all the tests and devices used the validity (phi) coefficients were too low when the tests and devices were compared with each other, or with other criteria, in any ways that seemed psychologically meaningful.

7. Lee J. Cronbach in another article<sup>12</sup> makes certain recommendations that are applicable in the present study, not only to the Rorschach data, but to some other test results too. Generally, he recommends that patterns of test findings

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<sup>12</sup> Lee J. Cronbach, "Statistical Methods Applied to Rorschach Scores," Psych. Bul. 46, no. 5, Sept. 1949, 393-429.

be defined and comparisons made on the basis of the frequency with which these patterns are found in the groups of subjects to be compared. Chi-square is the method of comparison he most favors, wherever it is applicable, but at times biserial correlation may be more appropriate. He strongly urges that appropriate statistical formulas be used for matched, or independent, samples and that suitable corrections for sizes of groups be introduced. Much of the published research, he points out, contains violations of these principles and consequently the results are meaningless or, at best, ambivalent. He also states that in general counting procedures are preferable to additive methods for Rorschach data. The same is true for most of the data of the present study.

The one problem concerning Rorschach data that neither Cronbach or anyone else, as far as can be discovered, has been able to solve satisfactorily is how to make proper allowances for total number of responses when comparing individuals or groups whose productivity on the Rorschach differs greatly. Before other differences found can be soundly interpreted, some account must be taken of total responsivity. Other Rorschach scores and ratios are greatly influenced by the total number of responses. Taking other scores as simple percentages, or other ratios of the total has proved unsatisfactory since equivalent percentages, or ratios, do not have the same psychological

meaning if based on different totals for separate individuals or groups. Cronbach recommends an elaborate procedure of pattern tabulation which involves first "normalizing" the scores, that is, distributing and weighting them according to the normal curve of probability.

It seems to the present writer that Cronbach's method assumes that Rorschach scores will be normally distributed, at least in the population at large, whereas from many points of view the exact distribution of such scores is precisely the point to be determined by suitable investigation. At any rate, Cronbach's method is not meaningfully adaptable to a sample of cases as small as the one used in the present study.

Parenthetically, it may be added here that recommendations of other authors for taking account of total Rorschach responses through procedures involving analysis of variance, factor analysis, etc. are likewise unsuitable to the present study because of the smallness of the sample.

Similar problems of allowing for total responsiveness are encountered in dealing with TAT data. The present writer has not been able to find in the literature, or to adapt or devise, any quantitative method suitable to the kinds of comparisons of testing techniques and of obtained results employed in this project. Therefore, only chi square frequency comparisons and rank difference correlations were finally used.

8. W. D. Altus<sup>13</sup> sought correlations between Rorschach findings and the MMPI Sc. scale, using as subjects supposedly normal college students. He assumed that linkages found in a normal group would be maximized in an abnormal group. He also assumed that schizophrenia is a continuous variable and that the Sc scale is at least a partial measure of it. Using tetrachoric correlations, he found significant relationships between only nine of seventy-five Rorschach items, quantified according to the Munroe method, and the highest and lowest quartiles of scores on the Sc scale. Nevertheless, he maintains that his method can be generalized to show what "signs" in any projective technique are associated with any chosen external criteria that can be quantified. For example, linkages of test signs with clinically significant criteria, evidences of maladjustment etc. can be determined if both signs and criteria can be quantified.

The weakness of this method lies in the difficulty of quantifying criteria so as to be able to determine the frequency of individuals or scores in the upper and lower quartiles of the criteria ranges. This is in addition to the difficulty of quantifying most aspects of projective technique

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13 W. D. Altus, "Some Correlates of the Group Rorschach and the Schizophrenic Scale of the Group MMPI Among Two Groups of 'Normal' College Students," J. Consult. Psych. XII, no. 6, Nov-Dec, 1948, 375-378.

results in the first place. Also, the computation of tetra-choric correlations is too laborious to be justified unless both variables yield only dichotomized information that can be compared in no other way.

This study of Altus is typical of a great many that could be cited from the literature. It is no worse, but also no better, than many others. Most such attempts to correlate aspects of one test with aspects of another test, or with external criteria, yield negative or, at best, inconclusive results. This is primarily because the tests were not designed to be used in this way. In general, each test response has meaning only in the context of all responses made on that test by the same subject. Patterns of such responses can perhaps be meaningfully compared with patterns of responses derived from other tests, but individual items, scores and scales, etc. from different tests cannot be expected to show much agreement. Accordingly, it did not seem fruitful to attempt such correlations in the present study. Nevertheless, a few such attempts were made and these gave the negative results expected.

9. Ruth Munroe<sup>14</sup> emphasizes the primary purposes of projective techniques as devices to aid in the clinical evaluation of individual clients. Nevertheless, for some purposes,

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<sup>14</sup> Ruth Munroe, "The Use of Projective Methods in Group Testing," J. Consult. Psych., XII, No. 1, Jan.-Feb. 1948 8-15.

for example research, further codification of projective methods is essential. Group trends drawn from many individual records must be somehow summarized even though this involves a loss of accuracy and richness of interpretation of the individual records. The most promising results, she maintains, are obtained when combinations of scores, which are known clinically to have some stability of meaning from one individual to another, are used as bases for comparison. This is much preferable to using single scores. Recurrences in performance, on projective tests, of special groups, for example neurotics, can be thus observed and the frequencies of such recurrences counted. Such observations can be reduced to quantifiable terms and statistically evaluated even though they may involve aspects of test performance not usually scored.

The method Munroe advocates for quantifying Rorschach findings is her own "Inspection Technique".<sup>15</sup> This method is too complicated to describe here except to say that it involves assigning varying numbers of plus or minus signs, check marks and letter ratings to part scores and ratios obtained on the Rorschach. The function of these symbols is to

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<sup>15</sup> This method has been modified by the author several times. The latest revision is in Munroe's chapter "The Inspection Technique for the Rorschach Protocol," in Projective Psychology, ed. Lawrence E. Abt and Leopold Bellack, N.Y. 1950, 91-145.

indicate the direction and degree of departure of each score or ratio, from the range of such scores characteristic of a normal group. These ratings are then simply counted to give an index of adjustment. The direction, plus or minus, of the ratings may be qualitatively but not quantitatively important. A person may be just as badly maladjusted if his scores exceed, or fall short of, the optimum normal.

Munroe's inspection technique was applied to the Rorschach protocols of the present group. The results are set forth in the chapter on that instrument. This method, however, was not found feasible for, or adaptable to, use with other data yielded by the devices used in the present study. Quantifying projective test data may remain as a hope, but it seems that any method of doing so must involve a large amount of subjective judgment. This is not necessarily bad but it does demand that the judge be able, well trained and as free as possible from bias. It is all too easy to overlook important clues in projective test results and to find only what one is looking for.

10. The many other books and articles consulted yielded nothing applicable to the over-all purposes and plan of the present study. Those that gave help on specific points, for example in interpreting specific tests or results, are cited in appropriate places. Those that were in no way used need not

be cited at all.

11. The general conclusion from this survey of the related literature is that many have emphasized the necessity of putting together, in some meaningful fashion, all the information, from whatever source that is available, about a particular client or about a group of like individuals. Most of the proposals for doing this are distressingly vague. The few that are more definite imply theoretical assumptions that are unacceptable. Therefore, the present writer has attempted to devise his own synthesis, based on the sources indicated. He does not flatter or deceive himself by thinking he has succeeded any better than others.



## CHAPTER III

### DESIGN OF THE STUDY.

In accordance with the purposes of the present study, as set forth in Chapter I, the tests and devices there described were administered to twenty-five subjects diagnosed by psychiatrists as neurotics. The test administrations were according to the standard procedures recommended in the test manuals. Raw test results were likewise scored in accordance with the test manuals. Interpretations of such raw scores are discussed later in this chapter and where relevant throughout this report. The manner of applying the laboratory devices is described in the appropriate chapters and is too complicated to summarize here.

#### A. Description of the Experimental Group.

The group consisted of fourteen men and eleven women. The chief social data concerning them are presented in Table I.

TABLE I  
SOCIAL CHARACTERISTICS OF THE EXPERIMENTAL GROUP

	Men	Women	Total group
<b>Chronological Age</b>			
Range	22-48	20-56	20-56
Mean	34.50	33.91	34.24
Std. Dev.	9.07	10.17	9.39
Mdn.	35.00	36.00	36.00
<b>School Grade Completed</b>			
Range	10-15.5	8-16	8-16
Mean	12.46	12.41	12.44
Std. Dev.	1.88	2.14	2.14
Mdn.	12.00	12.00	12.00
<b>Occupational Level</b>			
Professional		1	1
Semi-professional	2		2
Managerial		1	1
Clerical	1	5	6

TABLE I (Continued)

## SOCIAL CHARACTERISTICS OF THE EXPERIMENTAL GROUP

	Men	Women	Total group
<b>Occupational Level</b>			
Skilled	2		2
Semi-skilled	2		2
Unskilled	1		1
Various, short term	2		2
Housewife		3	3
Not given	4	1	5
<b>Marital Status</b>			
Single	3	4	7
Married	8	3	11
Divorced or separated	0	2	2
Widowed	1		1
Not given	2	2	4
<b>Religious Affiliation</b>			
Catholic	8	6	14

TABLE I (Continued)

## SOCIAL CHARACTERISTICS OF THE EXPERIMENTAL GROUP

	Men	Women	Total Group
Religious Affiliation			
Protestant	1	1	2
Jewish		1	1
Not given	5	3	8

As can be seen from this table, the typical subject in this group is in the age range of the middle thirties, has a high school education and, on the basis of occupation, may be judged to be in the lower middle class in social and economic status. Most of the group are married (but only 7 men and 2 women report having children) and are Roman Catholic in religious affiliation. Other social history data are too scant, or missing for too many subjects, to summarize here.

#### B. Tests and Devices Used.

The tests and techniques employed in the present study are as follows:

##### 1. Structured Tests.

###### a. The Wechsler-Bellevue Intelligence Scale.

- b. The Minnesota Multiphasic Personality Inventory.

## 2. Projective Techniques.

- a. The Rorschach Psychodiagnostic Technique.
- b. The Thematic Apperception Test.
- c. The Bender-Gestalt Drawing Test.

## 3. Laboratory Techniques.

- a. The Pursuit-Rotor.
- b. The Psychogalvanic Reflex.

The results of the applications of these devices are summarized, analysed and interpreted in the sections of this report dealing with each. The primary sources for the methods of analysis and interpretation employed are the standard manuals for the separate tests. In such manuals the authors of, or experts on, the particular tests advocate methods for interpreting the results. In so far as these methods are appropriate to or adaptable to the purposes of the present study they are utilized. In addition, there is a vast literature on each of the devices here used. In this literature many methods of analyzing and interpreting findings from these devices are described. From these sources, and the present writer's experience in using the various tests and techniques are gathered the interpretative principles that are applied to the findings on the present group. What the results from each one are

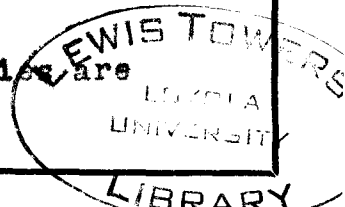
analyzed to show may be summarized as follows:

1. The Wechsler Scale results are analyzed to show intellectual level, intellectual efficiency or degree of impairment, variability among the separate abilities measured by the subtests, and for diagnostic signs and patterns. Variabilities, with respect to all of these, manifested by the group, are indicated when pertinent.

2. The Minnesota Multiphasic Personality findings are analyzed primarily for diagnostic indications on the various scales, for patterns of scale scores more definitely indicative of neurosis and for an index of social adjustment. This last is especially shown by the Social-introversion scale of the inventory and by the procedure of "coding" the results from use of all the scales. Incidentally, item analysis of the scales on which the group scores high also reveals some of their mental content, problems, feelings and attitudes.

3. The Rorschach reveals primarily the characteristic personality structure of the group and to what extent this approaches the "typical" neurotic personality structure. The group's "approach" to their problems, their manners of adjusting, degrees of adjustment in various areas and other factors, intellectual and emotional, including diagnostic and prognostic "signs," are emphasized as they occur.

4. The Thematic Apperception Test stories are



analyzed chiefly for the light they throw on the habitual mental content of the subjects. Their problems, needs, feelings, attitudes and expectations are revealed in the stories the group tells. Also their views of themselves, of other people and of the world in general are inferred from what they say and how they say it in response to stimulation by the pictures used in this test. All of this is interpreted as leading to an understanding of how neurotics "apperceive," that is, perceive and interpret, themselves, their present situation and the world in general.

5. The Bender Gestalt drawings are scored to yield an index of adjustment for each subject and the group is characterized in terms of this index. The expressiveness of the group, the proportions of the group that are expansive or constricted, is the chief factor looked for. Any inaccuracies or distortions of perception revealed in the drawings also are noted.

6. The Pursuit-Rotor results are analyzed for the light they throw on goal seeking activity of the group. The levels of aspiration, discrepancies between aspiration and attainment, and changes in level of aspiration indicative of rigidity and lability are evaluated for what they reveal about the goal setting and goal pursuit characteristic of neurotics.

7. The Psychogalvanic Reflex findings are analyzed

for an index of emotional responsiveness, or emotionality.

An attempt is made to discover to what extent autonomic nervous system reactivity, measured by the PGR, is indicative of emotionality shown by other test scores, ratios and indices.

Following these analyses of what the separate devices reveal about the group, the main problem of this dissertation is taken up again in Chapter XI. Here the major emphasis is on what can be learned about neurotic individuals when the results of the several techniques are intercompared and integrated. Incidental to this purpose of building up a "picture" of the typical neurotic, the tests and devices themselves must be intercompared. This comparison shows:

1. To what extent there is agreement, or disagreement, among patterns of results yielded by separate instruments, when more than one instrument presumably measures the same personality variables.

2. The extent to which specific scores or signs, supposedly indicative of the same personality traits or variables, but given on different tests, actually do confirm each other, or tend in the same direction, even though test patterns as wholes may not agree.

3. To what extent the various instruments complement each other, each one contributing information not given by the others but all helping to clarify and refine the final



result.

An aspect of this third point that will become clear in the presentation in Chapter XI is the present writer's judgments as to which instrument best reveals mental capacities, levels of functioning, personality structure, the group's personal problems, diagnostic or prognostic clues, etc.. In treating of each of these and other topics, the test or device that best reveals the aspect of personality under consideration will receive major emphasis, and findings from other instruments, in so far as they are pertinent, will be related to this.

### C. Framework for Interpretation

As indicated above, the raw data derived from the application of each technique are analyzed and interpreted in the separate chapters dealing with each device. In order to organize and present these data in a systematic fashion, some plan of organization is necessary. Such a plan necessarily implies a framework of interpretation. The framework used in the present study is derived primarily from the interpretative concepts ordinarily applicable to the instruments used. But, it seems that many of the interpretive concepts primarily applicable to the results derived from the use of one instrument can be extended to aid in the interpretation of results from all, or at least many, of the devices employed in the study.

This conceptualization of the problem of integrating test findings is not without precedent. Henry<sup>1</sup> advocates a method of comparing test, and other data, that extends the range of concepts previously used in analysis of only one instrument. The interpretative framework used in the present study is in part based upon that of Henry but it includes ideas from sources too numerous to mention plus ideas derived from the present writer's experience with the tests and techniques here employed.

In outline form, and with only major headings listed, the integrative plan, or interpretative framework employed in this study is as follows:

I. Intellectual and Other Cognitive Aspects of Personality.

- A. Intellectual Level
- B. Intellectual Achievement
- C. Mental Efficiency and Impairment
- D. Organization and Logic of Mental Processes
- E. Range of Interests
- F. The "Integrative Function" of the Intellect
- G. "Imagination" or "Creativity"
- H. Escapist Use of Imagination, Fantasy

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1 William E. Henry, "The Thematic Apperception Technique in the Study of Group and Cultural Problems," An Introduction to Projective Techniques, ed. Harold H. and Gladys L. Andersen. N. Y. 1951, 230-278.

## **I. Characteristic "Thought" Content**

## **II. Basic Personality Structure**

- A. According to Rorschach Indications**
- B. Emotionality, Capacity for Emotional Response.**
- C. Basic Needs and Emotional Drives**
- D. Basic Attitudes**
- E. Acceptance, or Rejection of Impulsive Life**
- F. Nature of Emotional Ties with Self and Others**

## **III. Evidences of Emotional Maladjustment, Outstanding Symptoms.**

- A. Depression**
- B. Anxiety**
- C. Obsessions and Compulsions**
- D. Guilt**
- E. Hostility**
- F. Loneliness**
- G. Incapacitation**
- H. Emotional Immaturity**
  - 1. Of Inner Life**
  - 2. Of Behavior Appropriate to Age and Sex**
- I. Inner Conflicts**
- J. Distortions of Evaluation**
- K. Dependency**

#### IV. Extent of Maladjustment

#### V. Methods of Attempted Adjustment

- A. Aggression
- B. Withdrawal
- C. Intellectualization
- D. Ambitiousness
- E. Repression
- F. Fantasy or Daydreaming
- G. Passivity and Dependency
- H. Other "Defense Mechanisms"

#### VI. Positive Ways of Obtaining Satisfaction

- A. Pleasures
- B. Satisfaction of Needs

#### VII. Systems of Control of Behavior

- A. Outer and Inner Control
- B. Indications of Rigidity and Lability
- C. Disregard for Social Norms and Customs
- D. Likelihood of Successful Adjustment

#### VIII. Self-Concepts and Self-Ideals

- A. How the Group Views Themselves at Present
- B. What the Individuals Would Like to Be
- C. The Group's Concepts of Internal Realities  
Influencing Their Adjustment.
- D. Guiding Philosophy of Life

## IX. Concepts of External Reality

- A. External Realities Influencing Adjustment
- B. The Group's Evaluations of Reality

## X. Goals

- A. Realistic
- B. Unrealistic

## XI. Prognostic Indications

- A. Balance of Strengths and Weaknesses or Assets and Liabilities.
- B. What Such a Balance Portends, How the Group Will Get Along.
- C. The Group's Own Opinion of Outcomes

The justification of this integrative scheme will, it is hoped, become clear when the results of its application are seen. There are, of course, many possible methods of combining test data. This one has the merit, it is felt, of being relatively complete, tied closely to objective test findings and of implying a minimum of theoretical assumptions regarding the nature of personality and of mental functioning.

It must be emphasized, however, that even if adequate information relative to every point of this outline were available a complete picture of what the neurotic personality is like would not emerge. Environmental factors and their influences, social interactions of the group members, their

community relationships, their intrafamily interactions and much other pertinent information are not reflected, or at best are only hinted at, in the test results. Adequate social histories of the group members, which are not available, would be needed to complete the picture of a typical neurotic. Nevertheless, it is felt that no other mode of combining existing data will yield as complete a picture of the capacities, attainments, personality structure, types and extents of maladjustments, defense reactions, attempts at self-control, self-concepts, ideals and goals etc., that characterize the present group of neurotic subjects.

#### D. Statistical Methods Employed

Since the experimental group is small, 25 subjects, and if divided with reference to any variable will yield subgroups, often much smaller, the statistical methods employed must be those applicable to small samples. In general, small sample methods are similar to the statistical methods used with larger groups but have correction terms introduced which allow for the skewness of distribution characteristic of samples of about thirty, or fewer, individuals or scores. In dealing with small samples, too, it is usually advisable to deal directly with obtained scores and to avoid frequency distributions, since such arrangements of scores may introduce grouping errors and thus yield distorted results. Accordingly,

in this study small sample methods are employed and calculations are made directly from obtained scores. The formulas and symbols used are largely those of McNemar,<sup>2</sup> who offers many helpful methods for machine calculation of needed statistics from raw scores.

The only type of correlation measure it has proved feasible to apply in the present study is that by the rank difference method. This method yields the correlation coefficient rho according to the following formula:<sup>3</sup>

$$\rho = 1 - \frac{6 \sum d^2}{N(N^2 - 1)}$$

#### E. Techniques for Evaluation of Results.

The purpose of all these statistical techniques is merely to summarize data and to indicate the degree of relationships between data. They do not tell what kind of relationships obtain, for example, causal, dependent, contingent, etc.. Nor do statistical measures help explain why the relationship found does exist. Larger understanding, then, depends upon logical application of well founded psychological theory.

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<sup>2</sup> Quinn McNemar, Psychological Statistics, N. Y. 1949, Chap. 12, 216-234.

<sup>3</sup> McNemar, Psyc. Stat., 97.

The aspects of such theory actually employed in the present study are too many and too complex to detail here. In general, principles of Scholastic psychology are accepted and applied as evaluative norms. The rationale behind each test or technique is also, in so far as possible, translated into Scholastic terms. This is done to make comparison with Scholastic psychological principles easier.



## CHAPTER IV

### THE WECHSLER-BELLEVUE INTELLIGENCE SCALE

#### A. Introduction

Each individual of the experimental group was given all eleven subtests of the Wechsler-Bellevue Intelligence Scale, Form I, in accordance with the instructions and procedures contained in the manual for this scale.<sup>1</sup> The test responses were scored, converted to scaled scores and intelligence quotients computed, also in accordance with the instructions and conversion tables in the manual. The Wechsler Scale is too well known and too widely used to require detailed explanation at this point. As the discussion develops, the mental abilities and traits measured by and indicated by the separate subtests will be commented on and related to what the subtests reveal about the mental capacities and mental functions of the experimental group.

At this point it is desirable to point out abbreviations customarily used in discussion of the Wechsler-Bellevue

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<sup>1</sup> David Wechsler, The Measurement of Adult Intelligence, 3rd ed. Baltimore, 1944.

Intelligence Scale. The Scale as a whole is referred to as the Wechsler. The Verbal Scale is abbreviated, VS; the Performance Scale, PS; and the Full Scale, FS. Three intelligence quotients are yielded by the Wechsler. These are referred to as the FSIQ, the VSIQ or the PSIQ as is appropriate to the context. In spite of the necessity of frequent repetition it is thought better not to abbreviate the names of the separate subtests, as some authors do, since it is difficult to keep in mind the meanings of the eleven different letters or letter combinations required for such abbreviation.

#### B. General Results.

The overall results of the administration of the Wechsler to the group is shown in Table II.

TABLE II

INTELLIGENCE QUOTIENTS. TOTAL GROUP. N = 25

	Range	Mean	S	SE
Full Scale IQ	98-138	118.48	10.33	2.07
Verbal IQ	95-140	117.92	10.72	2.14
Performance IQ	85-134	115.26	13.33	2.67

The standard error of the mean for each scale, shown

in the  $S\bar{X}$  column, is quite small indicating that the scales are measuring reliably, whatever they do measure. The hypothetical "true" mean for each scale can be said to lie within the range of the obtained mean plus and minus the standard error of the mean multiplied by the  $t$  figure for the desired level of confidence. These ranges were computed at the ninety-ninth per cent confidence level, but since they add nothing to what has been said they need not be shown here.

The homogeneity of the group with respect to intelligence, as measured by the three scales, is indicated in the  $S$  column. Hereafter, for convenience the  $S$  will be referred to as the standard deviation, or sigma, to which it is analogous.<sup>2</sup> All of the individuals of the group attained a FSIQ within the range plus and minus two sigmas of the group mean. Only one individual had a VSIQ below the similar range for these IQ's, and only one person's PSIQ was below two sigmas from the mean of PSIQ'S. No one manifested an IQ beyond the range of two sigmas above these respective means.

Hence, it can be seen that the group as a whole is of about Bright Normal Intelligence. This is so whether the group is judged by its average FS, VS or PSIQ. Reference to the test blanks reveals that only four of the group have a

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<sup>2</sup> Quinn McNemar, Psychological Statistics, New York, 1949, 224.

FSIQ of less than 110, the dividing line between Average and Bright Normal Intelligence; six have VSIQ's of less than 110 and five have PSIQ below this upper limit of the normal range. No one of this group is below normal in intelligence, that is, has a FSIQ below 90.

The significance of the difference of 2.66 between the mean VS and the mean PSIQ's was judged by the t test, with t computed according to the formula recommended by McNemar.<sup>3</sup> Application of the formula to the present data yielded a t of only .55. This is not significant even at the ten per cent level of confidence. The conclusion is, therefore, that the group, on the average, does not differ significantly in the abilities measured by the verbal and performance subtests of the Wechsler Scale.

The next step in the analyses of the Wechsler data involved the computation of the average achievement of the group on the various subtests of the scales. These computations are summarized in Table III.

Table III shows the mean achievements of the total group on the various Wechsler subtests and the total and average achievements of the group on each of the scales. The standard error of the mean for each subtest and scale is shown

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<sup>3</sup> Quinn McNemar, Psychological Statistics, New York, 1949, 224.

TABLE III

AVERAGE SCALED SCORES ON WECHSLER SUBTESTS  
TOTAL GROUP, N = 25

	Mean	S	SE
Information	12.68	2.91	.58
Comprehension	13.68	2.75	.55
Digit Span	9.84	3.08	.62
Arithmetic	11.88	3.50	.70
Similarities	13.00	3.16	.63
Vocabulary	12.40	2.27	.45
Total Verbal	61.20	9.98	2.00
Average Verbal	12.25	1.93	.39
Picture Arrangement	10.80	2.69	.54
Picture Completion	11.52	2.85	.57
Block Design	11.40	2.72	.54
Object Assembly	11.72	2.03	.41
Digit Symbol	11.36	2.68	.54
Total Performance	56.80	7.53	1.51
Average Performance	11.37	1.50	.30
Total Full Scale	118.00	13.76	2.75
Average Full Scale	11.82	1.26	.25

in the  $\bar{Sx}$  column. These standard errors are quite small and so indicate that the hypothetical "true" means for this population do not differ significantly from those obtained. The amount of variability within the group with respect to achievement on each subtest and on the separate scales is also shown in this table in the S column. These standard deviations are all quite small relative to their respective means, except on the Digit Span test. This, however, is only a crude measure of the homogeneity of the group, with respect to the abilities and traits measured or indicated by the subtests, because averaging tends to cancel the effects of individual differences in variability. For the same reason, and also because of the smallness of the sample, differences in variability between the separate subtests cannot be expected to be statistically significant. To compare the variance on every subtest with that on every other would require fifty-four sets of calculation and would lead to no valid information about the experimental group. It is likewise useless to speculate concerning what the found variabilities on the separate subtests indicate about the mental level and functioning of the group. Achievement on all the subtests is affected by general intelligence, education and occupation, as well as by fluctuations in attention which in turn reflects emotionality. Hence, from any kind of analysis involving comparison of averages there is no way of

partialing out the degree to which these various factors affect test performance. Likewise, there is no way of telling whether the group as a whole is actually more alike in the abilities measured by the tests on which they show least variability or whether the degree of variability reflects individual impairment of function, or the lack of such impairment, due to different degrees of emotional reactivity to the separate subtests.

Another type of analysis is tried later in an attempt to get at individual degrees of mental impairment as reflected in fluctuations of each individual's subtest scores about his own verbal and performance means and about his Vocabulary score. Thus Table III shows only crudely that there is variation in achievement on the separate subtests; that variation is greater, but for the most part, not significantly so, on some tests than on others; and that variability is greatest over the Full Scale, less on the Verbal Scale and least on the Performance Scale. No further aspects of these findings seem to need emphasis.

#### C. Mental Characteristics of the Experimental Group.

Table III also shows that the highest average achievement on any subtest was on the Comprehension test. In so far as this test measures "common sense", as Wechsler claims, and which he defines as "practical information plus general ability

to evaluate past experience"<sup>4</sup>, the group as a whole would seem capable of social adjustment. It must be borne in mind, however, that half the group is below the group average. The lowest average degree of achievement was on the Digit Span test. This test, according to Wechsler, measures "retentiveness" and is a poor test of general intelligence, especially at higher levels.<sup>5</sup> But it has diagnostic significance since low scores on it point to attention defects, lack of mental control and difficulty in concentration. The group as a whole suffers from some, or all, of these defects, but again it is to be noted that even though the group mean is low, the variability relative to this mean on the Digit Span is the third highest for all the subtests.

The order of difficulty of the subtests for this group, as indicated by their average achievements, is readily apparent from Table III. This order, from the least difficult to the most difficult, is as follows: Comprehension, Similarities, Information, Vocabulary, Arithmetic, Object Assembly, Picture Completion, Block Design, Digit Symbol, Picture Arrangement and Digit Span. These averages reflect only group tendencies with individual differences largely neutralized.

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81. 4 Wechsler, The Measurement of Adult Intelligence,

5 Ibid., 83.



With this in mind, and if the statements of Wechsler and others concerning the mental abilities and traits measured by the separate tests can be accepted,<sup>7,8</sup> the group as a whole can be characterized as follows. Their practical information is adequate and their general ability to evaluate past experience is high. The comprehension test also measures judgment and involves the "effortless and automatic sizing up of a situation and the mobilization of such information as will lead to an appropriate and relevant response." This implies proper attitudinal orientation and freedom from emotional disturbance for proper performance. The group is more successful at this than at any other task called for by the subtests.

Their concept formation is at a high level and they show maturity in discriminating between essential and superficial likenesses on the Similarities test. Their thinking processes then are logical.

The Information test results show high general intellectual capacity and a wide range of knowledge. They are alert to the world about them and have profited from superior social and educational opportunities. Therefore, their memory

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7 Ibid., 77-101.

8 Martin Mayman, Ray Schafer and David Rapaport, "Interpretation of the W-B Int. Sc. in Personality Appraisal" in Harold H. and Gladys L. Anderson, An Introduction to Projective Techniques, New York, 1951, chap. 19, 541-580.

capacities may be said to be well developed and functioning in an orderly manner. These factors are also reflected on the Vocabulary test, which is likewise an index of general intelligence and of level of schooling. Hence, it indicates learning ability, fund of general information and range of ideas, all of which in this group are above general population norms.

The Arithmetic test measures mental alertness and concentration. The individual must abstract the essential data presented in the problems and meaningfully manipulate them according to his knowledge of the number system and his skill at the four basic arithmetical processes. The Arithmetic test correlates highly with general measures of intelligence, but is greatly influenced by education and occupation. Achievement in arithmetic is affected by fluctuations of attention and transient emotional reactions. Some such factors, rather than low general intelligence, probably influenced the achievements of many of this group on the Arithmetic Test. Others apparently were not so affected since the variability on this test is the greatest of any. On this test, too, the group is only slightly above their average achievement on all tests combined.

With the Object Assembly test the group begins to show achievement below their average for all tests. This test directly measures visual-motor coordination, that is, motor

activity guided by visual organization. More fundamentally, it indicates understanding of and ability to deal with part-whole relationships. To some extent, therefore, it is said to measure "creative ability" of the artistic and mechanical sort. Achievement on this test also reflects the thinking and working habits of the group, their modes of perception, their reliance on trial and error methods and their persistence. These factors have varying degrees of importance depending on the individual whose test record is being evaluated. From grouped data the relative contribution of each factor to total achievement cannot be abstracted.

The Picture Completion test measures basic perceptual and conceptual abilities as these are involved in the visual organization and identification of familiar objects and forms. An adequate stock of images is presupposed since the individual must compare the patterns set before him with his images of the real objects if he is to discover what is missing in the picture. He must be able to pick out what is essential to form or function in common objects and not be led astray by unessential details. Concentration is also required for success. The group as a whole does these things less adequately than it performs the other functions mentioned up to the point where discussion of the Picture Completion test begins. Again the reasons for this relative lack of success vary from one

individual to another, but the members of the group are most alike with respect to achievement on this test as the smallness of the standard deviation shows.

The Block Design test, like the Object Assembly, is a test of visual-motor coordination but in working on it the subject does not have to anticipate the pattern he tries to construct as he must do on the Object Assembly test. On the Block Design test the subject is presented with pictured patterns which he must duplicate with identical, interchangeable blocks. Successful performance involves perception and analysis of the pictured spatial patterns and their duplication through block arrangements. Patients with mental deterioration or lack of ability to shift rapidly from one mental activity to another do poorly on block designs. This may be interpreted as due to lack of ability to analyze and synthesize, or lack of an "abstract approach." This group shows such failings to a slight extent, but which contributes most to their relative lack of success cannot be determined from the grouped data.

The Block Design test is the best single measure of non-verbal intelligence, Wechsler says,<sup>9</sup> just as the Vocabulary test is the best single measure of verbal intelligence. On

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9 Wechsler, The Measurement of Adult Intelligence,

this basis the group as a whole can be said to show less non-verbal than verbal intelligence since their average achievement on the Block Design test is slightly below their achievement on the Vocabulary test. This difference, however, is not statistically significant.

The Digit Symbol test, which involves association of symbols and the substitution of new symbols for familiar ones, is primarily a test of learning ability. Visual-motor coordination is also involved in performance on this test, since the subject must find the appropriate symbol in the group presented, find the place to put it and actually write it in the proper place on the test blank. It is probable that these visual-motor factors are relatively unimportant for a group such as this and that the group does badly because of "associative inflexibility" and tendency towards mental confusion, which, Wechsler says,<sup>10</sup> characterize neurotics and other unstable individuals. Concentration is also important on the Digit Symbol test and so it may be inferred that some of the group have difficulty in concentrating and applying themselves to a task for even the brief length of time required. All of these factors probably point to lowered mental efficiency for the group as a whole, rather than to real lack of ability to

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10 Ibid., 95.

perform the tasks involved in the test.

The Picture Arrangement test is primarily one of visual organization and anticipation. The subject must grasp the meaning of each separate sketch and then organize the separate sketches into a meaningful whole that tells a story. He must anticipate the results of his arrangements and this implies comprehension of total situations, social and practical. For this reason the test is said to indicate "social intelligence." This group does badly on this test and so may be considered relatively deficient in ability to use their general intelligence effectively in social situations.

The Digit Span test directly measures immediate recall which implies retention. It is sometimes called a test of immediate memory. It, more than any other Wechsler subtest, is influenced by the factor of attention. Successful performance depends upon relatively effortless, passive and non-selective registering in consciousness of the digits presented. Any voluntary effort to listen or to enforce retention is apt to interfere with the basic mental processes involved. This is why the neurotic's anxious efforts to do well on any task and to make a good impression on the examiner so often interferes with his achievement on this test. This is an example of the general principle that a neurotic's anxiety often defeats his purposes. A large amount of anxiety then can be said to

characterize the group but, as noted previously, there is considerable variability in achievement on the Digit Span test.

### D. Indices of Deterioration or Impairment.

The next stage in the analysis of the Wechsler test data was the determination of the indices of what has been variously called deterioration, mental impairment and loss of mental efficiency. One index of mental efficiency mentioned by Wechsler, but practically ignored by other writers who have reported findings based on his test, is the "Efficiency Quotient" or "EQ".<sup>11</sup> This is obtained in much the same way as the FSIQ. The total scaled score on all tests is calculated in the usual way, but instead of converting this to an IQ by use of the table for such conversion appropriate to the individual's age, the conversion table for the age group 20-24 years is used, regardless of the subject's age. When this is done for this group the results presented in Table IV are obtained.

These findings mean that relative to the supposedly normal population within the age range of maximum mental efficiency this group is quite superior. Comparison of the Average FSIQ with the mean EQ yields a difference of 4.40 IQ points which cannot be considered a statistically significant

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11 Ibid., Appendix 2, 220-222.

TABLE IV  
EFFICIENCY QUOTIENTS. TOTAL GROUP N = 25

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Range of EQ'S . . . . .	96-131
Mean EQ . . . . .	114.08
S . . . . .	9.79
SE . . . . .	1.96

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loss of mental efficiency. But, as in all such averaging individual differences are obscured and, as can be seen from the range and standard deviation of EQ's, some individuals must manifest considerable impairment of mental efficiency. It is to be noted too that the range of EQ's does not extend as high as the range of FSIQ's but is seven points less. There seems to be no way to justify the interpretation that this fact indicates that all individuals in the group show some loss of mental efficiency.

The most commonly used method for calculating mental deterioration is that advocated by Wechsler.<sup>12</sup> The formula for this is printed on the last page of the standard test blank. This involves determination of the ratio between

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<sup>12</sup> Ibid., Chap. VI.



certain subtests, referred to as "Hold" tests, and others called "Don't Hold" tests.<sup>13</sup> The first group comprises the Information Vocabulary, Picture Completion and Object Assembly tests. The "Don't Hold" tests are Digit Span, Arithmetic, Block Design and Digit Symbol. There is also a correction for age since Wechsler's original thought was that deterioration of mental function discoverable in test results was due to the normal processes of aging.

It did not take long after Wechsler's original publication for others using this index to begin to interpret it as indicating "impairment" or "loss of efficiency" of mental function rather than as deterioration due to aging.<sup>14</sup> No proof, as far as the present writer can determine, has ever been offered that the type of loss of mental function due to aging is qualitatively the same as that due to anxiety, depression or other mental states and conditions that temporarily or permanently lower efficiency. Nevertheless, it is probably reasonable to argue that this index does reveal mental impairment or lowering of mental efficiency regardless of the cause

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13 The exact formula is "Hold - Don't Hold ÷ 'Hold' = Per cent loss (deterioration). Age corrections are according to Wechsler's Table 6 showing "normal deterioration" for various ages. Wechsler, op. cit., 66.

14 Albert T. Rabin and Wilson H. Quertin, "Research with the W-B Test: 1945-1950", Psychological Bulletin, 48, 3, 211-248.

of such loss. Causes may vary from one individual to another yet produce similar effects on test performance. If this is so the index can be used to distinguish individuals and groups showing varying amounts of impairment.

The "Mental Deterioration Index" was calculated for each individual of the group. It was discovered that some individuals showed no loss at all and that for others the sum of "Don't Hold" tests was higher than the sum of "Hold" tests. The percentage of loss, for those who showed any, ranged from two to thirty-four per cent. Others showed "negative loss," which can hardly be interpreted as a gain in mental efficiency, ranging from one to twenty-two per cent. To sum these percentages algebraically and to calculate the average loss is quite meaningless since the "losses" and "gains" largely cancel each other. Therefore, it is thought better to present the results of this analysis in terms of the percentages of the total group showing "loss," "gain," and "zero change" in mental efficiency. This is done in Table V.

By "gain" is meant that the sum of "Don't Hold" tests was actually higher than the sum of "Hold" tests for these individuals. By "zero change" is meant that the sums for the two test groups were equal for twelve per cent of the group. The standard errors of these percentage frequencies are so large that the difference between the percentages that show

TABLE V

RESULTS OF THE APPLICATION OF WECHSLER'S  
"MENTAL DETERIORATION INDEX"

	Per Cent	Sigma Per cent
Those showing "loss" of mental efficiency	60	9.80
Those showing "gain" in mental efficiency	28	8.98
Those showing "zero change" in efficiency	12	*
Difference between "loss" and "no loss"	20	13.86

\*Cannot be calculated because the percentage represents less than 5 cases.

and do not show "loss" is insignificant. The standard error of the difference between the percentages is 13.86 and when the difference, twenty per cent, is divided by this figure the resulting  $t$  of the difference is only 1.44 which is not statistically significant.<sup>15</sup> Hence chance factors might well account for the difference found. All that can be said is that sixty per cent of the group show some "loss" of mental efficiency. This is significantly different from the zero per cent loss a "normal" group would be expected to show, but for

<sup>15</sup> Here  $t$  is calculated according to the formula

$$t = \frac{D}{S_D}, \text{ McNemar, } \underline{\text{Psychological Statistics}}, 226.$$

many this "loss" is slight. The possibility remains that even in the cases that show "loss" this may be a function of chronological age, amount of general intelligence, or some other factor rather than an indication of impairment associated with neurosis. It seems useless to attempt to manipulate the data to rule out such factors.

Wechsler further states that deterioration greater than ten per cent is possibly pathological and that greater than twenty per cent is definitely so.<sup>16</sup> Of this group, twenty-eight per cent show more than ten per cent loss and twelve per cent show more than twenty per cent loss. The twenty-eight per cent includes the twelve per cent. But again the findings are not significantly different from chance expectancy.

#### E. Scatter Analysis.

In Chapter XI of his book Wechsler discusses "Diagnostic and Clinical Features" of his Scales.<sup>17</sup> Different patterns of achievement on the various subtests, he argues, are characteristic of various clinical groups. These patterns are obtained by noting the scatter of subtest scores about their mean. Numerous attempts have been made to verify Wechsler's

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16 Wechsler, Measurement of Adult Intelligence, 66.

17. Ibid., Chap. XI.

claims. The most enthusiastic supporters of this so-called "pattern analysis" or "scatter analysis" have been Rapaport and his co-workers at the Menninger Clinic.<sup>18</sup> Most others who have applied this technique have gotten negative or, at best, inconclusive results.<sup>19</sup> Nevertheless, it was decided to try scatter analysis on the present Wechsler Scale data. Wechsler advises that it is generally better to consider the scatter of verbal subtest scores about the verbal mean and performance subtest scores about the performance mean, rather than of all scores about a common mean. This is because these two means so often differ and when averaged have a tendency to minimize scatter.

It is generally considered meaningless to average the mean scatter shown by each member of a group. Some individuals may show much scatter and others little or none, and averaging would cancel these differences, at least to some extent. Therefore, it is better to present results of pattern analysis in terms of the percentages of a group showing and not showing scatter. The question concerning how much scatter is to be considered significant is a tricky one that has never

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18 David Rapaport, et al., Diagnostic and Clinical Testing I, Year Book Publishers, 1945.

19 Rabin and Guertin, "Research with the W-B Test."

been satisfactorily answered. Practically all individuals show some intertest variability. All, then will show some subtest scores above and some below their respective verbal and performance means. Subtest scores are known to vary with age, with general intelligence and with education. These factors are generally uncontrolled in reported studies of scatter analysis. Wechsler himself seems to be aware of the difficulties of scatter analysis. Nonetheless he presents a system of symbols to designate the amount of deviation of any subtest score from the appropriate mean and then presents patterns of such deviations as characterizing various clinical groups.<sup>20</sup>

Application of Wechsler's method of analysis to present data leads to the results presented in Table VI, which shows the percentages of the group whose scores on the various subtests are above, equal to and below their respective means.

<sup>20</sup> Wechsler, Measurement, etc., 153.

Wechsler's system of symbols to indicate scatter is as follows:

+	=	"	"	"	1.5 to 2.5 units	<u>above</u>	mean subtest score.
++	=	"	"	"	3 or more	"	"
-	=	"	"	"	1.5 to 2.5	<u>below</u>	"
--	=	"	"	"	3 or more	"	"
0	=	"	"	"	1.5 to -1.5	from	"

All deviations are in terms of weighted score units.

Verbal test scatter is calculated from each individual's verbal mean and performance test scatter from his performance mean.

It can be readily seen from this table that the larger percentages are mostly in the zero-column. This means that most individuals show no significant departure on most subtests from their respective means. Or, stated another way, on six of the eleven subtests more than half of the individuals do not show any significant departure from their subtest means. Even in the few instances where more than fifty per cent of the group achieve above or below the appropriate mean on any subtest, the standard errors of these percentage frequencies are so large that they indicate the discrepancies might well be due to chance factors. These considerations lead to the conclusion that no pattern of subtest scores typifies this group.

TABLE VI

SCATTER ANALYSIS, WECHSLER SUBTESTS SCORES  
TOTAL GROUP N = 25

	+		+		0		-		-	
	Per cent	Sigma Per cent	Per cent	Sigma Per cent	Per cent	Sigma Per cent	Per cent	Sigma Per cent	Per cent	Sigma Per cent
<b>Verbal Tests</b>										
Information	4	*	16		68	9.33	8		4	
Comprehension	24	8.54	36	9.60	28	8.98	8		4	
Digit Span	8		0		20	8.00	20	8.00	52	9.99
Arithmetic	12		16		40	9.80	12		20	8.00
Similarities	16		16		52	9.99	12		4	
Vocabulary	0		16		76	8.54	8		0	
<b>Performance Tests</b>										
Picture Arrangement	4		20	8.00	44	10.78	8		24	8.54
Picture Completion	8		24	8.54	52	9.99	8		8	
Block Design	8		20	8.00	52	9.99	16		4	
Object Assembly	4		32	9.33	52	9.99	4		8	
Digit Symbol	12		16		44	10.78	20	8.00	8	

\*Blank spaces indicate that the sigma of the per cent cannot be calculated because the percentage represents less than 5 cases.



Wechsler also presents tables showing typical patterns of scatter symbols characteristic of clinical groups.<sup>21</sup> On the basis of the signs shown in Wechsler's table neurotics can be expected to have information scaled scores above their averaged scaled scores on all verbal subtests, Digit Span tests scores below this level and so forth.

Before this typical pattern for neurotics was compared with findings on the experimental group the percentages in the plus plus and the plus columns of Table VI were combined and so were those in the minus and the minus minus columns. This was done on the assumption that any degree of scatter above or below 1.5 points on any subtest could be meaningfully compared with the corresponding subtest in Wechsler's neurotic pattern. Combining these percentages leads to the results shown in Table VII.

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<sup>21</sup> Wechsler, Measurement etc., Table 30, 151 (rearranged). His pattern for neurotics is as follows:

Information	+	Picture Arrangement	-
Comprehension	+	Picture Completion	0
Digit Span	-	Block Design	0
Arithmetic	0 to -	Object Assembly	-
Similarities	+	Digit Symbol	-
Vocabulary	+		

The symbols have the meanings given in footnote 19.

TABLE VII

SCATTER ANALYSIS: PERCENTAGES OF INDIVIDUALS WHOSE SUBTEST SCORES ARE ABOVE, BELOW AND EQUAL TO THEIR RESPECTIVE MEANS

	+		0		-	
	Per cent	Sigma of Per cent	Per cent	Sigma of Per cent	Per cent	Sigma of Per cent
Information	20	8.00	68	9.33	12	*
Comprehension	60	9.80	28	8.98	12	
Digit Span	8		20	8.00	72	8.98
Arithmetic	28	8.98	40	9.80	32	9.33
Similarities	32	9.33	52	9.99	16	
Vocabulary	16		76	8.54	8	
Picture Arrangement	24	8.54	44	10.78	32	9.33
Picture Completion	32	9.33	52	9.99	16	
Block Design	28	8.98	52	9.99	20	8.00
Object Assembly	36	9.60	52	9.99	12	
Digit Symbol	28	8.98	44	10.78	28	8.98

\*Blank spaces indicate the Sigma of the per cent cannot be calculated because the percentage is based on less than five cases.

If it is assumed that the normal individual shows no significant departure of any subtest score from his mean verbal or performance scaled score the data of Table VII would

indicate that the group as a whole is normal. This statement is based on the assumption that any percentage in this table above twenty differs significantly from zero. On ten of the eleven subtests, then, more than twenty per cent of the group achieve as normals should, that is, their scores on the separate subtests do not differ significantly from their means. But on eight of the subtests more than twenty per cent of the group achieve above their means and on four of the subtests more than twenty per cent get scores below their means. So, even though the group as a whole may be considered normal, this "normality" is the result of grouping the data in this manner, and significant percentages of individuals show departures from normal expectancy. In spite of the unreliability of many of the obtained percentages they were combined to show the percentages of individuals who do and do not manifest the neurotic signs indicated by Wechsler. It was hoped that this could reveal group trends even if not conclusive agreement or disagreement between Wechsler's pattern and findings on the present group. This combining of percentages yields Table VIII.

TABLE VIII

PERCENTAGES OF INDIVIDUALS WHO DO AND DO NOT SHOW  
WECHSLER'S NEUROTIC SIGNS ON SUBTESTS

	Per cent Showing Sign	Sigma of Per cent	Per cent Not Showing Sign	Sigma of Per cent
Information	20	8.00	80	8.00
Comprehension	60	9.80	40	9.80
Digit Span	72	8.98	28	8.98
Arithmetic	72	8.98	28	8.98
Similarities	32	9.33	68	9.33
Vocabulary	16	*	84	
Picture Arrangement	32	9.33	68	9.33
Picture Completion	52	9.99	48	9.99
Block Design	52	9.99	48	9.99
Object Assembly	12		88	
Digit Symbol	28	8.98	72	8.98

\*Blank spaces indicate that Sigma of Per Cent cannot be calculated since the percentage is based on less than 5 or more than 20 cases.

In order for a sign to discriminate between neurotics and other types of persons one must expect that more than half of the neurotic group manifest this sign. If seventy-five

per cent of the neurotic group manifests a given sign it cannot be safely concluded that there is a three to one chance that the individual neurotic would show it also, but the sign would have some utility in distinguishing neurotic groups from others and would be at least suggestive in individual diagnosis. On only five of the eleven subtests do more than fifty per cent of this group show neurotic trends, but on two of these tests the percentages (fifty-two) are so close to fifty as to be, almost certainly, chance deviations from it. Even the sixty and seventy-two per cent figures are barely reliable for this group because of the size of their standard errors.

Scatter analysis using Wechsler's method as discussed above has led to negative results. Only three uncertain signs out of a possible eleven neurotic signs were found. Before concluding that scatter analysis cannot aid in the interpretation of the data it was decided to try Rapaport's method which takes account of scatter of other subtest scores about the vocabulary score.<sup>22</sup> This method is based on the assumption that the vocabulary is the most stable of all subtest scores and is the last to be affected by mental disorder of any type. For this group the percentages showing subtest scores above, equal to and below their respective vocabulary test scores,

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22 Rapaport, Diagnostic Psychological Testing I.

are presented in Table IX.

TABLE IX

SCATTER OF SUBTEST SCORES FROM VOCABULARY SCORES  
TOTAL GROUP N = 25

	Per Cent Above Vocabulary	Per Cent Equal to Vocabulary	Per Cent Below Vocabulary
Information	32	32	36
Comprehension	60	12	28
Digit Span	16	4	80
Arithmetic	36	8	56
Similarities	52	20	28
Picture Arrangement	28	8	64
Picture Completion	20	28	52
Block Design	40	8	52
Object Assembly	32	20	48
Digit Symbol	36	8	56

The standard errors of these percentages are of the same order of magnitude as those presented in earlier tables and so need not be repeated in Table IX. As indicated before, any percentage obtained is likely to be unreliable when the total group includes only twenty-five subjects. Even if the obtained figures were considered reliable the only clearly

significant finding is that a large majority do badly on the Digit Span test and so probably have some disturbance in the mental functions measured by this test. This agrees with the findings presented in Table VII which shows seventy-two per cent of the group achieving below their averages on the same test. The sixty-four per cent with Picture Arrangement scores below their Vocabulary scores, as shown in Table IX, is not confirmed by the findings presented in Table VII, which shows only thirty-two per cent of the group with scores on the Picture Arrangement test below their means. For the Comprehension test both tables show sixty per cent of the group achieving above their means and Vocabulary scores respectively. Other differences and similarities between Table VII and Table IX are too small to be statistically significant and so offer no grounds for valid inference. It is, therefore, impossible to judge on the basis of these data the relative merits of the two methods of scatter analysis.

The larger questions of the validity and usefulness of scatter analysis of any type cannot be answered on the basis of available data. Many methods of making such analyses have been proposed and results of their application to test data from various clinical groups are reported in the literature. The general consensus of those who have attempted to appraise scatter analysis objectively is against its validity. This

consensus may be summarized in the statement that no method has yielded consistent results in the hands of different investigators.<sup>23, 24, 25</sup> Often the same investigator obtains

23 E. T. Alderdice and A. J. Butler, "An Analysis of the Performance of Mental Defectives on the Revised Stanford-Binet and the Wechsler-Bellevue Intelligence Scales," Amer. J. Mental Deficiency, 56, 3, Jan. 1952, 609-614. Summarizing their study, of which scatter analysis is only an aspect, these authors conclude: "No two investigators obtain identical patterns of signs" and therefore "pattern analysis is not a reliable diagnostic aid."

24 Stanley Male, "The Childrens Wechsler and the Binet on 104 Mental Defectives at the Polk State School," Amer. J. Mental Deficiency, 56, 2, Oct. 1951, 419-423. While also writing on mental defectives, this author had occasion to evaluate scatter analysis. He cites several unpublished Master's Theses on file at Pennsylvania State College, as well as journal articles. He concludes: "Recent studies throw doubt on the validity of the Wechsler-Bellevue test patterns for differential diagnosis." He adds that he has found no study to agree with Rapaports. Male believes scatter is a function of chronological age and amount of intelligence.

25 Albert T. Rabin and Wilson E. Guertin, "Research with the Wechsler-Bellevue test: 1945-1950," Psychological Bulletin, 48, 3, May 1951. Discussing "The Problem of 'Scatter' and Its Ramifications" these authors point out out inadequacies in Rapaport's study and conclude: "From the point of view of quantitative research and experimentation this study has failed to produce any clear-cut or exclusive findings concerning scatter. On the contrary, it has added to the already existing confusion of contradictory findings on various groups which differ in age and in control of the several pertinent factors involved" (227). Nor do other measures of scatter come off any better in the view of these critics. For their view, however, they cite much impressive evidence. Referring specifically to studies of "Patterns in Neurosis", Rabin and Guertin conclude: "The results of several studies do not support the contention of quantitative W-B findings characteristic of anxiety or compulsive trends" (238).



different results on supposedly equivalent and even matched groups.

In spite of the general severe indictment of scatter analysis in the literature it is often concluded that "the various measures of scatter and variability - the different patterns, have succeeded in differentiating groups, but not individuals."<sup>26</sup> Evidence for this opinion is usually not given. Evaluation of data on the present subjects leads to the exactly opposite conclusion. No "trends" or "tendencies" indicative of nosological classifications or psychopathological symptoms are derivable from test patterns for this group. On the other hand, the Wechsler test data may be a great aid in differential diagnosis of the individual. If a person shows great intertest or even intratest variability some mental disturbance may be legitimately suspected. But qualitative analysis of the content of test responses is usually a greater aid than any quantitative approach.

#### F. Other Diagnostic Indications.

In discussing, in a more general way, characteristics of neurotics' achievement on his scales, Wechsler says that neurotics generally achieve higher on the verbal than on the

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<sup>26</sup> A. T. Rabin, "The Use of the Wechsler-Bellevue Scales with Normal and Abnormal Persons," Psychological Bull., XLII, 1945, 420.

performance tests, as judged by total weighted scaled scores on the Verbal and Performance Scales.<sup>27</sup> But, he admits, exceptions to this rule are common, especially in hysterics and obsessives. In the present group sixty-four per cent of the individuals have total verbal scores higher than their respective performance scores, twenty-eight per cent have lower verbal than performance total scores and for eight per cent the verbal and performance scores are equal. This finding alone is not sufficient to characterize the group as neurotic, especially since other diagnostic groups and also normal groups in that age range show the same trend of higher verbal than performance total scores.

Wechsler also states that for the neurotics the sum of Picture Completion and Block Design scaled scores is generally greater than the sum of Picture Arrangement and Object Assembly scores.<sup>28</sup> Of this group forty-eight per cent had scores in the expected ratio; for forty per cent the finding was in the opposite direction and for twelve per cent there was no difference between these two sums of scores. This, then, cannot be considered a reliable sign of neuroticism as manifested by the present group.

Neurotics too, according to Wechsler, usually do

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27 Wechsler, Measurement etc., 156-160.

28 Ibid.

poorest on tests requiring immediate effort.<sup>29</sup> Each task is regarded by the neurotic as a challenge and he is apprehensive of the impression he may make on the examiner. Hence, he is often "blocked," overcritical and erratic. This is best revealed by relatively low Object Assembly and Digit Span scores, Wechsler says. For this group only twelve per cent showed Object Assembly scores below their averages, while eighty-eight per cent did not. On the Digit Span test, however, seventy-two per cent showed scores in the expected direction, while twenty-eight per cent did not. These findings lead to the conclusion that the Object Assembly test certainly does not discriminate the group from normals or characterize it as neurotic. In the case of the Digit Span test the situation is not so clear cut. Because of the smallness of the samples the standard errors of the percentage frequencies of seventy-two and twenty-eight are each 8.98. The standard error of the difference between these percentages is 12.70 and the  $t$  of the difference is 3.46. Hence the found difference of forty-four per cent is significant beyond the one per cent level of confidence.<sup>30</sup> Still, this statistical result cannot be accepted at face value because of the smallness of the samples and the large standard errors of the

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29 Ibid.

30 Quinn McNemar, Psychological Statistics, 226.

percentages. The only safe conclusion is, then, that there is probably a psychologically meaningful difference between this group and a normal group with respect to achievement on the Digit Span test. This group suffers from some impairment of the mental functions measured by this test and the best guess is that they show a defect of attention.

Other tests that seem to require "immediate effort" are the Arithmetic, Picture Arrangement, Block Design and Digit Symbol tests. On these tests respectively only thirty-two, thirty-two, twenty and twenty-eight per cent of the individuals achieved scores below their Verbal or Performance Scale averages. None of these percentages indicate that these tests are discriminative of neurosis for this group.

Low scores on the Picture Arrangement test, Wechsler adds,<sup>31</sup> are frequently associated with lack of social alertness and reflect inability to deal with social situations. If these things are true only thirty-two per cent of the group manifest these handicaps.

The general conclusion from all these attempts to identify "neurotic signs" is that on such bases this group cannot be characterized as neurotic. Yet, if it is accepted that

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31 Wechsler, Measurement etc., 158.

this group is made up of neurotics, no sign, with the possible exception of low Digit Span scores, discoverable in the test responses of these individuals is a reliable diagnostic aid. This conclusion is in accord with the similar one derived from the application of scatter analysis mentioned above. The same reasons for the Wechsler Scale's inadaptability as a diagnostic instrument, cited in the discussion of scatter analysis also apply here. Therefore, it is as likely that the small difference found between scores on the separate subtests and the averaged scaled scores are functions of general intelligence, chronological age, education or experience or finally individual differences in the mental abilities and traits measured or indicated by the subtests. Without controlling these factors it is gratuitous to assume that almost any deviation of a subtest score below an individual's average is indicative of mental disturbance.

#### G. Sex Differences.

Throughout all the analyses described above the test scores of men and women were kept separate and only combined for final presentation when it was clear that few sex differences existed. Those that were found will be presented here and their significance discussed. In average achievement on the separate subtests, on the separate scales and in the

average amounts of scatter of subtest scores about each individual's verbal and performance means only those differences shown in Table X are significant. With regard to all other items on Tables II and III sex differences were so slight as to be practically negligible and so are not shown here.

TABLE X

SIGNIFICANT DIFFERENCES BETWEEN MALES, N = 14, AND FEMALES, N = 11, IN AVERAGE ACHIEVEMENTS ON SEPARATE SCALES AND ONE SUBTEST

	Male		Female		Difference			
	Mean	S	Mean	S	$\bar{X}_1 - \bar{X}_2$	$S_D$	t	P
Mean PSIQ	119.14	10.89	110.45	11.19	8.69	3.55	6.120	.001
Mean of Total Perf. Scaled Scores	59.71	6.83	53.09	6.94	6.62	2.34	7.072	.001
Mean of Total FS Scaled Scores	121.00	17.40	114.18	15.51	6.82	5.24	3.254	.01
Picture Completion	12.86	1.51	9.82	3.32	3.04	1.77	4.294	.001

It can be seen from Table X that in PSIQ's there is a highly significant difference of 8.69 IQ points between males and females. Such a difference would not be found by chance more than once in a thousand such samples. The explanation of

this difference is probably cultural since the performance tests involve tasks more characteristic of men's than of women's daily activities and interests in our society. When the averaged totals of scaled performance scores of men and women are used in the comparison, rather than the IQ's derived from such scores, but which make allowance for the individual's age, there still is a difference of 6.62 scaled score points in favor of the men. This difference is also very significant and so probably lends weight to the interpretation just given, or, at least, shows that the difference is not due to age discrepancies in the two groups. When averaged FS scores are compared the difference is 6.82 scaled score points, with the men again higher. This difference is significant beyond the one per cent level of confidence. This difference is almost wholly attributable to differences in achievement on performance tests, since in averaged total Verbal Scale scores the difference between men and women is only .20 scaled score points, which is not significant at any acceptable level of confidence.

On the separate subtests differences between averages of scaled scores for men and women were, for the most part, slight and all were statistically insignificant, except on the Picture Completion test. Only on this test was the mean achievement for men as much as 3.04 scaled score points higher than the corresponding mean for women. Wechsler in discussing what

this test measures also notes that sex differences in achievement on it exist.<sup>32</sup> The explanation of this difference is probably cultural since many of the pictures involve recognition of objects and functions illustrating mechanical principles, in which women have little interest.

On the measures of mental impairment, loss of mental efficiency or deterioration, that is, on the "Efficiency Quotient" and the "Mental Deterioration Index", discussed above in connection with Tables IV and V, there were no significant differences between men and women. The actual differences found were slight and their standard errors so large that the differences might well be due to chance.

In scatter analyses of the types summarized in the tables VI to IX there were again only small differences between men and women and even the largest of such small differences proved to be statistically insignificant because of the largeness of the standard errors of the differences between the percentage frequencies for the sex groups.

The general conclusion derived from comparison of the sexes with respect to achievement on the Wechsler Scales is that men and women do not differ significantly in most of the mental abilities measured by the Scales or in other traits

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32 Wechsler, Measurement etc., 83.



said to be indicated by achievement on the various subtests. The only major exception to this is that men, on the average, do better on the Performance Scale than women. This general conclusion is hardly surprising since the Scales are supposed to be standardized in such a manner as to rule out sex differences. That is, the Scales were intended to measure intelligence of men and women without distinction. Whether they actually do or not cannot be, of course, answered on the basis of data from this small group.

#### H. Summary of the Wechsler Scale Findings.

The group as a whole is of Bright Normal Intelligence, with a mean FSIQ of 118 and with comparatively little variation in general ability among the group members. They do not differ significantly, as a group, in the abilities measured by the Verbal and Performance Scales. However, they do show greatest variability in achievement over the Full Scale, less variability on the Verbal Scale and least on the Performance Scale.

In the mean achievement on the various subtests the group was high to low in the following order: Comprehension, Similarities, Information, Vocabulary, Arithmetic, Object Assembly, Picture Completion, Block Design, Digit Symbol, Picture Arrangement and Digit Span. Accepting this order as reflecting group trends the group can be characterized in the following manner with respect to mental abilities and traits measured

or indicated by the subtests. The amount of their practical information is relatively high and so is their ability to evaluate past experience. Their judgment is good. Their conceptualization is at a high and mature level and their thinking processes are logical. They have a wide range of knowledge and interests and are alert to the world about them. They have profited from superior educational opportunities and so enriched their memories. Mental alertness and concentration show most variation within the total group, probably reflecting fluctuations of attention and transient emotional states of some of the group members. But the group as a whole is slightly above its average of all abilities in mental alertness and concentration.

They begin to show abilities below their general average ability in visual-motor coordination and the ability, which this reflects, to deal with part-whole relationships. In basic perceptual and conceptual abilities they are still less adequate. They show a relative lack of analyzing and synthesizing abilities and a lowered learning ability. The latter probably reflects mental confusion or lack of concentration on the part of at least some group members. Or, stated another way, some of the group manifest lowered mental efficiency. In visual organization and anticipation of total situations, social and practical, this group does badly and so may be said to be

relatively inefficient in the use of their general intelligence in social and practical situations. This statement is based on the finding that 64 per cent of the group have Picture Arrangement scores below their performance test means. Yet 60 per cent of the group have Comprehension test scores above their verbal test means. Since the Comprehension test, like the Picture Arrangement test, measures social judgment to some extent, the findings with regard to these two tests appear contradictory. The apparent contradiction is lessened when it is recalled that the Comprehension test involves evaluation of past experience and the Picture Completion test involves anticipation of future contingencies.<sup>33</sup>

In retentiveness, as measured by immediate recall, the group shows the lowest ability of all those measured by the subtests. This finding probably reflects the anxiety of many of the group members.

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33 David Wechsler, "The Wechsler-Bellevue Test," Dept. of Army and Air Force. Mil. Clin. Psych., 25-27.

Comprehension--"Success on the test seemingly depends on possession of a certain amount of practical information and a general ability to evaluate past experience."

Picture Arrangement--"The test appraises subjects' comprehension and understanding of familiar social situations--planning and anticipation are two functions often utilized. This planning and anticipation (is a ) capacity for looking ahead and hence reflects the subjects' ability to anticipate consequences of initial action."

On the general indices of deterioration, impairment or loss of mental efficiency, as they are variously called, the group reveals little loss. Their mean Efficiency Quotient is 114, which is not significantly below their mean IQ of 118.

On the Mental Deterioration Index sixty per cent of group members showed some loss of mental efficiency, but in most cases such loss was small. Only twenty-eight per cent of the group showed a loss of ten per cent or more. Since a loss of ten per cent is considered possibly pathological and a loss of twenty per cent definitely so, the conclusion is that few of the group can be suspected of lowered mental efficiency while seventy-two per cent show no such impairment.

The scatter analyses applied to the Wechsler data yielded few definite findings. On most subtests the scores of most individuals did not differ from each person's respective Verbal or Performance mean. Only on the Comprehension test were as many as sixty per cent of the group above their means and on the Digit Span test seventy-two per cent were below their individual means. If Scatter is measured from the Vocabulary score sixty per cent again show higher scores on the Comprehension test, while eighty per cent get Digit Span scores below their Vocabulary levels. Also sixty-four per cent show lower achievement on the Picture Arrangement test than they do on Vocabulary. These findings are interpreted as indicating

that the group, as a whole, shows superior judgment, but this judgment seems to be more of the abstract than of the practical sort. Since the Comprehension test measures a kind of practical judgment and 60 per cent of the group scored high on this test it might seem that the above conclusion is invalid. However, the conclusion is based on results of the Picture Completion test which does not measure the same aspects of practical judgment measured by the Comprehension test. As indicated previously the Picture Arrangement test involves anticipation of the future while the Comprehension test involves evaluation of the past.<sup>34</sup> So, it is possible that many of the group do not effectively use their high mental ability in adjusting to social situations. The impairment of attention on the Digit Span test probably reflects anxiety.

When the results of scatter analysis are compared with Wechsler's subtest pattern for neurotics only three of his eleven signs are to be found in significantly more than half of this group. Sixty per cent have Comprehension scores in the expected high direction, seventy-two per cent have Digit Span scores in the expected low direction and the same percentage have scores on the Arithmetic test that are below or equal to their Verbal means. These findings are not

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<sup>34</sup> Ibid.

sufficient to characterize the whole group as neurotic. Therefore, it is concluded that scatter analysis is not a reliable diagnostic aid when applied to the data from this group. This conclusion is in accord with opinions cited from the literature. But, it is probable that the majority of the group have some impairment of attention and concentration, and possibly also of ability to anticipate outcomes in practical and social situations.

Other diagnostic indications are not any more commonly found in present data. While sixty-four per cent of the group have Verbal scores higher than performance scores, many others besides neurotics show the same trend. For only forty-eight per cent of the group were the sum of Picture Completion and Block Design greater than the sum of Picture Arrangement and Object Assembly. So, this neurotic sign cannot be said to apply to this group. Similarly the other neurotic signs, discussed by Wechsler and others, each apply to only a small percentage of the group. This leads to the conclusion that such signs are no more reliable as diagnostic aides than those obtained by scatter analysis. The general reasons for these findings seem to be that achievements on the various subtests are influenced by a host of factors such as general intelligence, chronological age, education, experience and individual differences in the separate abilities tapped by the tests. To

control all these, and perhaps other factors, in order to discover what influence impaired attention, lack of concentration, anxiety, depression and other emotional states and conditions may have on test achievement is impossible to do reliably with a group as small as this. It is still true, however, that in the individual case the experienced clinical psychologist can make fairly reliable estimates concerning the relative influence of various factors on test achievement and so reach a conclusion that has diagnostic import.

The attempt to find differences between the sexes was not very fruitful. There was a highly significant difference between men and women in PSIQ'. The explanation of this is probably cultural since the Performance Scale involves tasks more usual to men than to women in our society. A similar explanation accounts for the sex difference on the Picture Completion test, the only subtest on which a difference between men and women was found. Lack of sex differences seems to accord with the general purposes of the Scales which were constructed to measure intelligence with sex linked factors eliminated.

## CHAPTER V

### THE MINNESOTA MULTIPHASIC PERSONALITY INVENTORY

The Minnesota Multiphasic Personality Inventory, familiarly known as the MMPI and so referred to hereafter, was administered to the subjects of the present study according to the standardized directions in the test manual.<sup>1</sup> The results were scored according to the keys and conversion tables provided for the test. Since results for two male subjects are unavailable the following analyses are based on populations of twelve men and eleven women, or a total group of twenty-three.

#### A. General Characteristics of the Group as Shown by Mean Scale Scores.

The first step in the analysis of the MMPI data was to compute the mean scores on each of the validity and clinical scales and to determine their standard deviations. The results of this analysis are shown in Table XI.

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1 S. A. Hathaway and J. C. McKinley, Minnesota Multiphasic Personality Inventory, Manual, Revised 1951, New York, 1951.



TABLE XI

MEAN T-SCORES ON MMPI SCALES. TOTAL GROUP, N = 23

	M	S	S $\bar{x}$
?	50.22	1.03	.215
L	52.04	4.34	.905
F	62.13	10.72	2.235
K	47.57	7.09	1.478
Hs	69.04	16.01	3.338
D	80.30	15.90	3.315
Hy	72.43	11.43	2.383
Pd	69.87	12.96	2.702
Mf	61.17	10.81	2.254
Pa	61.22	12.13	2.529
Pt	74.30	15.90	3.315
Sc	72.26	19.33	4.030
Ma	54.17	10.09	2.104
Si	63.64	10.93	2.330

The first results of interpretation of the findings shown on Table XI are concerned with the validity scales. These scales, ?, L, F and K, indicate the over-all validity of the whole profile derived from the scoring of the entire

inventory. Each has an individual interpretation but to some extent they are also interrelated. The ? score indicates how frequently the subject used the Cannot Say category. If the T score on this scale is too high all other findings become suspect, but if it is only moderately high there is probability that the subject's actual scores on other scales deviate further from the average than the obtained scores indicate. The L score measures the degree to which the subject attempts to choose responses that place him in the best social light. A high L score does not entirely invalidate other scores but does indicate that the subject's real scores on the other scales would be higher, were he more frank. By itself, the L score may be interpreted as an indication of frankness or lying depending on its height. The F score is a general measure of validity. If it is within normal limits it can be presumed that the subject was able to comprehend the items and to make rational and pertinent responses to them. The K score is primarily a correction that sharpens the discriminatory powers of five of the nine clinical scales of the inventory. K is said to act as a "suppressor variable", that is, when it is added to the raw scores on the appropriate scales it tends to pull these scores in the direction of the norm for the group on which the scales were standardized. By itself, K may be said to indicate test-taking attitudes and probably taps subtle

distorting factors which influence such attitudes. A high K, then, represents defensiveness against being self-revealing on the inventory. At times, this may go as far as deliberate distortion in order to appear more "normal," as the subject understands normality. A low K points to over-candidness and too free admission of symptoms, even though such symptoms may be of slight intensity. Under some circumstances a person may try to make a bad impression but if he does his K score very likely will be low.

For the present group, the mean validity scores were all within the normal range, that is, not above 70 or below 30. As can be seen from the standard deviations on Table XI, the group was more variable on the F scale than on the other validity scales. The reasons for this variability are not apparent from the data, but degree of intelligence, amount of insight and willingness to report symptoms all influence it. The general conclusion is then that the results obtained by administration of the MMPI are valid for this group. The other scores, therefore, can be accepted with considerable confidence that they reveal characteristics of the group without undue distortion due to errors of measurement. Nothing further seems to be legitimately inferable from the validity scores and so they will not be mentioned in subsequent sections of this report.

With regard to the factors measured by the clinical scales the type of crude analysis summarized in Table XI indicates the following about the group. Their outstanding symptom complex is depression, as shown by the highest mean score on this scale for the total group. Since depression is to be found in nearly every psychopathological group and may vary in intensity from mild to severe, and since there may also be qualitative differences between neurotic and psychotic depression the mere fact that this group scored high on the depression scale tells little about these subjects. Many, if not most of them, can be expected to show symptoms of depression such as feelings of uselessness, pessimistic outlook, vague dread, lack of self-confidence, tendency to worry, narrowness of interests and introversion.

The second highest mean score was made by the group on the Psychasthenia Scale. This scale shows the similarity of the group to patients who manifest phobias and compulsive behavior or obsessions. Such symptoms are not necessarily disabling and may exist in various degrees of severity. The "phobias" may be only overreactions to normal fear stimuli, the "compulsions" merely ineffectual behavior and the "obsessions" only excessive worry. In fact, many of the psychasthenic symptoms seem to be only exaggerations of depression symptoms and high scores on the two scales correlate highly.

The Hysteria Scale measures the extent to which the group is like patients who have developed conversion-type hysteria symptoms. General organic complaints, specific gastric or cardiac symptoms, episodic attacks of weakness, fainting or convulsions are examples of hysteric symptoms. Persons scoring high on this scale may also show psychological immaturity, fear and anxiety.

This group was fourth highest in the Schizophrenic Scale. This does not mean that the group as a whole, or even any of its members is psychotic. Persons showing complicated symptom patterns often score high on the Schizophrenic Scale while at the same time being high on other scales. The Schizophrenic Scale also correlates with the Psychasthenic to the extent of .84 for normal individuals and .75 for clinical cases. For this group a reasonable interpretation seems to be that the two scales are measuring pretty much the same thing. In addition the schizophrenic scores may indicate a degree of inappropriateness of response to situation. That they indicate bizarre and unpredictable thought or behavior is less likely.

The Psychopathic Deviate Scale indicates similarity of the group to persons who lack deep emotional response, are unable to profit from experience and tend to disregard social norms and customs. It seems to be this last symptom which characterizes the present group many of whom show in other ways

their estrangement from society. Other common symptoms of the psychopathic personality such as lying, stealing, alcohol or drug addition and sexual perversion or immorality are not characteristic of this group.

The Hypochondriasis Scale reflects the amount of abnormal concern about bodily functions shown by the group. Persons high on this scale are unduly worried about their health and frequently complain of vague aches and pains. Bodily malfunction is not as apparent in the hypochondriac as it is in the hysteric. He frequently has a long history of exaggeration of symptoms and of using them to escape unpleasant situations and to elicit sympathy. The hypochondriac also manifests immaturity in his approach to adult problems, lacks insight, and fails to respond with adequate understanding even when his symptoms are interpreted for him. This group seems to be characterized on this scale chiefly by the symptoms of immaturity and lack of insight and to a lesser extent by worry over health.

The Paranoia Scale indicates such traits as suspiciousness, oversensitivity and delusions of persecution. Only five of the subjects actually got T scores above 70 on this scale and these manifested sensitiveness rather than the other traits.

The Interest Scale (Mf) measures tendency towards masculinity or femininity of interests. It must be stressed

that a high score on this scale is not, by itself, sufficient evidence of homosexuality, especially for women. It is general interest patterns, including occupational interests, rather than sexual interests, in the narrow sense, that are measured by the scale. The group as a whole is well within normal limits on this scale.

On the Hypomania Scale (Ma) the group made its lowest average score. This scale measures overproductivity in thought and action. Some of this scale's items refer to mere accentuations of normal responses and not to traits that are manic in the clinical sense. Enthusiasm, attempts to reform social practice, disregard for social conventions and easy loss of interest in their own projects are personality traits, tapped by the scale, which often are found in normal persons, who are ambitious, vigorous and full of plans. Only two of the present group achieve a T score of 70 or above on this scale so the group as a whole may be characterized as relatively lacking in such traits, even when compared with the normal population.

The Social Introversion-Extroversion Scale (Si), while not a clinical scale, measures tendencies to withdraw from social contact with others. High scores are made by isolated or withdrawn individuals who engage in few activities, especially activities involving social participation.

Actually only seven of the group are above the norm on this scale but fifteen are above average and no one is below the norm as a result of manifesting too much social participation.

B. Group Maladjustments as Indicated by T-Scores above Seventy on the Various Clinical Scales.

As can be seen from the sizes of the standard deviations on Table XI, the group shows considerable variability on all these clinical scales. Mean scores tend to obscure individual differences and so yield a profile which is only a crude approximation to a picture of the characteristics of the group. Therefore, another analysis is made in terms of the percentages of the group that achieve T-Scores above 70, the upper limit of normality. That is, the percentages of the group that manifest more than the amount considered normal of the traits and symptoms measured by the scales. The results of this analysis are presented in Table XII.



TABLE XII

PER CENTS OF TOTAL GROUP WITH T-SCORES ABOVE 70  
ON THE CLINICAL SCALES N = 23

	Per Cent	Sigma Per Cent
Hs	43	10.32
D	74	9.26
Hy	48	10.42
Pt	56	10.35
Si	30	9.55
Pd	61	10.16
Mf	22	8.64
So	43	10.32
Pa	22	8.64
Ma	04	*
Si	30	9.55

\*Only for percentages between 21 and 79 can the sigma of the percentage be meaningfully calculated because lesser or greater percentages represent less than 5 individuals in the p or q group.

On this analysis depression is the outstanding symptom since it is to be found in the largest percentage of the group. This finding agrees with that on Table XI which shows the highest mean score for the group on the Depression

scale. Sixty-one per cent show symptoms characteristic of psychopathic deviates and these are the second most common group of symptoms to be found in these subjects. The order of importance of the other symptoms measured by the scales, in so far as the rank order of the percentages of the group that manifest such symptoms is an indication of importance, is as follows: symptoms of psychasthenia, hysteria, hypochondriasis or schizophrenia, paranoia or opposite sex interests and hypomania. Social introversion is also shown by thirty per cent of the group but this symptom is not considered as of comparable importance to symptoms measured by the clinical scales. As indicated before, these diagnostic labels are not to be taken too literally or as signifying that the symptoms they classify are incapacitating. The labels mean that the symptoms they cover are like those to be found in nosological groups but are not necessarily of the same degree of intensity or severity.

In trying to arrive at a diagnostic label that will fit the group as a whole certain difficulties are encountered, again because of individual differences. The test manual states<sup>2</sup> that "in a very broad way" MMPI profiles have similarities "to three generalized patterns". These "are the neurotic, the behavior problem and the psychotic". The Scales

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2 Ibid., 25.

Hs, D and Hy (the neurotic triad) tend to dominate among neurotic patients but Pt is also considered relative as a fourth indicator. Behavior problem profiles are dominated by Pd, Mf and Ma (the psychopathic triad) with Pa less clearly related. In psychotic profiles the scales Sc and Pa (the psychotic diad) dominate but D and Ma also express the pattern. This offers some guidance but does not tell how to weight the "fourth indicators" that are "less clearly related" but "express the pattern." On the basis of mean scores as the main indicators the present group is neurotic. On the neurotic triad the average T score is 73.74, on the psychopathic triad the score is 65.07 and on the psychotic diad the group achieved a mean score of 66.74. If the additional indicators are counted in, on the same basis, the corresponding scores become 74.02, 61.61 and 66.99 respectively. This means that the group is primarily characterized by neurotic symptoms but also show some symptoms more characteristic of psychotics and behavior deviates.

If the average percentages of the group that show high on the diagnostic indices are taken as diagnostic criteria the conclusions are the same. For the neurotic triad 55.00 per cent of the group got scores above normal. On the psychopathic triad the percentage is 29.00 and on the psychotic diad it is 32.50. If the other indicators are counted in, the

percentages become 55.22, 29.75 and 35.75 respectively. These crude analyses merely indicate that more individuals of the group show neurotic symptoms than show the other types and also show such neurotic symptoms to greater degree.

Looked at in another way the data reveal that 91.30 per cent of the group have T-scores above 70 in one or more of the scales indicative of neuroticism, 60.87 per cent are above the norm on one or more scales measuring psychopathic deviations and 78.26 per cent are above 70 on one or more of the psychotic scales. These percentages, of course, overlap, since the same individuals may make high scores on all three sets of diagnostic scales. This grouping is then just another crude way of indicating that the group as a whole is more neurotic than otherwise.

This complexity of symptom patterns and the elevation of so many scores above 70 is a further indication of the severity of the disturbance that is to be found in this group. In general, the more elevated a whole profile is the more maladjusted is the person making it, regardless of which scale he scores highest on. Also, the more scales the person makes high scores on the more maladjusted he is.

#### Sex differences.

Table XIII shows the differences between men and women in average T scores on the various MMPI scales. Several

TABLE XIII

DIFFERENCES BETWEEN MEN AND WOMEN IN MEAN T-SCORES  
ON MMPI SCALES MALE N = 12. FEMALE N = 11

Male			Female			Difference			t
M	S	S <sub>x</sub>	M	S	S <sub>x</sub>	M <sub>m</sub>	M <sub>f</sub>	S <sub>D</sub>	SxD
T 50.00	00.00	0.000	50.45	1.50	.452	- .45	1.50	0.198	0.227
L 51.33	1.73	.499	55.18	6.63	1.999	-3.85	1.99	0.263	14.639 <sup>1</sup>
F 61.92	10.52	3.037	62.36	11.56	3.485	-0.44	10.54	1.391	0.032
K 46.67	7.69	2.220	47.73	6.77	2.041	-1.06	7.27	0.960	1.104
Ke 76.67	17.39	5.020	60.73	9.89	2.982	15.84	14.21	1.876	8.443 <sup>1</sup>
D 88.33	15.05	4.345	71.55	10.04	3.027	16.78	12.91	1.704	9.847 <sup>1</sup>
Hy 76.50	11.85	3.421	68.00	8.00	2.412	8.50	10.20	1.346	6.315 <sup>1</sup>
Ma 70.92	13.04	3.764	68.73	13.58	4.094	2.19	13.28	1.753	1.249
Mf 65.92	8.44	2.436	56.00	9.67	2.915	19.22	11.19	1.477	4.153 <sup>1</sup>
Pa 63.08	14.21	4.102	58.91	10.02	3.021	4.17	12.39	1.635	2.550 <sup>2</sup>
Pt 81.67	14.85	4.287	66.27	13.53	4.079	15.40	14.23	1.878	8.200 <sup>1</sup>
So 78.17	18.76	5.416	65.82	18.87	5.689	12.35	18.81	2.483	4.974 <sup>1</sup>
Sc 55.58	8.33	2.405	52.64	12.05	3.633	2.94	10.27	1.356	2.168 <sup>3</sup>
Si 63.64	11.27	3.398	63.64	11.25	3.392	0.00	11.26	1.486	

1 P = .001

2 P = .02

3 P = .05

of these differences are surprisingly large and statistically highly significant. On the validating scales the only significant difference was on the L scale on which women averaged 3.85 points higher than men. This is probably explainable on the bases of temperamental and cultural differences between men and women since the latter could be expected to choose responses that place them "in the most acceptable light socially".<sup>3</sup> However, no one had an L score above or below the normal range and, averages for both groups are low, so the found difference is more statistically than psychologically significant.

On the Hypochondriasis Scale men are very much higher than women. Why men should be more concerned about their bodily functions and more worried about their health is probably due to the fact that the male group, on the whole, is more maladjusted than the female group.

The men are much more feminine than the women are masculine. Actually, however, the means on this scale are not higher or lower than the normal and so even though the found difference is statistically significant it probably is not of much psychological importance.

The other differences shown on the table; that on

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3 Ibid., 18.

the Paranoia Scale, significant at the two per cent level, and that on the Hypomania Scale, significant at the five per cent level, are probably of little psychological importance and so need no explanation or other comment.

TABLE XIV

PER CENTS OF MEN AND WOMEN WITH T-SCORES ABOVE 70 ON MMPI  
CLINICAL SCALES MALE, N = 12, FEMALE N = 11

	Male Per Cent	Female Per Cent	Difference Per Cent
Hs	67	18	49
D	92	54	38
Hy	58	36	22
Pt	67	45	22
Si	25	36	-11
Pd	75	45	30
Nt	33	9	24
So	58	27	31
Pa	33	9	24
Ma	0	9	- 9

If the percentages of the male and female groups that make T-scores above 70 on the Clinical Scales is taken as the basis of comparison the results presented in Table XIV are obtained.

The standard errors of most of these percentages cannot be meaningfully calculated because they represent too few or too many cases. According to the usual formula for calculating the standard error of a percentage the number of cases in the smaller of the two categories, P or Q, must be five or greater.<sup>4</sup> On this basis only for percentages between 42 and 58 for men, 45 and 55 for women and 21 and 79 for the total group can the standard errors be calculated. For this reason it is impossible to determine the statistical significances of the found differences. However, on the basis of small sample statistical theory it seems reasonable to suppose that any found difference of more than twenty per cent between small groups is statistically significant.

If this statistical conclusion is accepted the men are shown to be much more maladjusted than the women. This conclusion agrees with that derived from comparison of the averages of the two groups on the clinical scales. In other words, more men show more of the neurotic symptoms tapped by the scales than do the women. In addition, this percentage comparison reveals that more men than women show symptoms of psychopathic deviation. This difference was hidden in the comparison of means.

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<sup>4</sup> Quinn McNemar, Psychological Statistics, New York, Wiley, 1949, 62.



All of these attempts to summarize the MMPI data so that it will characterize the group as a whole, and so that the data will differentiate between men and women, are somewhat unsatisfactory. The instrument was designed for individual diagnosis and so any combining of scores of separate individuals is bound to yield distorted results. The same holds true for combining of scores made by the same individual on the separate scales. The only satisfactory procedure seems to be to judge each individual's profile by itself to discover what symptoms he manifests and to what degree, and on the basis of this analysis to decide whether that individual is neurotic, psychopathic or psychotic.

There is, however, a way of comparing individuals according to the similarities of their test profiles.<sup>5,6.</sup> This method does not involve the averaging of scores but compares patterns on all the scales as to their similarity between persons. In order to apply this type of pattern comparison each profile is coded. This coding process is too complicated to be mentioned in detail. It seems sufficient to mention only that each scale has been assigned a single digit number and so

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5 Departments of the Army and the Air Force, Military Clinical Psychology, Wash. U. S. Govt. Printing Office, 1951, 91, 102.

6 S. R. Hathaway and P. E. Meehl, An Atlas for the Clinical Interpretation of the MMPI, Minneapolis, U. of Minn. Press, 1951.

an individual's test profile can be numbered according to the order in which his scores on the separate scales range from high to low. Thus persons highest on the Hypochondriasis Scale have code numbers starting with one; those highest on the Depression Scale have codes starting with the number two, and so forth. An individual high on both these scales receives a two-digit code of twelve or twenty-one, according to which scale score is higher. For interpretive purposes two digit codes are treated the same if they contain the same digits, regardless of the order of the digits; for example, codes twelve and twenty-one, codes twenty-three and thirty-two, and so on.<sup>7</sup>

When the profiles of the present group are coded and the two digit codes arranged in order from low to high the distribution presented in Table XV results.

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7 Mil. Clin. Psyc. 102.

TABLE XV  
TWO-DIGIT CODES ON MMPI SCALES

Code	Description	Number of Cases
13	Hypochondriasis and hysteria	1
18	Hypochondriasis and Schizophrenia	3
21	Depression and Hypochondriasis	3
23 or 32	Depression and Hysteria	3
24 or 42	Depression and Psychopathic Deviation	2
27 or 72	Depression and Psychasthenia	3
34	Hysteria and Psychopathic Deviation	1
45	Psychopathic Deviation and Femininity	1
74	Psychasthenia and Psychopathic Deviation	1
75	Psychasthenia and Masculinity	1
82	Schizophrenia and Depression	1
84	Schizophrenia and Psychopathic Deviation	1
87	Schizophrenia and Psychasthenia	2

This classification reveals at a glance the types of symptoms to be expected in each of these subjects. It does not, however, indicate the degree of any symptom nor the relative severity or importance of symptoms within the same individual. Refinements of interpretation are sacrificed to

convenience of comparison in this coding procedure. Not all of these code types are sufficiently common to be treated extensively in the literature and so there is no statistical basis for judging the homogeneity and consistency of the clinical pictures presented. Since there are so few individuals in the present group to represent each code type the symptom patterns these codes seem to manifest are not presented here in detail. Nor are the members of this group statistically compared with the "ideal" symptom patterns, said in the literature to characterize each code type. There is, however, general agreement between these "ideal" patterns and the patterns of symptoms manifested by members of the present group.

#### D. Summary.

Twenty-three subjects were administered the MMPI according to standardized procedures and the results scored according to the keys provided for this purpose. Findings on the validity scales indicate that the overall results are valid and reliable.

Mean scores on the clinical scales show that the group as a whole is characterized by symptoms of depression, psychasthenia, hysteria, schizophrenia, psychopathic deviation, hypochondriasis, paranoia, opposite sex interest and hypomania, in that order. The meanings of these terms and examples of specific symptoms are given. It is pointed out that there is

considerable variability within the group with respect to the intensity of these symptoms as is indicated by the sizes of the standard deviations on the separate scales.

As another measure of group maladjustment the percentages of the group achieving T-scores above 70 in the various clinical scales was used. Analysis on this basis reveals that the frequency of types of symptoms, from most to least, for this group is as follows: depression, psychopathic deviation, psychasthenia, hysteria, hypochondriasis or schizophrenia, opposite sex interests or paranoia and hypomania. These relative frequencies are commented on and compared with the distribution of symptom intensities.

The general diagnostic classification most characteristic of the group is determined to be that of neurosis but it is pointed out that many symptoms more like those of psychosis and psychopathic deviation are manifested by the group. The general elevation of the individual profiles and the frequencies of Scale scores above 70 are taken as a general sign of the severity of maladjustment for the group as a whole.

Various methods are employed to show differences between the sexes. There are statistically significant differences between men and women in mean scores on the L, Hs, D, Mf, Hy, Pt and Sc scales. The men are, on the average, more

maladjusted than the women, if higher mean scores are taken as a criterion. These differences are probably largely explainable in cultural terms although temperamental factors are probably also operative to an unknown extent.

On the basis of the percentages of men and women making T-scores above 70 on the clinical scales the men are revealed to be much more maladjusted than the women. Taken with the finding mentioned in the above paragraph this shows that more men manifest more of the neurotic symptoms measured by the scales than do the women of this group.

There is also some difference in the types of symptoms and their relative severity among the men and women as indicated by differences in rank order of the percentages of each sex group showing the various symptom types and the rank order of the means of the two groups on the separate scales. For example, more women than men manifest symptoms of hypochondriasis and more men than women show social introversion. Also males, on the average, show more hysteria and the women, more psychasthenia.

All of these attempts to summarize the MMPI data so as to characterize the group as a whole proved to be somewhat unsatisfactory. This is understandable since the instrument was designed for individual diagnosis, not for the group comparisons. Finally, recourse was had to the procedure of

coding each profile. The distribution of the found profiles is given but the characteristics of groups having these profiles are not described because each code type is represented by so few individuals.

## CHAPTER VI

### THE RORSCHACH TECHNIQUE

#### A. Introduction.

The Rorschach method of personality diagnosis was applied to each of our subjects individually. In the administration, scoring and interpretation of results the system of Klopfer was followed.<sup>1</sup> Preliminary to interpretation, scores were summarized on the "Individual Record Blank,"<sup>2</sup> profiles plotted and ratios computed between the scores that are held by Klopfer and his followers to be meaningfully related.

The Rorschach Technique is primarily a method for diagnosis of individual personality structure. Types of responses that can be made to the pictured ink blots are, for practical purposes, infinitely varied. Since the testing situation is relatively unstructured and the subject is induced to respond freely, the number of responses, as well as

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1 Bruno Klopfer and Douglas Kelley, The Rorschach Technique, Yonkers, 1946.

2 Bruno Klopfer and Helen Davidson, "Individual Record Blank," Yonkers, World Book Co., 1942.



the kind of responses he makes is uncontrolled. Much of the basic data resulting from Rorschach administration is not quantifiable and there is no way of determining the distributions of such findings in relevant populations. For some purposes, however, it is essential to summarize data drawn from many individual protocols even though this entails loss of the accuracy and richness of interpretation possible when each record is interpreted separately.

Even granting this, no statistical technique yet devised is really appropriate for summarizing individual Rorschach patterns. The basic reason for this difficulty is that no Rorschach score has an invariant meaning. Its meaning depends largely on the context in which it is found. The relative importance to be attached to each score, or ratio between scores, is also greatly influenced by the total number of responses made by the subject. Therefore, any sort of averaging of scores, percentages or ratios to be found in the Rorschach data from a group of individuals is apt to lead to results that are largely meaningless psychologically. That is to say, that the basic mental processes whereby responses came about cannot be inferred from pooled data since similar responses in separate individuals may have different psychic causality. Yet it is the basic mental processes that must be interpreted in arriving at knowledge of personality structure

and functioning.

In view of these difficulties Cronbach recommends counting procedures as being in general preferable to additive methods in dealing with Rorschach data.<sup>3</sup> Counts of the frequencies with which certain scores, ratios and other "signs" appear in the data and overall ratings based on individual profiles may be summarized in frequency distributions; but by averaging such scores, ratios and ratings a distorted picture of the group is usually obtained.

One statistical problem, with reference to Rorschach data, that has never been solved is how to make due allowance for varying numbers of total responses made by individual members of any group. Methods most commonly recommended, according to Cronbach, are (1) rescoreing a fixed number of responses for each individual, (2) constructing sub-groups approximately equated for total responses and (3) pattern tabulation making use of profiles of normalized scores. Others<sup>4</sup> have recommended more elaborate techniques utilizing analysis of covariance. The first method involves not using data already gathered. The second is inappropriate when the total group

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3 Lee J. Cronbach, "Statistical Methods Applied to Rorschach Scores," Psychological Bulletin, 46, 5 Sept., 1949, 393-429.

4 Robert M. Eichler, "Some Comments on the Controlling of Differences in Responses on the Rorschach Test," Psychological Bulletin, 48, 3, May, 1951, 257-259.

is small to begin with. The third method involves assumption about the statistically normal distribution of scores and moreover can be conveniently applied to only a few types of scores at a time. The fourth method also involves "normalizing," or otherwise transforming scores, and is otherwise exceedingly complicated in application. Moreover, results are trustworthy only when productivity is high and other scores correlate highly with total number of responses.

Present Rorschach data are of such a nature and the general purpose of the present project is such, that it was decided that only the simplest determinations of frequencies of occurrence of scores, ratios and other signs in a sort of generalized, or average, group profile are appropriate and relevant. In what follows this average group profile will be delineated and the percentages of the total group fitting its various parts will be indicated. It is recognized that this procedure is not recommended by Rorschach experts, but it seems to be the only way to adapt the data to the purposes of the present study. This presentation follows quite rigidly parts three and four of Klopfer's manual.<sup>5</sup>

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<sup>5</sup> Klopfer, Part III, Chapters IX to XII, 195-290 and Part IV, Chapter XIII, 319-323 and Chapter XVIII, 385-392.

### B. Productivity.

While little specific significance can be attached to the total number of responses made by an individual or group it is of interest to note such facts since all subsequent interpretations must be, in part, influenced by this factor of productivity. It is well to know also how the present group compares with others in responsiveness to the testing situation. The normal expectancy, based on studies of many groups, is between twenty and forty responses. The present group had a range of 4-92, a mean of 26.72 and a median of 23 responses. Fifty-six per cent are within the normal range, thirty-six per cent are below normal in responsiveness and eight per cent are overproductive.

Six individuals (twenty-four per cent of the group) rejected, that is, failed to respond to, a total of sixteen cards. Individuals rejected one to six cards each. Rejection is indicative of blocking in, and resistance against, the test situation. Five persons rejected card VII, three rejected each of cards VI and IX, two rejected card II and to each of cards IV, V and X one individual failed to respond. Rejection of card VII is regarded as due to disturbance by the shading effects on this card ("shading shock") which are often interpreted as depressive. Cards II, IV, VI and IX are the ones most often rejected by normal people, so their rejection is less significant even though neurotics too frequently

reject them. Cards IV, V and VI may also be rejected because of the symbolic significance of their blackness, their shading, or in the case of VI, its sexual implication or the implication of movement in card V. Rejections of cards II, IX and X are thought to be due to the disturbing effects of their colors and the emotional overtones aroused by color.

### C. Time Factors.

The normal time per response is between thirty and sixty seconds. For this group the range was 13-69 seconds, the mean response time 36.3 seconds and the median 36 seconds. Twenty-eight per cent of the group had individual average response times of less than thirty seconds, or were overly quick, and eight per cent took an average of more than a minute for each response, possibly showing blocking. Reaction time, that is, the time from the presentation of the card until the first response to it, is normally ten to sixty seconds. Reaction times to achromatic and colored cards are averaged separately. For this group, on the achromatic cards the reaction times ranged from 4 to 33 seconds, with a mean of 10.57 and a median of 8.7. Sixty per cent reacted in an average of less than ten seconds and none took longer than an average of a minute. On the chromatic cards the range was 3-37 seconds, the mean 15.68 and the median 15.87 seconds. Only twenty-eight per cent reacted to these stimuli in an average of less than ten seconds.

but none averaged more than sixty seconds. In general, the reaction time to colored cards was slower for most of the group pointing to some disturbance by, or inability to deal with, the color and its supposed emotion provoking effects.

#### D. Indications of Stereotypy and Originality.

The percentage of animal responses is an indication of a subject's stereotypy. Persons whose percepts and ideas are confined to the obvious and commonplace and who have a narrow range of interests tend to have high animal percentages. The more a person can choose content for his responses from outside the animal area, the less likely is his perception and thinking to be stereotyped, inflexible or rigid. For this group the range of animal per cents was from 0 to 75 per cent, with a mean of 40.76 per cent and a median of 44 per cent. Sixteen per cent of the group had an animal percentage of fifty or more, indicating stereotypy, while twenty per cent of the group had less than twenty-five per cent of their responses with animal content. These latter individuals are more original in their responses, but not necessarily in a desirable way.

The number of popular responses made by an individual shows his conformity to group modes of perceiving and conceptualizing. Less than four such responses points to lack of ability or willingness to think like other people. Five or more popular responses shows capacity to think, and interest

in thinking, like others. This is true for thirty-six per cent of the group, while forty per cent of those who made such responses have too few populars. The rest have no populars at all. For the whole group the range of popular responses was 0 to 9, the mean was 4.12 and the median 4. Hence the group is "normal" in this respect.

Original responses, if "good," are interpreted as evidence of creativity, but if unusual or bizarre may be signs of mental disturbance. For this group the range of originals was 0 to 13, the mean 1.24 and the median 0. Seventy-two per cent have no original responses, or are "uncreative". Only eight per cent have more than three originals. In only one case does the number of original responses exceed the number of populars, and in one other case the numbers are equal. The thinking of the group as a whole may be interpreted as dull and commonplace.

Normal people tend, wherever possible, to see whole human or animal figures in preference to parts of such figures. Therefore, when a person reports only details of, and not complete, human or animals his reason for doing so must be sought. If the number of human detail plus the number of animal detail responses exceeds one-half the number of complete human plus complete animal responses, this fact is taken as evidence of an overly-critical attitude. This criticalness has, however,

various significances in different types of personalities. Only two individuals in this group show this sign.

### E. General Personality Structure.

Under this general heading Rorschach theory treats of the individual's "experience type", his modes and degrees of control, his adjustment and maturity and the indications of balance in his personality structure. In the paragraphs which follow these topics will be discussed, under appropriate rubrics, with reference to the experimental group.

#### Erlebnistyp

An individual may reveal relative susceptibility to be motivated by "promptings from within" or to be reactive to stimuli from without. People predominantly prompted from within are called "introverts" and those more reactive to outer stimuli are called "extraverts". These terms have other meanings in other contexts, which sometimes makes for confusion. For example, a person may be activated by "promptings from within" but appear to be socially extroverted or gregarious. Yet since the basic notions signified by the terms "introversion" and "extraversion" are at the core of Rorschach theory, an attempt must be made to keep in mind the meanings given these terms in Rorschach discussion.



Tendencies towards introversion or extraversion are assumed to be distributed in the population in accordance with the normal probability curve. Hence, for the majority of persons actions are about equally initiated by inner needs and set off in response to outer conditions. Some persons will, however, show a relative preponderance of one or the other type of responsiveness. Rorschach himself referred to these types of susceptibility as signs of the individual's erlebnistyp; which term may be freely translated as "experience type".

The fundamental Rorschach sign of experience type is the ratio of human movement responses to the sum of color responses. Introverts show relatively more human movement responses and extraverts have relatively larger color sums. But a person may not be following his natural inclination and conflict may issue from this source. The sign of such conflict is a ratio of other movement responses to texture and shading responses in the opposite direction to the ratio of human movement to the sum of color responses. The percentage of responses to the last three cards, which are brightly colored, may be indicative of introversion, if low, or of extraversion, if high.

On the basis of the human movement to sum color ratio thirty-two per cent of the experimental group are co-arcuated. That is, they have too few of either one or the

other type of such responses to make a judgment. Twenty per cent are ambiequal; their sums of the two types of responses are equal. Twenty-four per cent are shown to be introverted and an equal percentage are extraverted.

The ratio of other movement responses to texture and shading responses represents introversive and extraversive tendencies not fully accepted or utilized by the subject. When in the same direction as the ratio between human movement and color responses the two ratios confirm each other and strengthen the impression of introversion or extraversion. This is the case with only twenty-four per cent of the group; six individuals, three of whom are introverts and three extraverts. Sixty-eight per cent of the group show conflict between their natural inclinations towards introversion or extraversion and their consciously accepted attitudes and strivings. Of the seventeen individuals represented by this percentage, three are covert extraverts tending towards introversion or withdrawal, three are basically introverted but tending towards extraversive expansion. The remaining eleven are either coarotated or ambiequal and so show no clear tendency in either direction.

The percentage of the total responses made to the last three cards also represents the subject's responsiveness to outer stimuli. This responsiveness is less under his conscious control than the use of action or color as "determinants"

of his responses. A tendency towards underproduction, indicating introversion or withdrawal characterizes thirty-six per cent of the present group. Of these nine individuals, seven are scarotated and so expected to be underproductive by this, as well as other, indications. But two are extraverted, by other signs, and so their underproduction here is indicative of a neurotic unresponsiveness to color and its emotional implications. Sixteen per cent of the group (four individuals) are overproductive on the last three cards. Three of these persons evidence repression of responsiveness to outside stimuli.

In summary then, the group as a whole cannot be characterized as either predominantly introverted or extraverted or as being conflicted over their natural response tendencies and what they are consciously trying to do.

#### F. Modes and Degrees of Control.

Granting then that a person has natural tendencies to respond in an introverted, extraverted or ambiequal fashion, and that interpretation of his responses to the Rorschach ink blots may reveal these tendencies, the next question concerns his management of his response tendencies. A person may over- or under-control his responsiveness in various abnormal ways, or he may exercise a more rational control, allowing room for freedom and spontaneity. The individual must somehow control

his responses to outer stimuli, otherwise he is at their mercy. He must also control his own impulses or else he may feel "driven" into acts he does not wish to perform or accept responsibility for. On this basis "outer" and "inner control" are distinguished.

### Outer Control

The Rorschach evidences of outer control are the elements of rationality occurring in conjunction with responses to color on the blots. If a person neither shies away from or is overcome by the color, but can utilize it along with form in a reasonable way in his perception he is said to manifest outer control. The number of responses "determined" by form and color in combination, but with form elements predominating, is a rough measure of a person's degree of outer control. On this basis only sixteen per cent of our group show adequate control; the rest have too few such responses.

Since the above crude measure does not show how or why outer control is inadequate, various refinements are introduced. One of these is the ratio of form-color to color-form plus pure-color responses. In terms of this ratio forty per cent of the group show sufficient control, so as not to be carried away by the color stimuli. This, however, tells nothing about how effectively they otherwise use color. But,

as shown above, of the ten individuals not carried away by the color, only four utilize it effectively. The rest shy away from it. On the other hand, forty-eight per cent of the group are overly responsive to color. This is interpreted as pointing to over-determination of their responses by emotion-provoking stimuli.

Another way of indicating outer control is by means of the ratio of all color responses to all texture and shading responses. The second term of this ratio represents a more hesitant, cautious or tentative approach to outer stimuli than does the color responses. On this basis thirty-two per cent of the group reveals an excess of outer control. Half of these persons manifest this over-cautiousness in emotional contacts to the point of "contact shyness."

A third sign of the degree of outer control is the ratio of human movement responses to the sum of color responses and to the percentage of pure form responses. By this criterion, eight per cent of the group use too little affective energy in their emotional contacts with the world, due either to withdrawal or repression. On the other hand, only one individual (four per cent of the group) shows lack of sufficient outer control.

In summary of this section and on the basis of judgment taking account of the various signs it may be said

that only twenty per cent of the group manifest ability to deal with color adequately, in a rationally controlled fashion. Forty-eight per cent of the group are excessively stimulated by, or carried away by, color and so are overly responsive to it. Thirty-two per cent shy away from color and make too few rationally controlled responses to it. If, as Rorschach theory asserts, color signifies the emotion-provoking aspects of life, the ways this group emotionally adjusts to life situations are indicated by these percentages.

### Inner Control

By "inner control" is meant that control which an individual exercises over his so-called "instinctual drives," the spontaneous impulses of his sense appetites. These he may inhibit, repress or direct in a rational manner. It seems to be essential for rational control that an individual accept his "promptings from within" as positive and constructive energy sources which he can utilize, rather than regard them as hostile and uncontrollable forces which interfere with the security of his existence. This positive attitude towards impulses is expressed in Rorschach responses by a readiness to project action onto the cards. The surest sign of this readiness is the number of human movement responses.

For this group the number of human movement responses ranged from 0-14 per individual, with a mean of 2.64 and

a median of 1. The well adjusted individual should produce at least three such responses, even if he is extraverted, and introverts are expected to produce a minimum of five human movement responses. Only thirty-two per cent of the group produce as many as three of these responses. It is the coarctated, the ambiequal and the extraverted individuals who fail to produce sufficient numbers of such responses. Of the six individuals who appear to be definitely introverted, only one produced less than five human movement responses. So, on the whole, seventy-two per cent of the group do not manifest the inner control necessary to give them poise and security in dealing with the world. But this conclusion must be modified when qualitative factors are taken into consideration, as is shown later.

### Repressive or Constrictive Control

Persons who lack spontaneity appear to be unconsciously repressing their impulses, or else they distrust these impulses so much that they fear to use them in responding to the ink blots. Instead of making responses embodying color or movement they rely on the form qualities of the blots to produce "safe" responses. If more than half of a subject's total responses are so "determined" he is said to be constricted. Twenty-eight per cent of this group have this sign and so to them may be attributed inflexibility and possibly

compulsive symptoms. Others of the group (sixteen per cent of the total) show signs of modified constriction. These appear to have enough insight and tact so as not to trouble others by their rigidity.

### Qualitative Indications of Balance of Control

Qualitative criteria are difficult to summarize from group data. In the individual case the subject's modes and degrees of control must be evaluated and a judgment made as to whether or not he has sufficient control to get along in his life situation. Qualitative criteria are often the determining factors in such judgments. The individual's attitude of introspection and his self-consciousness, if he manifests these, must be taken into consideration. He may have capacity for introspection but not use it as a "shock absorber" in relationship to his own inner life. Also, a person's awareness of things going on in his surroundings may indicate his discernment, but he may lack "tact" in social situations because of his own insecurity. An overall judgment, based on these criteria as well as on the quantitative criteria discussed earlier is that sixty per cent of the group show a favorable balance of control, twelve per cent show too much painful awareness of their surroundings but seem to lack sufficient tact to deal adequately with social situations, and twenty-eight per cent seem to lack sufficient awareness of the



world, or of themselves, to make an adequate adjustment."

### G. Adjustment and Maturity

These two aspects of personality structure are judged by pretty much the same criteria on the Rorschach record. Up through adolescence a person is expected to show signs of immaturity, but from this age on signs of immaturity necessarily imply some form of maladjustment. Since the present group is chronologically adult, their Rorschach protocols are interpreted in terms of the signs of insecurity, anxiety, depression and compulsivity that they show. It should be kept in mind that the presence of any of these symptoms in an adult may also be interpreted as indicative of emotional immaturity. Other signs of personality disorder, especially signs of neuroticism, are treated later in this paper in the sections on "Emotional Aspects of Personality" and on "Diagnostic Implications."

### H. Insecurity and Anxiety.

So-called "systematized" anxiety that takes the form of "conversion symptoms," or is otherwise reflected in the behavior or personality structure of the subject, for example in a "neurotic defense system," is not clearly revealed on the Rorschach record. Its presence in a patient must be judged by other criteria. But unsystematized or so-called "free-floating" anxiety affects Rorschach responses much more immediately.

Such anxiety may be expressed in many qualitative ways in what the subject says and how he says it, and also by the ways he may try to evade the test situation, give responses he thinks are noncommittal, and so forth. For this group sufficient such qualitative data are lacking to judge their anxiety on these bases.

The first quantitative indication of anxiety is the extent to which a person uses diffusion responses. That is, if on the cards he sees objects as though modified by haziness or distance, so that they appear vague, dysphoric or amorphic, the interpretation is made that his inner life is also hazy or foggy. He may be using such responses in an attempt to flee from more sensuous shading and color effects, which represent to him something forbidden and guilt-provoking. He may intellectually attempt to depersonalize or objectify his vague anxiety by calling the blots x-ray pictures or topographical maps, or something else legitimately vague. Only twenty-four per cent of the group have any such responses, but only sixteen per cent have a sufficient number of them to indicate pronounced anxiety. This does not mean that the other eighty-four per cent of the group have no anxiety; it just means that they do not show it by producing diffusion responses.

#### I. Depression

Depression is indicated if a person's achromatic responses outnumber his bright color responses by at least two to

one. Only twenty-four per cent of our group manifest depression in this way. Another sign of depression is the use of black as a color, especially if there is a pronounced tendency to emphasize black, or gray, at the expense of bright colors in a subject's responses. Normals tend not to regard black, white or gray as colors and to respond to cards of these shades on the basis of some other property that the cards possess or the subject attributes to them. When a person prefers black this is interpreted as a "burnt-child" reaction, of a person who is basically responsive to emotional stimuli but has had traumatic experience with such stimuli and now fears them. Forty per cent of the group make one or more responses "determined" by the blackness of the cards, but only eight per cent have as many as three such responses. On this basis, then, depression cannot be said to characterize the group.

#### J. Compulsiveness.

In Rorschach theory compulsivity is shown by a tendency to use all of every ink blot in making a response. The individual responds to the whole blot before, or in lieu of, breaking it into parts. This tendency is referred to as "completeness compulsion". Only one individual (four per cent) of the group manifests this. "Accuracy compulsion" is reflected in a tendency to use tiny and unusual details of the blots as the bases of responses, and at the expense of the whole or

large usual details of the blots. Only eight per cent of the group have signs of such compulsivity. No one of these subjects shows a predominance of human and animal details over complete human and animal figures, as compulsives may likewise be expected to do. The conclusion to be drawn from this analysis is that compulsivity, which is expected to be present in many neurotics, is not revealed in the Rorschach protocols of this group.

### Color and Shading Shock

By these terms are meant certain general reactions made by anxious and insecure subjects to the color and shading effects of the Rorschach cards. Such reactions have traditionally been considered, in Rorschach theory, as signs of emotional disturbance. There are ten criteria for judging the presence of color or shading shock from a subject's responses. These criteria need not be detailed here. Suffice it to say that application of these criteria reveal that sixty-eight per cent of the group show definite color shock and that forty per cent reveal shading shock. The meaning of these findings as neurotic signs is discussed later.

### K. Signs of Balanced Personality Structure.

A balanced personality is revealed, according to Rorschach theory, in a well balanced distribution of response

determinants. If a person makes too many, or not enough, responses based on form, movement, color, shading or texture, there is indication of some inability to deal with the psychological factors reflected in such responses. Judging personality balance is a complicated procedure since the total number of responses and the interrelationships between all types of responses must be taken into account. There are no exact norms based on statistical findings on "normal" populations and in the nature of things there probably cannot be, because persons may differ widely and still be considered clinically and even socially normal. Therefore, on the Rorschach too, quite wide latitudes are allowed in judging "normality" of personality structure. For this group the indications of normality or abnormality and their bases are discussed in the next few paragraphs.

On the basis of the relationship between form-shading plus form-texture responses and pure form responses, sixty per cent of the group appear normal. Considering the total percentages of these three types of responses for each individual, seventy-six per cent of the group appear minimally well adjusted.

Considering relationships between the various types of movement responses, human, animal and inanimate movements, only thirty-six per cent of the group appear normally adjusted.

Comparisons of the various types of color responses for each subject indicates that thirty-two per cent of the group are maladjusted.

Maturation signs in the intellectual sphere are based on comparisons of percentages of responses made to the whole cards and to common and rare details of the blots. Only twenty per cent of the group has a normal percentage of whole responses, thirty-two per cent have a normal percentage of responses to large, usual details, but seventy-two per cent have a normal percentage of responses to tiny, rare and unusual details.

The interpretations of all these findings regarding personality balance vary for each individual and are difficult to summarize for the group. The best estimate is that at least half of the group show some sign of personality imbalance but no one seems to be upset to the extent that he requires hospitalization.

#### L. Intellectual Aspects of Personality.

In Rorschach theory the way a person approaches the task of responding to the ink blots is interpreted as the sign of his functioning type of intelligence. He may show preference for abstract, even vague or grandiose concepts, for common, practical details, or he may be intrigued by the rare, the unusual, even the bizarre or pathological things he "sees"

in the blots. The areas he chooses to respond to indicate his "manner of approach." The way he approaches the ink blots is thought to be a sample of how he uses his intelligence in life situations.

Of the present subjects sixty-four per cent show a preference for whole responses, indicating a tendency to over-intellectualize. In only thirty-six per cent of the group, however, is this tendency sufficiently marked to lead to the interpretation that this overemphasis on abstract thinking is a sign of "quality ambition." By this term is meant fruitless effort to attain a high level of mental activity without possessing the necessary qualifications.

Thirty-two per cent of the group show an emphasis on a concrete, practical approach. This indicates that "common sense" is the main basis of their mental activity. But, twelve per cent of the group show this tendency to such an extent as to suggest a neurotic limitation on the use of their intellectual capacities. On the other hand, fifty-two per cent of the total group show enough common sense to use the most obvious segments of the ink blots before seeking the unusual. This obvious material is interpreted as representing actual life situations and the routine problems of everyday life. Being able to deal with it, with at least minimal adequacy, is a sign of relative adjustment.

Twenty-eight per cent of the group showed some over-emphasis on rare and unusual details as bases for their responses but none did this to a pathological extent. On the other hand, forty-eight per cent of the group ignored rare details to such an extent as to suggest lack of proper intellectual differentiation. Further analysis of these cases indicates that four of these individuals were too hesitant in drawing general conclusions. They prefer "to stick to facts and shun theories." Another individual seemed to be so much concerned with his own mental activity that he tended to ignore everyday problems.

#### Estimate of Intellectual Level

The estimate of an individual's intellectual level is based on the numbers and qualities of his whole and human movement responses, the accuracy of the forms he perceives, his originality, the variety of the content of his responses and the mental flexibility shown in the succession of his responses. On the bases of these criteria overall estimates of the intelligence levels for the present group are as shown in the following table.



TABLE XVI

## RORSCHACH INDICATIONS OF INTELLECTUAL LEVEL

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Very superior intelligence	8 per cent of the group
Superior                   "	8   "   "   "   "   "
High average           "	36   "   "   "   "   "
Low average            "	36   "   "   "   "   "
Dull normal            "	12   "   "   "   "   "

---

The estimate of intellectual functioning, or efficiency, as distinct from capacity is based on interrelationships between the same criteria and is even more difficult to judge. For this group levels of intellectual efficiency appear to be as shown in table XVII.

TABLE XVII

## RORSCHACH INDICATIONS OF INTELLECTUAL EFFICIENCY

---

Superior	8 per cent of the group
High average	12   "   "   "   "   "
Low average	60   "   "   "   "   "
Dull normal	16   "   "   "   "   "
Borderline	4   "   "   "   "   "

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Sixty per cent of the group show some loss of mental efficiency, that is, they do not perform up to the level expected on the bases of their capacities. The forty per cent of the group who show no such loss are mostly of low average or dull normal intelligence to start with and so it is very difficult to judge whether or not they are working up to capacity.

#### M. Emotional Aspects of Personality.

Under this heading Rorschach theory treats of the individual's emotional life, especially his reactions to his own impulses, the emotional aspects of his "inner life" and his emotional ties with outer reality.

##### Emotional Reactions to Promptings from Within

The measure of a person's inner life is the readiness with which he produces human movement responses, according to Rorschach theory. Such responses are rarely found in subjects with rigid constriction or primitive mentality. Lack of human movement responses doesn't mean that these subjects lack all inner life but it does indicate that in such individuals arousal of impulses does not produce self-awareness and consequent opportunity for voluntary acceptance or rejection of the promptings. The constricted person seeks to deny to himself that he has any sensory appetitive impulses and the

primitive person acts on such impulses without evaluating them. The more normal person accepts his impulses as part of himself. In him, impulses stimulate his imagination, lead to self satisfaction and to the balance and integration of his personality. Since such an individual is "at home with" and not "at war with himself" his creative powers are freed and he is able to reveal the richness of his inner life through the production of human movement responses in the Rorschach situation.

As mentioned in the section on "Inner Control" above, seventy-two per cent of our group do not produce sufficient numbers of human movement responses. In the present context this may be interpreted as indicating a paucity of inner life in these subjects. More important than the absolute number of human movement responses, from the present point of view, is the relationship between such responses and whole responses. Responses to whole blots reflect the subject's drive for intellectual conquest, in the Rorschach situation and presumably in life, while the human movement responses reflect the productive capacity of the individual, the ability to realize this intellectual conquest. On the basis of this ratio sixty-eight per cent of our group lack the best use of their creative or productive powers. They appear to manifest "quality ambition" or striving for intellectual domination of themselves and of their environment, which they cannot achieve. If both

absolute numbers of whole and human movement responses, as well as the ratio between these two types of responses, are considered then none of this group really shows an optimum relationship. Those who have a sufficient number of human movement responses have proportionally too many, or too few whole responses.

Animal movement responses are interpreted as reflecting impulsivity and emotional immaturity. A person who makes too large a proportion of such responses is said to be living on a level of impulsive life below his chronological and mental ages. Forty-four per cent of the group made more animal movement than human movement responses and so appear to be overly impulsive and emotionally immature.

Inanimate movement responses imply that the subject experiences his impulses as hostile and uncontrolled forces working on him, rather than as constructive energy sources at his disposal. Only twenty-eight per cent of this group show any such responses, but none show them to an extent to indicate that their inner conflicts are too strong to permit co-operation between their inner and their outer lives.

Considering relationships between all types of movement responses none of the group manifests a healthy balance, such as characterizes the mature, well-adjusted person. Those who show a sufficient number of one type of movement

response lack proportionate numbers of the other types.

### Emotional Ties with Outer Reality

The subject's reaction to the color and shading on the Rorschach cards is thought to sample his general emotional reaction to outer reality. The degree of emotional adjustment to outer reality is indicated by the extent to which a person's emotional reactions are within rational limits. The number of form-color responses made by a person is the Rorschach measure of this. Forty-eight per cent of the group have only one, or no, such responses each, hence appear to be responding to emotion-provoking stimuli without adequate rational control. For the group as a whole the range of form-color responses is 0 to 9 with a mean of 1.76 and a median of 2. On this basis, the emotional adjustment of the group as a whole may be considered quite poor.

Color-form responses signify more impulsive emotional reactions than do form-color responses. In color-form responses rational elements are present but the emotional aspects of the stimuli dominate them. This emotional impulsivity may be interpreted as constructive or destructive depending on the other responses in the record. Twenty-four per cent of the subjects show color-form responses out-numbering their form-color responses and so their impulsivity appears to be relatively destructive.

Pure color responses, representing relatively uncontrolled affectivity, are given by twenty per cent of the group but none show this symptom to a really pathological extent.

Responses made solely on the basis of apparent texture of the ink blots are interpreted as evidence of the absence of adequate control of contact impulses. Only twelve per cent of the group made any such responses, but none to a significant extent. So-called "achromatic color" responses, to the black, white and gray of the cards, are interpreted as attempts to evade color and its implications. Forty per cent of this group made such responses but none more than three which, by itself, is not a significantly high number of achromatic color responses.

However, interrelationships between texture and achromatic responses, on the one hand, and color responses on the other, indicate that thirty-two per cent of the group use a texture as a "shock absorber" against too strong emotional stimulation by the bright colors of the blots. Another sixteen per cent of the group seem to use texture in such a way as to indicate that they are entangled in their own sensuality.

In summary of this section it may be said that emotional ties with outer reality are inadequate for all members of the group. No one of the subjects shows a healthy balance of color and texture responses. Those who are not

dominated by emotion-provoking stimuli, so that they respond to them in a relatively uncontrolled manner, tend to evade such stimuli and to withdraw to "safer" regions and pure form responses.

#### N. Diagnostic Implications.

Clinical diagnosis by means of the Rorschach does not consist of merely counting signs of abnormality. There are no real pathognomic signs and any sign, no matter how unusual or bizarre, must be considered in relation to the context in which it occurs. In a very rich record of a creative personality, unusual responses may occur without implying pathology. If these same responses occur in records of few responses they may be highly significant of maladjustment. There are, however, some signs that are usually found only in certain clinical types. Even when dealing with definite clinical types, combinations of signs will be found to differentiate better than single signs. The more extreme the disorder, too, the more marked the characteristic pattern. The reasons for these statements derive from the basic Rorschach assumption that patterns of responses reflect personality structure.

It must not be expected, then, that any individual will fit perfectly into any diagnostic type, nor that any generalized picture, for example of "the neurotic personality," will apply completely to each member of this group.

Quantitative validity, in the usual statistical sense, is not to be expected in dealing with Rorschach data. Validity must be accepted as sufficient if the majority of the group show a majority of the patterns and individual signs generally accepted as characteristic of neurotics. Negative evidence, that is, the absence of signs of normality or of deeper disturbance, may be equally as important as the presence of definite neurotic signs. Such negative evidence must, of course, be evaluated in terms of the actual responses elicited from the subject.

#### O. Evidences of Neurosis in the Present Group.

Keeping in mind the above considerations and also the fact that indications of neurosis, or at least neurotic-like symptoms, are found in every other type of psychopathology and even in the general population in the form of anxiety, obsessive or compulsive traits, etc. this group as a whole may nevertheless be characterized as neurotic. The evidence for this conclusion is summarized in the following table of neurotic signs, taken from Klopfer and Kelley,<sup>6</sup> and which shows the percentages of the group manifesting the various signs:

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6 Klopfer and Kelley, The Rorschach Technique, 388.



TABLE XVIII

PER CENTS OF TOTAL GROUP SHOWING VARIOUS NEUROTIC SIGNS

Neurotic Sign	Per Cent of Group
1 Number of responses not more than 25 . . . . .	52
2 Number of human movement responses not more than one . . . . .	64
3 Animal movement responses outnumber human movement responses . . . . .	44
4 Color shock occurs . . . . .	68
5 Shading shock occurs . . . . .	40
6 Rejection of one or more cards . . . . .	24
7 More than 50 per cent pure form responses . . . .	28
8 Per cent of animal content responses greater than 50 . . . . .	16
9 Number of form-color responses not more than one . . . . .	48

Of these signs color shock is generally considered the one most characteristic of neurotics. These patients almost invariably show some color shock while few patients of other types do. In Rorschach theory color is interpreted as representing to the neurotic a new and catastrophic situation requiring a shift in his response patterns. Presence of color shock is, therefore, interpreted as representing some neurotic

element in a subject's personality.

Shading shock is interpreted as reflecting feelings of inadequacy and fear of external contacts. It also may indicate that the subject is aware of his personality instability and is trying to control it. Shading shock is also considered significant of a more deep rooted disturbance than is color shock.

The other signs, particularly the number of responses, lack of human movement responses, rejections, animal percentage and the number of form-color responses are to be met with in other types of patient and so do not help to differentiate the neurotic from these other types. These signs do, however, differentiate from the normal. So, if this pattern of signs is found, and there is no evidence of more serious organic or psychotic disturbance there is strong presumptive evidence of neurosis. Such seems to be the case for the present subjects.

There is very little reliable evidence available concerning the differentiation of various types of neurosis by means of the Rorschach. The criteria that have been suggested in the literature are difficult of application, even to the individual case and there seems to be no adequate way to apply such criteria to data from a group. Therefore, no attempt is made to diagnose type of neurosis in the present subjects on the bases of Rorschach criteria alone.

Summary

The best way to summarize this necessarily involved discussion of the Rorschach Technique appears to be in the form of a table showing the percentages of the total group definitely manifesting the various signs of maladjustment discussed in the above text. Since the various percentages to be presented are based on various criteria and there is considerable overlapping the figures shown are not to be considered as strictly additive. Moreover, since those appearing "normal" with respect to the criteria used are not included in the following table, there is an added reason why the percentages shown do not total a hundred for the several areas. The order of items in the following table follows closely the order of discussion in the text and the same headings are used to make back reference easier.

TABLE XIX  
PER CENT OF TOTAL GROUP SHOWING  
VARIOUS SIGNS OF MALADJUSTMENT

Factor	Per Cent
<b>A Productivity</b>	
1. Under productive . . . . .	36
2. Over productive . . . . .	9
3. Blocking or resistance . . . . .	24
<b>B. Time per Response</b>	
1. Overly rapid . . . . .	26
2. Overly slow . . . . .	8
<b>C. Reaction Time to Achromatic Cards</b>	
1. Overly rapid . . . . .	60
2. Overly slow . . . . .	0
<b>D. Reaction Time to Colored Cards</b>	
1. Overly rapid . . . . .	20
2. Overly slow . . . . .	0
<b>E. Stereotypy (Indicated by Content) . . . . .</b>	<b>16</b>
<b>F. Estrangement (Too Few Popular Responses) . .</b>	<b>64</b>
<b>G. Lack of Originality (Too Few Original Responses) . . . . .</b>	<b>72</b>
<b>H. Overcritical Attitude . . . . .</b>	<b>8</b>

# I. General Personality Structure

1. Coarotated . . . . .	32
2. Introverted . . . . .	24
3. Ambiequal . . . . .	20
4. Extraverted . . . . .	24
5. Conflict between overt and covert tendencies . . . . .	68

# J. General Emotional Responsiveness

1. Withdrawal . . . . .	36
2. Over-responsiveness . . . . .	16

# K. Outer Control

1. Overly stimulated, but inadequately responsive . . . . .	48
2. Too little stimulated, too cautiously responsive . . . . .	32
3. Total showing abnormal outer control . . . . .	80

# L. Inner Control as Judged by Quantitative Signs

1. Definitely constricted . . . . .	28
2. Modified constriction . . . . .	16
3. Total showing inadequate inner control. . . . .	72

# M. Inner Control as Judged by Qualitative Indications

1. Too little tact, in social situations . . . . .	12
2. Too little awareness of themselves and of the world . . . . .	28
3. Favorable balance of control . . . . .	60

N. Lack of Adequate Adjustment or Maturity. . .	100
O. Clear Indications of Unbalanced Personality Structure . . . . .	50
P. Intellectual Aspects of Personality	
1. Over-intellectualization . . . . .	36
2. Neurotic limitation on intelligence . . .	12
3. Lack of proper intellectual discrimination . . . . .	48
4. General impairment of intellectual functioning . . . . .	60
5. Optimum relationship between intellectual striving and actual productivity	4
Q. Emotional Aspects of Personality	
1. Inner emotional life	
a. Paucity of inner life . . . . .	72
b. Impulsivity . . . . .	44
c. Healthy balance of impulses . . . . .	0
d. Lack of best use of creative or productive powers due to emotional limitations . . . . .	68
2. Emotional ties with outer reality	
a. Responded without adequate rational control . . . . .	48
b. Destructive impulsivity . . . . .	24
c. Overly hesitant or tentative in approach	32
d. Entangled in own sensuality . . . . .	16
e. General emotional adjustment adequate.	0

In conclusion, it may be stated that no individual in this group is free from neurotic signs on his Rorschach protocol. For some individuals, however, the signs are few, weak or qualitative rather than quantitative. On the other hand, no subject yielded a record showing personality disturbance or disintegration great enough to render tenable a diagnosis of psychosis. The conclusion is, then, that the group consists entirely of neurotics.

#### P. Munroe Inspection Technique.

Another approach to evaluation and interpretation of Rorschach protocols is that recommended by Munroe.<sup>7</sup> She has developed a check list for noting major variations, quantitative and qualitative, used in Rorschach interpretation. It was thought worthwhile to apply this method of evaluation to the Rorschach records of the present subjects for the purpose of obtaining more definite scores indicative of general personality integration and adjustment of the group members. Findings based on application of Munroe's method cannot be integrated with those derived by Klopfer's method without distorting the group personality profile presented above. It was

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<sup>7</sup> Ruth L. Munroe, "The Inspection Technique for the Rorschach Protocol," in Projective Psychology, edited by Lawrence E. Abt and Leopold Bellack, New York, Knopf, 1950, 91-145.

thought better to keep the two approaches separate in order that the two sets of results could be compared. Also, since the two approaches involve somewhat disparate basic assumptions to mixing these techniques of interpretation is not logically defensible. Therefore, the following discussion of the Munroe technique is added merely as a supplement to what has been said above.

Munroe's check list has been widely used and several times revised. The latest revision is used here. Application of the method requires that plus and minus signs, and various letters, be used to indicate the direction, degree, and type of each of the subject's deviations from the "normal" ranges of Rorschach responses. Significant deviations are defined and exemplified in the body of Munroe's article and are too complex to summarize here. The significance of any deviation must be determined by clinical judgment. The article presents standards on which to base such judgments and gives the notations to be made on the check list for each deviation from "normality."

The total number of notations made for a subject, when his Rorschach protocol is scored by means of Munroe's check list, constitute his "adjustment score." Munroe states that this might better be called a "personality integration" score, since it doesn't really measure social adjustment.



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The total number of notations made for a subject, when his Rorschach protocol is scored by means of Munroe's check list, constitute his "adjustment score." Munroe states that this might better be called a "personality integration" score, since it doesn't really measure social adjustment.

Rather it indicates "the ability of the subject to function reasonably well relative to his capacities without serious inner tension."<sup>8</sup> No distinction is made between overt maladjustment and inner distress as causes of deviation from "normal" of the subject's Rorschach responses. He may be socially well adjusted at great cost to his inner peace and yet show a high score on the check list.

A "normal score" on the check list is "anything below six or seven," but few subjects score less than five, according to Munroe. Other studies, she says, yielded median scores for normals of "nine or ten." In the present study the score of ten is adopted as a conservative cut-off point. The higher the score attained by an individual the more "poorly integrated" he is and probably, but not necessarily, the more socially maladjusted he is also. "Poor integration" may be over-rigid as well as too loose integration. Even desirable traits, if too dominant in a personality, and not adequately balanced by other factors, may be handicaps. Examples of such traits are creative imagination, originality, accuracy, etc. which often characterize the gifted schizophrenic. Hence, any pronounced trend, high or low, away from the normal, is scored

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8 Ibid. 94.

because optimal rather than maximal performance is the criterion on the Rorschach. It should be mentioned, too, that while the level of a subject's score reflects his degree of integration or adjustment the score itself does not show the type of disturbance, if any, present. In general, psychotics make higher scores than neurotics but there is much overlapping of the two groups. Severe neurotics may have scores much higher than hospitalized psychotics. Hence, no specific diagnosis can be made from check list scores nor is prognosis definitely indicated. Only the amount of disturbance currently present in the subject is manifested by check list scores.

For the present subjects check list scores ranged from 7 to 30 with a median of 14. The mean was 14.76 and the standard deviation 5.59. Eighty per cent of the group scored above 10, the median for normals. They may, then, be considered poorly integrated in personality and probably socially maladjusted. However, in terms of the comparison of the group median with the median for normals the group is not badly maladjusted. Closer examination of the distribution of check list scores reveals that only twelve per cent of the group (three individuals) score above one standard deviation from the mean of the group. On the other hand, twenty per cent of the group (five individuals) score below one standard deviation below the mean. The distribution is, therefore, slightly skewed in the

direction indicative of greater normality for the group. The three most maladjusted, or poorly integrated, subjects exert undue influence in raising the mean and increasing the standard deviation of the distribution.

Besides yielding a total score representative of personality integration, the check list can also be used to point up the specific areas of departure from "normality" that characterize an individual or group. In this way the check list can be used as the basis for a complete personality description, in lieu of, or to supplement other methods of scoring the Rorschach. This use of the check list on the present group reveals the signs of maladjustment set forth in Table XX. This table shows the percentages of the total group that manifest the various signs, but does not indicate the degree to which such evidences of maladjustment are present in any one individual or in the group as a whole. The intensity of individual maladjustment is shown by the number of checks he receives and that of the group by the mean and median numbers of checks, as described above.

TABLE XX

PERCENTAGES OF THE EXPERIMENTAL GROUP SHOWING VARIOUS SIGNS  
OF MALADJUSTMENT ON THE MONROE CHECK LIST

Maladjustment Sign	Per Cent of Group
Rapid response time . . . . .	26
Slow response time . . . . .	8
Refusals of cards . . . . .	24
Excessive whole responses . . . . .	36
Too few whole responses . . . . .	4
Bad or vague whole responses . . . . .	32
Excessive small detail responses . . . . .	28
White space responses . . . . .	16
Rigid succession . . . . .	16
Loose succession . . . . .	28
Lack of popular or common responses . . . . .	36
Excess of Anatomical and Sex Responses . . . . .	20
Too few human responses . . . . .	32
Narrow range of interests . . . . .	48
Excess of pure form responses . . . . .	32
Lack of pure form responses . . . . .	4
Generally bad or vague responses . . . . .	36
Over exact responses . . . . .	16

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Maladjustment Sign	Per Cent of Group
Shading Shock . . . . .	40
Lack of shading and texture responses . . . . .	44
Depressive responses . . . . .	20
Anxiety responses . . . . .	44
Lack of human movement responses . . . . .	72
Excess of " " " . . . . .	16
Lack of animal movement responses . . . . .	40
Excess of " " " . . . . .	32
Excess of inanimate movement responses . . . . .	20
Insufficient movement responses of any kind . .	40
Color shock . . . . .	68
Lack of controlled responses to color . . . . .	52
Lack of spontaneous color responses . . . . .	36
Excess of uncontrolled color responses . . . . .	24
Excessive use of color . . . . .	16
Avoidance of color . . . . .	52
Introversion . . . . .	32
Extraversion . . . . .	44

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Detailed analysis of the findings presented in Table XX would be largely repetitive of what has been said above in discussing what Klopfer's methods of scoring and interpretation of Rorschach responses reveal about the personality structure and functioning characteristic of this group, all of which is summarized in Table XIX. In general, there is great agreement between results yielded by the Klopfer and Munroe methods. The latter, however, adds a few refinements which clarify interpretation of individual cases, but which do not change the profile of findings for the group. Where there is disagreement between Tables XIX and XX it is because criteria for judging the same factors differ in the two evaluation methods employed.

#### Q. Summary of Rorschach Indications.

The manner and level of adequacy of the group's responses to the form characteristics of the ink blots points to general impairment of intellectual functioning. This impairment may be only temporary inefficiency, not necessarily irreversible. In the test they showed lack of proper intellectual discrimination, over-intellectualization, under-productivity, lack of originality, estrangement from popular modes of thought and stereotypy of thinking. Not all of these symptoms characterized all members of the group and the degrees of intensity varied from one subject to another.

The characteristics of color responses indicate that the general emotional responsiveness of the group is abnormal. Many are overly stimulated by color but inadequately responsive. This is interpreted as reflecting tendencies to withdraw from emotion provoking situations. Nearly all subjects show inadequate emotional control. Destructive impulsivity is not revealed in the majority; in fact most are overly hesitant or cautious in their approach to the world and other people.

Movement responses of the group indicate a paucity of inner life. They reveal emotional interference with creative and productive capacity, distrust of themselves and of their own impulsivity on the part of most of the subjects. The clearest indications of emotional immaturity are likewise revealed in movement responses made by the group.

Shading and texture responses point to the presence of symptoms of depression and anxiety. These responses, as well as the ways the subjects deal with color, are the bases for judging the neurotic character of the group as a whole.

In general personality structure the group members are mostly immature. Half of them are definitely unbalanced. Most of them are not able to accept themselves as they are. There is conflict between inclinations flowing from their basic personality structures and what they are consciously trying to do. Hence, they are at war with themselves. All of the



group, then, are somehow maladjusted and the type of maladjustment may best be referred to as neurotic.

## CHAPTER VII

### THE THEMATIC APPERCEPTION TEST

The Thematic Apperception Test, usually abbreviated TAT, is one of the most widely used, and perhaps the best, of the "projective techniques" available for the study of personality. Its origin, history, development and modifications are amply reported elsewhere<sup>1</sup> and need not be gone into here. Nor is the concern here with the theory of personality implicit in the method recommended by Murray and his coworkers for interpreting TAT results.<sup>2</sup> Rather, TAT findings on the experimental group will be presented and an attempt made to justify the interpretation of such findings in a manner consistent with Scholastic metaphysical and psychological principles.

The basic assumption of all projective techniques is that the way an individual responds to an amorphous, or ambiguous, situation reveals what kind of a person he is. If the situation is not readily perceptible and understandable in terms

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1 John E. Bell, Projective Techniques

2 Henry A. Murray, Explorations in Personality

of the subject's past experience and his resulting conventionalized knowledge categories, he tends, consciously or unconsciously, to "structure" it; that is, to perceive and interpret it in a way determined by his needs, desires, values and wishes. There seems to be too much evidence in favor of this assumption to allow serious questioning of it. There can be no quarrel with the fact that when an individual responds to anything he does so for some reason; and so it should be theoretically possible to infer the reason from some characteristic of the response. That a person reveals something of himself in every response he makes is too well known to require demonstration. Basically, the only way we can know another person is by inference from his responses we have observed or that have been reported to us by that person or another. The individual's "style of life" is manifested in all his actions, in greater or lesser degree; and what has been said of writers in particular is true for the generality of mankind, that is, "the style is the man." Or, in other words, "style of life" is an aspect of personality considered from the psychological point of view.

So the question is not whether a person's responses to the TAT pictures "mean anything," since all responses "mean" something and reveal something about the individual making them. Rather, the basic question is what kind of a person makes a

given set of responses, and why? What do his responses indicate about his real nature, his powers, mental processes and contents, his habits and the organization, or integration, of all these that is his personality (psychologically considered)? None of these aspects of personality is directly given in experience but all are products of interpretive inference. All interpretations imply principles of "knowledge" and "reasoning." The "knowledge" may be "common sense," individual experience, science, philosophy or history, or some postulate or assumed hypothesis in any of these realms. The "reasoning" must be according to some system of logic or mathematics, accepted by the interpreter as relevant and adequate.

It is at this point that the basic weaknesses of Murray's interpretative system become apparent. He assumes a relatively orthodox Freudian psychoanalytic theory as the fundamental explanation of the nature of man and of all man's doings. This is not the place to attempt a critique of Murray's personality theory and much less of Freudianism in general. Suffice it to say that because of its Freudian implications much of Murray's theory is unacceptable. Many of the other schemes proposed for the interpretation of TAT stories<sup>3</sup> are open to similar objections. Still other systems of

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3 Edwin S. Shneidman, Thematic Test Analysis, N.Y., 1951.

interpretation are too cumbersome and difficult of application. They do not yield understanding of personality in proportion to the time and effort that must be expended in applying them. Therefore, since for one reason or another each of the proposed interpretive schemes found in the literature have seemed inappropriate to the present purpose, it was necessary to devise one for this study.

This procedure does no violence to the basic rationale of the TAT. Murray says:

There is no standard list of variables for the TAT. . . The range of stories is as broad as the imagination, and as yet there is no discernable limit to the number of attributes that can be distinguished and scored. As soon as psychologists have found the most satisfactory way of analyzing and formulating and classifying the proceedings of everyday life, they will have found the most satisfactory way of analyzing and formulating and classifying the proceedings described in TAT stories.

He goes on to point out that TAT results have been interpreted in terms of the concepts of various systems and schools of psychology. The interpreter may then feel free to select any principles of interpretation pertinent to his aim.

The basic assumptions of TAT interpretation are, as Murray says, "rather modest" and have been "repeatedly demonstrated." These assumptions are that the story composer is

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4 Henry A. Murray, "Thematic Apperception Test", Section VIII of Military Clinical Psychology. Department of the Army, T M 8-242, Wash., N.S. Govt. Printing Office, 1951, 60.

likely to project some constituents of his personality and some traces of the critical events that have influenced him into the stories he tells. The task of the interpreter, then, is to identify these and to discard all that is not relevant to the formulation of an idea of the subject's personality.<sup>5</sup> It seemed to the present writer that the best way to go about this task was to try to pick out the basic personality and adjustment problems, the self-concepts, feelings, attitudes, needs and goals that characterize the experimental group. The group's interpretation of the environment in terms of "press," meaning forces acting on them, and the outcomes of the stories, signifying the group's expected outcomes of their problems are also noted. It is well to introduce a caution here. In the analyses which follow the problems, self-concepts, feelings, attitudes, etc., discussed are inferred from the stories told by the present subjects. However it is by no means certain that the subjects are always talking about themselves and so are really projecting their own problems, conceptions of themselves, reactions to their present situations, etc.. Therefore it is only probable, and not certain, that what the subjects attribute to the heroes of their stories can be attributed to the subjects themselves.

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5 Ibid., 61-62.

This method of interpretation is largely one of common sense, involving the fewest possible psychological assumptions and shunning the more abstract or esoteric theories of "depth psychology" and personality structure. The guiding principle in this TAT interpretation was the search for information about the group that could be meaningfully compared with information yielded by the other tests and devices employed, or information that would add to that gotten from the other tests. Much of the richness of individual protocols is thus sacrificed, but there seems to be no practical way of including all that an individual record might reveal in a group study such as this.

#### A. TAT Results.

Table XXI presents the number of stories, themes and rejections elicited by each of the 31 TAT cards. It can be seen from the table that the number of subjects to which each card was shown ranged from zero to twenty-five.

TABLE XXI  
NUMBERS OF STORIES AND THEMES  
ELICITED BY TAT CARDS

Card Number	Number of Stories	Number of Themes	Number of Rejections
1	24	12	1
2	24	15	
3BM	5	5	
3GF	9	8	
4	24	18	
5	24	21	
6BM	15	9	
6GF	14	12	
7BM	7	5	
7GF	6	5	
8BM	12	12	
8GF	8	7	
9BM	7	4	
9GF	11	11	1
10	21	15	
11	22	16	3
12M	12	10	
12F	7	7	1



TABLE XXI

Card Number	Number of Stories	Number of Themes	Number of Rejections
12BG	0	0	
12MF ✓	23	16	
13B	1	1	
13G	0	0	
14	12	12	
15	24	15	2
16	21	12	5
17BM	5	5	
17GF	7	4	
18BM	5	5	1
18GF	5	4	1
19	7	6	1
20	7	6	1
TOTALS 31	369	278	17

To most of the cards there was no overt opposition on the part of the subjects. Most of them told some kind of story to every card presented, even though the stories were often brief or fragmented. To card 16, the blank card, how-

ever, five individuals responded with rejection. They refused to attempt to project a "picture" onto it and to tell a story about their projections. Three individuals rejected card 11, which is the vaguest or most ambiguous of the pictures and two persons rejected card 15, a cemetery scene. The other seven cards, that were rejected, were rejected only one time each. It is probably that the rejected cards aroused too much self-awareness in the subjects and too much comprehension of the purpose of the test; or that the rejected cards were anxiety-provoking for certain subjects. Such speculations, however, cannot be tested against available data. Each rejection must be considered in terms of the personality of the subject making it.

A larger than expected number of different themes were elicited by the cards. This finding reflects the diversity of the mental content of the subjects and also their individuality. For many cards the number of themes was equal to, or almost equal to, the number of stories. In these cases it is virtually impossible to reduce the diverse themes to one or two more complex and more inclusive themes. In those cases in which there is wider discrepancy between the number of stories and the number of themes for a card, the stories of several individuals may have themes that can be considered as parts of larger wholes. Several such "part-themes" can be combined and generalized into a "basic theme" which subsumes

them. Where this could not be done the only recourse was to present what seemed to be the most frequent or most significant themes brought out by these cards.

The themes chosen and developed by each subject in his TAT stories are interpreted as reflecting his basic problems of adjustment. This is not always legitimate when dealing with TAT stories because sometimes a person may discuss common human problems without implying that he himself has such a problem. In the present case, however care was taken to list only those themes which clearly implied that the subject was talking about problems of immediate concern to him. The cards depict common human situations to which most people must somehow adjust. If the subject has an adjustment problem in the area symbolized by a TAT card his response to this card is likely to reveal what his problem is and how he deals with it. If several people respond to the same card with similar themes their adjustment problems in the given area are taken to be similar. This is the basis for the generalizations which follow concerning the adjustment problems which characterize the group.

If the subject has no problem in the adjustment area depicted by a card he is apt to give his imagination free reign and his response may be anything. In such cases, even though he does not reveal personal problems, that subject does reveal other aspects of his personality. Hence, while

relatively few stories yield clear indications of basic problems, all the stories reveal something of the feelings, attitudes, needs and expectancies of the group and also something of the ways they perceive and interpret their surroundings. These aspects of the TAT interpretation will be discussed after first treating of the basic problems of the group.

In an attempt to get at the basic problems, a list was constructed of all the themes called forth by each of the cards. This yielded 278 different themes, but many of these were seen to be variations on more basic themes. An effort was then made to combine the various themes into the fewest possible number of more complex themes for each card. The result of this attempt is shown in Table XXII.

TABLE XXII  
BASIC THEMES OF EACH CARD

Card Number	Theme	Per Cent of Individuals	Per Cent of Stories told to Each Card
1	Bewilderment	44	46
	Coercion	36	38
2	Revolt against parents	56	58
3BM	Withdrawal	16	80
3GF	Guilt Remorse	24	67
	Grief	8	22

TABLE XXII

Card Number	Theme	Per Cent of Individuals	Per Cent of Stories Told to Each Card
4	Woman's inadequacy (stories by women)	36	36
	Conflict with women (stories by men)	24	25
	Dependence on women (stories by men)	12	12
5	Mother-Child conflict	36	38
	Woman as lonely, insecure	20	21
	Evasion of common theme	16	17
6BM	Mother-son conflict	32	53
	Dependence of son on mother	12	20
	Difficulties of leaving home	8	13
6GF	Distrust of men (stories by women)	24	43
	Marital conflict	20	36
7BM	Ideal father-son relationship	16	57
	Scorn towards father	12	43
7GF	Mother tells daughter "facts of life"	12	50
8BM	Problems about "the future"	32	67
	Hostility towards father	16	33

TABLE XXII

Card Number	Theme	Per Cent of Individuals	Per Cent of Stories Told to Each Card
8GF	Compensation through day dreams	28	87
9BM	Desire for carefree life	20	71
	Fear of failure	8	29
9GF	Sister rivalry	16	36
	Attempted flight	16	36
10	Marital bliss	52	62
	Separation from loved one	12	14
11	Hostility of nature	48	55
	Fear of own impulses	36	41
12M	Lack of control, of self and destiny	28	58
12F	Mothers' hostility	20	71
13MF	Remorse, Guilt	48	52
	Grief for wife	44	48
14	Hopes for "the future"	24	50
	Regret for "the past"	12	25
	Wonder about God, Nature etc.	12	25
15	Death of self	20	21
	Death of loved one	36	38
	Remorse for past misdeeds	24	25

TABLE XXII

Card Number	Theme	Per Cent of Individuals	Per Cent of Stories Told to Each Card
16	Ideal family life	28	33
	Idealization of self	24	29
	Bewilderment	20	24
17BM	Difficulty of present struggle	12	60
	Desire for social approval	4	20
17GF	Girl contemplating suicide	12	43
	Work is "slavery"	8	29
	Regret for failure	8	29
18BM	Escape through alcohol	8	40
	Rejection of hero	8	40
	Need for help	4	20
18GF	Mother rejects daughter	8	40
	Mother protects child	8	40
19	Home is safe refuge	20	71
20	Hero is lonely	8	29
	Punishment	8	29
	Indecision	4	14
	Waiting for girl	4	14

Even this list is too long for detailed comment on each item and not all items represent problems. Instead a shorter list of basic problems will be presented together with the number of stories to each card that reveals the problems and the percentages of the total group that manifests them. Only the most frequently indicated problems for the group as a whole are listed. The emphasis is on present problems but some seem oriented towards the past and others towards the future. These are accordingly listed under the headings "past" and "future."

#### Present Problems

1. The subjects are bewildered about their present life situations. They are preoccupied with their present difficulties and doubt their own abilities to master their problems. They "wonder" about God, Nature, their "place in the universe" and their relationships to other people (card 1, 11 stories; card 14, 3 stories; card 16, 5 stories). Bewilderment thus characterizes 68 per cent of the group, at least to some extent.

2. Eighty per cent of the group are dominated by their present illness, fatigue, depression, remorse, guilt, self-pity, withdrawal tendencies, plans for attempted flight and thought of suicide (card 3BM, 4 stories; card 3 GF, 6 stories; card 9GF, 4 stories; card 17GF, 3 stories). Three



individuals (12 per cent of the group) see themselves as in an emergency situation, having a difficult struggle, but exerting great effort to get out of their present troubles (card 17BM, 3 stories).

3. Forty-four per cent see themselves as forced to conform, obey, work at unpleasant tasks, held to duties they would like to evade, or are otherwise "enslaved" (card 1, 9 stories, card 17GF, 2 stories).

4. Four of the women feel inadequate, incapable of holding or controlling a man who wants to leave, or vent his anger, have his own way, etc. Also nine women feel incapable of comforting a man in his distress (card 4, 9 stories by women). Five women are "lonely," "looking for someone," fearful or insecure (card 5, 5 stories). Six distrust or fear a man who is sexually aggressive, attempting to seduce or proposing marriage (card 6GF, 6 stories). All of these stories indicate a general fear of sexuality and of marriage but they were told by only 40 per cent of the women.

5. Thirty-six per cent of men see themselves as in conflict with women, their wives, or as frustrated by women (card 4, 3 stories by men). Three feel torn between a seductress and a wife, as having sexual temptations and urges towards extramarital affairs (card 4, 3 stories by men). At the same time three men feel dependent upon women (their wives)

for help, encouragement, comfort or forgiveness (card 4, 3 stories).

6. Both sexes, and all individuals, stress conflicts of married couples over unfaithfulness, alleged or suspected of either, or over finances, child rearing etc. (card 6 GF, 5 stories). That married life is not happy for most of them and that they have problems of adjustment in marriage is shown by the extent to which the stories emphasize "ideal" husband-wife relationships, "marital bliss," "mature love," failure of either husband or wife to live up to the expected role, etc. The ideal "old couple" with "all passion spent," or on their "golden wedding day" is especially stressed (card 10, 13 stories). Even on the blank card idealization of family life, love and marriage was stressed (card 16, 7 stories). Even those who are not married anticipate marital difficulties.

7. The depression that is such an important symptom characterizing the group was expressed in stories emphasizing grief, sorrow, sadness or despair over the death or illness of a loved one, father, mother, spouse, child or friend (card 3GF, 2 stories; card 13 MF, 3 stories; card 15, 9 stories). In the stories to card 15 especially the subjects seemed to be using the figure of a "loved one" to symbolize themselves. Fifty-six per cent thus seemed to be really concerned with their own illness and fearful of their own death.

8. Forty per cent of the subjects fear their own sexual and aggressive impulses, symbolized as a "monster" or "prehistoric animal," or which are in danger of "exploding" or "erupting" and destroying "what man has built" (card 11, 9 stories, card 4, 1 story).<sup>6</sup>

9. Sixty per cent feel remorse, guilt and fear of consequences after "sexual crimes," "seduction" or "rape." These terms probably refer to sexual temptations rather than to overt acts (card 13MF, 9 stories). They have similar feelings about physical violence, aggression, "murder" or other expressions of overt hostility (card 13MF, 6 stories). Here, too, the implication is that the subjects feel guilty about their temptations to indulge their hostile and aggressive impulses, not that they actually have been destructively aggressive.

10. In short, the subjects feel that they are "hypnotized," not in control of themselves, (as 24 per cent express it), severely ill, in need of help, consolation or "blessing." Seven feel that they are being treated by "magic" or "witchcraft," probably meaning psychotherapy (card 12M, 7 stories).

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6 The writer is aware that the conclusions in paragraphs seven and eight above imply psychoanalytic assumptions. Nevertheless these conclusions seem in accord with the contents of the stories on which they are based. If some such assumptions are not made the stories appear to have no meaning at all.

### C. Problems Involving Reference to the Past

11. Sixty-eight per cent of the subjects are in revolt against or reject their parents, the parents' mode of life, their own early lives and backgrounds. With this revolt go guilt feelings about "duties" to parents or a "debt of gratitude" owed to them (card 2, 14 stories). In spite of this revolt a few are "homesick" (card 14, 3 stories); or are experiencing difficulty about leaving home (card 6BM, 2 stories).

12. Longed for ideal father-son relationships were unrealized in the past. Fathers were not "dependable," "helpful," or givers of "good advice" (card 7BM, 4 stories). Instead, the subjects express scorn or disappointment with their fathers who were "weak," domineering, hostile, or "criminal" (card 7BM, 3 stories; card 8BM, 3 stories). Forty per cent of the group stress the inadequacies of their fathers. However, outright hostility towards fathers is for the most part repressed.

13. Mother-child conflicts are more common and more openly expressed. These usually imply the child's revolt against, or at least resentment of, an overly strict, domineering, interfering, overly protective, rejecting, punishing, hostile or compulsively neat mother (card 5, 9 stories; card 6BM, 8 stories; card 12F, 7 stories; card 18 GF, 2 stories). Longed for mother-daughter relationships, symbolized as mother telling

daughter "facts of life" were unrealized (card 7GF, 3 stories; card 18GF, 2 stories). Yet dependence of the child on the mother was also stressed (card 6BM, 3 stories; card 18GF, 2 stories). Seventy-six per cent of the total group had some conflict with their mothers.

14. Regret for the past, for failure to "understand" life, morality or self, for a "misspent life"; remorse for past misdeeds, failure to reform self, etc., especially in the face of approaching death are frequent themes (card 14, 3 stories; card 15, 6 stories; card 17GF, 2 stories). Only forty-four per cent express this type of conflict and only four per cent do so intensely.

#### B. Problems Involving Reference to the Future

15. Forty-eight per cent of the subjects stress the hostility of Nature, of the environment, the hazards of life's journey, obstacles in the paths to their goals, and the difficulties of mere survival (card 11, 12 stories).

16. Eighty-four per cent worry over plans for or problems about "the future" (card 8BM, 5 stories; card 14, 6 stories; card 16, 2 stories). Their plans and problems concern how to achieve desires for carefree existence, passivity, rest, relaxation, contentment, or satisfaction, after their present troubles (card 8GF, 3 stories; card 9BM, 5 stories).

17. For one individual the inability to cure himself, or to be cured, will, he fears, lead to a "tramp's life" (card 9BM, 1 story). For another person the struggle is too much; he needs help (card 18BM, 1 story). Others express similar fears and despair concerning the outcome of their present troubles but do so more vaguely. Three have considered alcohol as a solution to their problems, but rejected it (card 9 BM, 1 story; card 18BM, 2 stories). Their own death as the only end to their problems is feared, regretted or sadly accepted as inevitable by five subjects (card 15, 5 stories). A few see possibilities of release after "punishment" (card 18 BM, 2 stories; card 20, 2 stories). Such "hopelessness" is expressed by 56 per cent of the individuals, intensely by 20 per cent.

18. Twenty-eight per cent, however, are still capable of hoping for future idealization of themselves, their future careers or states of life (card 16, 6 stories). One even hopes for social approval as a "great performer" (card 17BM, 1 story).

19. Twenty per cent who apparently see less hope of conquering the world idealize home as a "safe refuge" from a hostile Nature and society. There "mother" will calm fears of "imaginary evils" or the hostility of Nature, which "is only a dream." The feared "monster" outside may actually be benevolent (card 19, 6 stories).

The above list includes the problems that were most frequently stressed and most characteristic of the group as a whole. As noteworthy as the problems included are certain others that were conspicuous by their absence. For example, sibling rivalry as a problem as mentioned only twice. Failure of attempted compensation through day-dreams, pride, self-deceit, dishonesty, greed, avarice, envy, or jealousy were scarcely mentioned as problems. Serious religious doubts were expressed in only one story. Problems of vocational or career choice were also rare. Few of the individuals looked upon their social isolation, loneliness, and estrangement as problems of their own, or as problems about which they could do something. They tended to blame their loneliness on rejection by others. Serious thoughts of suicide appear to have been entertained by only two subjects. Practically all subjects avoided problems posed by their passivity and dependence.

In general the subjects seemed to lack insight into the real nature of their problems. While to some extent they were aware of and troubled by their own inadequacies, their general tendency was to blame their difficulties on a hostile world and on rejecting others. They refused to accept sufficient self-responsibility for their plight. They likewise look to the help of others as means of getting out of their difficulties, rather than making by themselves appropriate

efforts to attain realizable goals.

Table XXIII summarizes the above data on types of problems with reference to the percentages of the total group who manifest such problems and the number of stories in which they are manifested. The ratings "slight" "moderate" and "intense" in this table are matters of subjective judgment but are based to some extent on quantitative factors. If a subject manifested a problem in only one or two of his stories, he received a rating of "slight" on his problem, unless he expressed himself vehemently with regard to it, or there was some other evidence in his overall test results that the problem was a dominant one in his case. Problems manifested in three to five stories were rated "moderate" and those shown in more than five stories of the same individual were considered "intense." Ratings of "moderate" and "intense" were likewise made on the basis of how the problem was expressed and the evidence for it in other test results.



TABLE XXIII  
FREQUENCIES OF PRESENT PROBLEMS

Problem	Shown by Per Cent of Individuals				Shown in Number of Stories
	Slight	Moderate	Intense	Total	
1. Bewilderment	36	20	12	68	17
2. Preoccupation	40	28	12	80	20
3. Coercion	36	8	0	44	11
4. Sexual inadequacy (women)	16	12	12	40	20
5. Conflict with women (men)	12	12	12	36	10
6. Marital conflicts	52	28	20	100	25
7. Self concern	8	36	12	56	14
8. Own impulsivity	0	36	4	40	10
9. Guilt feelings	0	24	36	60	15
10. Lack of self control	12	12	0	24	7
11. Revolt against past	40	16	12	68	19
12. Lack of ideal father-son rela- tionship	16	12	12	40	10
13. Mother-child conflicts	16	36	24	76	37
14. Regret for past life	12	24	8	44	11

TABLE XXIII (Cont.)  
FREQUENCIES OF PRESENT PROBLEMS

Problem	Shown by Per Cent of Individuals				Shown in Number of Stories
	Slight	Moderate	Intense	Total	
15. Hostile physical environment	0	36	12	48	12
16. Uncertain future	44	20	20	84	21
17. Hopelessness of struggle	16	20	20	56	12
18. Self-perfection	0	24	4	28	7
19. Finding a "safe" refuge	0	20	0	20	5
Total					283

#### E. Self-concepts of the Subjects

Patients see themselves as physically ill, physically unfit and tired (92 per cent of the group). They are bewildered, confused (56 per cent), under strain (80 per cent), and emotionally upset (76 per cent) by their present problems and difficulties. They are indecisive, hesitant and uncertain about what course of action to adopt to lead them out of their present situation (36 per cent). Hence, they are depressed (80 per cent), hopeless, despondent at present and anxious

(72 per cent) about the future. They feel helpless and frustrated (20 per cent) because of many past defeats.

They feel that circumstances compel them to work and struggle (60 per cent). They are dominated by, but dependent on, mother, father, wife or husband (80 per cent), yet are problems or sources of trouble to these others. They are also beset or dominated by their own aggressive, hostile, selfish, greedy and sexual impulses and pride (40 per cent). They feel they lack sufficient "self-control" or "strength of character" to master these impulses (36 per cent). Hence, they are guilt-ridden.

They feel estranged from other people and from social life and are very lonely. Others misunderstand, don't appreciate and don't love them. Fifty-two per cent feel rejected, but only three feel persecuted. Eight per cent express this loneliness most of them more than slightly.

Many admit they seek refuge in day-dreams, in "running away" from or ignoring their problems, but 38 per cent imply they are passively waiting for someone to help them. Only two individuals think they are being properly punished.

In short, they look upon themselves as inadequate or inferior persons in a hostile world. Few are hopeful of any real solution to their problems.

TABLE XXIV  
FREQUENCIES OF SELF CONCEPTS

	Shown by Per Cent of Individuals				Shown in Number of Stories
	Slight	Moderate	Intense	Total	
1. Physically unfit	16	52	4	72	25
2. Confused	40	16	0	56	14
3. Under strain	16	60	4	80	22
4. Emotionally upset	12	48	16	76	19
5. Indecisive	0	20	16	36	10
6. Depressed	20	40	20	80	20
7. Anxious	40	20	12	72	19
8. Helpless	16	20	0	36	12
9. Frustrated	0	20	0	20	5
10. Victim of Circum- stances	40	20	0	60	18
11. Dominated by par- ents or spouse	0	56	24	80	25
12. Beset by own impulses	0	16	12	40	13
13. Lack self-control	12	24	0	36	12
14. Lonely	16	40	24	80	26
15. Misunderstood	0	36	0	36	9
16. Rejected	40	12	0	52	15
17. Passively waiting	12	20	16	48	12
<b>Total</b>					<b>276</b>

These self-concepts are summarized in Table XXIV.

In this table the ratings of "slight" "Moderate" and "intense" have the same meanings as in Table XXIII and were arrived at in the same way. The numbers of stories on which the ratings were based are also shown, but the clearness of the expression of the self-concepts in the stories rather than the number of stories which yield each self-concept was the basis for judging intensity of the self-concepts in the individuals.

#### F. Self-ideals of the Subjects

The self-ideals of the group include the following traits in about this order of importance. Seventy-two per cent would like to be intellectual, studious, thoughtful or "deep-thinkers" and introspective in order to be better able to understand themselves, the world and their present difficulties. They would like to be able to cope with their problems to "think themselves out of" their present difficulties (68 per cent). They like to think of themselves as ambitious, "hard workers," and talented (60 per cent), able to advance beyond the social and economic status of their parents. They would like to be more self-confident (60 per cent), determined, self-assertive and aggressive (40 per cent). They value being considered as ideal and devoted husbands or wives (52 per cent), good fathers and mothers to their children (36 per cent), and good children to their parents (16 per cent). The women would

like to be young and beautiful (28 per cent), and the men handsome and physically strong (29 per cent). Both want to be more attractive to the opposite sex (60 per cent). Probably they all want to be loved by someone, but especially by their mates and parents. However, they look upon themselves as aiming at being appreciative of others, (40 per cent), sympathetic (32 per cent), encouraging and helpful (32 per cent), affectionate (36 per cent), and social minded (28 per cent). They would like to participate more in social life (20 per cent), be accepted and respected by others (24 per cent), be more socially assured and adjusted (24 per cent).

In short they would like to be carefree, released from their present troubles, depression, anxiety, guilt and feelings of inadequacy, to be calm, contented, morally more perfect, able to enjoy life and be happy.

Table XXV summarizes this section and shows the approximate percentages of the total group who stress these self ideals in their stories.

TABLE XXV  
FREQUENCIES OF SELF IDEALS

	Shown by Per Cent of Individuals				Shown in Number of Stories
	Slight	Moderate	Intense	Total	
1. Intellectuality	8	40	24	72	26
2. Self understanding	4	60	4	68	23
3. Ambition	0	40	20	60	16
4. Self-confidence	10	40	10	60	21
5. Aggression	0	20	20	40	18
6. Devoted spouse	12	28	12	52	19
7. Good parent	0	20	16	36	16
8. Credit to parents	0	10	6	16	16
9. Youth and beauty (women)	0	16	12	28	17
10. Handsome strong (men)	16	12	0	28	16
11. Sexually attractive	20	32	8	60	18
12. To be loved	12	36	12	60	18
13. Appreciate of others	12	16	12	40	14
14. Sympathetic	16	16	0	32	19
15. Helpful	12	20	0	32	19
16. Affectionate	20	16	0	36	16

TABLE XXV (Cont.)  
FREQUENCIES OF SELF IDEALS

	Shown by Per cent of Individuals				Shown in Number of Stories
	Slight	Moderate	Intense	Total	
17. Sociable	16	12	0	28	12
18. Acceptable	12	12	0	24	11
19. Socially partici- pative	12	8	0	20	13
20. Socially adjusted	8	16	0	24	14
Total	343				

#### G. Basic Affects or Feeling Tones

The outstanding affect, or feeling tone of the stories told, and so presumably of the story tellers, was anxiety which characterizes 131 of the stories and all subjects. This includes vague dread, uncertainty and worry about the future. This anxiety has no definite object; it is just a feeling that something dreadful is going to happen and the individual will be incapable of coping with this vague event. Specific fears of death, incapacitation, continued illness, economic insecurity, loss of love, punishment, and insanity are much less common. They were mentioned in only 18 stories.

Vague depression, mournfulness and melancholy were found in 107 of the stories and 80 per cent of the subjects.



Sorrow, sadness, regret, grief, despair, dejection and hopelessness, attributable to definite specific events, losses, frustrations and failures were found in only 30 stories.

Guilt was mentioned or implied in 92 of the stories told by 72 per cent of the individuals. The "reasons" given for the guilt feelings were usually vague or uncertain "crimes," "delinquencies" or "misdeeds." Sexual, aggressive, and hostile impulses seem to be the most common real causes of guilt feelings in these subjects. However, many also feel guilty because they consider themselves inadequate, or undevoted sons or daughters of their parents, or as falling short of their ideals of what a husband, wife, father or mother should be and do.

Anger, rage, hate, resentment and jealousy were shown in 32 stories by 56 per cent of the group. These were, for the most part, not directed against specific persons but against vague, impersonal forces, circumstances and aspects of the environment. In about half the cases the focus of hostility seemed to be the parents, especially the mother. In the other half of the cases it seemed to be the general conditions of the subject's life, his evaluation of the status and roles of others and their presumed attitudes towards him that seemed to arouse his impotent rage, envy or jealousy and perhaps desire for revenge. As indicated above, these subjects also felt guilty about these hostile feelings and so did not

express them very clearly.

Simple joy, pleasure, satisfaction, peace, contentment and happiness characterized only 23 of the stories or 40 per cent of the group, but none intensely. Even in these stories, however, the implication seemed to be that these mental states were what the heroes longed for, desired or were trying to attain. In three cases, past happy events in the lives of the subjects were recalled and told as stories. These stories also implied regret that the life of the subject is no longer as it was.

Eighteen of the stories implied no affect; they were bland, flat or neutral. These were told by only four individuals. An equal number of stories by five subjects were ambiguous, the characters showing "mixed emotions" or "emotional upsets" without any clear indication of what type of feeling was dominant.

Table XXVI summarizes the frequencies of the basic affects expressed in the stories told by the subjects.

TABLE XXVI  
FREQUENCIES OF BASIC AFFECTS

	Shown by Per Cent of Individuals				Shown in Number of Stories
	Slight	Moderate	Intense	Total	
Anxiety	12	56	32	100	131
Depression	20	40	20	80	107
Guilt	12	40	20	72	92
Anger, Rage	4	48	4	56	32
Joy	40	0	0	40	23
Bland (No affect)	16	0	0	16	18
Ambiguous	20	0	0	20	18
Total					421*

\* This figure 421 is more than the total number of stories told, 369, because in many of the stories more than one type of affect was clearly shown, for example both anxiety and depression.

The list of other affects shown in the stories would be tediously long if they could all be cited. Such feelings as surprise, amazement, approval and benevolence had little or no place in the stories. Feelings of inferiority, shame and failure were seldom clearly mentioned. They could be inferred from some stories but not often enough to require specific counts of their presence. Mention, or implication, of erotic love, friendship or of self-confidence were conspicuously

absent.

#### H. Basic Attitudes

The basic attitudes revealed in the TAT stories may be briefly summarized as attitudes towards the self, towards other people, towards their present problems, their future and their past lives. The chief attitude shown by our subjects towards themselves is self-disparagement (72 per cent of the group). They reproach, blame, punish and hate themselves. They attribute this self-disparagement to their inferiority, (40 per cent), inadequacy and impotency. They also show self-doubt (48 per cent) about their worth as persons and their ability to cope with their problems. Their self-pity is conspicuous, 72 per cent show it. To a lesser extent they manifest an attitude of repression towards their own sexuality, hostility and aggression. Fifty-six per cent show some repression but none intensely. Justified attitudes of appreciation of their worth and talents are few and scattered. Such attitudes are shown by only 28 per cent of the group. In 17 of the stories, attitudes of defensiveness, pride and self-aggrandisement were clearly apparent as characterizing the heroes and so presumably 48 per cent of the story tellers. It is probable that these attitudes are really much more common in these subjects but, if so, they were expressed only negatively in the stories.

Towards other people 92 per cent of the subjects are basically hostile and aggressive. They show this in the way they disparage, scorn and despise others. Fifty-six per cent distrust and suspect the motives of others, an equal percentage blame others for their own unhappy state and 32 per cent would like to punish these others and avenge themselves. Forty-four per cent are envious and resentful of the good fortune, success, social participation and possessions of others. At the same time 80 per cent of the group are markedly dependent on others for love, approval, emotional support and help of various kinds. But at times 20 per cent are resistant to these when they are offered. So it may be said, 48 per cent show much ambivalence towards people and frequent fluctuations of attitude towards persons especially significant in their lives, such as mothers, fathers, mates and children. Positive attitudes of admiration, respect, real love or friendship for others are rarely mentioned or implied in the stories. Only 52 per cent show any such attitudes, none strongly. Some of the heroes talk as if they would like to be sympathetic, helpful, forgiving, devoted, affectionate and loving; but these are attitudes the subjects think they ought to, or would like to, have. They are not attitudes the subjects clearly attribute to themselves at present. In brief, it seems that these subjects feel estranged from society and lonely in a world of others who reject

them.

Towards their present life situations, problems, troubles and personality disorders, all subjects manifest intellectual attitudes of bewilderment, confusion, worry and doubt. They are questing, exploring or seeking rational solutions to their difficulties but have not found acceptable solutions as yet. Hence, concerning the actions they should take they show volitional attitudes of indecision, hesitation and caution. All subjects manifest these attitudes to some extent and for many they are the predominant mental content. "What is wrong, and what shall I do;" are the questions that preoccupy them. In 49 of the stories and 72 percent of the group evasiveness characterizes the hero; he postpones a solution, withdraws, retreats or flees from his problem. In the face of difficulties 64 per cent of the story heroes show attitudes of helplessness and 72 per cent show resignation, acceptance, submissiveness or passive waiting for someone else to take appropriate action and solve the problem. Only 48 per cent of the heroes show resistance, defiance, impulsivity or impatience. All subjects, however, manifest some positive and realistic attitudes of determination, perseverance, decisiveness and courageous striving to overcome their difficulties. As a result, most of the subjects are discouraged and dejected but not despairing.

Towards their futures 76 per cent of the subjects entertain attitudes of hopelessness, pessimism and skepticism. Eighty-eight per cent attempt to find compensation for these attitudes in day-dreaming and wish fulfillment. Most times when the future does appear bright to any of the story heroes it is because of some fortuitous intervention of a benefactor or some "magic" change in circumstances, not brought about by the hero himself. In only 24 of the stories are the heroes definitely hopeful but in many other stories vague hopes are mentioned as mingled with other, more despairing attitudes. Ninety-six per cent express some hope. So, even though the general attitude towards the future is pessimistic there is little suggestion of absolute hopelessness or suicidal despair.

Towards the past, 60 per cent of the subjects reveal attitudes of regret for lost happiness, missed opportunities, broken love affairs and deaths of loved ones. Often the attitude expressed is one of "sweet-sorrow" or nostalgic longing for the home, parents, childhood, youth, lovers, happy times and adventures that are now no more. Remorse for past misdeeds and omissions is also very common in the stories of 60 per cent of the group. The frequency of guilt feelings has been mentioned above in discussing the feelings tones of the stories. In at least 30 stories the remorse stems from the individual's failure to live up to parental expectations, especially those

of the mother, or from falling short of his own unrealistic ideals. Only one individual, however, shows this type of remorse to an intense degree. In very few cases do the subjects appear to be guilty of real crimes or delinquencies, or of real sins of commission or omission. Rather they appear remorseful about temptations they have been exposed to, their own impulses, and their failures to do what was actually impossible for them. Those showing remorse also generally show repentance (56 per cent) and an intent to atone for their past lives. How sincere this intention is, is impossible to judge.

Table XXVII shows the approximate frequency of the basic attitudes expressed by the subjects. These attitudes were very hard to judge since expressions of several attitudes were often found in the same story and various degrees of the attitudes listed could just as well be given different names. Expressions that could be interpreted as indicative of many other attitudes also occurred in the stories. Therefore, the attitudes that have been tabulated are those that seem to the writer to be most characteristic of the group and most closely related to the results of other tests on the same subjects. No exact quantification is possible and it might be argued that all subjects show all the attitudes listed and a great many more, at least to a slight extent. The table, then, represents the minimum frequencies of the various attitudes and intensities based on counts of subjective judgments.



TABLE XXVII  
FREQUENCIES OF BASIC ATTITUDES

Towards Self	Shown by Per Cent of Individuals				Shown in Number of Stories
	Slight	Moderate	Intense	Total	
1 Self-disparagement	0	40	32	72	38
2 Inferiority	12	28	0	40	24
3 Self-doubt	4	40	4	48	34
4 Self-pity	40	32	0	72	22
5 Repression	40	16	0	56	23
6 Self-appreciation	28	0	0	28	7
7 Self-aggrandisement towards others	48	0	0	48	17
8 Hostility	12	72	8	92	135
9 Aggressivity	24	12	4	40	25
10 Distrust	56	0	0	56	14
11 Blame	56	0	0	56	14
12 Punitiveness	20	12	0	32	19
13 Envy	44	0	0	44	11
14 Dependency	12	64	4	80	110
15 Resistance to help	0	20	0	20	15
16 Ambivalence	40	8	0	48	17
17 Positive attitudes	40	12	0	52	14

TABLE XXVII (Cont.)  
FREQUENCIES OF BASIC ATTITUDES

Towards Present Situations	Shown by Per Cent of Individuals				Shown in Number of Stories
	Slight	Moderate	Intense	Total	
18 Bewilderment	20	72	8	100	65
19 Indecision	68	16	16	100	49
20 Evasiveness	60	12	0	72	49
21 Helplessness	64	0	0	64	16
22 Passivity	20	44	12	76	19
23 Resistance	44	4	0	48	16
24 Positive attitudes	72	28	0	100	42
Towards the Future					
25 Hopelessness	60	16	0	76	27
26 Daydreaming	60	20	8	88	33
27 Hopeful	96	0	0	96	24
Towards the Past					
28 Regret	0	56	4	60	40
29 Remorse	16	40	4	60	40
30 Repentance	40	16	0	56	28
Total					987*

\*This figure is almost three times the total number of stories told, 369, because generally more than one basic attitude was expressed or implied in each story. Certain attitudes like hostility, dependency, bewilderment and indecision might not have been so frequently inferred from the stories by some other reader.

From their attitudes towards the past it can be inferred that none of these subjects had happy childhoods, nor more than brief intervals of relative happiness at any time. They seem to have had a life-long history of frustration and failure. They blame themselves for this, perhaps more than they should, but they have no clear insight into what is really wrong with them and so can take no constructive action to overcome their defects or supply their deficiencies.

### I. Basic Needs

The basic need manifested most frequently in the TAT stories of these subjects was that which Murray calls "need succorance". This need he defines as: (need) "To seek aid or consolation. To ask, or depend on someone else for encouragement, forgiveness, support, protection, care. To enjoy receiving sympathy, nourishment or useful gifts. To feel lonely in solitude, homesick in a strange place, helpless in a crisis."<sup>1,2</sup> This need is the dominant one in 73 stories. At least one such story was told by every subject. That succorant needs are not satisfied seems to be the chief factor productive of anxiety in these subjects. Being dependent and helpless is productive

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1 Henry A. Murray, Thematic Apperception Test, Manual, Cambridge, Mass., Harvard U. Printing Office, 1943, p. 10.

2 Henry A. Murray, Explorations in Personality, 182.

of anxiety, especially when one must depend, for aid and comfort, on others who might at any time withdraw their support.

The next most common need of the group might be called "need for escape," or release from their present problems or life situations, from hostile or threatening others, or from guilt, fear and punishment. Ninety-two per cent show this need in 68 stories. This need to escape combines Murray's needs of "harmavoidance" and "blameavoidance"<sup>3</sup> but also needs to escape merely unpleasant or vaguely onerous situations, and to be free of their own thoughts and feelings. In other words, these subjects seem to be trying to run away from their life situations and from themselves.

"Need affiliation" is almost as common as the "need for escape" in 92 per cent of the subjects. This "need affiliation" describes a positive tropism for people, "according to Murray."<sup>4</sup> It impels the individual "to draw near and enjoyably cooperate or reciprocate with an allied (other) person." "To adhere and remain loyal to a friend."

These patients basically want to be friendly but somehow don't succeed in being so. They frequently feel that they are rejected by others, or at least interpret the actions

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3 Manual, op. cit., 10.

4. Explorations, 173.

of others as a rejective "press."

Need for mere passive acceptance or tolerance by others is expressed in 19 stories by 40 per cent of the group. Inordinate demands for appreciation are much rarer, only 5 clear cases (20 per cent of the group) appearing. Need for erotic or marital love is expressed as the chief lack in 25 stories by 52 per cent of the individuals. Many others, however, contain suggestions that the subjects feel he, or more usually she, is not really loved by persons, or a particular person, of the opposite sex. Outright sexual needs are clearly evidenced in 25 stories by 24 per cent of the group, that contain no reference to love and marriage but are, rather, promiscuous in tone. How much other evidence of sexuality is to be found in the stories depends on what one wants to interpret as sexual in some disguised or repressed form. Clear hints of repression, or even suppression are rather rare, both together found in only 7 stories, by 28 per cent of the group, but even in these aggressive needs are about as frequent as sexual.

"Need passivity" was dominant in 48 stories and 92 per cent of the subjects. This need is "To enjoy quietude, relaxation, sleep; to feel tired or lazy after little effort; to enjoy passive contemplation or the reception of sensuous

impressions; to yield to others out of apathy and inertia.<sup>5</sup> Murray holds that passivity needs are not necessarily associated with a low level of energy or metabolism.<sup>6</sup> The person desires to relax, to drift, to daydream, to wait for external stimulation. He makes little spontaneous effort to help himself or to initiate changes in his environment. In extreme cases the person ceases to struggle, gives up and tends towards a placid, vegetable existence. Passive needs are manifested in the classic neurasthenic syndrome and in some catatonic and other types of regressed schizophrenics. None of these subjects were wholly dominated by the need for passivity but almost all of them expressed it in at least one story.

"Need autonomy" is defined as need to go one's own way "uninfluenced and uncoerced by others."<sup>7</sup> Persons manifesting such needs want to get free of restraints, duties, obligations, to avoid or quit activities prescribed by domineering authorities, to be free to act according to impulse, to be unattached, irresponsible and to defy conventions.<sup>8</sup> This need for autonomy was shown by every one of this group.

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5 Manual, 10.

6 Explorations, 133-134

7 Ibid., 151.

8 Explorations, 156.

Most of them (20 subjects or 80 per cent) showed this need in response to card 1, which may indicate that it was frustrated in childhood. Nearly as many (17 subjects) 68 per cent showed autonomous needs also in response to card 2. This fact leads to an interpretation that the parents were the frustrators, since the themes of the stories for card 2 have to do with leaving home, living a life of one's own, superior to that of the parents, or in general revolt against and escape from parents. The same need for autonomy is of course expressed in other stories where the dominant theme is coercion by a spouse, a job, other authority figures, life circumstances in general or the moral law.

It is surprising that so few of the subjects who show autonomous needs also show so few instances of "need dominance." In only 17 stories by 48 per cent of the group is there need "To try to influence the behavior, sentiments, or ideas of others; to work for an executive position; to lead, manage, govern; to coerce, restrain, imprison."<sup>9</sup> In their stories the subjects do not see their heroes, or themselves, as forceful, masterful, assertive, decisive or authoritarian. Rather they look upon themselves as the victims of such forces exerted by others. Their need is to escape into a world where

they can do what they want and be unrestrained by others, by laws or moral principles.

The need for "achievement" is also shown by every one of the subjects, but usually in only one story per subject is it the dominant need expressed. It seems then much less potent than the other needs mentioned up to this point and which are stressed more often and more intensely in the stories. "Need achievement," Murray defines as: (need) "To work at something important with energy and persistence. To strive to accomplish something creditable. To get ahead in business, to persuade or lead a group, to create something."<sup>10</sup> These are things these subjects don't see themselves as capable of doing. While there are many references to vague "success" in the stories and many indications of desire for a vague "better way of life," a "better personality" or a "cure" or release from present troubles, such ambitions are not manifested in action. Rather, the subjects seem to be waiting and hoping that someone else, or some fortuitous circumstance, will provide them with what they need and solve their problems.

A vast variety of other needs were, of course, mentioned in the stories, but those discussed above most characterize the group and indeed practically every individual in

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10 Manual, 9.



the group. A case might be made for the hypothesis that at least two of the individuals are more dominated by needs for aggression against others, especially those in authority, and by needs for revenge. These are the persons who show the strongest traits of psychopathic personality on the other tests, but they also seem to have enough other traits characteristic of neurotics to rule out "psychopathic-deviate" as a diagnosis. Two of the women also seem to be strongly motivated by needs for punishment, forgiveness, atonement and abasement.

In view of the fact that so many of the group showed a tendency to over-intellectualize on the Rorschach it is surprising that such "intellectual" needs as "self-understanding," insight or "understanding of life", or "of the world" did not appear more often in the TAT stories. There are 20 stories, by 60 per cent of the group, where the "need to understand" is the dominant one, but no single individual told more than 2 such stories. Of course, as mentioned in the discussion above concerning attitudes revealed by the TAT stories, "bewilderment," "confusion" and "doubt" were frequently stressed. These may be interpreted as manifestations of a "need to understand," but they are not as clear as the specific reference to this need that is being discussed here.

Needs leading to positive action to attain one's own safety, security, success, well-being or happiness are stressed

in only 7 stories or by 28 per cent of the group. These needs are mentioned or implied in many other stories where they do not dominate, but in most of the cases the needs are met, not by the hero of the story, but by some benevolent benefactor. The inference is, as was said before, the subjects are not strongly motivated to solve their own problems or strive for their chosen goals. They have apparently failed so often and so completely that they cannot try again without help.

It is to be noted too that no one of our subjects seems strongly motivated by a real need to help, succor or nourish others. Six of the stories by 24 per cent of the group are concerned with raising children, helping a husband or caring for the sick, but the dominant need in these stories is for compensation or reward. They imply selfishness not altruism.

Table XXVIII summarizes these data on the needs of the group.

### J. Basic Press

The root meaning of the term "press" (plural, also "press") in Murray's scheme for interpretation of TAT stories is "forces of the hero's environment".<sup>11</sup> Forces in the

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<sup>11</sup> Manual, 10.

TABLE XXVIII  
FREQUENCIES OF BASIC NEEDS

	Shown by Per Cent of Individuals				Shown in Number of Stories
	Slight	Moderate	Intense	Total	
1 Succorance	60	32	8	100	73
2 Escape	60	20	12	92	68
3 Affiliation	32	40	16	88	50
4 Tolerance	32	8	0	40	19
5 Appreciation	20	0	0	20	5
6 Erotic love	32	20	0	52	25
7 Sex	20	4	0	24	25
8 Repression	28	0	0	28	7
9 Passivity	80	12	0	92	48
10 Autonomy	20	68	12	100	42
11 Dominance	36	12	0	48	17
12 Achievement	80	20	0	100	37
13 Aggression	12	12	8	32	12
14 Punishment	0	8	0	8	5
15 Intellectualization	40	20	0	60	20
16 Positive action	28	0	0	28	7
17 Compensation	24	0	0	24	6

Total

466\*

\*This is more than the total number of stories told because more than one need was expressed in some stories.

situation in which the hero, "self-carrier," finds himself or forces emanating from other characters, in the stories, with whom the hero must, or wants to, deal, are all called press. These forces are interpreted, by the story teller, as relevant to the well-being or satisfaction of the hero. Press are usually hostile to, or competitive with, the hero's needs, but some press are benevolent, helpful, or consoling. However, such positive press as love, approval, bestowal, compliance, etc. are seldom mentioned, or implied, by the present subjects. The press in a story implies the subject's "definition of the situation"; it is the aspect of his "behavioral environment" which stimulates him and to which he responds. Summaries noting the frequencies and intensities of the various press in a series of TAT stories told by an individual or group yields a picture of how the world and other persons appear to the story tellers. In other words, the subject's mode of "apperception" is most clearly inferrable from the press in his stories.

By extension the term "press" has also come to signify "elementary forces" in the subject's own personality; especially as he regards these "forces" as extraneous to his "real self," as hostile intrusions, or as sources of impulses that dominate him or are beyond his control. Such "forces" as the subject's own unconscious, repressed or suppressed hostility, aggressiveness and sexuality are often regarded by our subjects

as "possessing" them. Since they cannot deal adequately with these press the subjects tend to "disown" them.

On the basis of the above notions the interpretation of the stories told by our group indicates that their "present problems" are the most potent force affecting them. In 42 stories 72 per cent of the heroes regarded their present problems as difficult, complex and incapable of solution. This finding refers only to "troubles in general". To these must be added 26 stories by 36 per cent of the group that deal with specific difficulties in present jobs or careers, 16 stories, by 16 per cent of the subjects that imply that present physical illness is the hostile press, and 18 stories by 32 per cent of the group in which marital difficulties, in the present, predominate. Of course, if interpreted broadly enough, all the stories refer to "present problems," but in most of the stories the forces in the environment and emanating from others are not explicitly interpreted by the subjects as problems to which they must adjust. It is, however, natural that the distressed person should see his present difficulties as all important, and even as insurmountable in view of the history of failure to solve their problems, shown by these subjects, and the fact that they have applied for psychiatric help.

Their present situations, environments and the world

in general are regarded as hostile by 60 per cent of the subjects. In their view, it is hard, cruel world with Nature, fate or destiny against them. These are the press in 36 stories. Their lot in life is hard for 24 per cent, their work is an onerous "dull routine" and their duties are burdensome (26 stories). Life is hazardous, for 16 per cent full of worries, cares and vague difficulties (11 stories).

Their own inadequacies are the major press in 38 stories of 80 per cent of the subjects. Their lack of general ability, or power to cope with their problems is most stressed, but they also dwell on their weakness, helplessness, immaturity, ignorance, uncertainty, lack of self-control and their dependency, as causes of their difficulties. They feel that they can do nothing about their defects and so regard them as press. The hero's own sexuality is a hostile force in 25 stories, by 32 per cent of the group. In 19 stories by 20 per cent of the subjects, hostility, rage, hatred or aggressivity is what dominates. Other impulses, unnamed or vague, and greed, alcoholism, pride, etc., are mentioned in 18 stories by 20 per cent of the subjects as controlling the hero. Twenty-eight per cent of the subjects in 20 stories show the hero dominated by a "guilty conscience" which he cannot stifle. In summary, most, if not all, of the subjects are "divided against themselves"; they refuse to accept certain inclinations as

coming from their own nature. They would rather "apperceive" themselves in terms of their unrealistic self-ideals rather than to conceive of themselves as they actually are.

Other people are apperceived by these subjects as predominantly hostile, threatening, domineering, demanding and rejecting. Or, at best, others are selfish, indifferent and lacking in understanding and appreciation of the subjects. They feel that they are unduly criticized, reprimanded, belittled, ridiculed, punished, and deprived. They are commanded, restrained, deceived and cheated. Others, who should be sociable, congenial, affectionate or devoted to the subject are instead rejecting, scornful, disparaging and unfaithful.

The chief culprit in stories exemplifying these press of aggression, dominance and rejection is the mother, according to 92 per cent of the group. She is domineering or overly demanding in 23 stories, rejecting in 11 stories, openly hostile in 5 and distrustful, interfering, punishing or overly protective in 10 other stories. By comparison the father fares much better, only 40 per cent regard him as falling short of the ideal. He is domineering in only 3 stories and outright rejecting in 3 others. But, he is regarded as weak, vacillating, inadequate or incompetent in 13 stories while the mother is never mentioned in these terms.

Both parents taken together are the source of hostile

press also. Their mode of life, attitudes and values are regarded as being imposed on the heroes in 11 stories. "Duty" to parents is stressed in 7 stories. Subjects feel that they "owe" their parents something that they can't or are unwilling to pay. It is impossible to say to what extent the subjects hold their parents responsible for the general circumstances under which these subjects grew up. In 20 stories the social and economic backgrounds of the heroes are characterized as inadequate. Children are described as "poor," meaning poverty stricken, belonging to "a low social class," being "the child of immigrants," or having "the wrong religion." These factors are interpreted by 80 per cent of the groups as causes of the difficulties the heroes of the stories get into at some later date.

Present unhappy marriages are explicitly given as major press in only 3 stories by 12 per cent of the group. But, in 18 other stories spouses are described as overly demanding, rejecting, not showing enough love, difficult to adjust to, or to live with, or otherwise the cause of some aspect of the subject's present maladjustment. Men tend to regard their wives as demanding or nagging and in 3 cases as burdensome responsibilities from which they would like to escape. Women tend to regard their husbands as withholding affection and appreciation. Few think their spouses are unfaithful.



Three women, in one story each, mention "suspicions" of a husband's unfaithfulness, and two men imply, in at least one story each, that their own unfaithfulness has been a cause of marital difficulties. Sixty per cent of the group, then, manifest some dissatisfaction with, or hostility towards their spouses.

Present poverty is the major press in 23 stories. These were all told by seven individuals, 28 per cent of the group. However, fear of loss of economic security, loss of ability to meet financial responsibilities, lack of "riches" and other indications of not having "enough money" were expressed by every individual. The press of poverty seemed to be the major one for only one person. The others were much more bothered by other lacks.

Loss of a loved one, parent, spouse, child, lover or friend is the major press in 14 stories by 36 per cent of the subjects, but in 10 of these the loss is not something that has happened but what the subject fears will happen. Fears concerning possible loss of love, attractiveness, health, sanity, home, security and happiness all find scattered mention in the stories, but for no individual is any of these the dominant press. Actual present lack of any of these goods, except health and happiness, is not stressed in any story.

Loneliness is regarded as a press in 27 stories.

Every individual told at least one story stressing feelings of abandonment, isolation, estrangement from society or loneliness. Loneliness to these people is a force that affects their lives. It is real, almost palpable, malignant and beyond their control. They feel different from and set apart from other people, unloved, unappreciated, misunderstood, despised and neglected.

Scattered reference is made to a vast variety of other press in the stories. The moral law, social expectations, conventions and statutory law are regarded as hostile in a few cases. Vague, impending evils, the uncertain future, unspecified frustrations and failures, "interfering" people and vague internal conflicts of impulses all receive slight emphasis.

Data on the frequencies of press are summarized in Table XXIX. Positive press of course receive some mention in the stories. Sometimes other people are friendly, cooperative, helpful, protecting, bestowing, consoling, affectionate or loving. Sometimes, too, the world is beautiful, enjoyable, rewarding of effort or even manageable in some of its aspects. It would seem that as many things could benefit as could harm the subjects but they appear to be so constituted that their "pressive apperception"<sup>12</sup> is directed towards the harm other

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<sup>12</sup> Explorations, 119.

TABLE XXIX  
FREQUENCIES OF BASIS PRESS

	Shown by Per Cent of Individuals				Shown in Number of Stories
	Slight	Moderate	Intense	Total	
1 "Present problems	56	12	4	72	42
2 Present job	32	4	0	36	26
3 Present illness	0	16	0	16	16
4 Marital difficulties	12	12	8	32	18
5 Hostile environment	40	16	4	60	36
6 "Hard life"	16	8	0	24	26
7 Vague "hazards"	4	12	0	16	11
8 Our inadequacies	44	28	8	80	38
9 Our sexuality	16	12	4	32	25
10 Our hostility	12	4	4	20	19
11 Other impulses	0	12	8	20	18
12 "Guilty conscience"	12	8	8	28	20
13 "Inadequate" mother	80	8	4	92	49
14 "Incompetent" father	20	20	0	40	19
15 Parents' mode of life	60	16	4	80	38
16 "Inadequate" spouse	40	8	12	60	29
17 Poverty	0	24	4	28	23

TABLE XXIX (Cont.)  
FREQUENCIES OF BASIS PRESS

	Shown by Per Cent of Individuals				Shown in Number of Stories
	Slight	Moderate	Intense	Total	
18 Lack of "enough money"	72	24	4	100	27
19 Loss of "loved one"	36	0	0	36	14
20 Loneliness	76	16	8	100	27
Total					521*

\*More than one press were contained in some stories.

people, or the physical world, events, etc. may do to them. They tend to view the world passively and their stories imply that "this person, object or event may do this or that to me." They seldom see an opportunity to actively utilize persons, objects or events to get what they need. One could speculate about the kinds of past experience the individuals have had and which impel them to perceive and interpret things as they do. The effects of these experiences are unconscious to the subjects and at best only symbolically expressed in the stories. No attempt is made to dig them out here. It is enough to say that no one of these subjects habitually apperceives the world as a friendly place, is "at home" in it, with others, or even with himself.

### K. Major Goals

By "goal" in the TAT stories is meant that towards which the action of the story hero is directed. The hero tries to achieve some end, realize some value, produce some change in himself, in others or in his environment. Some other state of being of himself, or of the world, is more desirable for him than that state which obtains. The goals are seldom clearly stated in the stories but must be inferred as answers to the questions: "What is the hero trying to do?" "What will satisfy his need?"

Often, of course, to an outside observer, the goals sought do not seem pertinent to the actual needs of the subjects. The subjects seem to strive for things that will not satisfy them if obtained. That is, the goals sought are unrealistic. For this reason, the goals cannot be inferred from the needs expressed or implied in the stories. This unrelatedness of real needs and appropriate goals characterizes neurotic striving. If neurotics could seek the right things their problems might be easier of solution.

The goal most frequently implied in this group of stories is independence, self-sufficiency or autonomy. These are all aspects of the same state of being, regarded as ideal by 100 per cent of the subjects. In 42 stories, at least one story by every subject, the heroes try to "live their own

lives," free from interference by, or dependence on, others, "to do what they please," without hindrance by any law, civil or moral, and without subsequent feelings of guilt. The inference is that the subjects do not want to be interfered with or hindered in any way. In so far as it is safe to generalize from this group, it would seem that the neurotic is fundamentally in revolt; primarily against the world, but also against himself. He cannot accept his own limitations or those imposed on him by Nature, or by society. He is basically proud and his childish autonomous demands can never be completely satisfied. He wants to make his own rules for playing the game of life and to change these rules to suit his convenience.

Security is the second most potent goal for 84 per cent of the group (34 stories). They want to live in an orderly and predictable universe where their safety and protection will be guaranteed. They do not look to themselves for this security, but rather depend on others for it or hope for some vague change in circumstances that will bring it about. Thus they really are not self-sufficient but merely want to be. They cannot rely upon themselves to meet their difficulties, but feel too inadequate to cope with their problems. There is, then, a basic conflict between their need for independence and self-sufficiency on the one hand and their need for security and dependence on the other.

"Happy marriage" is the goal most frequently stated in an outright fashion, but it is impossible to judge how realistic this goal is or the group's chances for attaining it. Ninety-six per cent of the group state, or imply, that "happy marriage" is one of the goals of their heroes. "Marital bliss," "ideal married life," "happy family life," being a "good" mother, father, wife or husband, are all terms used in the stories which imply, as does the term "happy marriage" itself, that the hero has marital difficulties that he, or she, would like to see ended; or in the case of the unmarried would like to avoid. It seems warranted to assume that the group here clearly implies that they have, or fear to have, difficulties in marriage. At any rate, "happy marriage" occurs in 37 stories. The nature of this "ideal" marriage state is difficult to divine, but it seems to be one in which the story hero would get much and give little. Those who are not married but wish they were seem to have a more realistic view of ideal marriage than the married do.

Withdrawal or escape from present problems or impending disaster is a goal very popular with 60 per cent of the subjects (30 stories). They are strongly tempted to "give up the struggle" and retreat to seclusion.

Solutions to their problems, relief from present difficulties or, as it was sometimes expressed, "cure" is the

goal of 52 per cent in 25 stories. This is similar to the goal of "escape" but implies movement towards something desirable as well as movement away from something unpleasant.

In 19 stories by 48 per cent of the subjects the implication is that the subject has given up the search for a real solution to his problems. He seeks compensation through "brief intervals of joy," the "contemplation of beauty," or from the "consolation," "comfort," or "solace" of "friendship."

Acceptance by others, especially mother, father or spouse, is the goal in 27 stories by 36 per cent of the group. They want social relations, affiliation, friendship or love and have some hope of attaining them.

"Peace of mind," implying freedom from worry, anxiety or guilt is mentioned by 92 per cent in 23 stories. The subjects want to at least put an end to their concern about themselves and their problems even though they have no clear idea of what would meet their basic needs.

Vague "success" was the goal in 18 stories and a "better future" or a mode of life "better than the present" were implied in 14 stories. Together these stories were told by 52 per cent of the subjects. A "carefree" existence or a life of "peace," "calmness" or "ease" were goals in 13 stories by 12 per cent of the group. Passivity, rest, relaxation, sleep were implied in 13 stories also, all of these by only



8 per cent of the group. Vague "happiness," contentment, pleasure, enjoyment or play were goals for 28 per cent in 15 stories. The inference is that all the subjects feel like "failures," are unhappy and depressed about their failure and would like to experience some kind of success and to have some enjoyment or pleasure out of life.

Self-perfection (8 stories), greater morality (2 stories), atonement (7 stories), reformation (2 stories), greater self-respect (4 stories) and self-control (7 stories) are all held out as highly desirable goals by 40 per cent. These goals reflect the guilt feelings of these subjects and imply that they think: "If I were better I wouldn't suffer as I do!" In other words, they blame themselves, to some extent at least, for their present difficulties. With how much insight, it is impossible to say.

On the positive side, eminence, fame, an "important position," honor, admiration and approval were all mentioned in a total of only 10 stories by 32 per cent of the group, but these goals seemed unrealistic and the subjects seemed to have no real hope of attaining them. Realistic goals of achievement were found in only 4 stories and real dominance or mastery in an equal number of stories. In 4 other stories concerning "careers," meaning occupations, it was impossible to judge whether the subject actually had hope of success or not. The

best inference is that only 28 per cent have any realistic goals.

Bizarre or clearly unrealistic goals had little mention, but 40 per cent did manifest such goals in one story each. To "rival women" (the goal of a man in 1 story) "the unattainable," "to be like father," "to recapture the past," "to start life over again," "to repress all impulses," "to enjoy suffering," "escape through alcohol" and "suicide" are examples of such goals. Revenge was mentioned 4 times and escape through death twice.

In 26 stories by 36 per cent of the group, no goals at all were implied or they were too ambiguous or unclear to list. These occurred mostly in "fragmented stories," that is, responses to the cards that were not real or complete stories but picture descriptions, etc. The subjects could see no way out of the situation depicted.

In summary it may be said that each individual was characterized by a variety of goals, many of them incompatible with the others. No subject clearly exhibited a "master goal" to which his other goals were subsidiary. If any one goal can be said to be more characteristic of most members of the group that goal would be "autonomy." All subjects, at least to some extent, want to have their own ways, have the world and other people conform to their desires. They seem incapable of properly subordinating their desires to the demands of reality

and the needs of other people.

Table XXX presents the data on goal frequencies.

#### L. Major Outcomes

Of the total of 382 stories told, including "fragmented stories" and rejections that implied some kind of an ending, 154 stories had endings that can be construed as somehow "happy." For 128 stories the endings were missing, evaded by the subject, undecided, doubtful, ambivalent or neutral. Definitely "unhappy" endings occurred in 100 stories. These findings may be interpreted as indicating that the group, as a whole, is more hopeful than despairing with regard to the outcomes of their present difficulties. The large number of missing or neutral endings, however, indicate that the subjects are not quite sure of how things will turn out for them. They are still in a state of turmoil, confusion and struggle.

The most positive story endings stress success through "hard work" or the subject's own efforts (10 stories), "strong character," "courage" and "persistence" (8 stories) and "reformation" of the hero, including "repentance" and "atonement" (16 stories). "Self conquest," "self-mastery," and "control of impulses" occur in 12 stories. In 10 stories success follows "education," "knowledge," "study," "thought," or "intellectual effort" on the part of the hero. In 14 stories, "success means "independence," going one's own way, "self-sufficiency,"

TABLE XXX  
FREQUENCIES OF MAJOR GOALS

	Shown by Per Cent of Individuals				Shown in Number of Stories
	Slight	Moderate	Intense	Total	
1 Autonomy	28	60	12	100	42
2 Security	56	20	8	84	34
3 "Happy marriage"	80	12	4	96	37
4 Withdrawal	40	8	8	60	30
5 "Cure"	40	8	4	52	25
6 "Compensation"	28	16	4	48	19
7 Acceptance by others	24	8	4	36	27
8 "Peace of Mind"	92	0	0	92	23
9 "Success"	32	20	0	52	32
10 "Carefree life"	8	4	0	12	13
11 Passivity	0	8	0	8	13
12 "Happiness"	20	8	0	28	15
13 "Moral perfection"	20	12	8	40	30
14 "Positive goals"	32	0	0	32	10
15 "Realistic goals"	28	0	0	28	8
16 Bizarre goals	40	0	0	40	22
17 No clear goals	24	12	0	36	26
Total					406*

\*Some stories seemed to have more than one goal.

and (in the same 14 stories) dominance over others. In these 70 stories all the individuals seem to realize that it is up to them to do something about their conditions; they must exert effort and attempt to change themselves. They can work at their occupations, try for greater moral perfection and for increased insight or self-understanding and for greater knowledge of others and of the world.

In 16 stories by 48 per cent of the group success comes through the help of a benefactor. A priest, doctor, parent, spouse or some philanthropist or bestower of gifts does something to or for the hero, or gives something that puts an end to his troubles. In 3 stories by 12 per cent of the group more vague "fortuitous circumstances," such as "a change in the law" or "happier times" enable the hero to solve his problems. These stories illustrate the "dependence" of these subjects and their "felt inadequacies" to cope with their problems without aid. Here should also be included the 6 stories by 12 per cent of the individuals in which "success," meaning reconciliation with and acceptance by the family, comes about because of a "change" in father, mother or spouse.

In 13 stories 44 per cent of the subjects imply that a "happy ending" consists of successful withdrawal, retreat, flight or escape from their present circumstances, problems and difficulties. In 3 cases "death" and in 2 cases "suicide"

is the only "escape," "revenge" or punishing others is the "happy solution" in 3 stories and "aggression" in 1 story. "Fame" through "heroic death" is construed as a "happy" ending in 2 stories. In these 24 stories by 80 per cent of the group the endings, although described by the subjects as "happy", are in reality "neurotic" and unrealistic solutions to their problems. The same may be said for the 10 stories in which the hero finds temporary satisfaction in "daydreams," the 2 stories in which the hero "rationalizes" his weakness and the 7 stories in which the heroes find temporary "consolation" or "relief" in "occasional joys," "play" or the "contemplation of beauty." Together these stories were told by 60 per cent of the group. These are no real solutions to basic problems but evasions of efforts to find a solution.

The other "happy endings" of the stories are vague in causation or "just happen." "Happy married life" is the ending of 13 stories, in 11 stories the ending is vaguely hopeful, "things will end all right," or "time will cure" in 7 stories and in scattered stories "a peaceful life," "recovery" or "cure" and even religious "salvation" just come about apparently through no one's efforts. Fifty-six per cent told such stories.

Turning now to stories with "neutral" endings we find 38 which have no endings at all. Every subject had at least

one such story. Most of these cases are not real stories, but picture descriptions or "free associations" to the pictures. Appearances, thoughts and feelings of the characters depicted are described but there is no dramatic action. In 29 stories by 96 per cent of the group the struggle is described as continuing. The subject refused to say what the outcome will be. In 4 stories the subject said he would like to "postpone decision" and in 24 cases the subject said, or clearly implied, that the outcome is doubtful or uncertain. "I can't predict," "I can't find a solution" or "Who knows what the outcome will be?" were common phrases occurring in these stories. In other words the subjects seemed to be leaving a solution of their difficulties to "chance" or to unforeseeable, unpredictable and uncontrollable future contingencies.

In 17 stories by 44 per cent of the subjects the endings are definitely ambiguous, happy and sad at the same time, or of mingled good and evil. In 16 other stories by 20 per cent the solution is a "compromise" with ideals or morality. In these stories the subjects seem to realize that the kinds of solutions to their problems that they consider ideal are impossible of attainment in the real world. They will "have to give up something" or somehow "pay for" successful adjustment.

"Unhappy" story endings stress most frequently

"punishment," continuing or ultimate (30 stories). Sixty per cent of the patients see themselves as suffering at present and as continuing to suffer physically and mentally from remorse and guilt. This is brought about by "lack of self-control" in 7 stories by 40 per cent, "wrong decision or choice" in 3 stories by 12 per cent, the hero's own "inadequacies" in 20 per cent of the cases and "inescapable fate" in 7 stories by 8 per cent of the group. The "ultimate frustration" of life is mentioned 4 times by one subject and "defeat by death" 9 times, by 16 per cent of the group.

Less drastic "defeats" are due to "pressures of authorities," civil and moral, in 6 stories by 8 per cent and to social pressures for "conformity" in 11 stories by 20 per cent. Vague "failures" and vaguely "hopeless" situations are the outcomes of 8 stories by 8 per cent of the subjects. In the other 10 "unhappy endings" by 32 per cent of the group, failure, defeat or frustration are brought about by inconsiderate or hostile actions of others or by "natural circumstances" over which the subject "has no control."

Table XXXI summarizes these data on story endings.

From this survey of story endings it may be concluded that the subjects are experiencing a vast amount of hardship and frustration. Their history of failures to solve their problems is also implicit in their stories. For their



TABLE XXXI  
FREQUENCIES OF MAJOR OUTCOMES

	Shown by Per Cent of Individuals				Shown in Number of Stories
	Slight	Moderate	Intense	Total	
"Happy Endings" through					
1 "Hard work"	40	0	0	40	10
2 "Strong character"	36	0	0	36	8
3 "Reformation"	16	20	8	44	16
4 "Self-conquest"	16	8	4	28	12
5 "Intellectual effort"	4	12	0	16	10
6 "Independence"	8	8	4	20	14
7 Dominance	4	8	8	20	14
8 Help of benefactor	32	16	0	48	16
9 Fortuitous circum- stances	12	0	0	12	3
10 Reconciliation	0	8	4	12	6
11 Withdrawal	40	4	0	44	13
12 "Death"	20	4	0	24	7
13 "Aggression"	0	4	8	12	4
14 "Temporary satisfac- tion"	52	8	0	60	19
15 "Vague causation"	48	8	0	56	16
Total					154

TABLE XXXI  
FREQUENCIES OF MAJOR OUTCOMES

	Shown by Per Cent of Individuals				Shown in Number of Stories
	Slight	Moderate	Intense	Total	
"Neutral Endings"					
16 No endings	72	20	8	100	38
17 Continued struggle	68	24	4	96	29
18 "Doubtful outcome"	40	20	0	60	28
19 Ambiguous endings	20	20	4	44	17
20 "Compromise endings"	8	4	8	20	16
Total					128
Unhappy Endings through					
21 "Punishment"	48	8	4	60	30
22 "Lack of Self-control"	20	12	8	40	7
23 "Wrong choice"	0	12	0	12	3
24 "Own inadequacies"	20	0	0	20	5
25 "Inescapable fate"	0	8	0	8	7
26 Frustration of life	0	4	0	4	4
27 Defeat by death	4	12	0	16	9
28 "Authorities"	0	4	4	8	6
29 "Social conformity"	12	8	0	20	11

TABLE XXXI  
FREQUENCIES OF MAJOR OUTCOMES

	Shown by Per Cent of Individuals				Shown if Number of Stories
	Slight	Moderate	Intense	Total	
30 Vague "failures"	0	8	0	8	8
31 Hostile others or nature	20	12	0	32	10
Total					100
Grand Total					382

difficulties they largely blame themselves, feel guilty, but try to consider their present sufferings as "just punishment" for their general inadequacies and moral lapses. The future, to them, is only vaguely hopeful. They are not quite ready to surrender to despair. Some improvement in their condition, they think, might be brought about by "reforming" themselves or by becoming "educated." Any real solution to their problems, they seem to recognize, must come through the help of others or through some fortuitous change in circumstances. They feel basically incapable of helping themselves. Unless adequate help from others is forthcoming they see themselves as "doomed" to continuing suffering until "released by death."

## CHAPTER VIII

### THE BENDER-GESTALT TEST

The Bender-Gestalt Test consists of nine simple designs which the subject reproduces by drawing as they are shown to him one at a time. These designs along with many others were first developed by Wertheimer in his studies of visual perception, and he used them only for that purpose. Dr. Loretta Bender selected the designs used in her test from the many used by Wertheimer and adapted them for clinical use.<sup>1</sup> Her purpose in constructing the test was to measure the "Gestalt function" of the individual and its disturbance under various psychological conditions. According to Bender, "The Gestalt function may be defined as that function of the integrated organism whereby it responds to a given constellation of stimuli as a whole; the response itself being a constellation, a pattern, or Gestalt."<sup>2</sup> Hence, "The whole setting of the stimulus and the

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1 Gerald R. Pascal and Barbara J. Suttell, The Bender-Gestalt Test, New York, Grune and Stratton, 1951.

2 Quoted by Pascal & Suttell, 5-6, from L. Bender, "A Visual Motor Gestalt Test and its Clinical Use," Amer. Orthopsychiatric Assoc. Res. Monog., no. 3, 1938.

whole integrative state of the organism determine the pattern of response."<sup>3</sup>

From these assumptions it follows that if the constellation of stimuli is kept constant, as in a standardized test situation, the way an individual responds to the stimuli will reflect his Gestalt function. From the characteristics of this function the individual's adequacy of perception and response are inferred and also his personality integration. In other words, the way the person copies the drawings indicates his capacity to perceive correctly and to execute the designs. But also, and more important, the person's interpretation of the drawings presented and of the task of copying them are reflected in the way he accomplishes the task. What the drawings and the task mean to the person, in the light of his own experience, is what must be inferred in the interpretation of the drawings the subject actually makes.

Research, according to Pascal and Suttell, has shown that abilities to perceive and execute the designs are relatively unimportant as causes of deviation of the executed designs from the models presented. Nearly everyone can perceive the designs correctly because they are so simple. Their copying has been shown not to depend on drawing ability. Art

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3 Ibid.

students in one study did worse than unselected normals. Deviant performance is, therefore, interpreted as due to factors which obstruct between perception and execution. The factor of this sort that the test actually measures seems to be an attitude towards the task and towards reality in general. The test situation is a bit of reality with which the subject has to cope. If his attitude towards reality is distorted or disturbed his drawings will show deviations from the models. The greater such deviations are, the more emotionally disturbed and maladjusted is the subject likely to be. This expectancy is confirmed by the fact that deviations are greater for psychotics, fewer for neurotics and least for normals.

Pascal and Suttell theorize concerning the Bender-Gestalt Test in Freudian psychoanalytical terms. They equate Bender's notion of "Gestalt function" with "ego-function," by which term they mean the capacity of the subject to respond adequately to the stimuli in his environment. The ability to reproduce the Gestalt drawings is a measure of this "ego function." The better a person performs on the test the greater his "ego strength."

Others who have proposed quantitative scoring systems for the Bender-Gestalt drawings likewise interpret their

results in psychoanalytical terms.<sup>4,5.</sup> These systems of Hutt and Billingslea are more difficult of practical application and of common sense interpretation than the system proposed by Pascall and Suttell. For these reasons the latter system is here used.<sup>6</sup>

The test was administered to 24 subjects according to the method recommended by Hutt.<sup>7</sup> All the samples were scored after practice on samples in the scoring manual. An attempt was made to follow faithfully the instructions in the manual and to compare the drawings of the experimental group with the samples given by Pascall and Suttell

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4 Max Hutt, "A Tentative Guide for the Administration and Interpretation of the Bender-Gestalt Test", U.S. Army, Adjutant General's School, 1945.

5 F. Billingslea, "The Bender-Gestalt Test: An Objective Scoring Method and Validating Data," J. Clin. Psychol., 1948, 4, 1-28.

6 Pascall and Suttell, The B-G. Test.

But even though the scoring system appears valid and practical the present writer cannot go along with all the interpretations of scoring results presented by Pascall and Suttell. He is by no means convinced that there is such a reality as "the Gestalt function," whether this be equated with an "ego function" or not. If there is any such psychological reality it is probably some intellectual habit of interpretation which influences perception and reproduction of the drawings. Without attempting to settle such questions here, only the quantitative results are presented.

7 Hutt, Tentative Guide to the B-G Test. 3-5.

The scoring system is too involved to describe simply. Each deviation from the model, on each design, must be noted and given its assigned weight. There are a total of 105 such deviations to look for on the drawings of each subject. Scores are accumulated for each design and totaled for all designs. Added to this total are "configuration scores" for the test as a whole. This procedure yields a raw score which is then converted to a Z-score by use of the appropriate table for the subject's age and educational level. Faithful reproduction of the drawings yields low scores, indicative of normality. Deviant reproduction gives high scores which indicate greater psychic disturbance and less ability to respond adequately to the environment. Scoring is only "reasonably accurate" according to the authors of the manual. It is not entirely objective since it involves subjective judgment and comparison of obtained drawings with given samples. Subjective certainty in scoring is emphasized throughout by frequent repetition of the admonition, "when in doubt do not score."<sup>8</sup>

The authors assert that reliability of trained scorers and of the scoring system is considered adequate. The reliability of the test itself is considered good, in view of the difficulty of measuring the reliability of such a test.

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<sup>8</sup> Pascall and Suttell, The B-G Test, 12.



There are no significant practice effects, at least for normals, probably because scores are not a function of drawing ability, the authors say. The test was standardized on 474 normals, consisting of college students, a high school graduating class and hospital employees. This sample is considered fairly representative of the general population, but there are few individuals in the group over fifty years of age or with only grade school education. No significant sex differences in performance on the test were found for the norm group. There was no significant correlation between B-G test scores and IQ. Age also has little effect within the age limits 15-50 years. But there was significant correlation with amount of education. Differences between subjects with only "some high school" education and those with "some college" education were so marked that separate tables of Z-scores were constructed for the two groups.

The test thus validated was found to distinguish psychiatric patients from non-patients with better than theoretically expected accuracy. No non-patient had a Z-score over 79 and only 2.7 per cent of them had Z-scores over 72. But 48 per cent of patients had Z-scores above 72. If a Z-score of 50 is chosen as a cut-off point 94 per cent of all patients, including 96 per cent of psychotics and 91 per cent of neurotics can be screened out. Hence, the authors conclude, Z-scores

below 50 probably indicate no need for psychiatric help, scores 50-72 are suspect and those above 72 probably indicate a need for careful diagnosis, if not treatment. But, because of possible scoring discrepancies, the authors recommend that the limits 60-80, rather than 50-72 be used in actual practice.

For the present group the Z-scores obtained ranged from 54 to 124. The mean was 93.08 and the standard deviation 17.69. The median was 93. All but one individual scored above 60 and all but five persons had Z-scores above 80. This group, then, must be maladjusted according to these criteria.

The group's performance on this test was analyzed for the specific factors that made for deviations on each of the designs, or on the test as a whole, for each individual. Performance can be influenced by attitudes of compliance, resentment, haste, suspiciousness, doubt, good humor and various other general attitudes. There is no way to tell from available data which of these, or other factors, such as carelessness or hand tremors, were operating and to what extent, in the performance of the group while making their drawings. Such factors, however, are regarded as properly accounted for in the scoring system which sets the norm at 60. Any score above 60, then, is regarded as reflecting the lack of maturation of the personality, "and the structurization of that personality in terms of its modes of perception and reaction, its ego needs,

its current conflicts and preoccupations.\*<sup>9</sup>

The data also show that some of the drawings were much more difficult than others for the group to reproduce. The order of difficulty, as indicated by total amounts of deviation from the models, is for this group: designs 6, 4, 7, 2, 8, 5, 3 and 1. Pascall and Suttell remark, incidentally, that designs 6 and 7 are reported as most unpleasant by many subjects. Hutt explains difficulty with these designs as due to decreased affect and the unsuccessful attempt to substitute intellectual control. Also, on design 6, many subjects have difficulty in making the curved lines cross properly. Hutt interprets this as suggestive of sexual conflict. On figure 4 the chief difficulty subjects have is with the curved line and this is suggestive of compulsivity. Design 3, according to Pascall and Suttell, is the most difficult to draw. The mentally dull have great difficulty with it. The present group did almost as well on design 3 as they did on design 1, which is the easiest. Therefore, it seems mental defect is not a factor accounting for the achievements of this group on the drawings. There was little deviation in arrangements of drawings and so "configuration scores" were low for this group. This indicates that the approach to the task, was, for virtually

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9 Hutt, Tentative Guide, 8.

all the group members, logical and orderly, and so showed intellectual control and adaptation to reality. The drawings were neither over-expansive nor too compressed; hence, it is inferred the group is neither elated or hypomanic, nor depressed, rigid or constricted. Indications of reality, distortion or bizarre perception were practically absent. Hints of such distortion were found in the drawings of only two individuals, but these hints were not strong.

Hutt presents "tentative guides" to the diagnosis of clinical syndromes.<sup>10</sup> He gives no statistics but presents his findings verbally and in summary fashion. He stresses the importance of understanding "the underlying psychodynamics revealed in the Bender-Gestalt drawings." But he gives no exact information as to how such understanding is to be achieved. Exact comparison of the present group with his 130 psychoneurotics is impossible, since he presents no frequencies of occurrence of any of his signs. In general, however, significantly large percentages of the present subjects seem to meet Hutt's criteria of neurosis and some show the extreme distortions that he says characterize the psychotic and the brain injured patient.

The neurotic signs emphasized by Hutt, by Pascall

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10 Hutt, Tentative Guide, 14-15.

and Suttell, or by both were manifested by the present group in the following rank order, from most to least frequently. Fine tremors, indicative of tenseness and anxiety, were shown by all and by each to a greater extent than any other sign. Total weighted score on this point was 308. Asymmetry of the drawings, or of parts of the drawings, representing slight distortions of perception and hesitancy or caution in execution, was likewise found for every subject and the weighted score for this was 249. Work-over, or touch up of the drawings, reflecting insecurity or lack of self-confidence and also suspiciousness, was the third most frequent sign, but was manifested to a much less extent, weighted score 97. Grosser distortions were manifested by ten individuals, but these showed it to such an extent that the group score on this point was 80. These subjects then manifested bizarre perception but the rest of the group did not. Transformation of dots into circles, indicative of deterioration, or at least regression, characterized the group next most noticeably. To the same extent the drawings showed deviations from the models in slant of lines. This is likely to be a sign of aggressiveness.

Wavy lines of dots, indicative of instability, ranked seventh in severity as a symptom of the group. Difficulty in crossing lines, which Hutt says is characteristic of neurotics and indicates sexual conflict was shown by 83 per cent of the

group, but no individual manifested this to any great extent.<sup>11</sup> Omission of angles reflects perseveration and was the ninth most important symptom. Rotation of parts of designs is distinct from rotation of whole designs, but both indicate some distortion of reality. This group show only the sign of lesser distortion. Use of dashes instead of dots represents an attempt to simplify the designs and reflects immaturity. This ranked eleventh as a symptom. Other signs of difficulty in closure, slight distortions of angles, not centering the curve on design 4, and the use of double lines were much less frequent than the other signs listed and occurred in this order. It is not quite clear what these signs manifest, but oppositional tendencies, compulsivity, and disturbance or blunting of emotional functions are suspected.

It must be emphasized again that no one individual showed any of these signs to an outstanding extent. Those with the higher Z scores, however, showed more of the signs and so may be said to manifest greater perceptual distortion and to be more severely maladjusted to reality.

In summary, all that can be said is that the Bender-Gestalt test, applied to the present group, revealed relatively great inability to reproduce accurately the test designs.

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11 Hutt, Tentative Guide, 13.

Since the group members all are of average intelligence or higher, the implication is that some factor other than intelligence is operating to produce deviations in the drawings. The test findings probably signify that some type of personality maladjustment prevents accurate perception, interpretation or execution of the drawings. Perhaps all three of these factors are operating, but, according to Bender, Hutt, Billingslea, and Pascall and Suttell, only interpretation is an important variable. Interpretation is determined by the individual's attitude towards the task, and towards reality in general. His interpretation disturbs the "integrative functions" and this disturbance is responsible for the quality of the subject's reproductions. This much can be accepted without implying any theory of the "integrative," or "Gestalt-function" or any views on the meanings of the various types of distortion found in the drawings of these subjects.

Further analysis of the drawings yielded presumptive evidence that the perceptual distortion implied in the drawings is associated with certain signs symptomatic of neurotic personality adjustment. These signs are further interpreted as reflecting the traits in about the order of frequency and importance shown in Table XXXII.

TABLE XXXII

FREQUENCIES OF NEUROTIC SIGNS IN THE  
GROUP INDICATED BY ANALYSIS OF  
BENDER-GESTALT DRAWINGS

Symptom	Per Cent of Group
1. Anxiety and tenseness . . . . .	100
2. Hesitancy or caution . . . . .	96
3. Insecurity . . . . .	92
4. Lack of self confidence . . . . .	88
5. Suspiciousness . . . . .	44
6. Deterioration or regression . . . . .	13
7. Aggressiveness . . . . .	32
8. Instability (slight) . . . . .	60
9. Sexual conflict . . . . .	83
10. Perseveration . . . . .	60
11. Reality distortion (slight) . . . . .	80
12. Simplification of stimulus reflecting immaturity . . . . .	40
13. Oppositional tendencies . . . . .	24
14. Compulsivity . . . . .	16
15. Emotional blunting . . . . .	8



## CHAPTER IX

### THE PURSUIT-ROTOR

The pursuit-rotor, also called the pursuit-meter, is a device primarily intended for the study of motor learning. It consists of a rotating disc of electrically nonconducting material, near the edge of which is embedded a metallic target about the size of a dime. The subject learns to keep a loose-jointed pointer (or stylus) on this target while the disc is rotating. As long as he can do this an electrical circuit is kept closed and a timing device is thus activated. This gives a measure of the total time the subject can keep the stylus on the target during one minute trial periods.

Detailed specifications of the pursuit meter and timing device used in this study can be found in the Thesis of R. C. Nicolay<sup>1</sup> and need not be repeated here. Details concerning instructions to the subjects, practice trials, rest periods, etc. are given in the same place. Here it need only be

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<sup>1</sup> R. C. Nicolay, "A Experimental Investigation of the Relationship between Level of Aspiration and Ascendance and Submission". Unpublished Master's Thesis, Loyola University, Feb. 1950.

said that for our subjects the disc was rotated at a uniform rate of 78 r.p.m., in a clockwise direction, and each subject was given a sufficient number of preliminary practice trials until he could keep the stylus on the target for at least one-twelfth of a second. He was then told his score on the last trial and asked: "What will you do next time?" Data for ten experimental trials of one minute each were then accumulated. The subject was allowed one minute rest after each trial. He was asked to state before each trial the score he expected to make and was told after each trial the score he did achieve. Scores were in terms of twenty-fourths of a second for times on the target.

In the present use of pursuit-rotor data the interest is not in the subject's improvement in performance with practice. We are not here concerned with his motor-learning ability or his actual increase in proficiency at the task over a series of trials. Rather performance on the pursuit-rotor was used as a method of getting at the subject's "level of aspiration." The device is easily adapted to this purpose for the following reasons:<sup>2</sup>

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2 Kurt Lewin, Tamara Dembo, Leon Festinger and Pauline Sears, "Level of Aspiration," Chap. 10 in J. MoV. Hunt, Personality and the Behavior Disorders. I New York, Ronald Press, 1944, 333-378.

1. Almost no subject will have had practice with it or wished to "learn" on it.
2. There is little verbal or symbolic involvement on the part of the subjects; hence they need not be equated for intelligence.
3. The task is more difficult than it first appears to be; hence "failure" is easy.
4. Since the situation is new and strange to the subject it is ambiguous; hence he is likely to accept the experimenter's definition of the situation.
5. "Ego involvement" will probably be moderate and temporary; unless the subject is led to believe that his abilities are being evaluated or he is being compared with others. Then his pretensions, ambitions, pride, self-confidence, etc., become involved.
6. The experimenter's instructions and comments can be designed to enhance or break down the subject's concept of, and evaluation of, himself.
7. Instructions accepted by the subject will produce a "set" or "frame of reference." (Since the situation is ambiguous the subject is likely to accept any instructions or definition of the situation.)
8. If the experimenter's definition of the situation is not accepted the subject's frame of reference, self-concept

etc. will be revealed none the less.

The rationale of level of aspiration studies, or the history of such studies, need not be gone into here.<sup>3</sup> Basic justification of the method derives from the fact that almost any psychological problem may involve goals and goal directed activity. When the subject, in an experimental situation, tries to attain some anticipated level of adequacy or excellence, chosen by himself, or set for him by the experimenter, his performance may be said to be "goal directed." In such situations the goals themselves may be the major focus of interest, rather than other aspects of the subject's performance. Attainment of, or failure to reach a goal may affect the subject's subsequent performance in the same situation, for example in later trials at the same task. The subject may, of course, react in one or several of many possible ways to his success or failure at a task. Our interest here is merely in whether he tends to lower or raise the goals he set for himself on the pursuit-rotor task as a result of success or failure in attaining such goals.

Twenty-one of our subjects were tested on the Pursuit-rotor. Before presenting the results obtained, an explanation of the scoring system and of the meanings of the scores is

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<sup>3</sup> Lewin et al., "Level of Aspiration", Personality and the Behavior Disorders.

necessary. A sample data sheet is given in the appendix. Here it is sufficient to explain what the scores mean. The times the subject was able to keep the stylus on the target during each one minute trial are his performance scores. The subject's prediction of his next performance, after each trial, is his "level of aspiration," also called his "goal score" for the next trial. The difference between a level of aspiration (or goal) score and the previous performance score gives the "goal discrepancy" or D score. These D scores are converted into percentages of the previous performance scores. This conversion was necessary because of individual differences in proficiency at the task. The percentages by which each subject raised or lowered his goals after each performance provides a legitimate basis for contrasting individual goal discrepancies. The algebraic sum of these percentage D scores, over ten trials, divided by ten, gives the subject's average D score. A plus score indicates a tendency to raise goals and a minus score a tendency to lower goals following either a successful or unsuccessful performance.

Average percentage D scores can also be considered as average levels of aspiration if the quantity 100 is added to each such score. The index of a subject's average performance is set as 100, regardless of its absolute amount, and since his average goal discrepancy (D score) is a percentage

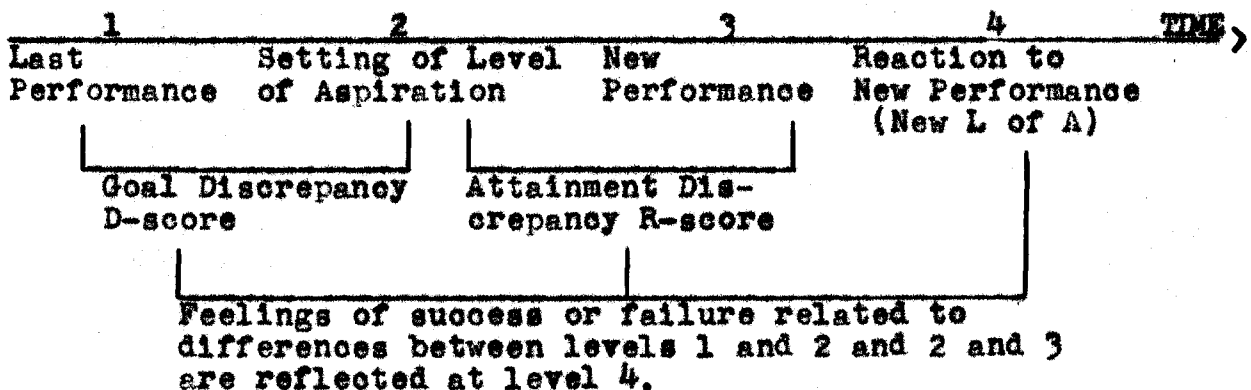
above, or below, his average performance level, his level of aspiration (L of A) can likewise be considered as a percentage of his average performance. So, instead of saying an individual had an average goal discrepancy (D score) of plus 10 per cent, we can say he had an L of A of 110 per cent. Similarly, instead of a D score of minus 10 per cent the equivalent L of A of 90 per cent may be substituted. This method avoids use of negative signs before percentage figures which is sometimes confusing.

Another measure usually employed in level of aspiration studies is the "attainment discrepancy" score. When, following a trial, an individual sets a goal for himself, aspires to a certain level of performance on his next trial, he may on this next trial attain his goal, exceed it or fall short of it. The difference between what the subject says his goal is and what he actually achieves on the subsequent trial gives his attainment discrepancy score. These scores are converted to percentages of the following performance scores. This procedure reveals the percentage by which the subject exceeds or falls short of, the goals he sets for himself. The algebraic sum of these percentages, over ten trials, divided by ten, gives the subject's average "attainment discrepancy" score. Since this score is taken to be a measure of "realism" it is abbreviated as R. The implication is that the individual may

or may not set realistic goals that he can attain.

The fourth measure derivable from level of aspiration data is the "index of flexibility," abbreviated F. This is defined as the average of the sum of the shift, or changes, in the level of aspiration, regardless of the direction of such changes. Each succeeding goal discrepancy (D per cent) is subtracted from the immediately preceeding one and these differences are algebraically summed and divided by nine. (Since there are ten experimental trials there are nine such differences.) The index of flexibility is thought to reflect rigidity in the personality, if it is low; or conversely to indicate motility, if high.

The sequence of events in the level of aspiration study and the relationship between scores can best be summarized by the following diagram:<sup>4</sup>



<sup>4</sup> Lewin et al., "Level of Aspiration," Personality and the Behavior disorders, Fig. 1, 334 (modified)

The subject achieves a performance score on his last practice trial. When asked to set a goal for his next trial he may aspire to reach the same, a higher or a lower performance level. The difference between the last performance and the goal score is his goal discrepancy score, which may be zero, plus or minus. He then tries to attain the goal he set. He may attain it, fail to reach it or exceed it. The difference between what he tries to do and what he does achieve is his attainment discrepancy. This may also be zero, plus or minus. If he attains, or exceeds, the goal he set for himself he experiences success. If his performance falls below his level of aspiration it is accompanied by a feeling of failure. The level of aspiration typically rises after a level of performance which has exceeded it, that is, after a success. It typically falls after a level of performance that has failed to reach it, that is, after a failure. The subject's feelings of success or failure, then, will be reflected in the level of aspiration he selects for the next trial. But the subject usually takes account of both his goal discrepancy and his attainment discrepancy scores for all previous trials in setting each new level of aspiration. His average L of A, D score and R score may all be taken as indications of the strength of the individual's tendency to raise or lower his goals after success or failure. The D score also shows the tendency to take big or little steps in one



direction or the other, to raise or lower goals much or little. The R score also indicates the subject's cautiousness, if low, or recklessness, if high in setting goals. In addition, the F score shows the individual's responsiveness to success and failure. If he keeps his level of aspiration approximately the same in spite of success or failure his F score is low. If he is unduly influenced by success or failure, his F score becomes high.

From these scores, then, may be inferred the individual's ambition, courage and self-confidence, also his caution and fear of inferiority, as well as his responsiveness to success or failure. If none of these factors are operating the level of aspiration represents an intellectual estimate of the goodness of future performance on the basis of past performance. The subject may be said to show a desire to make his level of aspiration approximate his level of performance as closely as possible. From this is inferred his more general desire to keep in touch with reality.<sup>5</sup>

#### Results:

The over-all results of the level of aspiration study are presented in Table XXXIII.

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<sup>5</sup> Jerome D. Frank, "Level of Aspiration Test, " Explorations in Personality, ed. Henry A. Murray, New York, 1938, 461-47.

TABLE XXXIII  
RESULTS OF LEVEL OF ASPIRATION STUDY

	Range	Mean	Std.D.	Mdn.
D Scores	-33.7 to 73.2	5.43	17.36	8.9
L of A Scores	66.36 to 173.2	105.43	17.36	108.9
R Scores	-35. to 117.2	8.01	30.4	-3.7
F Scores	1. to 108.	38.95	29.20	30.

As can be seen from this table the group as a whole had an average level of aspiration of slightly over 105 per cent. On the average they set their goals about 5 per cent higher than they were able to reach, and so had an average goal discrepancy score of 5.43. Since the normal person is expected to have a level of aspiration above his level of performance, but not too much above it, and so to have a low, but positive, goal discrepancy score, the group as a whole falls within the range of normality in this respect.

The normal person is likewise expected to have a positive R score, but not too high a one, indicating that his attainments do not quite reach his level of aspiration, but are not too much below what a realistic judgment of his ability would indicate that he could do. In this respect also the present group, as a whole, is within the range of normality.

However, the average F score shows that the group as a whole is too flexible or mobile. They over respond to success and failures. Inspection of individual records indicates that for many subjects responses to success and failure were equally vehement. This tended to lower both their D and R scores while making their F scores high. The general tendencies of D and R scores towards normality then are not to be taken at face value, that is, as showing that the group is a normal one. The average F score clearly indicates that the group as a whole is abnormal, with respect to goal striving activity.

Of course the sizes of the standard deviations cast doubt on any conclusions concerning the group that are based on the means. The standard errors of these means are likewise large, which fact also reduces the "level of confidence" to be placed in group results. Therefore, the whole group must be somehow subdivided and results for the subgroups discussed separately. Unfortunately there are no external criteria in terms of which meaningful subdivisions of the group can be made. No comparable studies of a normal group using similar apparatus, method and scoring exist. The means, then, even though they are unreliable, must be taken as the best single measures of what "normal" scores "should be" for the aspects of goal striving dealt with here.

Using the means as dividing lines, the percentages of the whole group making scores above and below the means of the respective score distributions were calculated. The results are shown in Table XXXIV. The percentages with scores one-standard deviation or more above and below the four means are also shown.

TABLE XXXIV  
PERCENTAGES OF TOTAL GROUP ABOVE AND BELOW THE MEANS  
OF THE VARIOUS SCORE DISTRIBUTIONS

	Above Mean		Below Mean	
	Total	1 or more sigmas	Total	1 or more sigmas
D Scores	57	29	43	5
L of A Scores	57	29	43	5
R Scores	29	19	71	14
F Scores	38	24	62	4

It will be recalled that each percentage D score is interpreted as reflecting effects of previous performance on the subsequent level of aspiration. If the average of such scores for an individual is plus it indicates his tendency to raise his goals; and if minus, to lower them. The subject's general level of aspiration is shown by either his average D

score, or his L of A score which is merely the D score plus 100. If he over-aspires his D and L of A scores become high and they remain positive as long as his goals are higher than his achievements. If the subject under-aspires his D score and L of A scores become minus, and the greater these minus scores the more do his achievements exceed his goals. If the subject is realistic in his appraisal of his performance, and sets goals for himself that he can accomplish, his D and L of A scores are close to zero.

On the supposition that goal discrepancy is zero if goals are based solely on ideally objective judgments of past performance, any departure from zero indicates that factors other than objective judgment are operative in the individual when he raises or lowers his goals. The individual's concept of himself as habitually successful, or as a failure, is thought to be the most important of such factors influencing goal setting. However, more refined analysis indicates that goal discrepancy scores also depend on the interplay of three other factors: (1) The desire to make the level of aspiration approximate the level of performance as closely as possible. (2) The desire to keep the level of aspiration high in relation to the level of performance. (3) The desire to avoid failure. Operation of the first of these desires tends to make D approximate zero. This is also interpreted as reflecting a desire

to keep in touch with reality. Operation of the second desire tends to make D high, or at least positive. D becomes higher to the extent that the subject's self-regard becomes involved. If he interprets his level of aspiration as somehow measuring his worth he strives for a high level of aspiration, or sets his goals higher than his achievements. The desire to avoid failure may likewise reflect a fear of ridicule and embarrassment to which the subject feels he might be exposed if he publicly over-estimates his own ability.<sup>6</sup> The task itself, also, and the individual's proficiency at it likewise play their respective parts. If the subject finds the task easy and pleasant he tends to set high goals. If he finds the task difficult and discouraging he is apt to lower his goals.

Everyone seems to be influenced to some extent by all these factors with the result that almost no one attains a D score of zero. As said before, the normal individual has a D score that is slightly positive. He seems to be more influenced by the desires to predict his performance accurately and to keep his goals a little above his achievement. He thus strives realistically for improvement. But, of the present group 57 per cent aspired to more than this; (if the assumption is accepted that the mean D score of 5.43 represents a

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6 Frank, "Level of Aspiration Test," Explorations, 468.

fair approximation of the normal.) Their desire to do well is stronger than their fear of failure, so they set goals too high for themselves, or over-aspire. They thus manifest over-ambition, too much self-confidence or foolhardiness rather than courage. For 29 per cent of the group, those above one standard deviation from the mean, these characteristics may be said to be extreme. These are the individuals least in contact with reality and more dominated by "wishful thinking."

On the other hand, 43 per cent of the group are more influenced by the desire to avoid failure than by the desire to do well at the task. They tend to set lower than average goals for themselves; or goals even lower than their own actual achievements. They may be said to lack self-confidence and courage, to be overcautious and to fear inferiority. Only one individual (5 per cent of the group) manifests these traits to an extreme degree. It may be inferred that feelings of failure are stronger in these subjects and that they have had more of a history of failure than those subjects who over-aspire.

The R-score, as said before, is an indication of the extent to which an individual attains the goals he sets for himself. If he does what he says he will do, no more or no less, his attainment discrepancy is zero. If he does better than he says he will, he gets a minus R score, since subsequent

level of performance is subtracted from previous level of aspiration. So, if the subject does worse than he says he will, his R score is plus. The R score then is interpreted as reflecting the individual's objective judgment of what he can do, in terms of what he has done. A person who realistically judges his performance and sets his goals accordingly will have an R score close to zero. One who over estimates his ability sets his goals too high and so falls short of them. He may persist in doing this in spite of repeated failures. Thus, he manifests the unreality of his judgments. The subject who underestimates his ability and actually does better than he thinks he can, attains a minus R score, but he also manifests unreality of judgment. A reality-irreality dimension may be conceived of as running in both the plus and minus directions from zero. The R score of any subject can be ordered to this dimension. The normal person, as said before, tends to have a small positive R score. He is not able to judge his ability with completely objective realism or to achieve all that he tries. He does, however, try to improve and so sets his goals a little above his attainments and even though he falls short of his goals he does not lose hope, give up the struggle and lower his goals unduly.

If the group average R score of 8.01 is taken as the best available indication of normality, 29 per cent of the



group may be said to aspire too high. They show over-ambitiousness or even wishful thinking. Since they fail to attain what they aspire to, it is probable that they experience feelings of failure, inadequacy and frustration. They attempt to compensate for these feelings by persisting in setting high goals and by working harder to attain them. They do not revise their estimate of their ability in the light of their experience. Three or four individuals, 14 or 19 per cent of the group, depending on one or two sigmas as the cut-off point, manifest these traits to an extreme degree.

Those subjects whose R scores are below the mean, 71 per cent of the group, manifest lack of courage to face reality, lack of self confidence or defeatism. At least they are over-cautious or self-disparaging. Therefore, their self-appraisals are not realistic. They are too much influenced by failure, give up too easily and perhaps feel that they must experience success even at the price of setting easy goals for themselves. Three subjects, 14 per cent of the group, manifest these characteristics to an unusually great extent.

Table XXXIV also shows that 38 per cent had indices of flexibility, or F scores, above the mean for the whole group. These subjects are too flexible or too labile. They are unduly affected by success or failure and consequently raise or lower their levels of aspiration more than an objec-

tive judgment of their performance would warrant.

On the other hand, 62 per cent of the group had F scores below the group mean. These individuals manifest too much rigidity. They set their levels of aspiration with relatively little regard to their actual achievements and do not sufficiently raise or lower their goals as a result of their successes or failures. They go their own way and do not profit by, or realistically utilize, their experience. They retain the same concepts of themselves as able to succeed or bound to fail at the task in spite of the evidence of their performance to the contrary.

The intensity of the subject's feelings of success or failure can likewise be inferred from his F score. The more often and the more strongly he experiences either success or failure, the more apt he is to keep changing his goals and to change them by greater amounts. He thus ends up with a high F score. The individual who is more indifferent to success and failure tends to keep his level of aspiration the same and so gets a lower F score. It is to be noted that for this group these with the higher F scores had more failures than success; they fell short of their goals more often than they attained or exceeded them.

Goal discrepancy (D scores) and attainment discrepancy (R scores) for the present group correlate .75 by the rank

difference method. This was the most feasible method of correlation to apply since each D and R score is really a percentage of the immediately preceeding, or next succeeding, performance raw score and the individual's total D and R scores are algebraic averages of these percentages. Besides, the ranges of total D and R scores were so great, and there were such gaps in the distributions that it seemed better simply to rank the individuals, with regard to both D and R, than to try more refined correlation techniques.

The size of this correlation coefficient indicates a negative relationship between level of aspiration and achievement. It will be recalled that higher the D score the higher the subject's level of aspiration, and the higher his R score the greater the amount by which he fails to perform up to his goals. In other words, those who aspire the highest fail the most. Those whose levels of aspiration are closest to their levels of actual performance, either slightly above or slightly below, tend to achieve their goals or even exceed them.

The factors which influence goal setting, as implied previously, are the individual's accuracy of judgment concerning his performance and his ability, his concept of himself and his habits of success or failure. If he is realistic in his thinking he is apt to set goals for himself that he can attain. Hence, his D and R scores will be close to zero. If he is

unrealistically ambitious he sets goals too high to attain. This is not because he wants to fail, or is not afraid of failure, but the usual interpretation is that he is trying to compensate for a habit of failure. He has a strong drive to succeed at something and the pursuit-rotor task looks easier to him than it actually is. The person who is too cautious, too timid, has too low an opinion of his ability, is likewise unrealistic. He sets goals that are too low and often exceeds them in his performance. He is satisfied with a low level of achievement and does not try to improve. He is so afraid of failure that he avoids it by not attempting a task he judges to be beyond his hopes of success.

If the total group is divided into two subgroups, (1) those with positive D scores, indicating the higher level of aspiration, or the more ambitious group and (2) those with negative D scores, indicating levels of aspiration below their performance levels, that is, the more cautious, timid or self-disparaging group; the relationships between D and R will be seen more clearly. For the first group, 57 per cent of the total, D and R correlate .55; for the second group, 43 per cent of all subjects, the correlation is -.17. These coefficients more strongly indicate that those whose level of aspiration was higher failed more often, or by greater amounts, to attain their goals; while those whose level of aspiration was lower more often attained, or even exceeded their goals.

For the group with the higher levels of aspiration the correlation between goal discrepancy and flexibility, D and F is .17. For the under-aspirers the corresponding rho is .48. This suggests that the over-ambitious are less flexible, more rigid, than the less ambitious. They keep their levels of aspiration high in spite of failure to reach their goals, and the higher their levels of aspiration, the less these individuals change them. Those with lower average levels of aspiration change these levels more frequently, or by greater amounts, to keep their levels of aspiration in line with their levels of performance.

For the over-ambitious group the correlation between attainment discrepancy and flexibility, R and F scores, is .39. Those in this group who fail the most to reach their goals change their levels of aspiration most. This seems logical since failure to reach a goal is a good reason for changing it. However, these individuals are more likely to show their flexibility by raising, rather than lowering, their goals after failure. This accounts for the correlation between degree of flexibility and degree of failure and does not contradict the relationship between low goal discrepancy and high flexibility or the inverse, high goal discrepancy and high rigidity, mentioned in the paragraph above.

For the under aspirer the correlation between flexibility and failure is only .03. They do not aim high, do not

fail by so much to reach their goals, hence can be less flexible, more rigid, than the ambitious group.

From these relationships between flexibility and goal and attainment discrepancies it can be concluded that two types of individuals manifest rigidity. Those who persist in setting low goals for themselves, even though in their performance they attain, or even exceed their goals, 43 per cent of the total group; plus those who set extremely high goals for themselves and strive for them in spite of repeated failures to attain them, an additional 19 per cent of the group. Thus we come back to what was said above in discussing the F score distribution for the entire group, namely that 62 per cent of them are too rigid. They do not adapt themselves to their own limitations nor to the requirements of the task in which they are engaged.

If the total group is divided into two sub-groups, failures and successes, 38 and 62 per cent of the total group respectively, the relationships between the variables D, R and F are as follows. For the failure group, D and R correlate .55. The higher they aspire the more they fail to reach their goals. The more they fail the more flexible they are,  $\rho = -.48$ . Also the greater their goal discrepancies the more their flexibility,  $\rho = .57$ . They keep changing their goals, trying to succeed at something.

For the non-failure group, those who attain or exceed their goals, the correlation between D and R is  $-.37$ . It cannot be concluded from this that the higher they aspire the less they fail, rather the indication is that their levels of aspiration are well within their capacities and so they achieve, or exceed, their performance goals. For this group the correlation between attainment discrepancy, R and flexibility F, is  $.10$ , which is so far below statistical significance as to indicate no real relationship. In other words, the successful group is not too flexible, nor too rigid. But even for this group the relationship between level of aspiration and flexibility, D and F,  $\rho .47$ , shows that those who aspire the highest are the most flexible, or conversely the least ambitious are the most rigid.

In summary it may be said that a realistic attitude towards the pursuit-rotor task will produce small goal and attainment discrepancies and a moderate flexibility index which indicates a suitable degree of responsiveness to changes in performance. For the normal subject the goal discrepancy is apt to be slightly positive and the attainment discrepancy slightly negative. That is, the normal sets his goals a little higher than his level of achievement. He aspires to do better than he does, but not unreasonably so. He does not keep changing his goals without apparent reason nor raise or lower his

goals by undue amounts following success or failure. He does, however, realistically adapt his level of aspiration to his performance level and so shows some flexibility. None of our subjects meet all three of these criteria of normality. Those who on the average do not aspire too high or too low either over-achieve or under-achieve too much, or show too much flexibility or rigidity.

An unrealistic attitude produces large goal and attainment discrepancies, either positive or negative, and a too high or too low index of flexibility. That is, the individual's goal setting is unresponsive to the influences of reality. By reality here is meant a fair appraisal of his own ability and the requirements of the task, an objective judgment of future performance that takes adequate account of past performance. The abnormal individual's goal setting, therefore, reflects his wishful, or hopeless, attitude towards achievement. If he disregards his limitations, or judges the task to be easier than it is, he overaspires, as does 57 per cent of our group. The more he over aspires the greater his failure is apt to be and the more rigid he is apt to be. Nineteen per cent of our group show this type of rigidity in pursuing goals so much beyond their capacities.

On the other hand, those individuals whose level of aspiration is too low, 43 per cent of the group, also show an



unrealistic appraisal of their abilities in that they disparage themselves, and of the task in that they judge it to be too difficult for them. These individuals over-achieve more frequently than they fail to perform up to their levels of aspiration yet, in spite of this, they rigidly persist in setting goals below their abilities to attain.

In short, as Table XXXIV shows, 57 per cent of the group over-aspires, 43 per cent under-aspires, 29 per cent fail too much, 71 per cent attain their goals or over-achieve, and 38 per cent are too flexible while 62 per cent are too rigid. These percentages overlap in such fashion that none of the group can be considered normal with respect to goal-setting activity. As said before, these percentages represent the numbers of individuals above and below the means of the distributions for the basic scores used. These means are taken as the best approximations to the scores a normal person would make. Lest this method be considered too harsh, corresponding percentages for the various scores beyond cut-off points one sigma above and below the respective means are also shown in Table XXXIV. But, on this basis 66 per cent of the group could be considered normal with respect to level of aspiration, 67 per cent with respect to achievement and 72 per cent with respect to flexibility. These percentages seem much too liberal in view of what other tests reveal about the characteristics

and abnormality of the group.

The more general question of what determines the level of aspiration, for an individual, or for a group, cannot be answered on the basis of present data. Speculation on the problem reveals that a variety of factors may be involved in each goal choice. Some of these factors seem to be relatively stable or permanent for a given individual or group, while others are more dependent on the chance variables of the experimental situation, the subject's mood, cooperativeness, fatigue, etc. These latter factors were not carefully recorded for our subjects and cannot be summarized. Among relatively stable influences may be cited the general tendency of individuals in our culture to give an initial level of aspiration above their last practice trial achievement and to keep their goal discrepancies plus under most conditions. This fact is interpreted as due to cultural pressure towards improvement in any type of performance and the general tendency of high goals to stimulate individuals to greater endeavor. The present group is not "normal" in this respect since one-third of the subjects have minus goal discrepancy scores. There is some evidence that negative goal discrepancies characterize chronic failures, according to the literature.<sup>7</sup>

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<sup>7</sup> Lewin, et al. "Level of Aspiration," Personality and the Behavior Disorders.

In spite of all the factors that may influence goal setting, it nevertheless appears that this is an independent variable of personality. The subject who consistently sets goals higher or lower than his performance warrants manifests some distortion of judgment or apperception (unreality), hence differs in some important respect from the subject whose aspiration scores are in line with his achievements (reality). What this basic difference between the two types of subjects really is is a matter of speculation. It may be a difference in personality structure, thought patterns, habits of evaluation, etc., but none of these hypotheses is testable by present data.

Later, the results of comparison of level of aspiration data with data derived from other tests and devices used on these subjects are presented. In this way the value of the level of aspiration technique as a measure of adjustment, can be judged relative to other indications of normality and abnormality.

## CHAPTER X

### THE PSYCHOGALVANIC REFLEX

It has long been believed that changes in skin resistance to an electric current have some connection with emotion. Temporary drops in skin resistance have come to be known as "psychogalvanic reflexes," usually abbreviated PGR. To deal with these quantitatively it is required that the resistance level from which a PGR starts as well as the PGR itself be measured. Woodworth<sup>1</sup> describes and diagrams a typical circuit for this purpose. This circuit consists essentially of a Wheatstone bridge across which a constant current is impressed. The source of this direct current is usually in a small battery. Three arms of the bridge consist of known, constant resistances, while the fourth arm contains a variable resistance in series with two points on the subject's skin. Two fingers of the subject's hand held in separate jars of an electrolytic solution can provide adequate contact. The galvanometer is

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<sup>1</sup> Robert S. Woodworth, Experimental Psychology, 277-279, diagram, 278.

connected in parallel with the arm of the bridge in which the subject is connected and the adjacent arms. The whole diagram may be pictured as in the form of a square. One side of the square consists of the subject and a large variable resistance coil or rheostat. The adjacent side of the square contains a large constant resistance. The two sides opposite to these contain smaller constant resistances. Across the diagonally opposite corners of the square, where the smaller and larger resistances are joined, the source of current is connected. Across the remaining diagonal corners, where the two larger resistances are joined and the other where the two smaller resistances come together, the galvanometer is connected.

As the subject's level of resistance changes, usually declining during an experimental sitting, the variable resistance coil in series with him must be adjusted to keep the total resistance of the circuit constant and so have a constant current flowing through it. Temporary drops in the subject's skin resistance, which constitute the PGR and which follow upon stimulation of the subject, will disturb the balance of resistances and cause a current to flow through the galvanometer, deflecting its needle or pointer. As the subject recovers his skin resistance builds up again putting the circuit again in balance and so no current flows through the galvanometer. The magnitude of the galvanometer pointer deflection indicates the

amount of current flowing through this instrument. If such deflections of various magnitudes have been previously calibrated with known resistances, drops in the subject's skin resistance may be immediately inferred from changes in current shown by the galvanometer deflections. The actual apparatus used in the present experiment has been adequately described elsewhere<sup>2</sup> and the details need not be repeated here.

Many studies using the PGR have established that each person has a basic skin resistance, under normal conditions, and that this resistance changes with sensory stimulation of any modality, with mental activity and with overt behavior.<sup>3</sup> It is because meaningful situations, especially if emotionally toned, elicit a PGR that the technique was adopted for the present study. It was hoped that PGR responses in a free association word test situation could be used as indicators of the emotion aroused by the subject's interpretations of the meanings of words. The words arousing most emotion (greatest PGR) would, it was anticipated, reveal the areas of

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2 Charles A. Weisgerber, S. J., "Perservation and the Rate of Recovery after the Psychogalvanic Reflex," Doctoral Dissertation, June 1949, Unpublished manuscript in Library of Loyola University, 144-149.

3 Robert S. Woodworth, Experimental Psychology, New York, 1938, Chapter 13, 276-297.

the subject's conflicts and their basic problems. The PGR results were likewise to be analyzed for an index of emotionality, or emotional responsiveness for each subject.

The physics and physiology of the PGR need not be discussed here. Changes in the amount of secretion of the sweat glands is the primary, direct cause of changes in skin resistance. More fundamentally, the PGR is an index of activity of the autonomic branch of the nervous system. The autonomic nervous system is considered a significant factor in determining individual differences in personality and in influencing developmental sequences of the person. Differences in arousal, duration and control of autonomic functions are the important variables and these differ from person to person.<sup>4</sup> These variables are believed to be related to personality traits but this relationship is difficult to prove. Stagner<sup>5</sup> cites the work of Kempf and Rank, both of whom stress "homeostasis" as a fundamental tendency of any living organism to maintain itself as constantly as possible in the same condition despite changes in its environment, in stimuli impinging upon it, in its own biochemical processes, etc. and also despite attacks by

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<sup>4</sup> Ross Stagner, Psychology of Personality, 2nd ed., New York, 1938, Chapter 13, 276-297.

<sup>5</sup> Ibid., 263.

disease processes. In the higher animal organisms the autonomic nervous system is the physiological basis for homeostasis, hence Stagner refers to the autonomic nervous system as an "equilibrium maintaining mechanism." Activity of the autonomic nervous system in human beings, while the individual is trying to maintain, or to attain, equilibrium with his environment, Stagner regards as the physiological basis for the psychological feeling of tension or anxiety.<sup>6</sup> The present writer regards this view as highly plausible since he considers feelings as psycho-organic states or processes and the organic component is more likely to involve the autonomic nervous system than any other system or organ of the body.

But the autonomic nervous system has two divisions, largely antagonistic to each other in function. The sympathetic division is the "emergency" system. Its action raises blood pressure, increases pulse rate, inhibits digestion, etc. Action of the parasympathetic division has opposite effects. It lowers blood pressure, slows heart action, speeds digestion, etc. These relationships are harmonious with what is known of the action of the autonomic nervous system in connection with emotions. Hence persons with marked reactivity of the autonomic nervous system and slow recovery are likely to be

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6 Ibid., 264.



unstable, anxious, and "nervous." They may also be afraid of failure, lack self-confidence and be handicapped in developing adequate adjustments as a result.

The PGR, then, may be regarded as reflecting both the threshold of and the degree of autonomic reactivity. However, closer analysis has shown that PGR is primarily an index of activity in the sympathetic division of the autonomic branch of the nervous system. It is this division that innervates the sweat glands. The parasympathetic is much less directly and intensely involved. Weisgerber is in agreement with this. He says that the PGR "reflects primarily action of the sympathetic division (of the autonomic nervous system), but the parasympathetic division is also operative."<sup>7</sup> Therefore, the PGR indicates the extent of participation of the whole entire autonomic nervous system and not merely of the sympathetic division, in emotion, mental activity and overt behavior. The PGR is none the less taken as the best index of sympathetic activity.<sup>8</sup> It must be emphasized, also, that the PGR is only a part of a total response pattern. The basic question in the present study concerns only what the PGR may reveal about the emotional response patterns that characterize the present ex-

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7 Weisgerber, Perseveration and PGR, 100.

8 Woodworth, Exper. Psyc., 279-284, especially 282.

perimental group. Other changes mediated through the autonomic nervous system are not considered here.

To get at the problem posed the PGR was used in conjunction with a word association test. The history of such studies of the relationship between autonomic functions and emotional responses to words goes back at least as far as 1922.<sup>9</sup> Results show that many, if not all, individuals react to emotionally toned words, called "complex indicators," by changes in electrical conductivity of the skin, that is, by a PGR. This fact coincides with the common observation that emotion often involves flushing, pallor, sweating, changes in pulse rate, etc., which like the PGR, are mediated through the autonomic nervous system.

The stimulus words used in the present study were patterned after those given in lists by Woodworth.<sup>10</sup> The complete list of 16 emotionally toned words cannot be given here because the same words are being used in other studies; however, love, sweetheart, sin, pain and closed may be cited as examples of the words used. The details of the procedure of presenting the verbal stimuli, recording the responses, etc.,

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9 Stagner, Payc. of Pers., 325.

10 Woodworth, Exper. Payc., 289, 346, 347, 364.

need not be given here.<sup>11</sup> Suffice it to say that the usual procedure of the free association method with a word list was employed while the subjects were connected with the PGR apparatus. The raw scores were computed in ohms drop below each individual's "basic" skin resistance, from the current reading on the galvanometer following each presentation of a stimulus word. These raw scores were converted according to Haggard's transformation,<sup>12</sup> which makes the units adequate for statistical treatment. The average Haggard score on the 16 words was then computed for each subject. The average was chosen because there is a wide variation (0 to 900) for the various stimulus words and it was thought that the general emotional responsivity for each subject was best given by his mean score over all the stimulus words.

Nineteen of the 25 subjects had PGR records complete enough to be scored in these terms. The range of mean derived scores for these individuals is from 112.06 to 575.00, with a group mean of 301.41 and a standard deviation of 156.42. The distribution of scores was somewhat skewed negatively. Twelve subjects, 63 per cent, made scores below the group mean

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11 Weisgerber, Perseveration and PGR, 149-151.

12 E. A. Haggard and W. R. Garner, "An Empirical Test of a Derived Measure of Changes in Skin Resistance," J. Exper. Psychol. 1946, 36, 59-70.

three, 13 per cent, of these more than one standard deviation below. Only seven subjects, 37 per cent, had scores above the mean but five of these scores, 26 per cent, were above one standard deviation from the mean. These five subjects may be considered the most emotionally reactive.

The group as a whole, however, had exactly the same average score for all the stimuli as did a group of equal size of supposedly normal individuals who were administered the same test under the same conditions. Certain words, however, elicited greater PGR for normals than for neurotics. With other words this was reversed. Surprisingly, though, the standard deviation for the normal group was just one-half that of the neurotic group. From this finding it may be inferred that neurotics, as a group, are more variable than normals, with respect to average PGR at least. They are more likely to respond too much, or too little, than normals are.

From the above findings one possible conclusion is that the physiological accompaniments of emotion, as measured by average PGR, are not by themselves an index of neuroticism. The normal person may be, on the average, as disturbed as the neurotic in the testing situation, when various kinds of stimuli are used. The neurotic, however, may show emotional disturbance more habitually and in a wider range of situations.

An attempt was made to correlate, by the rank dif-

ference method, PGR mean derived scores for each individual with Munroe index scores on the Rorschach. The obtained rho was only  $-.15$ . Low, and statistically insignificant, correlations were also found between these PGR scores and (1) Wechsler IQ and "per cent loss"; (2) Bender-Gestalt Z scores; (3) Pursuit-Rotor goal discrepancy, attainment discrepancy and flexibility scores; and (4) MMPI Depression and Hypomania scale scores.

Chi-squares were also computed between the PGR scores and all the others named above. In these comparisons the total group was divided in various ways with respect to the distribution of both PGR scores and the other measures. Scores on the various instruments above and below the means and medians were contrasted. Highest scores on one device were compared with lowest scores on another. High plus low scores were compared with those in the middle ranges etc. Few of the obtained Chi-squares even approached unity and none was significant statistically.

These findings point to the conclusion that whatever the average PGR measures is a distinct variable of personality. It has no discoverable relation to other signs of emotional disturbance, personality disorganization or social maladjustment brought out in other test results. If, then, responsivity of the autonomic nervous system is related to neurosis the

connection between the two will have to be shown in some other way. The mean derived PGR score in response to the Loyola sample of emotional stimulus words cannot be taken as indicative of neurosis.

Even though the mean PGR scores used turned out to be unrelated to anything else in the total data for the group, with which comparison was tried, it was still felt that some other type of derived PGR score might show some relationship to other things. Accordingly, another procedure employed was to compute the ratio between average PGR Haggard scores made by each subject on those five words to which neurotics had high responsivity and those four words to which the normals had high responsivity. The subjects were then ranked with reference to these ratios, the individual with the highest ratio being considered most disturbed. These ranks correlated zero with the Munroe index and  $-.24$  with per cent loss of mental efficiency on the Wechsler. Correlations of these PGR ratio scores with other test scores and indices indicative of personality disturbance or maladjustment were likewise low and insignificant. It would add nothing to the discussion to list them here. Chi-square comparisons also gave negative results.

Still another attempt was made to find a relationship between PGR and other test scores. The subjects of the experimental group were ranked with reference to their PGR

Haggard scores on the stimulus words which distinguished them most from the normal group. These words proved to be "closed" and "pain." Rank orders of the subject's PGR scores on these two words correlated .55 with each other. This shows consistency within the neurotic group, in reactivity to these two stimuli. Why neurotics responded more emotionally to these than to the other stimulus words used, is an interesting subject for speculation but has no ready explanation in the data. It was, then, suspected that one or the other of these highly discriminating words might be an indicator of degree of neuroticism if PGR scores made in response to the word correlated highly with degree of neuroticism estimated from other tests.

Scores on "closed" correlated .39 with the ratio mentioned above, that is, the ratio for each neurotic subject, between the words eliciting greatest responses from neurotics and those most responded to by normals. Scores to the word "pain" correlated .34 with the same ratio. Both correlations are by the rank difference method. The former only is barely significant at the five per cent level of confidence. These correlation coefficients do not clearly suggest that there is any agreement between the PGR scores to the words and the ratio as indicators of the same thing. In fact, higher correlation was expected since scores to the words "closed" and "pain" were used in computing the ratio.

PGR scores to "closed" correlated  $-.15$  with the Munroe index,  $-.12$  with the Psychasthenic scale of the MMPI,  $-.06$  with Hysteria scale scores and  $.03$  with Psychopathic-Deviate scale scores on the same instruments. The similar correlation coefficients for the word "pain" were  $-.19$  with Munroe index,  $-.02$  with the MMPI Depression scale and  $.00$  with the Psychopathic Deviate scale. Chi-square relationships between scores on these words and all scores on other tests with which they were compared were likewise very low and insignificant.

When PGR responses are evaluated simply with regard to their intensity, as they have been up to this point in the present discussion, no significant correlation is found between them and any other personality variable. An explanation of this fact would seem to lie in the rather transitory character of the PGR responses to the stimulus words. Another explanation has been given, namely that PGR, as an indicator of autonomic activity, fails to show degrees of intensity in neurotic disorders simply because the autonomic nervous system is not involved in such disorders.<sup>13</sup> Or perhaps the view of Stagner<sup>14</sup> and others is tenable, that a ratio between the activity of

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13 Stagner, Psych. of Personal., 263.

14 Stagner, Psych. of Personal., 326, 328.



the para-sympathetic and the activity of the sympathetic divisions of the autonomic nervous system yields a better indication of severity of neuroticism.

Weisgerber has shown<sup>15</sup> that ideational perseveration tendency does correlate .346 with PGR recovery time. This is significant at the 2 per cent level and almost at the 1 per cent level. Persons whose scores for ideational perseveration are highest tend to be those whose recovery from PGR is slowest. Weisgerber does not attempt to relate this fact in any way to autonomic activity but merely states the fact of relationship between the time factors derivable from PGR records and the mental perseveration scores of his subjects.

Adopting this approach the average PGR response durations were computed for each of the 19 neurotic subjects of the present study for whom complete records were available. The subjects were then ranked from slowest to fastest recoverers, disregarding the intensities of the disturbances. Contrary to what was expected, the intensity magnitude of responses were inversely related to their own durations; that is, the larger the amplitude of the galvanometer deflection, the shorter the duration of the response. Stagner had hinted at an exact opposite relationship when he said: "The faster and

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15 Weisgerber, Perseveration and PGR.

more intense the response the slower . . . . the recovery.<sup>16</sup>

In another place<sup>17</sup> Stagner says "persons with marked autonomic nervous system reactivity and slow recovery are likely to be unstable, anxious and nervous." Here also he implies that intensity of autonomic nervous system activity goes along with slow recovery time. Again this is exactly opposite to the findings on the present group of subjects.

For the subjects of the present study the rank difference correlation between average durations of PGR responses and Munroe index scores is .45. This is significant at the 5 per cent level of confidence.<sup>18</sup> Hence, it is suggested that the more disturbed the subjects are, as indicated by high Munroe index scores, the slower they are to autonomically react to and recover from transitory emotional disturbances. The PGR recovery times do not correlate significantly with any aspect of the Wechsler, with Rorschach responsiveness (total number of responses), or with number of whole responses. PGR recovery times were also correlated with all the clinical scales of the MMPI with the following results.

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16 Stagner, Psyc. of Per., 92.

17 Stagner, Psyc. of Per., 328.

18 Statistics, 346, 298, 299.

TABLE XXXV

CORRELATIONS BETWEEN PGR RECOVERY TIMES AND MMPI SCALES ORDER:  
SLOW PGR AND HIGH SCALE SCORES

Scale	Rho	Scale	Rho
Hs	.19	Pa	-.14
D	-.32	Pt	.37
Hy	.17	So	.20
Pd	-.13	Ma	.40
Mf	.01	Si	-.32

Only coefficients above .45 are significant at the 5 per cent level of confidence. The psychological meaning of the obtained rhos, even though they are not statistically significant, is difficult to interpret. For example, those showing most depression might be expected to show slowest recovery after PGR stimulation and those showing most manic symptoms might be expected to recover most rapidly. Instead the opposite was found. It is possible that the depressed individuals do not respond to such an extent on the PGR and so recover more quickly. Those who are most manic emoter for a longer time and so recover more slowly after stimulation in the PGR situation. On the other hand, those showing most psychasthenic symptoms seem to become preoccupied with the emotional states induced in the PGR situation and tend to recover slowly from them. Subjects showing

most social introversion tend to recover quickly after the PGR. Possibly, they do not become deeply involved emotionally.

PGR recovery times correlate  $-.16$  with Pursuit-Rotor goal discrepancy scores and  $.13$  with attainment discrepancy scores, by the rank difference method. Neither correlation suggests more than a chance relationship. Flexibility scores on the Pursuit-Rotor also correlate  $.13$  with PGR recovery. This is likewise insignificant. Bender-Gestalt Z scores, indicative of lack of personality integration, show no significant correlation with speed of recovery after PGR. The rho is only  $.22$  but is in the direction opposite to the expected. The less well integrated could be expected to recover more slowly, instead of more rapidly as was found.

The general conclusion from all these attempts is that responses of the autonomic nervous system, as measured by PGR, to the stimulus words used do not establish any relationship among the neurotic group similar to the relationships shown by the Munroe index, the MMPI or any other test or technique used in the present study. This conclusion holds whether all words combined, the ratio between "most neurotic" and "most normal" words, or the two words most discriminating of neurosis is used as the basis of comparison. But the two words "closed" and "pain" do provoke PGR responses, the average of which does discriminate the whole neurotic group from a normal group previously studied. The differences between means and standard

deviations found for the normal and neurotic groups are significant at the five per cent level of confidence.

Individuals do, none the less, show differences in psychogalvanic responsiveness to the stimulus words used. The neurotic group, as noted above, shows wider variability in such responsiveness than does a normal group. Neurotics, it may be said, are apt to be more individualistic in that they may over respond, or under respond. However, if rate of recovery after PGR, instead of intensity of PGR, is taken as a basis of comparison, there is a significant correlation between slowness of recovery and extent of maladjustment shown on the Munroe index.

Probably, then, the PGR does tap some important variable of personality. It is not clear, though, that this variable is "emotionality" if by this term is meant a disposition, innate or acquired, to respond emotionally with readiness or facility. More likely, since PGR reflects activity of only part of the autonomic nervous system, it indicates only an aspect of the more complex psychosomatic trait called emotionality. In other manifestations of this trait, as on the other tests used in the present study, psychic aspects of emotionality may be dominant. These aspects need not correlate highly with PGR for both to be considered parts of a larger whole.

One other possible explanation of the present findings is suggested by the fact that PGR indicates primarily

sympathetic, and to a much lesser extent parasympathetic, activity. Some index of the balance between these two activities might correlate more highly with personality traits otherwise assessed.<sup>19</sup> Lacking measures of parasympathetic activity in the present study, the PGR is accepted as the best available indication of the physiological aspects of emotionality.

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19 Stagner, Psycho. of Pers., 326, 328.

## CHAPTER XI

### COMPARISON OF TECHNIQUES AND INTEGRATION OF FINDINGS

The foregoing analyses, in Chapters IV to X, of what the separate tests and devices reveal about the intellectual and emotional capacities of the group, their levels of functioning, personality structures, modes of adjustment, specific maladjustments and the contents of their mental lives, may be taken as fulfilling the first purpose of this dissertation. The utility and limitations of each device and interpretative technique are pointed up in these discussions. In the present chapter it is proposed to synthesize the findings on the various devices used, in such a manner that the personality structure and mental functioning of a typical neurotic group will be revealed. This proposal is in accordance with the second purpose of the present dissertation.

Inevitably, there will be, in what follows, much repetition of what has already been said, but it is hoped that the following juxtaposition of similar findings from the various sources will show how the different devices confirm, complement and supplement each other. Since this synthesis is made on

the bases of test results most characteristic of the group as a whole no individual can be expected to fit the pattern exactly. Individual variety must be sacrificed to group unity. The aim is to depict a typical neurotic profile, to show what neurotics in general are like, but the percentages of the group that fit the various aspects of this profile will be stated when possible.

Because of the length of the following discussion it is subdivided under appropriate headings, but what is said in each division must be interpreted in terms of what precedes and follows. Throughout, the aim is to discover which basic mental functions are disturbed in the group, to what extent they are disturbed and how the various tests show these disturbances. This is similar to the procedure of putting together the results of various tests employed on the same individual in order to get a personality picture of that individual; the method advocated for using test results in clinical practice.

#### A. Intellectual and Other Cognitive Aspects of Personality.

##### 1. Intellectual Level.

As shown in the section on the Wechsler-Bellevue Intelligence Scale, the experimental group is of bright normal intelligence. Their mean FSIQ is 118.48, standard deviation 10.33. Their mean VIQ of 117.92 does not differ significantly



from their mean PSI<sub>Q</sub> of 115.26, nor does either of these differ significantly from their mean PSI<sub>Q</sub>. The group, then, on the average, does not differ significantly in the abilities measured by the verbal and performance subtests of the Wechsler Scale. There is, however, a wider range of PSI<sub>Q</sub>'s than of VS or PSI<sub>Q</sub>'s, as indicated by the respective standard deviations of 13.33, 10.72 and 10.33.

Another way of characterizing the group with respect to intellectual level is in terms of the percentages of individuals manifesting superior, normal or below average intelligence. This permits comparison of the Wechsler IQ's with the estimates of intellectual level derived from the Rorschach Technique. This comparison is shown in the following table.

TABLE XXXVI  
ESTIMATES OF INTELLECTUAL LEVEL ON THE WECHSLER  
AND RORSCHACH

	Wechsler Per Cent of Group	Rorschach Per Cent of Group
Very Superior	16	8
Superior	28	8
Bright Normal	36	36
Average	20	36
Dull Normal	0	12

From this comparison it can be seen that agreement between the two methods of estimating intelligence is not very good. The calculated contingency coefficient is only .31 and the chi square is 2.61. Neither of these is significant even at the ten per cent level of confidence, probably because of the smallness of the sample. They do, however, suggest a moderate degree of relationship between intelligence as measured by the Wechsler and the Rorschach. Moreover, since the Rorschach is not primarily a test of intelligence its agreement with the Wechsler as a measure of intellectual level can be expected to be only approximate. Nevertheless, the Rorschach does usefully supplement the Wechsler and gives indications of the subject's manner of, and efficiency in, using his intelligence.

The specific items on which the Rorschach estimate of intelligence is based show a low correlation with FSIQ's on the Wechsler. The rank difference method of correlation yields a rho of .19 between FSIQ and Rorschach W per cent. Between FSIQ and Rorschach F per cent the rho is -.33, and between FSIQ and Rorschach FK plus Fc plus F per cent the rho is -.24. Any such correlation of less than .39 is statistically insignificant even at the five per cent level of confidence.<sup>1</sup>

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<sup>1</sup> This statement is based on the discussion of "The Significance of Rho" in Henry E. Garrett, Statistics in Psychology and Education, 346.

The "kind" of intelligence a subject manifests is, according to Rorschach theory, indicated by the frequency with which he uses the whole blot or the various types of common and unusual details of the blots as bases for his responses. Also, the detail to whole ratio indicates relative concern with concrete details of the immediate environment, versus a holistic, over-all concern with the total situation. Of this group, 32 per cent show an overemphasis on the concrete and practical and 64 per cent have a tendency to over-intellectualize, when compared with the normal expectancies. If, however, each individual's detail to whole ratio is computed, 48 per cent overemphasize common details and only 28 per cent overemphasize wholes. No one of this group overemphasized small usual details, but 28 per cent did show a tendency to stress rare and unusual details, indicating over-criticalness as characteristic of their thinking.

In so far as the Wechsler tests also indicate "kind" of intelligence a correlation can be expected between Wechsler PSI<sub>Q</sub> and Rorschach large, usual detail responses (D per cent), both of which are said to reveal "practical intelligence." The rank difference coefficient of correlation between these two variables ranked from high to low turns out to be .15. This is not as high as the rho between PSI<sub>Q</sub> and D per cent, which is .18 and is exactly equal to the rho of .15 between VSI<sub>Q</sub> and D per cent. None of these correlations is statistically

significant and so it must be concluded that the Wechsler and Rorschach are not measuring the same thing. The Rorschach concept of "kind" of intelligence may still have meaning but it does not mean the same as the performance abilities measured by the Wechsler, nor is it significantly related to intellectual level, as measured by the Wechsler FSIQ.

Rorschach D per cent is also said to measure "common sense." The Wechsler comprehension score is also supposed to be a measure of the same characteristic. But these variables correlate only .09, by the rank difference method. Hence the conclusion follows that different factors must influence the subject's choice of large, common areas on the ink blots and his answers to the Comprehension questions on the Wechsler Scale.

Other abilities measured by the Wechsler Scale are not commonly thought to be associated with Rorschach indications of intellectual level, nor have they been found to be so in the comparisons tried. Characterization of the experimental group with respect to these abilities has been sufficiently treated in the section on the Wechsler Scale and need not be repeated here.

In summary, it may be said that the Rorschach does not appear to be as good a measure of intellectual abilities as the Wechsler nor do the findings on the two techniques agree

significantly. None the less, the Rorschach concept of "kind" of intelligence does add something not obtainable with the Wechsler, but the legitimacy and usefulness of this concept must be otherwise established than by comparison with Wechsler findings, insofar as the results from the group indicate.

In so far as the Bender-Gestalt test measures perceptual ability it can be expected to correlate with the Wechsler Picture Completion test, which is said to measure "basic perceptual ability." The rho between these two measures is only .04. Accuracy of perception as indicated by B-G scores ranked from low (good) to high (bad) does not agree with Wechsler Picture completion scores ranked from high (good) to low (bad). Likewise, the Bender-Gestalt could be expected to correlate with the Wechsler Object Assembly test, which measures visual-motor coordination. This rho proved to be only .007. Thus there is no tendency for low B-G scores (indicative of accuracy in reproduction) to go along with high Object Assembly scores (also indicative of accuracy in reproduction). Neither of these correlation coefficients show any relationship between ability to perceive, or to coordinate visual perception with motor responses, as these factors are measured by the Wechsler, and the ability to reproduce accurately the drawings of the Bender-Gestalt test. Nor does the Bender-Gestalt correlate with Wechsler FSIQ. This rho is only -.24.

This is not statistically significant and even if it were it would merely show that the Bender-Gestalt measures something other than perceptual or intellectual ability.

## 2. Intellectual Achievement.

Over-all intellectual achievement and achievement at the various tasks sampling intelligence and other abilities measured by the Wechsler Scale have been sufficiently shown in the section dealing specifically with this test. Here the concern is with the extent to which achievement on the other tests and devices is related to intelligence, as measured by the Wechsler.

Productivity on the Rorschach, as indicated by the total number of responses, is definitely related to intelligence. The rank difference rho between Rorschach R and Wechsler FSIQ is .51. The t is 8.99 and both rho and t are significant at the one per cent level.<sup>2</sup> This is so in spite of the fact that 36 per cent of the group show less than normal productivity. Were these individuals more productive, the correlation with intelligence would be higher.

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2 The t is calculated according to the formula

$$t = \frac{\text{rho } N-2}{1-\text{rho}^2} = \frac{.51 \quad 23}{1 - .23^2} = \frac{2.44596}{.272} = 8.99$$

The chi-square test was applied to test the relationship between above or below average intelligence and above or below average number of human movement, original and popular responses. These chi-squares are .048, .040 and .029; none of which is high enough to be significant. Similarly, chi-squares for intelligence versus percentages of whole responses and pure form responses are also insignificant. There is no point in calculating phi-coefficients for any of these chi-squares; since there is no relationship discoverable between Wechsler intelligence and these aspects of Rorschach productivity it is useless to try to measure the strength of such a relationship.

It has been suggested by Tomkins<sup>3</sup> that there is a relationship between Wechsler Vocabulary and/or Block Design scores, the best measures of basic intellectual capacity, and Rorschach human movement responses, the measure of richness of inner life. For the present group the chi-square between above and below average Vocabulary scores and above and below average number of human movement responses the chi-square is .026. These findings could indicate that the members of this group are not using their basic capacities effectively to

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3 Silvan S. Tomkins, "Personality and Intelligence: Integration of Projective and Psychometric Tests," Chap. 6 in Relation of Psychological Tests to Psychiatry, Ed. by Paul H. Meeh and Joseph Zubin, New York, 1952.

produce richness of inner life, but this would imply the assumption that the criterion is valid and for this there is no other evidence.

Rorschach productivity is said to be lowered by exhaustion, "lowered drive," "less ego-strength" and depression.<sup>4</sup> If such is the case, Rorschach productivity, as measured by the total number of responses, could be expected to correlate negatively with Bender-Gestalt accuracy of perception and with MMPI Depression scale scores. The rank difference rho between Bender-Gestalt and human movement was computed as .07 and the rho between MMPI Depression scale scores and Rorschach human movement turns out to be -.06. Neither of these correlation coefficients is statistically significant. Hence for this group, at least, these criteria are not valid and low Rorschach productivity is more closely related to intelligence than to "ego strength" or lack of depressive symptoms.

Level of intelligence was not expected to correlate significantly with achievement on the Pursuit-Rotor. Goal discrepancy scores on this instrument show a rank-difference coefficient of correlation of .24 with Wechsler FSIQ's. The rho between attainment discrepancy scores and FSIQ is -.07. There is, however, a slight but insignificant tendency for Pursuit-

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<sup>4</sup> Samuel J. Beck, "Rorschach", Projective Techniques, ed. Harold H. Anderson and Gladys L. Anderson.



Rotor flexibility scores to correlate negatively with IQ. The rho found is 0.31. This indicates that the more intelligent tend to be less changeable, or more rigid, in the goal levels they set for themselves from trial to trial. They do not, then, set goals any higher than the less intelligent, nor attain their goals any more certainly.

### 3. Mental Efficiency and Impairment.

As was shown in the section on the Wechsler Scale, the average loss of mental efficiency as measured by the Efficiency Quotients was statistically insignificant, but since the standard deviation was large some individuals must manifest a considerable reduction in ability to utilize their mental capacities effectively. Efficiency Quotients could, therefore, be expected to correlate with measures of productivity, construction, coarctation and stereotypy. This is found to be true only to a limited extent for the experimental group. The rank difference rho between Wechsler Efficiency Quotients and Rorschach total number of responses is .58. This is significant beyond the one per cent level of confidence which requires a rho of .48. Those who have better use of their intellectual abilities, then, can produce more responses on the Rorschach.

The Rorschach ratio between whole responses and human movements responses does not correlate with Wechsler efficiency quotients, the rho is only .02. Hence, the relation

between "drive for intellectual conquest" and the "productive capacity to realize such conquest" that the Rorschach ratio is supposed to indicate is not related to "mental efficiency" as indicated by Wechsler achievements. Even though 68 per cent of the group "lack best use of their creative or productive powers," according to the Rorschach, these persons are apparently efficient enough at the Wechsler tasks.

The Rorschach ratio for each individual between the number of whole and the number of part figures seen correlates  $-.28$  with Wechsler E. Q. Again by the rank difference method this is not statistically significant but is suggestive of a tendency for the less efficient to see only parts of people or parts of animals rather than whole persons or animals.

The Wechsler "Index of Impairment" is generally considered a better measure of lowered mental efficiency than the "Efficiency Quotient." The Index of Impairment is in terms of "percentage of loss." For the present group those showing the largest percentage of loss are not notably less productive on the Rorschach. The rho between Wechsler per cent loss and Rorschach total number of responses is  $.23$ ; which is not significant. The rank difference correlation of per cent loss with Rorschach whole to human movement ratio is  $.00$  and with the whole to part figure ratio the correlation is  $-.05$ . Whatever impairment of abilities is manifested on the Wechsler does not

affect quantity or quality of Rorschach productivity if these factors are really being measured. The Rorschach index of stereotypy, that is, the percentage of animal responses, correlates .10 with per cent loss on the Wechsler. This is not significant statistically and so the interpretation may not be justified that the less efficient individuals see more animals on the ink blots and animal figures are the easiest to perceive.

It was not feasible to compute rank difference correlations between Wechsler per cent loss and number of Rorschach human movement, popular or original responses because many subjects had few or no such responses. Instead, chi-squares were computed between above and below average per cent loss and above and below average number of human movement, popular and original responses, respectively. These chi-squares are .0003 for human movement responses, .147 for popular responses and 3.04 for original responses. Even the last is not significant at the 5 per cent level of confidence. These findings indicate that the expected relationship between loss of mental efficiency and lowered production of human movement responses does not hold for this group. Nor does loss of mental efficiency affect the production of popular responses. There is, however, a suggestion of a relationship between lowered mental efficiency and lowered ability to produce original Rorschach responses.

Wechsler per cent loss correlates  $-.13$  with the

Munroe Index of Adjustment, computed from the various aspects of achievement on the Rorschach. All that can be concluded from this is that lowered mental efficiency is not the primary cause of personality maladjustment, assuming that these indices measure what they are supposed to. Another interpretation may be that personality maladjustment does not always make for lowered mental efficiency. In some types of obsessive-compulsive neurosis mental efficiency may be abnormally increased.

Nor does loss of mental efficiency correlate significantly with lowered achievement on the Bender-Gestalt test, the rho is .21. The "Gestalt-function" or "integrative-function" supposedly measured by the Bender is apparently not affected by relative inability to utilize other mental capacities effectively.

Wechsler per cent loss correlates .38 with the flexibility score on the Pursuit-Rotor. This correlation is significant at the 5 per cent level of confidence, but its psychological meaning is not clear. Why should the mentally less efficient individuals raise and lower their goals much more in response to success and failure than the more efficient do? The only answer seems to be that the more efficient seem to make better appraisals of what they have done and what they can do and set their goals accordingly.

#### 4. Organization and Logic of Mental Processes.

Certain indications of how a person uses his abilities are derivable from some of the test data on the present group. The Rorschach Technique, besides yielding information on personality structure, also yields indications of a subject's "approach" to the task, which is taken as a sample of his "approach" to the world in general, and gives some hints of the person's modes and degrees of control of his own inner life and of external reality. These aspects of Rorschach interpretation have been treated in the section of this dissertation dealing with that instrument. Here it seems sufficient to recall that most of the present subjects are fairly normal in their intellectual approach to the problems posed by the test situation, and so presumably to their life situations. Only 12 per cent overemphasize abstract thinking to the extent that they may be said to manifest "quality ambition," that is, to make fruitless efforts to attain a higher level of mental activity without possessing the necessary qualifications. Twelve per cent overemphasize and 32 per cent underemphasize "common sense" as a method of approach. The overemphasis indicates possible neurotic limitations on the use of intellectual capacity, and the underemphasis implies a disregard for the most obvious aspects of the ink blots, which correspond to actual life situations and the routine problems of daily life.

Only 16 per cent of the group appear to be too hesitant in drawing general conclusions; preferring to "stick to facts and shun theories." Only one individual (4 per cent of the group) seems too much concerned with his own mental activity and too little concerned with his everyday problems.

Reliance on the form qualities of the ink blots, at the expense of other determinants such as color and movement, is taken as evidence of a constricted mental life. A person who thus responds is overly concerned to be rigidly accurate and so manifests little spontaneity in his approach. Such constriction goes along with depression, obsession, apprehension, anxiety or guilt, whereas the opposite finding of too little emphasis on form qualities characterizes individuals manifesting hypomania and other unstable emotional conditions. Of the present group, 28 per cent show this constrictive control and 8 per cent show too little intellectual control. The rest of the group is within the normal range. For the whole group this Rorschach indication of rigidity correlates only .14 with the Pursuit-Rotor indication of rigidity in goal setting. Rorschach F per cent correlates .08 with MMPI Depression scale scores and .09 with Hypomania scores. Thus, there is no significant relationship between Rorschach indications of constriction and MMPI scores indicative of depression or its opposite, elation. If both measures are valid, then pre-

sumably the Rorschach and the MMPI measure different aspects of personality.

The other Rorschach indications of modes and degrees of inner and outer control do not correlate significantly with any other test scores for this group. If, however, they are regarded as valid indications of personality traits they supplement the information obtainable from the other tests and devices used in the present study.

#### 5. Range of Interests.

The range, variety and type of interests that characterize the group are shown in several ways in the test data. Masculinity and femininity of interests patterns are shown on the MMPI. The group, as a whole, is well within the normal range of such interests, but 22 per cent show too much of the interests characteristic of the opposite sex. The men are more feminine than the women are masculine in their interests, on the criterion that 33 per cent of the men and 9 per cent of the women show opposite sex interests.

On the Wechsler information subtest the group displayed a wide range of interest and knowledge. They did the same on the Vocabulary subtest. But, on the Information test 12 per cent, and on the Vocabulary test 8 per cent, of the group showed a narrowness of interest and knowledge. However, the group as a whole is better educated, has a wider range of

knowledge and interests than does the population at large. In other words, they are a select group in this respect.

The Rorschach index of narrowness of interest and sterility of thought processes is a high percentage of animal responses, at the expense of other categories. Sixteen per cent of the group show an undue emphasis on such responses, hence narrowness of interest range, while 20 per cent of the group show a wider than normal range of interests. These findings are not in agreement with TAT results which indicate that the subjects are so preoccupied with their own problems, worries, guilts, depressions, anxieties, etc. that they show little interest in anything else.

#### 6. The "Integrative Function" of the Intellect.

"Integration of the ego" or the so-called "Gestalt-function" or "integrative-function" measured by the Bender-Gestalt test seems to reflect the subject's ability to organize his mental processes in a logical manner and to direct them to the task at hand. This group is unable to do this, according to all the scoring criteria of the test advocated by Pascall and Suttell. But if "configuration scores" alone are taken as the criterion, the group's approach to the task was logical and so showed intellectual control and adaptation to reality.

The Rorschach percentage of pure form responses is also supposed to indicate the ego's developmental level,



strength and integration. The rank difference correlation between this Rorschach F percentage and the Bender-Gestalt Z score is only  $-.14$ . The chi-square test is no more significant. Those showing more than 50 per cent pure form responses do not have higher Z scores than those making fewer pure form responses. The chi-square is only  $.248$ . When above and below average pure form responses are compared with above and below average Z score the chi-square is  $.280$ . The conclusion seems to be that the Rorschach and the Bender-Gestalt do not measure the same aspect of "ego-integration."

The Pursuit-Rotor "level of aspiration" technique yields an index of the subject's "reality level," that is, his ability to judge himself and his performance objectively. A person who consistently sets his goals higher or lower than his performance justifies manifests "irreality." Nineteen per cent of this group aspire so high that they may be said to manifest "wishful thinking" and 14 per cent aspire so low that they may be manifesting "lack of self confidence" or "defeatism". Thus, 33 per cent of the group are "unrealistic" in their appraisals of themselves and the task facing them. The rho between Pursuit-Rotor attainment discrepancy and Bender Z scores is  $.29$ , suggestive of a relationship between "unreality" and "lack of integration".

## 7. "Imagination" or "Creativity."

By this term in the literature on Projective Techniques is meant originality and creativity of perceptual and thought processes. It does not refer to imagination in the narrower sense of forming images of absent concrete objects. The primary Rorschach indication of this "imagination" is the number of human movement responses. In order to produce such responses the subject must be emotionally involved and motivated towards something he deeply desires or away from something he urgently seeks to avoid. Hence, human movement responses are evidence of the "creating" of a world in which the individual wants to live. Since three to five human movement responses are considered "normal" only those showing more than five can be considered creative. Only 16 per cent of the group manifest this sign, while 68 per cent of the group show less than three human movement responses. Their "creative imagination" is not functioning adequately.

Only 32 per cent of the group have any original responses on the Rorschach, but only 12 per cent of them have more than three such responses. This, too, shows lack of "creativity" on the part of this group. Both of these findings may indicate that "creative imagination" is reduced by anxiety, depression, constriction, loss of spontaneity or tendency to repress frightening fantasies. All of these factors seem to be operating, singly or several together, in

most of the group numbers.

The Wechsler Object Assembly test is also supposed to measure "creative ability" of the artistic and mechanical sort, but this test is not a pure measure of such ability since the subject's mode of perception, his tendency to use a trial and error approach, and other thinking and working habits influence achievement on this test. The Object Assembly was seventh in order of ease of all the Wechsler subtests for the group. This may be somehow related to lack of "creative imagination" shown on the Rorschach. The Picture Arrangement test is perhaps a better measure of "creative imagination" in social situations. The group does very badly on this test; it was eighth in the order of ease for these subjects, only three subtests being more difficult. This, too, may be related to "creative imagination" but the rationale is less clear.

The best indication of creative imagination is given on the TAT. To the 29 TAT cards used the subjects told 369 stories having 278 separate themes. Calculation of the average number of stories or themes per card would be meaningless since not all cards were presented to all subjects. No attempt was made to count the number of words or ideas in the stories or to rate them with respect to originality or creativity. However, most of them are merely short, matter of fact and unelaborated statements of rather commonplace plots. These are

treated in stereotyped ways with little freshness of viewpoint. Hence, no one of the group can really be considered creative or original. The general impression given by the totality of the stories is that the group is more stereotyped and constricted than a comparable group of normals would be.

#### 8. Escapist Use of Imagination, or Fantasy.

In so far as the group shows any use of imagination at all in their TAT stories it is an escapist use. Their day-dreams are unrealistic attempts to relive and rectify the past or to find fulfillment of their wishes in the future through the help of others or through some happy change in circumstance not brought about by their own efforts. Realistic plans concerning the future are conspicuously absent.

#### 9. Characteristic "Thought" Content.

The content of thought, preoccupations, basic problems, areas of conflict, worries and anxieties of the subjects are all described in the section on the TAT. The details need not be repeated here but, by way of summary, it may be said that the group as a whole is selfishly preoccupied with, and bewildered by, their present problems; primarily the problems of the acceptance of themselves as they are and the acceptance of others and of the world as they are. The inability realistically to appraise themselves and to accept the nature of things seems to be at the core of most of their problems.

They fruitlessly try to make the world in their own image rather than attempting to change themselves to adapt to the world as it is. But even in this they are not consistent and part of the time each individual is in conflict with himself.

Thought content, problems and preoccupations of the group, while most clearly revealed on the TAT, can to a certain extent be inferred from the other tests, particularly the MMPI. While there is no way of accurately quantifying inferences from either the TAT or the MMPI and so comparing them statistically, the general impression is that results from the two tests are markedly consistent. But, since this agreement between the two instruments is more in terms of the feelings and attitudes they reveal, rather than of specific problems, discussion of it is postponed to Section C of this chapter dealing with the symptoms which characterize the group.

#### B. Basic Personality Structure.

##### 1. According to Rorschach Indications.

In basic personality structure, according to Rorschach indices, 32 per cent of the group are coarotated, 24 per cent introversive, 20 per cent ambiequal and 24 per cent extravertive. The meanings of these terms in Rorschach theory have been explained in the section on the Rorschach Technique. The question naturally arises as to whether coarotated individuals are more restricted, less productive, more maladjusted, etc.

than the more ideally normal ambiequals or whether there is any other discoverable difference between these four groups in any aspect of achievement on the other test and devices employed in this study.

Accordingly, the subgroups were compared in terms of average scores on the other tests and devices. Other Rorschach scores and ratios are not included in this comparison since they were in part used in dividing the total group into the four subgroups. The Munroe Index, however, is used even though it is based on Rorschach findings since it was not used in determining basic personality structure. The results of this comparison of the subgroups are summarized in Table XXXVII.

Since the total group consists of only 25 subjects, the subgroups contain only 8, 6, 5 and 6 individuals respectively. The means based on such small numbers will have high standard errors, therefore not much confidence can be placed in the obtained figures. The differences between means are also statistically insignificant. Nevertheless, it is hoped that the obtained figures may be indicative of trends which could be more definitely established were larger numbers of cases available. On this assumption the following comments are offered.

Interpretation of the data of Table XXXVII indicates that the coerctated individuals are in general more maladjusted than the other groups on the basis of the Munroe Index derived

TABLE XXXVII

**ACHIEVEMENTS OF GROUPS WITH DIFFERENT BASIC PERSONALITY  
STRUCTURE ON VARIOUS TESTS**

Test	Coar- tated	Intro- verted	Ambi- equal	Extra- verted
Munroe Index	19.25	13.83	11.20	12.83
Bender Z Scores	86.00	90.83	107.25	93.66
FSIQ	111.87	124.50	120.20	119.83
Wechsler Per Cent Loss	4.00	-.33	9.40	7.00
MMPI Hs	77.50	54.60	69.22	69.33
D	87.62	66.80	84.22	79.16
Hy	77.25	66.00	71.00	72.33
Pd	69.00	66.00	78.00	68.83
Mf	59.50	63.40	63.50	60.00
Pa	65.25	54.20	67.00	56.83
Pt	82.50	61.00	78.50	71.66
Sc	75.12	58.60	76.50	77.00
Ma	55.12	50.80	45.75	61.33
Si	68.40	57.40	59.70	64.50
Pursuit Rotor D	4.83	9.75	27.05	-0.57
R	-9.43	10.91	31.00	10.92
F	31.00	39.00	56.50	35.25

from the Rorschach findings. On the MMPI they show more of the symptoms of hypochondriasis, depression, hysteria, psychasthenia, and social introversion. Their average FSIQ is the lowest for the subgroups, and on the Pursuit-Rotor their attainment discrepancy and flexibility scores are low. Thus they do not aspire to high goals or change their levels of aspiration even with success. The only positive assets they seem to have are low scores on the Bender-Gestalt test, indicating "ego-integrity," and low Mf scores on the MMPI, indicating normal "sex interests," in the broad sense of the term. In short, the coarctated are the most severely neurotic of any of these personality "types."

The introverted are the most intelligent subgroup, in terms of highest average FSIQ. They are the least maladjusted in that they show the least percentage of mental impairment on the Wechsler and the lowest MMPI scores on the hypochondriasis, depression, hysteria, psychopathic-deviate, paranoia, psychasthenia, schizophrenia and social-introversion scales. An explanation of these findings is lacking unless it is assumed that high intelligence is the factor making for better general adjustment on the part of this group.

The ambiequal group did poorest on the Bender-Gestalt test, thus showing the poorest integration of mental life and they showed the greatest percentage of mental impairment on



the Wechsler. On the MMPI they showed greatest maladjustment on the psychopathic-deviate, opposite sex interest and paranoia scales. On the Pursuit-Rotor they made the highest goal discrepancy, attainment discrepancy and flexibility scores. They thus aspire higher than any other subgroup but fail more often, or by greater amounts, to attain their goals, and so keep changing their levels of aspiration. The Munroe Index indicates that this subgroup has the best over-all adjustment, which agrees with Rorschach theory that ambiequals are closest to the "ideally normal" personality structure. They also show least of the symptoms of hypomania on the MMPI.

The extraverts manifest more of the symptoms of schizophrenia and hypomania on the MMPI than the other groups do. They also made the lowest average goal discrepancy score on the Pursuit-Rotor.

A curious fact apparent in the above Table is that the introverted are less socially withdrawn than the ambiequal and extraverted groups, as measured by the social introversion scale of the MMPI. The explanation seems to be that the trait of social introversion, measured by the MMPI, is not the same thing as the personality structure indicated by the Rorschach.

In summary, the coarotated seem to be the most maladjusted, or most severely neurotic, followed by the ambiequals, extraverts and introverts, in that order. These findings are

readily understandable with regard to the coarctated since neurosis is constrictive of the personality and restrictive of activity and efficiency, including the general activity of adjustment. That the ambiequals are the next most maladjusted may be due to inner conflicts concerning "style of life." They can't decide what they want to be or become. The extraverted seem to be maladjusted because they cannot attain the goals and values their type of personality structure impels them towards. This is serious in our culture which places so much value on external marks of "success." The introverted seem to have more inner resources and can find compensatory escape and relaxation in their own mental lives. They thus have a refuge from the frustrations, cares and troubles of life.

## 2. Emotionality, Capacity for Emotional Response.

If the psychogalvanic reflex is taken as the index of emotionality the group, on the average, shows no more of this trait than a group of normals. As pointed out in the chapter dealing with PGR, however, the experimental group shows more variability in this respect as indicated by a greater standard deviation. From this it was inferred that neurotics could be either more or less emotionally responsive than normals. On the basis of PGR, 16 per cent of the group were under-responsive and 26 per cent overly responsive as compared with the rest of the group. This 42 per cent may be said to manifest "lack of affect" or "impulsive emotionality" according

to whether they responded too little or too much.

As was also shown in Chapter X, the PGR results did not agree with any other test findings presumably indicative of some aspect of capacity for emotional response. Rorschach color shock and shading shock are also interpreted as indicators of emotionality. Sixty-eight per cent of the group manifested the former and 40 per cent the latter. Those who did, or did not, reveal either color or shading shock did not differ from the rest of the total group in any significant respects.

Other Rorschach indices show that no one of the group is emotionally balanced. Those who are not overly impulsive or emotionally immature are too constricted or withdrawn from emotion provoking situations. These signs, though, do not directly indicate emotional capacity, but reflect the way the individual uses the capacity for emotional response that he has.

### 3. Basic Needs and Emotional Drives.

Basic needs of the group, or their basic emotional drives, wishes and wants are discussed in the section dealing with the TAT. Mostly, they seem to need help, protection, sympathy and consolation. One hundred per cent of them manifest such succorant needs to some extent. Next most frequently they want to escape from their present life situation and its problems, from other people whom they regard as hostile and from

their own feelings of guilt and anxiety. Ninety-two per cent show such needs. Eighty-eight per cent would like to be friendly towards and accepted by others but are unable to be so. Hence, they manifest hostility and aggression towards others. In 52 per cent the demand is for more than friendship. They want to be loved erotically, especially by an already chosen member of the opposite sex, a husband, wife, former lover etc. How strong and pervasive sexual needs of all types are within the group is dependent to a large extent on what one wants to call sexual. On any reasonable interpretation, it seems to the present writer, sexual needs are clearly shown by only 24 per cent, hence are not the most common or most powerful instigators of behavior in this group. Nor is the lack of sexual satisfaction the basic cause of the group's maladjustment.

Ninety-two per cent of these subjects have strong needs to be passive and 80 per cent are dependent yet at the same time they all want to be autonomous, unattached and irresponsible. They are thus in fundamental conflict with themselves. Real needs for achievement are quite rare in these subjects, only 28 per cent manifesting any such needs. It is true that all of them would like to accomplish something important and creditable, to succeed in something, if they could do so without effort. They have merely the wish, not the will to succeed.

These needs seem to be the chief motivating factors in the group as a whole. They seem to determine the directions of the group's strivings and the failure to find adequate satisfactions to these needs is the chief cause of the group's maladjustment. Most members of the group have no insight into what really motivates them. They do not accept their passivity and dependency needs and 56 per cent more strongly reject their sexual and aggressive needs, as the Rorschach also shows.

It is probable that 88 per cent of the group finds much satisfaction, of a neurotic sort, in daydreaming, wish fulfilling activities, aggressive and sexual fantasies and compulsive behavior of various sorts as the Rorschach, MMPI, and to a lesser extent the other tests suggest. Therefore, the basic needs of these subjects, while for the most part consciously denied and rejected by them, are not completely frustrated and so these individuals are able to function in society. They are not completely incapacitated, but they are inefficient and are adjusting at a level below their capacities and below their chronological and mental ages.

#### 4. Basic Attitudes.

Basic attitudes of the group are revealed in the TAT stories and largely confirmed on MMPI. Much of what is to be said in this and the following four paragraphs can also be inferred from Rorschach results but less clearly. Towards themselves 72 per cent of these subjects possess attitudes of

self-disparagement, blame and punishment. They manifest these attitudes in feelings of inferiority, uselessness, inadequacy and impotency. Fifty-six per cent repress or restrict their activities and 72 per cent reject, deny and disown their impulsivity and spontaneity at least a few times. At the basis of these attitudes seems to be a concept of themselves as supremely worthwhile, an inordinate and prideful self-aggrandizement. They cannot accept their real limitations, nor properly appreciate their real worth and talents.

Towards other people, as said before, 92 per cent of the group is hostile and aggressive, scornful, distrustful and suspicious. As a result, all of them are somewhat estranged from society and 36 per cent are withdrawn almost to the point of complete isolation. All of them suffer to some extent from feelings of loneliness, probably brought about by their own attitudes towards others but for which they blame these others as hostile and rejecting, or at best indifferent. Yet 80 per cent of the group also manifests attitudes of dependence on others, helplessness and sympathy seeking.

Towards their own problems the chief attitudes displayed are bewilderment, confusion and doubt. All subjects show these, at least to some extent. These traits also show up in the results of all the tests. The Rorschach especially elicited many expressions of confusion and attempts to evade the problems posed by the test. Even on the Wechsler, there

is much evidence of doubt, hesitation, evasion and the same kind of over-intellectualization of the tasks that characterize the approach of 36 per cent of the group on the Rorschach. These intellectual attitudes seem to be at the core of volitional attitudes of hesitation, indecision, caution, shown by all, and attempted flight from reality shown by 72 per cent. Only a very few indications of positive and constructive attitudes were found but all manifested some. Decisiveness, determination, perseverance, self-reliance and courage in the face of difficulties were conspicuously absent, both in the TAT stories and in other test results.

Towards the future 76 per cent of the group manifests attitudes of hopelessness, pessimism and skepticism. For 8 per cent the hopelessness amounts to despair but even in these subjects there is no clear evidence of suicidal tendencies. Where hope of a happy ending to their present troubles is expressed, as it is in at least one TAT story by 96 per cent of the group, resolution of difficulties is to be brought about by a change in others, or in circumstances, not by the subject's own activities. So, there is practically none of the buoyant self-confidence and optimism towards the future that should characterize healthy young adults. The MMPI Depression scale items are also marked in such a way by 74 per cent of this group that their pessimistic outlook and their

vague dread of the future stand out clearly.

Towards the past, regret is the chief attitude revealed by 60 per cent of these subjects. In their view, their lives have been misspent or have been long series of frustrations and failures. Remorse for past misdeeds, real or fancied, is also common in the TAT stories of 60 per cent of the subjects. Many of the individual items on the MMPI are also indicative of guilt, remorse or even regret, but since these are found in several of the MMPI scales it is not practical to attempt a quantitative comparison of the TAT and MMPI in this respect. Suffice it to say that here, as throughout, the two instruments confirm and supplement each other far more than they contradict each other.

Suggestions of attitudes are much more difficult to discover in the other tests and techniques used in this study. It is possible to infer suggestions of an underlying attitude from almost any test response, but such inferences are subjective judgments, difficult at best, and at times impossible, to justify by any external criteria. All that need be said here is that in general nothing could be legitimately inferred from the results of other tests that contradicts what has been said above about attitudes.

##### 5. Acceptance, or Rejection, of Impulsive Life.

The Rorschach indications of "experience type" discussed above under "personality structure" also show that 68



per cent of the group manifest some conflict between their basic tendencies and what they are consciously trying to do. They do not freely accept and act on the impulses that arise in them. Of course this fact, by itself, cannot be considered a sign of abnormality since no one could act out all his impulses. But the normal person is able to express or suppress his impulses in a controlled manner without severe inner conflict. This the experimental group is not able to do, as analysis of the complete Rorschach data indicates. Other signs indicate that 72 per cent do not manifest inner control sufficient to give them poise and security in dealing with the world. They tend to regard their own impulses as hostile, intruding forces that they must repress.

This same lack of acceptance of their own impulses is shown in the TAT stories. The group tends to disown especially their hostile, aggressive, sexual and dependency impulses. They tend to project such impulses onto others, to blame others for them, but at the same time are apt to be carried away by uncontrolled impulsive activity. This lack of acceptance of their impulsive life is only an aspect of the group's failure, or unwillingness, to accept themselves as they are. This is made clearer in the section dealing with self-concept of the group.

#### 6. Nature of Emotional Ties with Self and Others.

These aspects of the personalities of the group have been sufficiently stressed elsewhere in this report. Here, in summary, all that need be said is that 72 per cent of the group show profound ambivalence towards themselves. They both love and despise themselves too much. They fail properly to appreciate their good points and are proud of their defects, which they take to be virtues.

Towards other people 92 per cent of the group are hostile. Nearly all show some hostility towards certain others, especially the mother, but 8 per cent show hostility to nearly everyone. When not manifesting hostility the group is indifferent to others. There are few expressions of real love or friendship for other people, or any real sympathy. The group is too selfish to care about other people.

#### C. Evidences of Emotional Maladjustment, as Revealed by Outstanding Symptoms.

Throughout the discussions of the several tests and techniques used in this study, mention was made of the various symptoms of maladjustment encountered in, or that could be inferred from, the test results. In most instances, the percentages of the total group revealing these symptoms were stated. It would be tedious to summarize all the symptoms at this point and the result of such a summary, were it done,

would not adequately characterize the group. Instead, it seems better to recall here only the "outstanding symptoms," meaning by this term those symptoms that were clearly revealed on several tests, were conspicuously high on one or another of the tests, or were otherwise manifested by a large percentage of the group.

### 1. Depression.

On these criteria, depression was the most conspicuous and most pervasive symptom manifested. Every subject showed some depression and for at least 50 per cent it was the most intense of their symptoms. It was likewise to be seen in the results of all the tests. Depression, as the term is here used, is not a unitary personality trait, but rather a complex of traits. Hence, the term may be used to characterize individuals who are sad, regretful, remorseful, guilt ridden, pessimistic, hopeless, troubled by feelings of inadequacy, inferiority, impotence or uselessness and who likewise may be introverted, interested only in their own problems, socially withdrawn and isolated. Not all the subjects manifest all these traits, but all show some of them, at least to a slight extent.

### 2. Anxiety.

Anxiety is the next most conspicuous symptom of these subjects. All show anxiety on the TAT, 32 per cent intensely. They are fearful, insecure and have a vague dread of the future.

This is the outstanding symptom shown in the TAT stories. It is also conspicuous on the Wechsler, where it is judged to be the chief cause of lowered mental efficiency for 72 per cent of the group. The Rorschach reveals anxiety less clearly, since according to Rorschach theory anxiety is so often "converted" and manifested in different symptoms. Only 24 per cent clearly reveal anxiety on the Rorschach.

### 3. Obsessions and Compulsions.

About 40 per cent of the group reveal marked signs of obsessiveness, compulsivity or both. These symptoms lead to repressive or constrictive control of Rorschach responsiveness, but do not result in the usual sign of "completeness compulsion" or "accuracy compulsion," often found in Rorschach protocols of neurotics.

On the Psychasthenic scale of the MMPI, which also reflects these symptoms, the group achieved its second highest mean score. Only on the Depression scale of this instrument was the mean score higher. Fifty-six per cent of the group made scores above 70 on the Psychasthenic scale, but not all of these subjects manifested obsession or compulsion to the same extent, since this scale also measures "phobias."

On neither the Rorschach nor the MMPI can behavioral compulsivity be distinguished. The individual appears to experience impulses which he interprets as compelling certain

actions but whether or not he actually executes these cannot be told from test responses. For obsessions the case is clearer, the subject is dominated by certain ideas and feelings, usually of a worrisome and depressive sort. But it is primarily on the TAT that obsessiveness and compulsivity show up. As emphasized elsewhere in this report, all of these subjects are obsessed by their own problems, worries and anxieties almost to the exclusion of all else. Most of them feel driven by something beyond their control, but even from the TAT stories it cannot be accurately judged how many actually carry out their compelling urges. On the basis of an overall estimate, all that can be said is that obsessive-compulsive symptoms, or at least more than normally intense worries and anxieties, seem to be the third most frequent class for the group as a whole.

#### 4. Guilt.

Guilt, although associated with depression, or as an aspect of depression, was sufficiently prominent in TAT results to be regarded as a separate symptom. It was the third most common feeling tone expressed in 92 stories told by 72 per cent of the group, exceeded only by anxiety and depression. Guilt can also be inferred from Rorschach texture and shading responses and from the answers to many items on the MMPI, especially on the Depression and Psychasthenia scales. As said in discussing TAT results, much of the guilt shown by

these individuals is over temptations they have suffered or over sexual and aggressive impulses they have experienced. Very little of it seems due to actual delinquencies they have committed.

#### 5. Hostility.

Hostility towards others is a basic characteristic of 92 per cent of the group. Usually this hostility is directed against a definite person, most commonly the mother. Ninety-two per cent blame their mothers. Fathers are blamed by 40 per cent, spouses by 60 per cent, but seldom siblings. Authority figures of all kinds and society in general, may likewise be objects of hostility. Anger, rage, hate and resentment accompany hostility in 56 per cent of the subjects, or are aspects of it. Indications of overt aggressivity are, however, conspicuously absent. Aggression is shown by only 40 per cent. Most of the subject's aggression appears to be repressed, or if it is experienced, it is as impulses that are suppressed, because they are guilt or anxiety provoking.

#### 6. Loneliness.

All the subjects feel that the world, especially the social environment, is hostile, harmful, dangerous, frustrating to their plans and hopes and rejective of them. Hence, they do not feel "at home" in the world. They are intensely lonely, friendless, estranged from society and withdrawn, in 16 per cent of the cases almost to the point of complete

isolation. Sixty-four per cent of them feel that they are victims of circumstances over which they have no control. They also blame others for their plight. In such instances the parents, especially the mother, as said above, is seen as the chief cause of the subject's present troubles. Sixty per cent also feel coerced by society in general or the moral law. Hence, 61 per cent tend to disregard social norms and customs.

#### 7. Incapacitation.

Practically all subjects, too, regard themselves as incapacitated, weak, tired and ill. Eighty per cent stress incapacitation in their TAT stories. Seventy-two per cent of them would like to attribute these conditions to somatic causes, organic illness, but 40 per cent also definitely blame themselves for the attitudes, feelings, and acts that have led them to their present state. Such insight, however, is comparatively rare and even those who manifest it do not do so consistently. This feeling of incapacitation in 72 per cent of the subjects leads to self-pity, complaints of vague aches and pains, obsessive worry over their health and sympathy seeking. Definite conversion symptoms of the hysterical sort were not clearly established for any subject but 43 per cent showed compulsions towards ineffectual behavior.

#### 8. Emotional Immaturity.

The subjects are also generally immature emotionally,

80 per cent are passive and dependent. Hence, they are inadequately adjusted to the demands of adult life. As the Rorschach shows, 84 per cent of them reveal inadequate control of their emotional responsiveness to outer, emotion-provoking stimuli. Most of these, 52 per cent, are overly stimulated and 32 per cent are too little stimulated by things and events outside themselves. Seventy-two per cent also show inadequate control of their own inner states, feelings, and impulses, as well as a paucity of inner life.

#### 9. Inner Conflicts.

These passive and dependent attitudes and feelings these individuals tend to repress, reject and disown. They regard them more as hostile forces acting on them than as component parts of their own personalities. Hence, they manifest conflicts and seem divided against themselves. Indeed, the Rorschach shows that 68 per cent of the group manifest conflict between overt and covert personality tendencies. Those who are basically introversive want to be more extravertive and those who are extravertive want to be more introverted.

#### 10. Distortions of Evaluation.

All the above symptoms to some extent distort performance and limit achievement on all the tests and so presumably in the lives of the subjects. The mental efficiency of the group may then be said to be lowered. Their intellectual and perceptual functions are impaired and they lack the



the best use of their creative and productive capacities. They find it difficult to concentrate on or to persist in any task. Instead, their performance is apt to be "blocked" or erratic. Their modes of perception and conception, their evaluations and judgments seem to be more influenced by their needs and wishes than by the demands of reality. They cannot be objective, properly appreciative and evaluative about themselves, their present situation or their goals.

#### 11. Dependency.

Finally, since they feel rather helpless and hopeless they look to others to solve their problems for them. Or else they expect unrealistic good fortune, sudden elimination of their difficulties and unearned triumphs. This is further evidence of the unreality of their thinking. None of the subjects, of course, shows a complete break with reality and all retain some positive assets. All are still capable of making some effort to help themselves; of attaining a realistic understanding of their assets and liabilities and of their situation, and of making sustained attacks on their problems. Chances for real accomplishment in the world of work and of social relations still remain to them.

The above symptoms are those which best characterize the group as a whole. It must be stressed that each individual manifests a complicated symptom pattern. Some of these patterns

contain elements that could be regarded as symptoms of schizophrenia, paranoia, depressive psychosis or psychopathic personality. Such symptoms are not sufficiently common to the group to warrant listing. Nor are they sufficiently dominant in any individual to lead to a diagnosis other than psychoneurosis.

#### D. Extent of Maladjustment in the Group.

On the Rorschach, scored and interpreted according to Klopfer's criteria, 100 per cent of the group lack adequate adjustment and maturity. This conclusion is based on the assumption that Rorschach signs of insecurity, anxiety, depression and compulsivity in adults indicate immaturity and hence maladjustment, as Klopfer asserts.<sup>1</sup> Most individuals of the group show several of these signs and all show at least one sufficiently prominent to lead to the conclusion stated. Clear indications of unbalanced personality structure, however, are found in only 50 per cent of the group. The others are, then, just somewhat less adjusted and mature than the ideal normal.

The Munroe index offers the only satisfactory way of quantifying degree of maladjustment shown in Rorschach scores and ratios. For this group the mean Munroe index was 14.76, standard deviation 5.59 and the median was 14. The median for

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<sup>1</sup> Bruno Klopfer and Douglas Kelley, The Rorschach Technique, 240.

normals is conservatively set at 10. The higher an individual's score is above this cut-off point the more maladjusted he is. Of this group, 80 per cent were above the normal median. The group as a whole, then, is maladjusted, according to this criterion. But the extent of the group's maladjustment is not great, since the median for the group is not much above the median for normal.

The MMPI offers no clear index of degree of maladjustment, for either individuals or group. This group made mean scale scores above 70, the upper limit of normality, on the Depression, Psychasthenia, Hysteria, Schizophrenia and Social Introversion scales only. The last is not a clinical scale, but its items are related to clinical syndromes. On the six other clinical scales the group means were below 70. Thus on only four out of ten scales do the group as a whole show maladjustment. Looked at another way, more than half the group achieved scores above 70 on the Depression, Psychopathic Deviate and Psychasthenic scales, or on only three out of ten scales. These findings are a crude indication that the group as a whole is maladjusted but not badly so.

A criterion of degree of maladjustment that is sometimes useful with MMPI is the number of clinical scales on which the subject scores above 70. This assumes that the more elevated an individual's whole profile of scores is the more

TABLE XXXVIII.  
NUMBER OF SCALES ON WHICH  
SUBJECT SCORES WERE ABOVE 70

Number of Scales	Per Cent of Group
0	9
1	17
2	9
3	13
4	5
5	17
6	17
7	13

The average number of scales on which the group score was above 70 was 3.74. Thus, 52 per cent of the group may be said to be more maladjusted than the other 48 per cent. Nine per cent are not maladjusted at all and 13 per cent may be said to be seriously maladjusted.

The Bender-Gestalt test likewise offers a criterion of "integration" indicative of adjustment. This criterion is in terms of a Z score; the higher the Z the more maladjusted. The "normal" range of Z scores is 60-80. For this group, the range was 54-124, with a mean of 93.08 and a standard deviation of 17.69. The median was 93. Ninety-six per cent of the group

scored above 60 and 79 per cent above 80. These 79 per cent may be said to be maladjusted.

The Munroe index correlates with the Bender-Gestalt Z score only to the extent of  $-.12$ , by the rank difference method. This correlation coefficient is not statically significant, and for practical purposes can be regarded as zero. There is thus no relationship between these indices of maladjustment. Numerous attempts were made to find some measure of association between these indices and various other scores and ratios yielded by the other tests and devices used on this group. Various correlational and the chi-square techniques were tried but no significant indication of relationship between either the Munroe index or the Bender-Gestalt Z score and anything else was found. From this fact, it may be concluded that each measures some aspect of personality measurable in no other way, or that neither one measures anything significant. There is less evidence for the latter alternative.

#### E. Methods of Attempted Adjustment.

When faced with a problem of any sort to which he can find no rational solution, every individual is inclined to make a disorganized attack on the problem, to attempt to withdraw from it, or to seek some other satisfaction as compensation for his failure. All attempts to "solve," meaning to cope with, problems by other than rational methods have

been called "defense mechanisms." Use of such "mechanisms" may enable a person to make a temporary "adjustment" by permitting him to avoid facing painful facts or unpleasant situations. Such devices do not solve problems and the problems return to plague the subject who must constantly renew his "defenses" against them. In view of this common situation it was thought worthwhile to inquire into the ways the experimental group has attempted to cope with their problems.

That the group has a variety of personal and adjustment problems is apparent in all the test results, especially the TAT stories. That they have failed to solve their problems rationally, and are incapable of doing so, is indicated by the fact that they are all neurotic. What they have attempted to do, instead of rationally solving their problems, may be inferred from the self-ideals, attitudes and goals implied in the TAT stories. Certain aspects of the Rorschach interpretation, of MMPI results, and of goal setting activity on the Pursuit-Rotor also supply bases for inferences concerning "defense mechanisms," as will be shown in the following discussion.

### 1. Aggression.

Disorganized attacks on problems, or tendencies towards such a method of coping with problems, are inferred from aggressions, as overt acts, and aggressiveness, as an impulse, shown primarily in TAT stories of 40 per cent of the subjects.

Rorschach indications of blocking or resistance in the test situation (for 24 per cent of the group), opposition (16 per cent of the group), over-impulsiveness (44 per cent) and destructive impulsivity (24 per cent) may all be taken as evidence of strong aggressive tendencies in the group as a whole. The MMPI provides hints of aggressivity in the fact that 61 per cent of the group score above 70 on the Psychopathic Deviate scale. Aggressiveness as a common trait is shown by an item inspection of these scales. The TAT results, while not strictly quantifiable, do, however, provide the strongest evidence of an attitude of basic hostility in 92 per cent of the group. This attitude leads to a variety of aggressive acts and impulses, belittling, blaming and punishing others, and so forth. To what extent aggressivity finds expression in the daily lives of the subjects it is impossible to say on the basis of the test results but in all likelihood the extent is considerable.

## 2. Withdrawal.

Withdrawal as a defense mechanism is shown on the Rorschach by 36 per cent of the group. An additional 32 per cent are over-cautious, tentative and hesitant in their approach. The coarctated (32 per cent) may also be considered as withdrawn or "shut-in" personalities. Avoidance of the use of color by 52 per cent of the group may reflect some tendencies to withdraw from emotion-provoking situations. In so far as

too few popular responses may be considered evidence of withdrawal, the manifestation of this sign by 64 per cent of the group evidences withdrawal from problems of social adjustment as well as estrangement from society. On the MMPI scores above 70 on the Social Introversion scale (30 per cent of the group), on the Schizophrenic scale (43 per cent) and on the Psychasthenic scale (56 per cent) are likewise indicative of much withdrawal from problems on the part of the group. Again, however, it is the TAT that provides most evidence of evasion, retreat, running away from and ignoring problems. All these are shown by 72 per cent of the group. Indecisiveness, postponing decisions and passive waiting for help shown to some extent by all subjects may also be interpreted as withdrawal and giving up the struggle. In short, all subjects manifest some withdrawal tendencies and for at least half of the group it is the dominant method of attempted adjustment.

### 3. Intellectualization.

Over-intellectualization, attempts intellectually to dominate the situation, to solve problems by "reason" rather than by action is a common mode of defense for this group. There are hints of this type of response on some Wechsler records, especially in answers to Comprehension and Similarities test items. Even on the Digit Span, Picture Completion and Object Assembly tests a few individuals take too "abstract"



an approach. On the Rorschach 36 per cent of the group over-emphasize the abstract or over-generalize. Over-exactness, or the quest for excessive accuracy is shown by 16 per cent, and over-criticalness by 8 per cent. All of these modes of response to problems may be considered akin to "rationalization," the attempt to find "acceptable" reasons while ignoring real reasons. On the TAT 72 per cent of the subjects most strongly show their need to "understand" and to "solve" their problems intellectually. The failure of this method is likewise clearly indicated in the stories, yet it remains their highest ideal, even though they are largely unconscious of it as a need.

#### 4. Ambitiousness.

Related to the "intellectual" defenses seems to be over-ambitiousness." On the Pursuit-Rotor task 29 per cent have levels of aspiration that are clearly too high for their abilities. An additional 14 per cent over-achieve on easy goals. This, too, could be interpreted as evidence of over-ambition that has been fruitless so often that it is now repressed. On the Rorschach 68 per cent give signs of "quality ambition," that is, attempt to achieve beyond their intellectual and emotional capacities. Indications of this mode of defense are vaguer in the other tests, except the TAT, where it shows up in the unrealistic self-ideals and goals of all of the group.

### 5. Repression.

Repression, usually considered an "unconscious" defense mechanism is virtually impossible to distinguish from conscious "suppression" or inhibition of impulses, on the basis of test findings on this group. On the Rorschach 72 per cent show inhibition of "promptings from within," but there is no way to tell how much of this is conscious or deliberate. Definite constriction of inner life is shown by 28 per cent and 16 per cent more have signs of modified constriction. Stereotypy of responses is manifested by 16 per cent and 32 per cent are too little stimulated by the outer world. Lack of spontaneous response to color is shown by 36 per cent. These, as well as the signs of coarctation and narrowness of interests in 32 per cent of the group, may be taken as evidence of "over-control," inflexibility and rigidity, all of which imply repression or suppression in practically all group members. Rigidity in goal setting on the Pursuit-Rotor, shown by 62 per cent of the group is likewise probably related to repression. Indeed, all signs of compulsivity, fixation at an immature developmental level and all "conversion" symptoms imply repression of impulses. The TAT, however, again provides the best evidence of repression in 56 per cent of the subjects. The extent to which hostile, aggressive, sexual, passive and dependent needs and impulses are repressed, denied and disowned in the stories has been

sufficiently stressed in the discussion of the TAT.

#### 6. Fantasy or Daydreaming.

Daydreaming, sexual and aggressive fantasies and self-aggrandizement, as ways of compensating for failure, are probably much more frequently used by the group than the test results indicate. Eighty-eight per cent give evidence of daydreaming on the TAT. They were very defensive about revealing these modes of "adjustment," but the numerous indications of wish fulfilling, guilt feelings and self-enhancement in the TAT stories all point to a strong probability of imaginative "solving" of problems in lieu of real solutions. The unreality of the self-ideals such as intellectuality in 72 per cent and goals such as autonomy in 100 per cent of the subjects points in the same direction.

#### 7. Passivity.

Conformity, acceptance, submission, resignation and passivity all seem to be related and so make up another common mode of adjustment for this group. All show these traits, at least slightly. Not all manifestations of such adjustment are necessarily unhealthy. In accordance with the old principle of mental health: "What can't be cured, must be endured," acceptance and submission are often the most prudent course of action. The experimental group, however, seems lacking in prudence in that 92 per cent are passive in the face of and

resigned to situations they could change. On the other hand, they are not sufficiently resigned to their own limitations or submissive to proper authority, society, or the demands of reality. This characterization of the group is inferred from the TAT stories, wherein every subject shows undue passivity to some extent, even though at the same time he may be overly aggressive.

#### 8. Other Defense Mechanisms.

Other defense mechanisms mentioned in the literature of abnormal psychology and psychoanalysis were either very rarely manifested or not clearly to be inferred from present data. "Projection," if this is defined as blaming others for one's own faults, may be an exception here. Ninety-two per cent of these subjects did show a tendency to blame their parents, hostile and rejecting people or the world in general, rather than themselves for their present plight. Ascendancy, dominance, identification, introjection, masochism, sadism, narcissism, reaction formation, etc. were very little evidenced and would require forced interpretation to bring them out. Some writers profess to find evidence of such defense mechanisms even in Bender-Gestalt drawings, but the present writer must confess his inability to do so.

#### F. Positive Ways of Attaining Satisfaction.

##### 1. Pleasures.

The foregoing discussion of defense mechanisms is not

to be interpreted as indicating that the group finds no positive ways of self-comfort. No man can live without pleasure and there is much evidence in the test responses that all members of the group enjoy some sensuous, aesthetic and intellectual pleasures. Many even openly expressed enjoyment of the testing situations to which they were subjected. Practically all were elated by their real achievements on the tests quite as much as they were cast down by their failures. None of the test scores, however, reveals these pleasurable aspects of life very clearly. Hence, they seem outweighed by the negative aspects discussed up to this point.

## 2. Satisfaction of Needs.

The TAT does, of course reveal much of the more positive aspects of the subjects' lives and situations even though these findings are not quantified here. Some press mentioned in the stories of each individual are positive. Friendship, cooperation, helpfulness, gifts and love are sometimes freely given by other people. The world is sometimes regarded as beautiful, enjoyable, rewarding and even manageable. Real gratifications of succorant, sexual, passive, affiliative, autonomous and achievement needs are sometimes obtained. Even security and happiness, if only to a limited extent and temporarily, are to be found in the past lives of the subjects, and 96 per cent are slightly hopeful that the future will bring about their restoration. The subjects themselves sometimes

show sympathy, helpfulness, forgiveness, devotion and love towards others. They all sometimes manifest self-reliance, determination, perseverance, decisiveness, resistance, patience and courage. They are, then, not completely defeated, depressed, hopeless and helpless.

#### G. Systems of Control of Behavior.

Overt behavior in real life situations is, of course, not revealed in test results. Nevertheless, the tests may give some hints of habitual modes of outward action and indications of the relative strength of tendencies towards actions of various sorts. If it is assumed that a person acts in accordance with his stronger tendencies more often than not, what he is likely to do in life situations can be inferred from test indications of his tendencies or habitual impulses. Since the individual remains free, under appropriate conditions, to act contrary to his strongest tendencies, prediction of actual behavior can be, at best, only probable. Often the degree of probability or level of confidence, with which behavior can be predicted is quite low, or no better than chance. Yet in practical therapeutic situations some effort must be made to anticipate what the client will do under circumstances he is likely to encounter. To what extent test results on this experimental group offer clues predictive of behavior will be indicated in the following paragraphs.

### 1. Outer and Inner Control.

The Rorschach yields various indices of "outer" and "inner control." Judgment based on all the signs of outer control indicates that only 20 per cent show adequate control of their responses in the test situation. An excess of control is shown by 32 per cent. They are too hesitant in responding. Forty-eight per cent of the group lack sufficient control. They over-respond and may be said to be carried away by emotion provoking stimuli. Rorschach responsiveness, however, is not behavior in the pure sense of the term, that is, overt muscular action. From it, however, is inferred that those overly responsive in the test situation are likely to act impulsively, irrationally and uncontrolledly in life. Excessively controlled individuals are apt to be cautious, hesitant, inactive and passive in life as well as in the test situation. On this basis 80 per cent of the group cannot be expected to act appropriately to bring about their own adjustment, especially in emotion provoking situations as social situations usually are.

Rorschach indices of inner control indicate that 72 per cent of the group do not manifest sufficient control of their own impulses and feelings to give them poise and security in dealing with the outer world. They cannot behave or adjust, adequately because they cannot master themselves. Hence, indications of outer and inner control are in close

agreement.

## 2. Indications of Rigidity and Impulsivity.

Rorschach indications of spontaneity, constriction, compulsivity and rigidity merely help to refine what was said in the above two paragraphs. These indices have been sufficiently discussed in the section on the Rorschach and this discussion need not be repeated here. From the present point of view, all that these other indices show is that not all individuals of the group are over, or under, controlled in the same way, or to the same degree. In any case, the net effect of inappropriate control is to make adjustment to life situations inadequate.

The Pursuit-Rotor flexibility scores indicate that 62 per cent of the group are too rigid. This percentage may be excessive since Rorschach indications of inflexibility, or rigidity, yield a percentage of only 44. There is no way of deciding whether "rigidity" is the same trait on both measures. At any rate, somewhat near half of the group can be expected to be fixated with regard to their modes of response, or compulsively persevering. They are so bound up in their habitual ways of doing things that it is very difficult for them to adapt to changing circumstances. On the other hand, flexibility scores indicate that 24 per cent of the group are too labile. Munroe Index criteria for the Rorschach show that the



same percentage of the group, but not the same individuals, make an excess of uncontrolled responses to color. These two phenomena may reflect the same thing, namely that these persons are carried away by their emotions. They may be expected to act too impulsively in any situation.

### 3. Disregard of Social Norms and Customs.

The MMPI does not offer definite clues to future behavior and adjustment. The fact that 61 per cent of the group scored above 70 on the Psychopathic Deviate scale was interpreted as indicating that the group tended to disregard social norms and customs. That they have sufficient knowledge of such norms and customs is indicated by the Wechsler comprehension test, on which the group made a higher average score than on any other Wechsler subtest. Therefore, it seems likely that most of the group can be expected to act to please themselves. They will act selfishly to meet their own neurotic needs and will not be able to adapt their behavior to what is required or expected of them. Only one individual (4 per cent of the group) achieved a score above 70 on the MMPI Hypomania scale. He is the only one whose outward action is apt to be excessive, overly impulsive, and perhaps destructive.

#### H. Self-concepts and Self-ideals.

##### 1. How the Group Views Themselves at Present.

The TAT is the only test that throws any clear light

on what these subjects think of themselves. It is possible to make tenuous inferences from MMPI and Rorschach data, or indeed from any test data, on the basis of the principle that the individual must think (thus or so) of himself in order to act as he does. Such inferences involve many assumptions about psychic causality and psychodynamics and so it is better not to make them unless they can be defended. The TAT, however, involves only the more plausible assumption that when the subject describes the heroes of his stories, he often is really talking about himself as he is, or as he would like to be.

Interpretation of the TAT stories from this point of view yielded the information set forth in Chapter VII in the sections dealing with self-concepts and self-ideals. Here it need only be recalled that 72 per cent of the subjects see themselves as physically ill, 80 per cent as being inadequate and inferior persons and 76 per cent as mentally and emotionally troubled by present problems they cannot solve. All are bewildered by their lack of adequate understanding of their situation and hesitant about acting. Only about 20 per cent have any real understanding of their strengths and weaknesses. Even those who display such insight at times do not do so consistently.

## 2. What the Individuals Would Like to Be.

Because they do not have adequate self-understanding

at present, the self-ideals of the group tend to be unrealistic. Primarily, 72 per cent seem to be striving for intellectual dominance. They would like to be able to solve their practical problems by "thought" rather than action. Sixty per cent feel that they merit higher economic and social status than the world accords them. Sixty per cent, who have a little insight, would like to be more self-confident, determined and self-assertive. Few have any real ideals leading towards appreciation of others, sympathy, helpfulness, friendship or any other type of active participation in social life. However, all mention such ideals in at least one TAT story each. What 60 per cent of them seem to want more than anything else is to be loved, completely and devotedly.

### 3. The Group's Concepts of Internal Realities Influencing Their Adjustment.

It has already been pointed out, in discussions of the Rorschach and TAT findings, that the group tends to regard their own sexual, aggressive and hostile impulses, not as parts of themselves, but as hostile, intruding forces over which they have no control. They tend to disown such inclinations and to blame them on others. Nor are they clearly aware of the real needs at the base of many of their ideas, feelings, attitudes and actions. They tend to overlook especially their passivity and dependency needs. These factors are related to inadequate self-concepts but have further implication. The

subjects not only do not know what they are, they do not know what they are trying to do. Hence, they act in a manner that seems inexplicable to themselves to satisfy needs they are not aware of.

#### 4. Guiding Philosophy of Life.

The group, as a whole, seems dominated by the "pleasure principle." They seek self-satisfaction, self-aggrandizement and sensuous pleasure more than anything else. There is no clear evidence that any one of them is devoted to an occupation, a career, a social or political movement, a philosophical system or religious ideals or institutions. Of course, lip service is paid to aesthetic, social, philanthropic, moral and religious ideals, especially in the TAT stories, but in such a way that the impression is left that the subjects are not really trying to realize these ideals. Some of the group imply that after they solve their present problems they will be free to pursue higher goals, but not at present.

It might be said, then, that if the subjects could become devoted to something beyond themselves and forgetful of self, they would no longer be maladjusted. This principle has long been recognized in religion as well as in psychotherapy but to act in accordance with it is quite another matter.

#### I. Concepts of External Reality.

##### 1. External Realities Influencing Adjustment.

Not enough is known about the actual life situations

of the group members to decide definitely what they have to adjust to. Very few case or social history data are available and so the physical, social and cultural environments of the group cannot be described. Such facts as family constellation, group memberships, social status and reputation, characteristic inter-personal relationships and growth patterns, are lacking for all members of the group. The world they live in, then, may be said to be unknown except for their accounts of it, or what can be inferred from their test responses. Both of these sources yield incomplete, if not biased or distorted, information. So, since adequate, and objective information is lacking, nothing can be definitely said about the realities that actually influence the adjustments of the group members. Perhaps, though, this is relatively unimportant since the individual does not adjust to the world as it is but as he perceives and interprets it. This is the old distinction between the "geographical" and the "psychological" environments.

## 2. The Group's Evaluation of Reality.

Test results in general, and the Rorschach and Bender-Gestalt results in particular, indicate that the group does not misperceive, unduly distort or interpret reality in a bizarre manner. They are not psychotic and so have at least minimally adequate contact with reality. But, they are neurotic and the world they interpret as a hostile place, frustrative of their

needs. Nature, fate or destiny and their own inadequacies conspire against them. This view of the world and their relations to it is best expressed by the group in their TAT stories. When these stories are analyzed for "press" it is found that most of the environmental forces the subjects conceive of as influencing them are hostile. Other people, they think, are also hostile, or at best indifferent to them. Positive or helpful environmental forces receive scarcely any mention in the TAT stories. In their view they lack most of the things that make life worth while, such as love, friendship, wealth and competence and so their lot in life is a hard and lonely one.

#### J. Goals.

What the group is trying to attain, the values they are attempting to actualize, the states of life they are trying to reach and the changes in their environments they would like to produce can all be inferred from the TAT results. Other test results are not very clear on these points. The level of aspiration reveals something of goal setting activity, goal changeableness and attainment but does not indicate the specific nature of goals other than those implicit in the test itself. On the level of aspiration test 38 per cent aspired too high and 62 per cent were over-cautious in goal setting. Thirty-eight per cent of the group were too flexible or labile in their goal setting and 62 per cent were too rigid. Even

though the percentages are the same high goal setting and flexibility correlate only .29 by the rank difference method since different individuals compose the percentage groups in the two cases. Certain aspects of the Wechsler and the Rorschach results may be interpreted as pointing towards what the subjects are trying to do. At best, such inferences from results of tests other than the TAT are very tenuous and there is no way to decide the extent to which they can be generalized. On the TAT the subject, while he doesn't clearly label goals as such, usually does imply what he thinks will meet the needs of the hero. In so far as he identifies with the hero he implies his own goals. These goals can then be evaluated by the test interpreter as to their adequacy to meet the real needs of the subject. On this basis, goals can be judged as realistic or unrealistic.

### 1. Realistic Goals.

Few of the goals desired by these subjects seem pertinent to their real needs. This is because they are largely unaware of, or deny, their basic needs. Their dependency and hostility needs are most denied, and so few, if any goals, are consciously sought by the subjects as satisfiers of these needs. All the subjects are, of course, aware that they have problems and need help in adjusting, hence they may be said to have realistic goals, but this is true only if the solutions are adequate and the help effective. The solutions the subjects strive

for do not, for the most part, seem adequate to the outside observer. This pursuit of inappropriate goals seems to characterize neurotic striving. Moreover, even where the goals seem appropriate or adequate the means of reaching these goals, proposed by the subjects, seem to another to be grossly ineffective. Therefore it may be concluded that where these subjects are not confused about appropriate ends, they are confused about suitable means of reaching these ends.

## 2. Unrealistic Goals.

The goals actually sought most frequently by the majority of these subjects are: autonomy by 100 per cent, security by 84 per cent, love by 100 per cent, withdrawal, 60 per cent, solution to their problems, 100 per cent, compensation, 40 per cent, social acceptance, 36 per cent, peace of mind--92 per cent, vague success, 52 per cent, and self-perfection, 40 per cent, in about that order of intensity. Some conceptions of the goals and the seeking of them under some circumstances are not unrealistic. However, as the group members define the goals, they are impossible of attainment in the world as it is. They want to be absolutely free from all restraint or coercion, even by the realities of Nature, social demands or the moral law. They want to do as they please without any hindrance or untoward after effects. Their demands for love and security also exceed all bounds. They want others to be passionately



devoted to them and the world to remain as they would like to have it. Otherwise they cannot feel content and secure. Failing in their attempts successfully to withdraw from or solve their problems they have sought compensation in various ways. They are still trying to achieve these and all the other goals mentioned. Even their concept of self-perfection seems distorted since they seem to mean by it omniscience, if not omniscience and omnipotence.

Since, then, their goals, as the group defines them, are impossible of attainment there is no therapeutic hope for them unless they can revise these goal definitions and turn towards goals that will actually satisfy their real needs.

#### K. Prognostic Indications.

##### 1. Balance of Strengths and Weaknesses.

The first fact to be stated in favor of the present group is that its members are neurotic and not psychotic. For most of them their disorders are mild or at worst moderate. No one is severely crippled by his neurosis. By and large they are in adequate touch with reality and able to make minimal adjustments to it, even though often at great cost to themselves.

Their intelligence and other cognitive capacities are of a high order. Their education and ranges of knowledge and interests are better than the average for the general population. In these respects the group is superior. They can understand their situation. However, they do not effectively

utilize their intelligence in solving their problems. Their perceptual power is adequate, but they misperceive. Their imaginative capacity is high but they use imagination in an escapist not a creative manner. Similarly for other cognitive abilities; they have enough capacity but seem to have developed habits of wrong use. Hence, they are not productive.

There seems to be little actual mental impairment in the group. The loss of mental efficiency many of them manifest is probably reversible, since it is due to interference of temporary emotional factors.

Basic emotional capacities of the group members are difficult to judge accurately. However, there is no reason to suppose that they differ grossly from normal persons in capacities for the various kinds and degrees of emotional, feeling and impulsive responses. Again, it is a question of right and wrong use and habituation of powers. Like their cognitive powers, their affective and conative powers function in a poorly controlled manner. They have some remaining control of their emotional responsiveness to inner and outer emotion provoking stimuli, but their impulsive life is apt to be more over-controlled than under-controlled. Hence, they fluctuate between relatively uncontrolled emotional responses and constrictive rigidity. Seldom do they make rationally controlled emotional responses to the demands of their life situations.

In basic personality structure, only the coarctated, 32 per cent of the group, are clearly abnormal. The introverts seem to be closest to the ideal norm, followed by the extra-tensive and the ambiequal subgroups. To what extent basic personality structure, as defined by the Rorschach, is modifiable is an open question. Views on it imply general personality theory, learning theory, theories of individual freedom and responsibility, etc. Without attempting to defend his viewpoint in this place, the present writer may state that in his opinion personality, in a psychological sense, may be conceived of as an integration or organization of habit patterns. These habits are based on abilities that are innate and in themselves unmodifiable. But the habits and their organization are modifiable, although with difficulty.

Perhaps more important than the individual's personality structure is his acceptance or rejection of it. Sixty-eight per cent of the present group show some conflict between inclinations stemming from their personality structures and what they are consciously trying to do. The introverts are trying to become more extraversive and the extraverts to become more introversive. This perhaps makes for lack of personality balance and immaturity of personality structure.

The basic weaknesses of the group are due to the fact that they have real problems which they can't solve unaided. Their present symptoms actually handicap them. Their history

of failure also has produced effects which they can't overcome or disregard.

Their attitudes of pride, selfishness, hostility, pessimism, passivity and dependence are stereotyped and well fixed. The same may be said for their traits of sensitiveness, social withdrawal, estrangement from others, their isolation, loneliness and lack of self-confidence. These would all be difficult to change.

The basic values and goals of the group are largely unrealistic and unattainable. These in turn are related to neurotic needs. Their real basic needs are not being fulfilled, any more than their neurotic needs. This is largely because their methods of attempted adjustment are inadequate. Their disorganized attacks on, withdrawal from and overintellectualization of their problems do not solve these problems in a way to satisfy their needs.

The group, as pointed out before, does find some satisfaction for their needs, hence they are not completely frustrated and maladjusted. They also retain capacity to rectify their needs and to develop new modes of seeking satisfaction to them. In the opinion of the present writer, this entails wiser choice of real attainable goals and the substitution of higher values for many of these that the group now seems devoted to. They have the basic intellectual and volitional

capacities for such choices and can acquire habits of right exercise of these powers.

In general, then, the balance is more in favor of their assets than their liabilities. They have adequate basic capacities, but to a large extent make wrong use of these capacities. They retain enough flexibility, capacity for change, growth or maturation, that with help they can overcome their handicaps and free themselves to make more adequate adjustments.

## 2. What Such a Balance Portends.

How the group will get along in the future can be only conditionally predicted. The therapeutic outcome would seem to depend on the acquisition of more effective rational control of emotionality. If they could overcome their emotional blocks and handicaps their cognitive powers would be freed for more effective use. Patterns of emotional response, however, are extremely difficult to change. The majority of the group do not seem capable of initiating and carrying through such changes by themselves. They are, therefore, in need of help. They are fundamentally capable of cooperating, but to motivate them to do so is the basic therapeutic problem. How much strain, incident to a change in basic adjustment patterns, each subject can stand has to be individually estimated.

Basic personality structure is even more difficult to change than are unit response patterns. There is, however,

some hope even for the coarctated. Even they are still struggling to change their personalities albeit in ineffective ways. They could acquire more effective techniques. But even if the subjects are unable to change their personality structures, without or with help, they are still capable of coming to accept themselves as they are and to cease their fruitless efforts to become something they cannot be.

The basic values of the group can be modified through learning and re-evaluation of their life experiences and present situation. They can acquire a more optimistic view of the future. To change their concepts of themselves, however, they will have to actually experience success in adjustment. They will also have, to some extent at least, to be actually accepted by others. A permissive atmosphere in psychotherapeutic sessions would probably enhance their revision of values, self-concepts and chances for adjustment.

### 3. The Group's Own Opinions of Outcomes.

The above conclusions from prognostic indications represent the opinions of the writer. The group, however, is not so sanguine. Their views are best expressed in the endings they give their stories on the TAT. In these stories happy endings (154) were more frequent than neutral and doubtful (128) or unhappy endings (100), but it is clear that the group members regard themselves as still engaged in struggles the outcome of

which they can't predict. Even in the stories with successful issues the outcomes are seldom attributed to the efforts of the hero, meaning the subject himself. Much more often the happy endings are due to help of benefactors, reformation of others or magic changes in circumstances. From these and various other indications in the test results as a whole, it is inferred that the group has the wish, but not the will to adjust. They doubt their capacity to effect their own rehabilitation, probably because of their history of defeat. Therefore they are passive and dependent on others. They have little real hope for themselves and will not acquire any unless help is forthcoming.

No attempt is made to summarize this long chapter here since the final chapter makes a summary, in dynamic terms, of what the neurotic is trying to achieve, to be and to do. This final summary is based primarily on this present chapter and so it would be repetitious to summarize it twice.

## CHAPTER XII

### SUMMARY AND CONCLUSIONS

#### A. Evaluation of the Testing Devices.

In the present section an attempt is made to summarize what has been learned about the usefulness and limitations of the tests and techniques employed in the present study as devices for assessing neurotic personality. All the conclusions herein set forth are based on the assumption that the subjects of this investigation represent a typical neurotic group. Further, the devices themselves are assumed to have been adequately validated and standardized for the purposes and populations for which they were intended. To justify these assumptions would be beyond the scope of the present study. The order of presentation is the same as that employed throughout the body of this report.

##### 1. The Wechsler-Bellevue Intelligence Scales.

This is not the place to discuss general questions concerning the existence and nature of "general intelligence" and how it can best be measured. In so far as there is a complex of human abilities that is called general intelligence the Wechsler yields a measure of it that is as valid and reliable



as that gotten by use of any similar instrument. For the present study it was chosen in preference to other tests because it taps a wider range of verbal and performance abilities and because it was hoped it would yield diagnostic clues.

The measures of perceptual ability, rote memory, apprehension of relations, logical inference, analysis, synthesis, judgment and other abilities that are involved in successful test performance may be of great help in evaluating an individual's current strengths and weaknesses and his pattern of mental development through time. As a diagnostic aid, however, the Wechsler is quite defective. It was not originally designed for diagnostic purposes and has been very inadequately standardized on relevant populations falling into the usual nosological classifications. So, results concerning the influence of various mental disorders and emotional states on the mental processes involved in test achievement are vague and inconclusive.

Still the experienced clinical psychologist, dealing with an individual case, can often abstract clues from the test data that lead to valid conclusions about the subject's level of mental functioning and his degree of impairment. At times too, qualitative diagnostic clues are outstanding, especially in the test records of severely disturbed patients. The Wechsler, then, is no substitute for clinical insight and

diagnostic skill, but in spite of its limitations it has its uses and, at times, is even indispensable. It should be used primarily for its intended purpose and only with caution extended to diagnostic use.

## 2. The Minnesota Multiphasic Personality Inventory

The MMPI is the best of the available questionnaire, or self-rating, type of tests designed to get at the individual's estimation of himself, his traits and symptoms. It is designed primarily to reveal symptoms and syndromes commonly found in psychiatric patients but which also are to be met with in less disturbed and even in normal, individuals. The more normal the subject, of course, the less extreme will be his symptomatic indications on the test. The Booklet Form of the MMPI was used in the present study. It was administered in accordance with the standard procedure and scored by use of the keys provided for this purpose. Scores on four validity and nine clinical scales are derivable from the raw data provided by the ways the subject marks the test items.

These validity scales are an unique feature of the MMPI and mark a distinctive advance over forerunners of this test. They permit an estimate of the degree of confidence that can be placed in the results yielded by the test as a whole. Other scales are likewise available, or can be constructed according to published methods, which give other information

about the subjects tested. The scale for Social Introversion is used in this study.

It is important to note that the MMPI scales do not measure directly diagnostic entities, syndromes or even unitary traits. So comparatively little is inferable from an individual's score on any scale. Most subjects show a mixture of diagnostic patterns and the relative strengths of these must be taken into account in arriving at a diagnosis. Even this, however, is seldom sufficient and the symptoms reflected in the scales must be evaluated for their meanings in the life of the subject and in terms of his environment. Such an evaluation requires clinical judgment. Similar test findings may indicate incapacitation in one subject, but not in another. Often this depends on how the individual evaluates and reacts to his symptoms. It must be remembered that the raw data of this test represent the subject's opinion of himself and not necessarily the facts in his case.

In the present study it was found that the MMPI gives a rough measure of the degree of abnormality of the group. The overall results are in accord with the diagnosis of the group as neurotic. The scores on the separate scales point off the areas of most common symptoms and relative intensity of the various syndromes. Item analysis of scores yields more definitive information about particular symptoms, their frequency and

intensity. In general, such data are in agreement with the inferences from the TAT stories. Both the MMPI and the TAT seem to tap the conscious mental content of the subject. To a large extent also material that is close to the surface of consciousness, or "in the subconscious" is brought out by both tests. Deeper, unconscious material does not seem to be clearly, or frequently, given in MMPI responses.

As a measure of personality structure the MMPI does not agree with the Rorschach to any appreciable extent. This is not because one instrument is better than the other for the purpose but because each divides the personality along different lines. A complex personality may, like a cake, be cut up in various ways. One mode of division may not be intrinsically better than another but may be more suitable for certain purposes. The MMPI offers a method of analysis in terms of syndromes. This is useful in judging the extent to which a subject is like the persons in the various nosological or clinical groups. Other aspects of personality, while to some extent inferable from MMPI results are more clearly shown on other tests.

### 3. The Rorschach Technique.

The Rorschach yields the best indications of basic personality structure. It shows better than any other test used the extent to which the individual's abilities, feelings,

attitudes, habits etc. are integrated. It gives a rough indication of his maturity, his degree of abnormality and some clues as to his type of abnormality, if any. More importantly, however, it gives valuable information concerning how the subject uses his abilities, perceptual, intellectual, emotional, etc. His manner of approach to the world, the types and degrees of his self-control and his control of his environment are sampled on the Rorschach as on no other test. Basic conflicts within the individual are often shown by the way he seeks to express, or suppress, his natural inclinations, his impulsivity and emotional responsiveness.

Without subscribing to the exaggerated claims that have been made for the Rorschach, at least the above things can be said in its favor. There is, however, always danger of inferring too much from too few responses. Even a relatively rich protocol of 50 to 100 responses is but a small sample of the life activities of a subject. The question of norms is also a troublesome one. There are no adequate objective standards for judging the quality, normality or meaning of any single response or of any pattern or combination of responses. The whole record must be judged as a unit, but in terms of the interrelationships between the frequencies and qualities of the various types of responses that are scored. The interpretation made, then, is largely dependent on the knowledge, skill,

clinical insight, personality theory and even bias of the interpreter. The Rorschach data provide an occasion for the exercise of the interpretative skills of the tester. Only when these skills are adequate and rightly used is valid information about the subject secured.

In the present study an attempt was made to interpret the Rorschach findings in accordance with established principles of Scholastic psychology and with the fewest possible assumptions from modern personality theory. It is felt that the results obtained add significantly to the understanding of what the subjects of the present study are like.

The Munroe method yields a single score for each subject indicative of his general personality integration and adjustment. This is advantageous in comparing individuals or groups with regard to the degrees of adjustment they manifest. At the same time the single score conceals the type of maladjustment and sacrifices much of the interpretative material in the individual protocol. Munroe's check list can, of course, be used to point up specific areas of adjustment or maladjustment by noting the frequency of the various types of departure from "normality" displayed by the individual or group. This has not been done in the present study.

Klopfer's and Munroe's methods of Rorschach interpretation yield results that are in essential agreement. However, the methods are based on different assumptions and it is

not logically defensible to mix them. In the present study the methods were applied separately. Since Klopfer's method was used first the results of this method receive the most detailed exposition. To detail the Munroe results to the same extent would be largely repetitions. Therefore, the relative amount of space devoted to each is not to be interpreted as a preference for Klopfer's method. In fact it is the present writer's opinion that some such method as that of Munroe, but perhaps with some modifications, should be used in experimental studies with the Rorschach in order to quantify the data more objectively.

#### 4. The Thematic Apperception Test.

The TAT proved to be the best of the instruments used for revealing the mental content of the subjects. Their problems, feelings, attitudes, self-concepts, ideals and goals were clearly brought out in the stories they told in response to the TAT pictures. The expected and desired outcomes of their present problems they also indicated in the endings they gave their stories.

The fact that there is no rigid system for scoring and interpreting the TAT proved to be an advantage rather than a handicap. The interpreter was free to abstract from the stories those items of information pertinent to the general problem under investigation. This advantage, however, is in

part offset by the difficulty of quantifying the test results. Frequency counts of the various items was the only feasible method of summarizing TAT data for the group. Quantitative comparisons of TAT results with other test data could not be made, except rarely. This is largely because no other test was measuring quite the same thing. Even where there is a large amount of agreement, as between the TAT and the MMPI results, the agreement is in general trends, indications of symptoms, dominant feeling tone, etc. rather than between specific items.

In short, the TAT is a valuable supplement to the other tests in that it provides valuable information about the subjects, which is obtainable from none of the other devices used. It cannot, however, be used to any great extent to confirm findings yielded by the others.

#### 5. The Bender-Gestalt Test.

The B-G Test proved to be confirmatory of lack of integration, shown to some extent on all the other devices. It has the added advantage of yielding a single score roughly quantifying this lack of integration. As indications of specific factors making for personality disturbance and maladjustment, however, the B-G falls far short of the other projective techniques used in the present study. It is too difficult to be sure of the real existence of personality traits that are inferred from characteristics of lines and angles on simple



drawings. While it may be conceded as a general principle that a person expresses his personality in everything he does, it is more doubtful that the requirements of the B-G task allow sufficient scope for expression of subtle differences between individuals. Of course if a subject produces grossly distorted or bizarre drawings, as many psychotics do, there is clear evidence that something is wrong with him. The present group, although they produced many slight, did not produce gross distortions.

Since so many factors apparently can influence accurate perception of and execution of the drawings, interpretation of results must be accepted with caution, even though the interpretation is done in the best approved manner. The author and chief experts on the test stress this as well as the facts that the test has not been adequately standardized or rendered objectively scorable.

For all these reasons the present writer feels that less confidence can be placed in B-G results than in the results of any other device used in the present study. Nevertheless, the B-G findings are non-contradictory of, and in the same direction as, the findings from the other devices. They thus add some weight to the general conclusions reached by means of combining all test results.

## 6. The Pursuit Rotor

The P-R as used here is indicative primarily of the goal setting and goal striving activity of the group. Levels of aspiration, discrepancies between goals and performance and changes in level of aspiration following performance are all clearly shown. But it must be remembered that the P-R presents a highly artificial and relatively simple situation. The gap between goal setting and striving in such a situation and similar activities in life situations may be quite wide. There is no way of deciding on the extent to which test findings on such devices as the Pursuit-rotor can be generalized.

As used on the present group the Pursuit-Rotor yielded results that are compatible with the findings from other tests and devices, especially the TAT, the Rorschach and the Bender-Gestalt. High levels of aspiration, intellectual striving, attempts at dominance, reactions to failure and rigidity were revealed on all these devices with about the same percentage frequency. The "level of aspiration," then, can be said to quantify aspects of goal striving activity for which other tests yield only qualitative indications.

## 7. The Psychogalvanic Reflex.

In the present study PGR results were interpreted primarily as indications of emotionality, or emotional responsiveness. Attempts to derive "complex indicators" from these results proved unsuccessful.

### B. What the Neurotic Personality is Like.

The tests and devices used on the experimental group yielded an impressive array of findings. The more significant of these and the tests on which they were revealed are set forth in Table XXXIX. This table may be regarded as summarizing the traits of a "typical" neurotic. But, as can be inferred from the varying percentage frequencies there is no "typical neurotic." Even though only the most frequently and most intensely expressed traits are included in this summary table, there is none that was shown by all, or even most, members of the group to the same extent. In the few cases where large majorities, or the entire group, manifested a trait in common they did so with various degrees of intensity, as has been shown in other sections of the present report.

All that can be said about the neurotic then, if the present group is representative, must be in terms of probabilities. Neurotics, at least those who seek help, are more likely to be of above average intelligence. They are apt to be abstract or intellectualistic in their approach to their problems. They try to "think" themselves out of their difficulties. Most show some loss of mental efficiency and lack of originality. They are likely to show impairment on mental tasks calling for immediate, directed and sustained effort and for new learning. Anxiety and depression seem to be the chief emotions interfering with their cognitive processes.

In basic personality structure, according to Rorschach indices, the neurotic can be of any type. Most, however, are apt to show lack of integration, lack of emotional maturity, conflicts between their basic tendencies and what they are consciously trying to do and hence, inadequate control of their own mental lives and their responses to their surroundings.

Most neurotics have strong passive and dependent needs which they seek to deny to their own consciousness. Consciously they stress needs for autonomy, achievement and intellectual dominance. Their prevailing affects are anxiety, depression, guilt and anger. Towards themselves their basic attitudes are self-disparagement, but at the same time pride, self-pity and self-doubt. Towards others they are likely to be hostile, mistrusting, blaming, or at best indifferent. At the same time they are dependent on others to an excessive degree. All seem to be bewildered by their present problems, indecisive, and most show tendencies to evade their problems, to escape into daydreams, and to wait passively for some one else to solve their problems for them. Towards the future they are relatively hopeless and towards the past regretful.

Besides what has been mentioned up to this point in the present summary the experimental group displayed a complicated pattern of other symptoms as can be seen from the table. It would require too much space to comment on all of these, but a few seem worthy of special stress. All expressed feelings of

loneliness. They felt despised and neglected by others and that they were victims of circumstances. Many tended to disregard social norms and customs. Most stressed their incapacitation which they usually attributed to organic causes and most worried unduly over their health. At the same time all felt inadequate or inferior, especially to cope with their present problems. Nearly all felt insecure concerning their present and their future and lacked self-confidence in their ability to deal with what life had to offer them.

The methods the present group have been using in attempting to adjust are likewise set forth in the table. Obviously these methods have proved ineffective otherwise the group wouldn't be neurotic and seeking help. It is probable that other tests or assessment techniques such as a directed interview would reveal greater incidence of some of these modes of attempting adjustment. Aggressive, resistive and oppositional modes of response do not seem to have been sufficiently uncovered by the tests used.

All subjects do, of course, somehow attain some satisfaction for their basic needs. They are therefore able to keep functioning, although with difficulty and at a lowered level of efficiency. Their systems of control of their behavior, while not optimum, do keep them from breaking down completely and becoming psychotics or suicides.

The self-concepts of the present group, and so presumably of all neurotics, are unrealistic and their self-ideals are more so. They seem unable to appreciate properly their real assets and liabilities and so seem to be trying to become what they cannot be. Very likely these self-concepts and ideals will have to change if therapy is to be effective.

Neurotics tend to have inadequate concepts of external reality. Their perception and conception seem distorted to fit their needs. Since they are largely unconscious of their real needs, their goals are apt to be unrealistic. Even where their goals seem reasonable they tend to choose means towards these goals that are inappropriate.

### C. General Conclusion.

As the present study exemplifies, neurotics are as complicated as other people if not more so and extremely difficult to assess or evaluate. There are no short-cut methods of coming to an adequate understanding of a personality, neurotic, normal, or otherwise. Tests are the best available means of securing relatively objective and quantifiable data about personality structure and functioning. The projective techniques especially yield much that the subject is consciously unwilling or, more likely, unable to reveal. But all test results must be interpreted in terms of the person yielding them, his present situation and his past life, in so far as that can be known. There is thus no substitute for the

properly trained human mind as the "device" for evaluating personality. The trained, and experienced, clinical psychologist is the best "measuring instrument" there is. His judgment is the final court of appeal.

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# APPENDIX I

## TABLE XXXIX

### GENERAL SUMMARY OF SIGNIFICANT TRAITS SHOWN ON ALL TESTS

Trait	Test on which shown	Shown by Per Cent of Group
<b>I Intellectual</b>		
<b>A <u>Intelligence</u></b>		
Very superior	Wechsler	16
Superior		28
Bright normal		36
Average		20
Very superior	Rorschach	8
Superior		8
High average		36
Low average		36
Dull normal		12
<b>B <u>"Kind of intelligence"</u> or manner or approach</b>		
"Concrete," practical	Rorschach	32
"Abstract," general		64
"Intellectualistic"		36
Over critical		28

Trait	Test on which shown	Shown by Per Cent of Group	
<b>C <u>Intellectual efficiency</u></b>	Wechsler	88	
E.Q. higher than I.Q.			
Loss of mental efficiency	Rorschach	60	
General impairment of intellectual functioning			
Level of intellectual functioning:	Rorschach	8	
Superior			
High average		12	
Low average			
Dull normal		60	
Borderline			
Lack of proper intellectual discrimination	Rorschach	48	
Neurotic limitations on intelligence			
Under-productivity		12	
Lack of originality			
Vagueness of concepts		72	
<b>D <u>Areas of mental impairment</u></b>			
1 "Common sense"	Wechsler	W <sup>1</sup>	
Understanding of reality		R <sup>2</sup>	
Judgment	Comprehension	12	
		28	

Trait	Test on which shown	Shown by Per Cent of Group	
		$W^1$	$R^2$
2 Concept formation	Similarities	16	28
Discrimination			
Logical thinking			
3 Range of knowledge	Information	12	36
Memory			
Interest in surroundings			
4 Learning ability	Vocabulary	8	-
Range of ideas			
5 Alertness	Arithmetic	32	56
Concentration			
6 Visual-motor coordination	Object Assembly	12	48
Part-whole relations			
7 Basic perceptual and conceptual abilities	Picture completion	16	52
Concentration			
Alertness			

1 W indicates that "impairment" was calculated from the mean of all verbal or performance test scores, as appropriate, according to the method recommended by Wechsler.

2 R indicates that "impairment" was calculated from the vocabulary test score as a base, according to the method advocated by Rapaport.

Trait	Test on which shown	Shown by Per Cent of Group	
		W	R
8 Analysis and synthesis "Abstract" approach Persistence	Block Design	20	52
9 Learning Ability Mental efficiency	Digit Symbol	28	56
10 Visual organization Anticipation Comprehension of social situations	Picture Arrangement	32	64
11 Retentiveness Attention Concentration	Digit Span	72	80
E Areas of Superior Mental Performance	Wechsler		
1 Commonsense	Comprehension	60	60
2 Concept formation	Similarities	32	52
3 Range of knowledge	Information	20	32
4 Learning ability	Vocabulary	16	-
5 Alertness	Arithmetic	28	36
6 Visual motor coordination	Object Assembly	36	32
7 Basic perceptual and conceptual abilities	Picture Completion	32	20



Trait	Test on which shown	Shown by Per Cent of Group	
		W	R
8 Analysis and synthesis	Block Design	28	40
9 Learning ability	Digit Symbol	28	36
10 Visual organization	Picture Arrangement	24	28
11 Retentiveness	Digit Span	8	16
F Range of Interests			
Narrowness	Rorschach (Munroe)	48	
Stereotypy	Rorschach (Klopfer)	16	
Diffuse		20	
Opposite sex interests	MMPI Mf scale	22	
G Lack of integration			
Gestalt-function	Bender-Gestalt	80	
Reality level	L of A R scores		
Overestimation		20	Ex- treme 19
Underestimation		71	14
H Lack of Creativity	Ror. M responses	68	
Lack of creativity	Rors. O responses	88	
I Inadequate inner control	Rorschach	72	
J Inadequate outer control		84	

Trait	Test on which shown	Shown by Per Cent of Group
<b>II Basic Personality Structure</b>		
Coarctated	Rorschach	32
Introversive		24
Ambiequal		20
Extraversive		24
<b>A Emotionality</b>		
Under responsive	P.G.R.	63
Apathetic		13
Overly responsive		37
Excessively responsive		26
<b>B Basic needs, drives</b>		
Succorance	TAT	100
Escape		92
Affiliation		88
Erotic love		52
Passivity		92
Autonomy		100
Dominance		48
Achievement		100
Aggression		32
Intellectualization		60

Trait	Test on which shown	Shown by Per Cent of Group
<b>C Basic Affects</b>	TAT	
Anxiety		100
Depression		80
Guilt		72
Anger, rage		56
Joy		40
<b>D Basic Attitudes</b>	TAT	
Self disparagement		72
Inferiority		40
Self-doubt		48
Self-pity		72
Repression		56
Self-aggrandizement		48
Hostility		92
Distrust		56
Blaming others		56
Punitiveness		32
Envy		44
Dependency		80
Ambivalence		48
Bewilderment		100
Indecision		100

Trait	Test on which shown	Shown by Per Cent of Group
Evasiveness		72
Helplessness		64
Passivity		76
Resistance		48
Hopelessness		76
Daydreaming		88
Regret		60
Remorse		60
E Rejection of impulsive life	Rorschach	68
F Lack of inner control		72
G Emotional ties with outer reality		
Uncontrolled responsiveness		48
Destructive responsiveness		24
Cautious, hesitant		32
H Adequate emotional adjustment	Rorschach	0
I Instability (slight)	Bender-Gestalt	60
III Outstanding Symptoms		
Depression	MMPI D scale	74
	Wechsler D. Sym.	56
	Ror. (Shading check)	40

Trait	Test on which shown	Shown by Per Cent of Group
Anxiety	TAT	100
	Wechsler D.Span	72
	MMPI Pt scale	56
	Rorschach (color shock)	44 68
Tenseness (slight)	Bender-Gestalt	100
Obsession, compulsions (slight)	MMPI Pt scale	56
	TAT	100
Guilt	TAT	72
	Rorschach	48
	MMPI D scale	74
	MMPI Pt scale	56
Hostility	TAT	92
Aggression	TAT	40
	Bender-Gestalt	32
Loneliness	TAT	100
Estrangement	Rorschach	36
"Victims of circumstances"	TAT	64
"Coerced" by society		60
Disregard for social norms and customs	MMPI Pd scale	61
	TAT	48

Trait	Test on which shown	Shown by Per Cent of Group
Incapacitation	TAT	88
Attributed to somatic causes		62
Organic complaints	MMPI Hy scale	48
Worry over health	Hs scale	43
Self-blame	TAT	40
Inadequacy (Inferiority)	TAT	100
	Ror. shading shock	40
Insecurity	Bender-Gestalt	92
Self-pity	TAT	72
Compulsivity	TAT	43
Impulsivity	Rorschach	44
Passivity	TAT	80
Lack of self-confidence	Bender-Gestalt	88
	Pursuit-Rotor	43
Overly stimulated	Rorschach	52
Too little stimulated		32
Inner conflicts		68
Dependency	TAT	
	MMPI Pa scale	22
Suspiciousness	Bender-Gestalt	44
Complicated symptom patterns	MMPI Sc Scale	43

Trait	Test on which shown	Shown by Per Cent of Group
<b>IV Extent of Maladjustment</b>  Lack of adjustment and maturity   Degree of maladjustment None Slight Moderate Severe	Rorschach  Munroe Index Bender-Gestalt MMPI	100  80 79  9 39 39 13
<b>V Methods of Attempting Adjustment</b>  Aggression  Resistance Opposition Impulsiveness  Withdrawal  Over-cautiousness	TAT Bender-Gestalt Rorschach  MMPI Pd scale TAT Rorschach MMPI Si scale Rorschach Bender-Gestalt	40 32 24 16 44 61 92 36 30 32 96

Trait	Test on which shown	Shown by Per Cent of Group
Evasiveness	Rorschach: Avoidance of color	52
	Ror. shading shock	40
	Rorschach: Too few responses	64
	MMPI Sc scale	43
	Pt scale	56
	TAT	72
Indecisiveness	TAT	100
Intellectualization	Rorschach	36
	TAT	72
Ambitiousness	Pursuit-rotor	
Too high goals		29
Over achievement		14
"Quality ambition"	Rorschach	68
Unrealistic self-ideals	TAT	100
Repression	TAT	56
	Bender-Gestalt	60
Inhibition	Rorschach	72
Constriction		44
Stereotypy		16
Rigidity	Pursuit-rotor	62
Passivity	TAT	100



Trait	Test on which Shown	Shown by Per Cent of Group
VI Positive Ways of Attaining Satisfaction	TAT	100
VII Systems of Control of Behavior		
Adequate outer control	Rorschach	20
Excessive outer control		32
Lack of sufficient outer control		48
Lack of sufficient inner control		72
Rigidity	Pursuit-rotor	62
	Rorschach	44
Lability (flexibility)	Pursuit-rotor	24
	Rorschach	24
VIII Self Concepts and Self-ideals		
Self concepts		
Physically ill	TAT	72
Inadequate (inferior)		80
Emotionally upset		76
Bewildered		100
Self Ideals		
Intellectual dominance		72
Higher so. & soc. status		60

Traits	Test on which shown	Shown by Per Cent of Group
More self confidence		60
To be loved		60
Autonomy		100
<b>IX Concepts of External Reality</b>		
Hostile environment	TAT	60
"Inadequate" mother		92
"Incompetent" father		40
Parents mode of life was "cause" of present troubles		80
"Inadequate" spouse		60
Lack of "enough" money		100
Others are rejecting		100
"Misperception" of reality	Bender-Gestalt	80
	Rorschach	100
<b>X Goals</b>		
Level of Aspiration	Pursuit-rotor	
Too high		57
Too cautious		43
Too flexible		38
Too rigid		62
Fail to attain goals		29

Trait	Test on which shown	Shown by Per Cent of Group
Over-achieve		14
Some realistic goals but inadequate means to them	TAT	100
Unrealistic goals	TAT	
Autonomy		100
Security		84
Love		100
Withdrawal		60
Compensation		40
Social acceptance		36
Peace of mind		92
Vague "success"		52
Self-perfection		40

SCORE SHEET -- Bender-Gestalt Test<sup>1</sup>

Name ..... Age ..... Sex .....

Education ..... I.Q. .... Diagnosis .....

## DESIGN 1

1. Wavy line (2) .....
2. Dot, dash, cir. (3) .....
3. Dashes (2) .....
4. Circles (8) .....
5. No. dots (8) each .....
6. Dbl. row (8) .....
7. Workover (2) .....
8. Sec. attempt (3 ea.) .....
9. Rotation (8) .....
10. Dec. miss. (8) .....
- Design Total .....

## DESIGN 2

1. Wavy line (2) .....
2. Dash or dots (3) .....
3. Shape cir. (3) .....
4. Cir. miss., ext. (3) .....
5. Cir. touch (5) .....
6. Dev. slant (3) .....
7. No. Col. (2 ea.) .....
8. Fig. on 2 lines (8) .....
9. Guide lines (2) .....
10. Workover (2) .....
11. Sec. attempt (2 ea.) .....
12. Rotation (8) .....
13. Dec. miss. (8) .....
- Design Total .....

## DESIGN 3

1. Asymmetry (3) .....
2. Dot, dash, cir. (3) .....
3. Dashes (2) .....
4. Circles (8) .....
5. No. dots (2) .....
6. Extra row (8) .....
7. Blunting (8) .....
8. Distortion (8) .....
9. Guide lines 920 .....
10. Workover (2) .....
11. Sec. attempt (3 ea.) .....
12. Rotation (8) .....
13. Dec. miss. (8) .....
- Design Total .....

## DESIGN 4

1. Asym. Grv. (3) .....
2. Break Grv. (4) .....
3. Grv. not center. (1) .....
4. Curls (4) .....
5. Not joined (8) .....
6. Grv. rotation (3) .....
7. Touch-up (8) .....
8. Tremor (4) .....
9. Distortion (8) .....
10. Guide lines (2) .....
11. Sec. attempt (3 ea.) .....
12. Rotation (8) .....
13. Dec. miss. (8) .....
- Design Total .....

<sup>1</sup> Modified after procedure devised by Pascoal & Suttell, Bender-Gestalt Test.

## SCORE SHEET -- Bender-Gestalt Test (Cont.)

## DESIGN 5

1. Asymmetry (3) .....
2. Dot, dash, cir. (3) .....
3. Dashes (2) .....
4. Circles (8) .....
5. Ext. join. dot (2) .....
6. Ext. rotation (3) .....
7. No. dots (2) .....
8. Distortion (8) .....
9. Guide lines (2) .....
10. Workover (2) .....
11. Sec. attempt (3 ea.) .....
12. Rotation (8) .....
13. Des. miss. (2) .....
- Design Total .....

## DESIGN 6

1. Asymmetry (3) .....
2. Angles (2) .....
3. Pt. crossing (2 ea.) .....
4. Crv. extra (8) .....
5. Dbl. line (1 ea.) .....
6. Touch-up (8) .....
7. Tremor (4) .....
8. Distortion (8) .....
9. Guide lines (2) .....
10. Workover (2) .....
11. Sec. attempt (3 ea.) .....
12. Rotation (8) .....
13. Des. miss. (8) .....
- Design Total .....

## DESIGN 7

1. Ends no. join (8) .....
2. Angles ext. (3) .....
3. Angles miss. (3) .....
4. Ext. soat. (3) .....
5. Dbl. line (1 ea.) .....
6. Tremor (4) .....
7. Distortion (8 ea.) .....
8. Guide lines (2) .....
9. Sec. attempt (3 ea.) .....
10. Rotation (8) .....
11. Des. miss. (8) .....
- Design Total .....

## DESIGN 8

1. Ends no. join. (8) .....
2. Angles ext. (3) .....
3. Angles miss. (3) .....
4. Ext. cont. (3) .....
5. Dbl. line (1 ea.) .....
6. Tremor (4) .....
7. Distortion (8 ea.) .....
8. Guide lines (2) .....
9. Workover (2) .....
10. Sec. attempt (3 ea.) .....
11. Rotation (8) .....
12. Des. miss. (8) .....
- Design Total .....

## CONFIG. DESIGN

1. Place Des. A. (2) .....
2. Overlap (2 ea.) .....
3. Compression (3) .....
4. Lines drawn (8) .....
5. Order (2) .....
6. No order (8) .....
7. Rel. size (8) .....
- Total .....

## DESIGN TOTALS

- |              |         |
|--------------|---------|
| 1. ....      | 5. .... |
| 2. ....      | 6. .... |
| 3. ....      | 7. .... |
| 4. ....      | 8. .... |
| Config. .... |         |

Total Raw Score

.....

Standard Score

.....

ANALYSIS SHEET PGR<sup>1</sup>

Name \_\_\_\_\_ Age \_\_\_\_\_ Sex \_\_\_\_\_ I.Q. \_\_\_\_\_

Religion \_\_\_\_\_ Education \_\_\_\_\_ Marital Status \_\_\_\_\_

Stimulus	Response	Basic Rs.	R. Time	P.G.R.	Introspections
0. table					
1a. tree					
1. sick					
2a. clock					
2. high					
3a. glass					
3. love					
4a. bell					
4. afraid					
5a. chair					
5. sin					
6a. flower					
6. closed					
7a. noise					
7. hospital					
8a. sand					
8. ashamed					
9a. subway					

<sup>1</sup> Devised by V. V. Herr, Department Psychology,  
Loyola University, Chicago.

Stimulus	Response	Basic Rs.	R. Time	P.G.R.	Introspections
11a.horse					
11. pain					
12a.country					
12.God					
13a.shoe					
13. sweetheart					
14a.window					
14. trouble					
15a.far					
15. church					
16a.cloud					
16. breast					
17a.bird					
17. medicine					
18a.green					
18. dark					
19a.train					
19. evil					
20a.floor					
20. worry					

INSPECTION RORSCHACH RECORD BLANK<sup>1</sup>

Name..... Date.....

Sex..... Age..... Occupation.....

.....

Tabulation and Checklist.....

Personality Description

Number of R	=	
T/R	=	
Refusal	=	
LOCATION	W	=
	Dd.d	=
	S	=
	Suc	=
CONTENT	P.Com	=
	O	=
	At. Sox	=
	Range	=
	H d A d	
FORM	FL	=
	F (V.B.E.)	=
	S. Shock	=
SHADING	FK.Fc	=
	g	=
	C'	=
	K.k	=
MOVE'T	M	=
	FM.M=FM	=
	H	=
	Total M't	=
COLOR	C. Shock	=
	FC	=
	CF.FC:CF	=
	C	=
	Total C'r	=
Color - Movement		=
Total Number of checks		=

1 Based on procedure devised by Ruth Munroe



## INSPECTION RORSCHACH RECORD BLANK (Cont.)

M:Sum C =

FM plus m =

Fc plus c plus C'

R%(8,9,10) =

W%	D%	d%	DdS%
----	----	----	------

W:M =

F% =

Ref. F% =

A% =

A plus H =

Ad plus Hd

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

Examiner: \_\_\_\_\_

Date: \_\_\_\_\_

Revised TAT Protocol<sup>1</sup>

Name \_\_\_\_\_ Age \_\_\_\_\_

Education \_\_\_\_\_ Occupation \_\_\_\_\_ Religion \_\_\_\_\_

Race: \_\_\_\_\_ Married: \_\_\_\_\_ Lives with whom? \_\_\_\_\_

Children: 1. \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

Parents: F. \_\_\_\_\_ M. \_\_\_\_\_ Religion: \_\_\_\_\_ Living together: \_\_\_\_\_

Occupation: F \_\_\_\_\_ M \_\_\_\_\_

Socio-economic status: \_\_\_\_\_ I.Q. \_\_\_\_\_

Siblings: 1. \_\_\_\_\_ Age \_\_\_\_\_ Married: \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

Other important persons: relatives and friends: Name

1. \_\_\_\_\_ 2. \_\_\_\_\_ 3. \_\_\_\_\_

Story summary or synopsis. Get the essence of the story or  
the plot. Leave out the details.

---

<sup>1</sup> Form based on collation of TAT procedures outlined  
in E. S. Schneidman, Thematic Test Analysis, Grune & Stratton,  
New York, 1951.

Card 1.

---

Card 2.

---

Card 3.

---

Card 4.

---

Card 5.

---

Card 6.

---

Card 7.

---

Card 8.

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Card 9.

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Card 10.

Card 11

414

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Card 12

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Card 13

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Card 14

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Card 15

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Card 16

---

Card 17

---

Card 18

---

Card 19

---

Card 20

Analysis of Relationships. Define the precise relationships to himself and to all the other individuals in the stories. Give the card numbers in parantheses and in numerical order behind each statement. Summarize it briefly and precisely.

1. To himself:

---

2. Mother-child:

---

3. Father-child:

---

4. Mother-father:

---

5. Parent substitutes:

---

6. Sibling-sibling.

---

7. Man-man.

---

8. Woman-woman

---

9. Man-woman. Single

10. Man-woman. Married

---

11. Child-child,

---

12. Other,

---

Analysis of attitudes. What does he say about people. How does he feel about them. What does he think about them. Give the card numbers as you go along with the attitude description.

1. Toward himself. What is he like. A running description of self-evaluation as a child, adolescent, adult, old person

---

Attitudes toward men generally. Toward boys; young men; older men; married men; workers; professional men; others. Specify type and indicate by story number in brackets.

Attitudes toward women. See above,

---

Attitudes toward authority. God; police; government; fate; etc. Follow procedure outlined above.





Conflicts: State briefly the type; the intensity and the frequency. Pinpoint each separate one by story number in brackets. Types of conflicts are: moral; parental; sexual; social; economic; marital; school. Number them.

Defenses: Used for the handling of self and other conflicts. Show in which stories they appear. Types of defenses are: fantasy; compensation; identification; projection; rationalization; withdrawal; selective forgetting; negativism; sublimation; reality evasion; displacement; reaction formation.

**Sequential analysis.** Treat the stories in the sequence in which they were told or some reasonable approach to this. Describe the subjects situation as a child (card 1), an adolescent (2,3), a man or woman(4), his relationships with his parents (5,6,7,8,), with men and women (9,10,12,13,17,18), his life situation (11,14,16,20) his attitude toward nature and death (19,15). Handle the concise developmental relationships with regard to the outcome of the stories. Put story number in brackets behind the relevant statements.

Integrated interpretation of salient features of the personality based on the previous analysis sheets. Pull together the essential factors regarding dynamics, the diagnostic clues, and the possibilities for therapy. Use commonsense, nontechnical expressions and avoid redundancy.

APPROVAL SHEET

The dissertation submitted by Francis J. Sweeney 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, 1953  
Date

Frank H. Hobler  
Signature of Adviser