

A CHECK ON THE VALIDITY OF SOME OF  
MACHOVER'S CLAIMS

by Augustus Lewis

Thesis presented to the Faculty of Arts  
of the University of Ottawa through the  
Institute of Psychology as partial ful-  
fillment of the requirements for the  
degree of Doctorate of Philosophy.

Ottawa, Canada, 1955



UMI Number: DC53383

### INFORMATION TO USERS

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleed-through, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

UMI<sup>®</sup>

---

UMI Microform DC53383  
Copyright 2011 by ProQuest LLC  
All rights reserved. This microform edition is protected against  
unauthorized copying under Title 17, United States Code.

---

ProQuest LLC  
789 East Eisenhower Parkway  
P.O. Box 1346  
Ann Arbor, MI 48106-1346

## ACKNOWLEDGEMENT

This thesis was prepared under the guidance of the Director of the Institute of Psychology, Reverend Father Raymond H. Shevenell, with assistance and encouragement from Mr. Gilles Chagnon.

Gratitude is expressed also to Dr. Maurice Chagnon and Dr. L. T. Dayhaw for special advice in preparing the experimental design.

## CURRICULUM STUDIORUM

The writer: Augustus Lewis.

Place of birth: Blaine, Kentucky, April 29, 1915.

Bachelor of Arts: University of Dayton, Dayton, Ohio, 1951.

Master of Arts: Kent State University, Kent, Ohio, 1953, Dissertation topic: "A Comparison of the Responses Between Paranoid Schizophrenics and Normal Individuals on the Rapaport Word Association Test".

## TABLE OF CONTENTS

Chapter	Page
INTRODUCTION . . . . .	vi
I.- SURVEY OF PREVIOUS LITERATURE . . . . .	1
1. Studies Before Machover	1
2. The Machover <u>Draw a Person Test</u>	8
3. Studies with <u>Adults Using the Machover Draw a Person Test</u>	13
II.- EXPERIMENTAL DESIGN. . . . .	19
1. The Tool	19
2. The Population	20
3. The Technique of Analysis	23
III.- PRESENTATION OF RESULTS . . . . .	27
1. The Significant Items	27
2. Elaboration of Patterns	31
IV.- INTERPRETATION OF RESULTS . . . . .	33
1. Interpretation of Significant Clues	33
2. Discussion of Pattern Elaborations	44
V.- RESUME OF PURPOSE AND PROBLEMS . . . . .	58
CONCLUSION . . . . .	63
BIBLIOGRAPHY . . . . .	66
Appendix	
1. SCORING ITEMS . . . . .	71
2. ABSTRACT OF <u>A Check on the Validity of Some of Machover's Claims</u>	77

LIST OF TABLES

Table	Page
I.- Age Distribution of the Ten Diagnostic Groups and of the Control Group of Normals . . . .	22
II.- Items Showing Significant Differences at .01 Level . . . . .	28
III.- Patterns of Items Which Machover Observed in Ten Diagnostic Categories . . . . .	45

## INTRODUCTION

Because of the interest in and demand for projective techniques during the last twenty years, many tests have been devised and put into use which have no well defined criteria as to their reliability or validity. Assumptions have been made regarding these tests with little or no scientific basis to support them. Unfortunately these mistakes have encouraged the inexperienced workers in the field of testing to make snap judgments without the benefit of experimental data.

Although the novice has been misled by these wild assumptions, some scientifically minded clinicians have been concerned and have put some of these statements to experimental testing with discouraging if not alarming results.

The above mentioned inaccuracies of other projective techniques have carried over to the Machover Draw a Person Test. Although some of Machover's assumptions seem logical and are based on clinical evidence, no experimental data is present to support them. As will be explained in Chapter I, Machover considers three sources in which certain organs come to have specific meanings which are noted in drawings of the human figure but does not give credit to any particular person for originating any of them.

At the time of this writing, the writer was informed of the book written in 1853 by Carus<sup>1</sup> and now out of print in which the author believed that perceptions we have of ourselves are symbolic of the structure of the psyche. This information was published almost a century before Schilder<sup>2</sup> said that we perceive the environment as we perceive ourselves. He felt that emotional influences, organic pathology, or physical deformities could cause the person to make distortions in his perception of the body image of others. This would mean that disturbances in perception of parts of the own body would cause disturbances in perception of identical parts of the bodies of others. If the person projects his inadequacies, anxieties, guilts, etc., onto the drawings, it seems safe to say that he perceives of the environment what he perceives of himself. This seems to be what Schilder said.

Using Machover's rationale which this writer believes was taken from Schilder's concept of the body image, we come to three conclusions: 1. The drawings represent personality structure, 2. Personality structure undergoes certain specific

---

1 Carl Gustav Carus, Symbolik der Menschlichen Gestalt, Einhandbuch der Menschenkenntnis, Leipzig, Brockhaus, 1853, p. 371. Cited by Rudolph J. Brandt, Historical Origins of Sigmund Freud, Unpublished Master's Thesis, University of Ottawa, 1955.

2 Paul Schilder, Image and Appearance of the Human Body, New York, International University Press, 1950, p. 44.

changes that are characteristic of disease which the individual suffers, 3. Drawings should reveal the specific structural changes corresponding to changes in personality according to the disease he has.

Using the above mentioned assumptions our hypothesis was formulated: Draw a person scoring signs as suggested by Machover differentiate among groups of patients diagnosed on the basis of psychological and psychiatric examinations. For practical reasons only the same sex drawings of male patients were used for this study. To reduce variables, this drawing used was drawn before the drawing of the opposite sex.

The aim of Chapter I is to give a brief review of the literature which shows the interest in drawings and the evolution of drawing tests which led to the present techniques.

Chapter II presents the Experimental Design in which a description of the tool, the population, and the technique of analysis is given.

The core of the study is given in Chapter III and Chapter IV. The former interprets the results of this study and the latter compares these results with the observations of Machover.

The last chapter gives a resume of the purpose of the study and the problems encountered. Also a discussion

of the significant findings is made. This is followed by a brief conclusion and suggestions for further research, the latter of which was revealed by this study.

## CHAPTER I

### SURVEY OF PREVIOUS LITERATURE

Since no study has meaning unless viewed within the frame of reference of previous studies, it was felt pertinent at this point to review existing related literature. Although many studies have been made other than those included in this review, some method of selection was necessary in order that the survey would have cohesiveness and organization. With this in mind it was decided that the literature be divided into three groups and that all existing outside material be debarred.

#### 1.- Studies Before Machover.

Although studies in drawings before 1926 were inadequate and too vague for generalizations, the writer felt that they were important in paving the way for later studies which are being used today.

At first the interest was centered around the similarity of the art of primitives, psychotics, and children. Also some concern was evidenced about the relationship of genius to insanity. Later, comparisons of children's drawings were made, using subnormal, normal, and especially gifted subjects. Only in extreme mental disorders or in productions

of a personalized or bizarre nature could any differences be noticed.

As early as 1806 Pinel<sup>1</sup> referred to art of the insane in his Treatise on Insanity. He showed much interest in the art of his patients and encouraged them to continue for therapeutic purposes. In 1864 Marce<sup>2</sup> considered drawings important to the psychiatrist in determining diagnosis and treatment of his patients. A few years later Max Simon<sup>3</sup> analyzed drawings by different patients. He emphasized the diagnostic value of drawings and made correlations between clinical syndromes and drawing attributes. In 1880 Lombroso<sup>4</sup> noted special characteristics of drawings and classified them according to originality, eccentricity, symbolism, obscenity, minuteness of detail, absurdity, atavism, arabesque, uselessness, uniformity, and imitation. Later, in 1887, Regnard<sup>5</sup> analyzed eight drawings by four paralytics.

---

1 A. Anastasi, and J. P. Foley, Jr., "A Survey of the Literature on Artistic Behavior in the Abnormal, I, Historical and Theoretical Background", Journal of General Psychology, Vol. 25, First half, July 1941, p. 114.

2 Idem, Ibid., p. 115.

3 Idem, Ibid., p. 115.

4 Idem, Ibid., p. 113.

5 Idem, Ibid., p. 115.

During the same year that Regnard was studying paralytics, Cook<sup>6</sup> published an article on the drawings of children. He compared drawings at different stages of development and suggested that art in schools be changed to agree more nearly with the interests and intellectual level of the children. A summer's vacation of observing children's drawings provided information for an article which Ricci<sup>7</sup> wrote in 1887.

In 1892 Seglas<sup>8</sup> divided drawings into those related to psychosis and those not. No experimental evidence was furnished to validate his decisions. Just after the turn of the century Rogues de Fursac<sup>9</sup> classified drawings dependent upon the patient's mental condition and those which were merely products of artistic talent.

Between 1900 and 1915 much scientific interest in children's drawings took place but unfortunately the investigators were unable to complete the experiments. During this period Lamprecht<sup>10</sup> began a study of racial similarities using drawings from children of many nations, including several

---

6 Florence L. Goodenough, Measurement of Intelligence by Drawings, Yonkers, World Book, 1926, p. 1.

7 Anastasi and Foley, Op. cit., p. 116.

8 Idem, Ibid., p. 116.

9 Idem, Ibid., p. 116.

10 Goodenough, Op. cit., p. 2.

primitive African tribes. Claparede<sup>11</sup> undertook to ascertain the relationship between aptitude in drawing and ability in school work. Using a six point scale for scoring, Ivanoff<sup>12</sup> compared obtained values with teacher's ratings, standings in each of the school subjects, and certain moral and social traits. Kerschensteiner<sup>13</sup> studied almost 100,000 drawings over a period of two years. He devoted some time to the study of the especially gifted, feeble minded, and normal children. He concluded that not only do feeble minded produce more primitive drawings than normals but also more incoherent ones. Rouma<sup>14</sup> conducted an extensive study of children's drawings and concluded that drawings of subnormal children are similar to those of younger normal children.

In 1906 Mohr<sup>15</sup> made a study of schematic drawings of a church-like building. This type of behavior was considered under the heading of expressive movement. He found that the

---

11 Idem, Ibid., p. 2.

12 Idem, Ibid., p. 3.

13 Idem, Ibid., p. 4.

14 Idem, Ibid., p. 5.

15 A. Anastasi, and J. P. Foley, Jr., "A Survey of the Literature on Artistic Behavior in the Abnormal, IV, Experimental Investigations", Journal of General Psychology, Vol. 25, First half, July 1941, p. 190.

worst cases of catatonia and dementia produced only a scribble. Repeating Mohr's study, Kurbitz<sup>16</sup> found that manic patients added decorations and letters to the drawings or made meaningless gesture like lines.

The first study using an experimental method was in 1926 when Goodenough<sup>17</sup> devised her method of determining intelligence of children between the mental ages of four and ten. She classified drawings into those which could be recognized as human figures and those that could not. The former was scored on a fifty one point scale, which included certain proportions as well as presence of specific body organs. Goodenough derived her method partially from ideas taken from Rouma's Evolution of the Representation of the Human Figure<sup>18</sup>. She found that there is a regular and rapid increase in the percentage succeeding with the point at successive ages and that children of the same ages but different grades show clear differentiation between their performances.

---

16 Idem, Ibid., p. 190.

17 Goodenough, Op. cit., p. 14-47.

18 Idem, Ibid., p. 6.

It was in 1938 that Bender<sup>19</sup> published her study of the operation of Gestalt principles in mental deficiency and various types of psychoses using eight geometrical figures.

In an experiment with children in 1940, Spoerl<sup>20</sup> used pencil or crayon drawings, partially or completely colored with crayons of various hues. Judges were able to sort the four drawings of each subject. She concluded that personality could be judged through the drawings of children and that the drawings of a single child is consistent and easily identified.

In his discussion of the House, Tree, Picture Test in 1948, Buck<sup>21</sup> said that the picture of a person drawn lends itself well as a self-portrait. He also explained that the picture drawn may represent how the person is now, how he feels, or how he would like to be.

---

19 Laretta Bender, A Visual Motor Gestalt Test and Its Clinical Use, New York, The American Orthopsychiatric Association, 1938, I-173 p.

20 Dorothy Tilden Spoerl, "Personality and Drawing in Retarded Children", Character and Personality, Vol. 8, No. 3, March 1940, p. 227-239.

21 J. N. Buck, "The H. T. P. Test", Journal of Clinical Psychology, Vol. 4, No. 2, April 1948, p. 151-159.

Using Goodenough's Scale for evaluation of human figures, Stonesifer<sup>22</sup> in 1949 made a comparison between the drawings produced by white male schizophrenics and non-psychotic veterans waiting dental treatment. No significant results were noted.

During the same year that Stonesifer made his study, Royal<sup>23</sup> used a man and woman technique on veterans diagnosed as anxiety neurotics and anxiety states. The drawings were compared by use of a check list of twenty-eight drawing characteristics derived from clinical hunches. Results showed no significant differences.

With only ten cases selected from a Veteran's Administration clinic files, Albee and Hamlin<sup>24</sup> in 1949 stated that experienced clinical psychologists were able to determine from drawings which subjects were the best adjusted individuals. This judgment was made without the aid of case histories or clinical material.

---

22 Fred A. Stonesifer, "A Goodenough Scale Evaluation of Human Figures Drawn by Schizophrenics and Non-Psychotic Adults", Journal of Clinical Psychology, Vol. 5, No. 4, October 1949, p. 396-398.

23 Robert E. Royal, "Drawing Characteristics of Neurotic Patients Using a Drawing of a Man and Woman Technique", Journal of Clinical Psychology, Vol. 5, No. 4, October 1949, p. 392-395.

24 G.W. Albee and R.M. Hamlin, "An Investigation of the Reliability and Validity of Judgments of Adjustment Inferred from Drawings", Journal of Clinical Psychology, Vol. 5, No. 4, October 1949, p. 389-392.

Up to the time of Buck's House, Tree, Person Test<sup>25</sup> in which he considered the picture drawn as being a self-portrait, drawings were somewhat of a groping in the dark because of no definite rationale being established. With the advent of Machover's self-concept in drawings the future of this projective test looks brighter. It seems wise to give Machover's ideas special consideration in order to evaluate their merit.

## 2.- The Machover Draw a Person Test.

While administering Goodenough's Drawing of a Man Test for usual I Q purposes, Machover<sup>26</sup> found that drawings by children of the same intellectual level were quite different in structure and content. Also sometimes children, who were quiet and withdrawn, expressed themselves freely on the drawings. They would project their anxieties, guilts, and fantasies onto the supposedly impersonal figure. This discovery proved to be of much clinical value so Machover incorporated it into the regular battery of tests and used it also for adults. This method grew over a period of more than fifteen years of investigation and gathering material from hospitals and clinics.

---

25 Buck, Op. cit., p. 151-159.

26 Karen Machover, Personality Projection in the Drawing of the Human Figure, Springfield, Ill., Thomas, 1949, p. 20.

Since various sensations, perceptions, and emotions have been associated with certain body organs, Machover<sup>27</sup> feels that distortions, omissions, and reinforcements are expressions of the individual's needs, anxieties, guilts, and desires. She states that personality develops through the activities, feelings and thinking of the individual. Machover further says that projective methods have uncovered deep and unconscious determinants of personality, not visible in direct communication. She believes that although his whole system of psychic values is tapped, a process of selection involving identification through projection and introjection is brought about by both conscious and unconscious forces. The assumption by Machover is that the unconscious is predominant. According to Machover, some subliminal and determining process cause the sensitive, weak, and debilitated subject to draw a strong, powerful person. Also, she says this is noted in the drawings of an obsessive compulsive individual who wants to revolt from the control of the intellect and escape to the realm of the impulses. In this situation she feels that he too may draw a powerful figure but ignore the part exercised by the brain, making the head tiny without the power which it actually has. Repressed aggression, guilt, and immaturity may be seen in the drawings

---

27 Ibid., p. 4-11.

of the husky alcoholic, she believes, who makes the person weak and lacking in intellectual control. Machover cites another example of the adolescent who drew pin points for feet because he felt insecure in the environment. Also another subject of hers omitted the arm from the mother image because he said his mother used to throw things. These are only a few of the instances Machover uses to demonstrate that each deviation in the drawing of the person has a significant meaning. She believes that drawings may contain elements of compensation for the individual's inferiorities and inadequacies, confessions of his weaknesses, guilts and defects, or fantasies of what he would like to be. On occasions the three factors may be seen in one drawing. It is believed by Machover that in drawing a person, the individual is compelled to draw his body image as it has developed from past, personal experiences. This is further substantiated, she believes, by the fact that drawing is a creative experience and all creative activity reveals conflicts, inadequacies, and fantasies of the creator. In addition to this Machover believes that drawings of people vary little over a period of years.

Machover<sup>28</sup> considers three sources in which certain organs come to have specific meanings which are noted in

---

28 Ibid., p. 7-9.

drawings of the human figure. This, she believes, occurs regardless of age, skill, or culture.

a) Physical attributes tend to acquire social meanings in the course of social participation and expression.- She believes this is noted in expressions of anger, love, joy, and strength as associated with images in terms of motor tensions and physical manifestations. Machover goes on to say that the asthenic type is thought of as being idealistic, physically weak, and refined, but the pyknic type is regarded as controlled by earthy, gregarious impulses. She believes that in order to obtain certain social treatment, the need may be present to develop specific physical qualities. This she thinks is quite obvious in the submission commanded by a powerful figure in contrast to the opposite which may be forced onto the physically weak, debilitated figure. Machover further reinforces this point by saying that the phenomenon of self projection through drawing of the human figure is greatly influenced by the somatic entrenchment of our conflicts, desires, needs, social attributes, and compensations.

b) Psychosomatic correlation of body expression may be revealed by the vulnerability acquired by special organs.- Machover says that in the event of traumatic emotional experiences, specific to the individual the organs may become the

axes of emotional life, as well as adjustment. The very dependent individual may draw an orally receptive, concave type mouth, she believes, while the individual concerned with integration of impulse with adjustive behavior may give special attention to the neck. Machover further insists that emphasis on the stomach or rectum may reveal a paranoid or homosexually conflicted person.

c) Psychic datum may be noticed in the symbol value projected in the drawings.- These interpretations agree with common psychoanalytic and folklore meanings, Machover believes. She thinks a pipe, cigarette, cane, button, nose, hair, gun, pocket, hat, and foot are most often treated with symbolic significance in drawings. Machover believes this phenomena is very important and should be given its due consideration when an analysis is being made.

It is felt that Machover set the pace for the future use of drawings in diagnosis. The important thing to consider now is what has been done to approve or disapprove her assumptions.

### 3.- Studies with Adults Using the Machover Draw a Person Test.

Studies have been done other than those which follow. The aim has been to include only studies with adults which are related closely to this study.

In his "Figure Drawing as a Projective Technique", Levey<sup>29</sup> says the drawing may be a projection of body image or self concept, but not always. His assumptions support those of Machover.

I have concluded that drawings may be a projection of self concept, a projection of attitudes toward someone else in the environment, a projection of ideal self image, a result of external circumstances, an expression of habit patterns, an expression of emotional tone, a projection of the subject's attitudes toward the examiner and the situation, or an expression of his attitudes toward life and society in general. (...) the drawing may be a conscious expression or it may indicate deeply disguised symbols expressive of unconscious phenomena.

Using the female figure drawn by student nurses and women diagnosed as schizophrenia, Holzberg and Wexler<sup>30</sup> found a significant difference on a check list of 174 items. Many

---

29 Sidney Levey, "Figure Drawing as a Projective Technique", Abt, L.E. and L. Bellak, Projective Psychology, New York, 1950, Knopf, p. 257-297.

30 Jules D. Holzberg and Murray Wexler, "The Validity of Human Form Drawings as a Measure of Personality Deviation", Journal of Projective Technique, Vol. 14, No. 4, December 1950, p. 343-361.

of the scoring elements were devised from clinical hunches and would not stand up under experimental testing.

With Machover's six separate paranoid signs, Fisher and Fisher<sup>31</sup> used the drawings of the same sex of patients diagnosed as schizophrenia by psychiatrists and psychologists. Psychologists agreed on drawings they diagnosed as paranoid only eighteen percent of the time. In judging facial expression and stance, psychologists showed no greater agreement among themselves than they did with psychiatrists and stenographers.

In order to test the agreement of judges of clinical evidence, Lehner and Gunderson<sup>32</sup> conducted an experiment in 1952. The ratings made by the authors were agreed upon by other raters, by consistency of authors on first and second administrations of the test, and by agreement of the authors' ratings with their reratings 64.1% of the time. Although agreement on some traits was relatively high, others were consistent only 44% of the time.

---

31 Seymour Fisher and Roda Fisher, "Test of Certain Assumptions Regarding Figure Drawing Analysis", Journal of Abnormal and Social Psychology, Vol. 45, No. 4, October 1950, p. 725-734.

32 George F. J. Lehner and Erick K. Gunderson, "Reliability of Graphic Indices in a Projective Test (The Draw a Person)", Journal of Clinical Psychology, Vol. 8, No. 2, April 1952, p. 125-128.

One year later Lehner and Gunderson<sup>33</sup> demonstrated that the height of the figure drawn by women at age forty is significantly higher than the figure drawn by men the same age. Also, they found no significant difference between the male and female figures drawn by men or the male and female figures drawn by women. Further investigation by the authors revealed that a significant difference exists between the height of figures drawn by women age forty and those drawn by women age twenty five, with the drawings of the former being higher. The height of figures drawn by women continue to increase until age forty.

Noted also in 1953 was the study done by Granick and Smith<sup>34</sup>. They found that both sexes tend to draw their own sex first, with the incidence of same sex drawings first greater among men. Also the M.M.P.I. F-M Scale significantly differentiated between the male and female subjects. No relationship was found between the sex sequence of human figures drawn and scores on the masculinity-femininity measure.

---

<sup>33</sup> -----, "Height Relationships on the Draw a Person Test", Journal of Personality, Vol. 21, No. 3, March 1953, p. 392-399.

<sup>34</sup> Samuel Granick and Leon J. Smith, "Sex Sequence in the Draw a Person Test and Its Relation to the M.M.P.I. Masculinity-Femininity Scale," Journal of Consulting Psychology, Vol. 17, No. 1, February 1953, p. 71-73.

In a study of male homosexuals, Barker, Mathis, and Powers<sup>35</sup> found that only two out of fifty drew the feminine characteristics, such as hip emphasis, large eyes and lashes, full lips and twisted perspective.

Also in 1953 Feather<sup>36</sup> discovered that college students rated poor by the combined criteria of low academic grades, subjective evaluation by the subject, and observations and judgments by the psychologist, produced drawings which were rated below average.

Maniford<sup>37</sup> found in 1953 that 94.7% normal males, 82.3% hospitalized males, 56.6% normal females, and 60.9% hospitalized females drew their same sex first.

Coming nearer the present time it was found that Blum<sup>38</sup> made a study using thirty one neuropsychiatric patients in an army neuropsychiatric center in Korea. Each male

---

35 Alman J. Barker, Jerry K. Mathis, et al., "Drawing Characteristics of Male Homosexuals", Journal of Clinical Psychology, Vol. 9, No. 2, April 1953, p. 185-188.

36 Don B. Feather, "An Exploratory Study in the Use of Figure Drawings in a Group Situation", Journal of Social Psychology, Vol. 37, Second half, May 1953, p. 163-170.

37 Florence B. Maniford, "A Note on the Use of Figure Drawings in the Diagnosis of Sexual Inversion", Journal of Clinical Psychology, Vol. 9, No. 2, April 1953, p. 188-189.

38 Richard H. Blum, "The Validity of the Machover Draw a Person Technique", Journal of Clinical Psychology, Vol. 10, No. 2, April 1954, p. 120-125.

subject was rated separately by psychiatrist and chief wardman using separate rating scales derived from the content analysis of Machover's Draw a Person Test. The Draw a Person Test was administered and interpreted using Machover's interpretative system. Also a battery of psychological tests was administered and interpreted. No significant agreement of the Machover Draw a Person Test with any of the clinical procedures.

During 1954 Hammer<sup>39</sup> conducted a study on eighty-four sex offenders from Sing Sing Prison. Of this group thirty one had been convicted of rape on an adult female; thirty three, on a female child under fifteen; and twenty homosexuals convicted of offenses on males under fifteen. The results showed that 87.1% of the rapists drew the male sex first, 87.9% of heterosexual pedophiles drew the same sex first, and 75% of the homosexuals drew the same sex first.

Up to this time it can be seen that, although many studies have been conducted using the Machover Draw a Person Test, the clinician has very little more than clinical hunches to aid him in analyzing drawings. It is self-evident that the need exists for a comprehensive study using an

---

<sup>39</sup> Emanuel Hammer, "Relationship Between Diagnosis of Psychosexual Pathology and the Sex of the First Drawn Person", Journal of Clinical Psychology, Vol. 10, No. 2, April 1954, p. 168-170.

adequate experimental design in which inferences can be made with some degree of reliability. With proper experimental control, a study might prove it to be a valuable adjunct to diagnostic testing.

## CHAPTER II

### EXPERIMENTAL DESIGN

In order to meet our objective as mentioned in the Survey of Literature, a design has been worked out to check the hypothesis described in the Introduction. To acquaint the reader with the existing conditions of this study so that he can understand it and judge it objectively, a description of the tool, the population, and the technique of analysis follow in logical order.

#### 1. The Tool.

The Machover Draw a Person Test<sup>1</sup> is inexpensive in both time and material. No standardized equipment is required and normally only a few minutes of time is used for the administration. Two sheets of paper 8 1/2" by 11", a pencil with medium soft lead, and an erasure is all that is necessary for the testing material. When rapport is established, the qualified psychologist uses Machover's short and simple instructions<sup>2</sup>: "Draw a Person". After the first drawing is

---

<sup>1</sup> Karen Machover, Personality Projection in the Drawing of the Human Figure, Springfield, Thomas, 1949, p. 28-29.

<sup>2</sup> Idem, Ibid., p. 28-30.

completed, he asks, "Draw a person of the opposite sex"<sup>3</sup>. These instructions can be applied for both normal and abnormal subjects and the records may be preserved for future studies.

## 2. The Population.

The Draw a Person test records of twenty, white, male subjects from the following ten diagnostic categories: paranoid schizophrenia, catatonic schizophrenia, chronic undifferentiated schizophrenia, involuntional melancholia, mental deficiency, character disorder, psychoneurosis, hysteria, arteriosclerosis, and alcoholism were selected from the files of the Dayton State Hospital, Dayton, Ohio.

Four requirements had to be met in the selection of these drawings:

a) Agreement of diagnosis.- The diagnosis of the combined staff of the hospital, that of the attending psychiatrist, and that of the psychologist were the same. The diagnosis of the staff and the attending psychiatrist was made on the basis of clinical evidence and case history; that of the psychologist, clinical evidence, case history, and psychological tests (The Rorschach Ink Blot Test and the Wechsler Bellevue Intelligence Test Form I).

---

3 Idem, Ibid., p. 28-30.

b) Same sex drawings.- Only the same sex drawings of the Machover Draw a Person Test were used.

c) Same sex drawings drawn first.- The drawing of the same sex was drawn before that of the opposite sex.

d) First admissions in 1953-1954 meeting requirements a, b, and c.- The records chosen were those of patients who were first of their diagnostic category admitted in 1953-1954 after requirements a, b, and c had been met.

A group of normal, white, male subjects were administered the Machover Draw a Person Test and the same sex drawings of the first twenty, who made this drawing before that of the opposite sex, were used for the control group. These normal subjects came from the same geographical section of the United States as the abnormal groups. They were employed gainfully and were assumed to be making an adequate adjustment in society.

The age range,  $Q_1$ , median, and  $Q_3$ , of the abnormal groups and of the normal group are presented in Table I. Since the ages of the different groups did not approximate a normal distribution, it was felt that a knowledge of the highest and lowest age of each group and a point above and below where 25%, 50%, and 75% of the ages were distributed would be helpful to the reader, especially when the ages are mentioned in a Discussion of the Results.

TABLE I.- Age Distribution of the Ten Diagnostic Groups and of the Control Group of Normals.

Diagnostic Categories	N	Range	Q <sub>1</sub>	Mdn.	Q <sub>3</sub>
Paranoid Schizophrenia	20	28-40	29.50	32.83	36.10
Catatonic Schizophrenia	20	24-35	26.50	29.50	33.83
Chronic Undif. Schiz.	20	27-40	28.83	34.50	38.83
Involuntional Melancholia	20	55-62	56.50	58.50	60.83
Mental Deficiency	20	23-35	25.50	30.16	32.83
Character Disorder	20	24-35	26.50	30.90	33.00
Psychoneurosis	20	21-33	25.50	29.90	31.50
Hysteria	20	22-34	24.00	28.16	32.00
Arteriosclerosis	20	58-67	59.16	62.00	65.83
Alcoholism	20	28-40	30.83	34.16	38.30
Normal	20	22-38	28.16	33.50	36.30

EXPERIMENTAL DESIGN



### 3. The Technique of Analysis.

Since this is a study of clues that can be based on experimental evidence, Machover's interpretations of such things as facial expression, stance, etc. were excluded from the list of scoring items. Fisher and Fisher<sup>4</sup> found that psychologists could not agree on their meanings.

Two hundred and fourteen scoring elements were used for each drawing. These scoring items were divided into three groups and appear in Appendix I.

A brief summary of the three groups and examples of each follows:

a) Group I. (Items #1-30, the "Measurables").- Those items which are expressed as proportions of larger segments of the body or in some cases as proportions of the entire figure, e.g. large head--if length is greater than 1/6 length of complete figure; large eyes--if length is greater than 1/6 length of head. Raymond's<sup>5</sup> proportions were used for some items. For others, in which Raymond's proportions did not apply, decisions as to what measurements should be used to

---

<sup>4</sup> Seymour Fisher and Roda Fisher, "Test of Certain Assumptions Regarding Figure Drawing Analysis", Journal of Abnormal and Social Psychology, Vol. 45, No. 4, October 1950, p. 725-734.

<sup>5</sup> George Lansing Raymond, The Essentials of Aesthetics, New York, Putnam, 1906, p. 328-350.

determine these proportions were made by two clinical psychologists, two experienced graduate students in clinical psychology, and by the writer.

b) Group II. (Items #31-106, the "Observables").- Those based on inspection and expressed as presence or absence of a certain detail, e.g. head omitted, bald head, adam's apple visible.

c) Group III. (Items #107-214, the "Qualifiabiles").- Qualitative descriptions not amenable to objective judgment, e.g. unkempt hair--uncombed or disarranged; ears in wrong place, etc. These judgments were made by the writer.

In order to test the reliability of the writer's judgments, preliminary comparisons were made with other raters. This was done by having the two graduate students in psychology and two psychologists employed in mental institutions score ten records individually for the 105 items which were based on subjective judgments. The writer's judgments were compared with that of the group of four on each of the 105 items for the ten records. Taking each item of each record separately, percentages of agreement of the writer with the group could be obtained. If he agreed with one scorer on one item his percentage of agreement for that item was 25%; if he agreed with two, his percentage of agreement was 50%;

with three, 75%; with four, 100%. Average agreement of the writer with the group on the 105 items of the ten records was 70%.

To avoid bias conscious or unconscious in the scoring, a procedure was developed for this study, whereby the diagnostic categories of the drawings were not known by the scorers. The drawings of each diagnostic category were clipped together, and the name of the diagnosis was written on a small segment of paper and clipped face down to the top drawing. Then this group was turned with the blank side of the paper visible and layed aside. This procedure was followed for the other groups. Sometime later the groups were shuffled and the drawings of the eleven groups were numbered from 1 to 220. Then the drawings were scored by the writer. After the scoring was completed, the names of the groups were made visible. The diagnostic categories could be determined from the numbers.

Since we want to know if each group has its own significant items, it was considered appropriate to compare each group of twenty subjects with the total of the other ten groups of twenty subjects. Because the N's were different, each group having 20 and the large group having 200, the frequencies were converted to proportions to enable comparisons to be made.

The statistic used for this study was the Critical Ratio of Proportions which was felt to be the most adequate because of the difference in the size of the N's.

The formula is as follows:

$$CR = \frac{P_1 - P_2}{\sqrt{\frac{P_1 \cdot q_1}{N_1} + \frac{P_2 \cdot q_2}{N_2}}}$$

With eleven comparisons being made on 214 scoring items, the statistical computations would have reached the modest number of 2354. In order to reduce the number of computations a table was arranged by Dr. L.T. Dayhaw and Dr. Maurice Chagnon to show at what point a difference was significant at the .01 level for every possible combination of frequencies expressed as proportions.

In order to reduce the complexities of obtaining this table, a special formula was devised by Dr. Dayhaw so that the computations could be machine calculated.

The formula is as follows:

$$(P_1 - P_2)^2 \geq (.0332)(10 P_1 q_1 + P_2 q_2)$$

If the reader feels that this description of our experimental procedure is a bit sketchy, he may find that the presentation of the results will make it more meaningful.

## CHAPTER III

### PRESENTATION OF RESULTS

The computations led to the identification of those items which showed significant differences at the .01 level of confidence. They are presented in Table II. The contents of this table can be viewed from two angles: either one studies the distribution of the thirty five significant items, in terms of their "significant" absence or presence, or one studies the pattern found in each of the eleven diagnostic categories.

#### 1. The Significant Items.

In Table II one reads that 70 significant differences occurred on 35 of the 214 scoring items; of these 35 items, 15 were from the series of "Measurables", 6 from the "Observables", and 14 from the "Qualifiabiles".

The Fifteen "Measurables".- Each item was compared proportionately either with the entire figure, or to a

15 - Measurables  
6 - Observables  
14 - Qualifiabiles

TABLE II.- Items Showing Significant Differences at .01 Level.

	Item No.	Par. Sch.	Cat. Sch.	Und. Sch.	Invol. Mel.	Men. Def.	Char. Dis.	Psy. Neu.	Hyst.	Arter. scler.	Alc.	Nor-mal
Measurables	1	-								+	+	
	2	-										
	5	-										
	6	-	-	-			+		+	+		+
	7											+
	8								+			
	10	-	-	-				+			+	
	16									+		
	17		+									+
	18							+		+		
	20										+	
	22							+			+	
	24	-										
	26	-		-							+	+
28	-		-	-					+	+		
Observ.	32						-					
	36											-
	38								+			
	41								+			
	59										+	
	99		-	-							+	
Qualifiabes	109	-						-	-			-
	110		-									
	112											+
	117				-							
	126						+					
	127							+				
	142		-	-			+			+		
	148	-										
	176										+	
	177	-										
	179									+	+	
202							+					
205	-								+	+		
210		-					+					

(-) means absent often enough to be significant at the .01 level.

(+) means present often enough to be significant at the .01 level.

segment of the figure of which it is a part.

- #1. Large Head: absent in paranoid schiz. group,  
present in arteriosclerotic and alcoholic.
- #2. Small Head: absent in paranoid schiz. group.
- #5. Large Eyes: absent in paranoid schiz. group.
- #6. Small Eyes: absent in paranoid schiz., catatonic schiz.,  
chronic undif. schiz. group,  
present in character disorder, hysteric,  
arteriosclerotic and normal.
- #7. Large Nose: present in normal group.
- #8. Small Nose: present in hysteric group.
- #10. Small Mouth: absent in three schiz. groups,  
present in psychoneurotic and alcoholic.
- #16. Small Shoulders: present in arteriosclerotic group.
- #17. Large Arms: present in catatonic schiz. and normal.
- #18. Small Arms: present in psychoneurotic and arterioscl.
- #20. Small Hands: present in alcoholic group.
- #22. Small Fingers: present in psychoneurotic and alcoholic.
- #24. Short Legs: absent in paranoid schizophrenic group.
- #26. Short Feet: absent in paranoid schiz. and chronic undiff.,  
present in alcoholic and normal groups.
- #28. Small Figure: absent in the paranoid schiz., chronic undif.,  
and the involuntional melancholic groups,  
present in arteriosclerotic and alcoholic.

The Six "Observables".- These items were determined  
by either presence or absence.

- #32. Hat on Head: absent in character disorder group.
- #36. Dot for an Eye: absent in the normal group.
- #38. Pupil Omitted: present in arteriosclerotic group.
- #41. Eyelashes Missing: present in arteriosclerotic group.
- #59. True Profile: present in the alcoholic group.
- #99. No Clothes: absent in catatonic schiz., chronic undiff.,  
present in alcoholic group.

The Fourteen "Qualifiables".- The presence or absence of these items was determined by judgments made by the writer.

- #109. Circle for a Head: absent in paranoid schizophrenic, psychoneurotic, hysteric, and normal groups.
- #110. Unkempt Hair: absent in the catatonic schiz. group.
- #112. Hair Shaded: present in the normal group.
- #117. Circle for an Eye: absent in invol. melancholic group.
- #126. Mouth Open Wide: present in character disorder group.
- #127. Mouth Closed Tight: present in psychoneurotic group.
- #142. Caved in Chest: absent in catatonic schiz., chronic undif., present in character disorder, and arteriosclerotic groups.
- #148. Arms Away from Side: absent in paranoid schiz. group.
- #176. Legs Bent at Knees: present in alcoholic group.
- #177. Legs Wide Apart: absent in paranoid schiz. group.
- #179. Thin, Shaky, Wasted Legs: present in arteriosclerotic and in alcoholic groups.
- #202. Disturbed Symmetry: present in psychoneurotic group.
- #205. Thin Line: absent in paranoid schiz., present in arteriosclerotic and alcoholic.
- #210. Sparse Hair: absent in catatonic schizophrenic group, present in psychoneurotic group.

From this section of the results the reader can determine what items show significant differences on one or more groups. Also he can note whether this significant difference is caused by presence or absence of the item.

Although a report of the significant items and the groups in which this significance occurred is important in comparing the different groups, patterns give the clinician a concise picture of the results and a means of prediction.

## 2. Elaboration of Patterns.

The patterns of the diagnostic groups and that of the control group can be read by inspection of the columns in Table II. They are:

Paranoid schizophrenic pattern.- Absence signs were noted on

#1. Large Head	#26. Short Feet
#2. Small Head	#28. Small Figure
#5. Large Eyes	#109. Circle for a Head
#6. Small Eyes	#148. Arms Away from Side
#10. Small Mouth	#177. Legs Wide Apart
#24. Short Legs	#205. Thin Line

Catatonic schizophrenic pattern.- Absence signs were noted on

#6. Small Eyes	#110. Unkempt Hair
#10. Small Mouth	#142. Caved in Chest
#99. No Clothes	#210. Sparse Hair

One presence sign on #17. Large Arms.

Chronic undifferentiated schizophrenic pattern.- Absence were noted on

#6. Small Eyes	#28. Small Figure
#10. Small Mouth	#99. No Clothes
#26. Short Feet	#142. Caved in Chest

Involitional melancholia pattern.- Absence signs were noted on #28. Small Figure #117. Circle for an Eye

Mental deficiency pattern.- No pattern could be formed using this diagnostic category. No items were present or absent at the .01 level of significance.

Character disorder pattern.- An absence sign was noted on #32. Hat on Head

Presence signs were noted on #6. Small Eyes #126. Mouth Open Wide #142. Caved in Chest

Psychoneurotic pattern.- An absence sign was noted  
 on #109. Circle for a Head      Presence signs were noted  
 on #10. Small Mouth      #127. Mouth Closed Tight  
 #18. Small Arms      #202. Disturbed Symmetry  
 #22. Small Fingers      #210. Sparse Hair

Hysterical pattern.- An absence sign was noted  
 on #109. Circle for a Head      Presence signs were noted  
 on #6. Small Eyes      #8. Small Nose

Arteriosclerotic pattern.- Presence signs were noted  
 on #1. Large Head      #38. Pupil Omitted  
 #6. Small Eyes      #41. Eyelashes Missing  
 #16. Small Shoulders      #142. Caved in Chest  
 #18. Small Arms      #179. Thin, Shaky, Wasted Legs  
 #28. Small Figure      #205. Thin Line

Alcoholic pattern.- Presence signs were noted  
 on #1. Large Head      #59. True Profile  
 #10. Small Mouth      #99. No Clothes  
 #20. Small Hands      #176. Legs Bent at Knees  
 #22. Small Fingers      #179. Thin, Shaky, Wasted Legs  
 #26. Short Feet      #205. Thin Line  
 #28. Small Figure

Normal pattern.- Absence signs were noted on  
 #36. Dot for an Eye      #109. Circle for a Head  
 Presence signs were noted on  
 #6. Small Eyes      #26. Short Feet  
 #7. Large Nose      #112. Hair Shaded  
 #17. Large Arms

The items found to be significant at the .01 level  
 have been presented and patterns for the diagnostic categories  
 and the control group have been formed. This is a presentation  
 of the results in a nutshell. However, a discussion of these  
 results is essential for a better understanding of the study.

## CHAPTER IV

### INTERPRETATION OF RESULTS

The significant clues which identify each group and the patterns of clues for each group need to be considered in the perspective of Machover's interpretations. The clues which were seen in only one group need to be segregated from those which appear in other groups as well. Both will be discussed in this chapter. It should be kept in mind by the reader that our clues were significant at the .01 level, while Machover's were just the result of personal observation, without the benefit of statistical evidence. It might also be appropriate to point out that Machover's statements were all positive; it never occurred to her that the absence of a clue could become significant.

#### 1. Interpretation of Significant Clues.

This interpretation will be done for each of the three groups, the "Measurables", the "Observables", the "Qualifiabiles".

a) The M e a s u r a b l e s.- There were fifteen of these found to be significant in this study. Each one in turn will be compared to Machover's own interpretation.

#1. Large Head.- Machover<sup>1</sup> considered this item to be the center for intellectual power, social dominance, and control of body impulses. She observed its presence in the paranoid and the organic groups, and sometimes in the mental defective group. In this study not only was this clue absent in the paranoid schizophrenic group, but its absence was so pronounced as to be significant. The presence of this clue in the arteriosclerotic group upheld her observation in the organic group; however it was not present in the mental defective group. The presence of this clue in the alcoholic group of this study was contrary to Machover's expectations. She observed the entire figure in the alcoholic to be small and evenly proportioned.

#2. Small Head.- Machover<sup>2</sup> observed this clue in her obsessive compulsive subjects who, she felt, were trying to ignore the control of the brain and to be controlled by the impulses of the body. Since no obsessive compulsive subjects were used for this study, her observation could be neither confirmed nor denied. In this study, however, this clue was absent in the paranoid schizophrenic group.

---

1 Karen Machover, Personality Projection in the Drawing of the Human Figure, Springfield, Ill., Thomas, 1949, p. 37, 38.

2 Idem Ibid., p. 10, 37.

#5. Large Eyes.- Machover<sup>3</sup> considered the eyes as the basic organ for contact with the world. The large eye, she felt, would better serve the purpose of warning the individual of threatening elements in the environment. This suspiciousness and overalertness she expected and observed in the paranoid individuals. In this study this clue was not present in the paranoid schizophrenic group. In fact it was absence enough to be significant.

#6. Small Eyes.- Machover<sup>4</sup> observed this clue in the self-absorbed individuals but did not mention any specific diagnostic group. In this study, the presence of this clue was noted in the character disorder, hysteric, arteriosclerotic, and normal groups; the absence was observed in three schizophrenic groups (paranoid, catatonic, and chronic undifferentiated).

#7. Large Nose.- Machover<sup>5</sup> considered this to express conflict over sexual inadequacy and observed its presence in the drawings of male subjects over thirty-five. It was found in this study that this clue was present in the normal group whose median age was 33.5 years.

---

3 Idem, Ibid., p. 47.

4 Idem, Ibid., p. 49.

5 Idem, Ibid., p. 67.

#8. Small Nose.- Machover<sup>6</sup> felt that this clue suggests castration fears for auto-erotic indulgence. This clue was present in the hysteric group of this study. It cannot be said whether her observation was upheld.

#10. Small Mouth.- Machover<sup>7</sup> considered the mouth to be featured conspicuously in the drawings of individuals with sexual difficulties. It might be interpreted that she considers guilt an important factor in this type of drawing. This, however, cannot be confirmed from the information she gives. In this study the presence of this clue was noted in the psychoneurotic and alcoholic groups. If Machover actually considered guilt connected with the drawing of the small mouth and if it can be proven that both the psychoneurotic and alcoholic groups have guilt, it can be said that Machover's observation was upheld. This clue was absent in the three schizophrenic groups (paranoid, catatonic, and chronic undifferentiated).

#16. Small Shoulders.- The best that could be obtained from Machover's interpretations<sup>8</sup> for this clue is a feeling of body inadequacy. This clue was found to be present in the arteriosclerotic group of this study. It is believed that her observation on this clue was upheld.

---

6 Idem Ibid., p. 55.

7 Idem, Ibid., p. 43-45.

8 Idem, Ibid., p. 71.

#17. Large Arms.- Machover<sup>9</sup> observed this to mean ambition for accomplishment or acquisition. Its presence was noted in the catatonic schizophrenic and normal groups of this study. It is felt that not enough information is available to uphold her observation.

#18. Small Arms.- This, according to Machover<sup>10</sup>, suggests lack of ambition and lack of achievement. In this study its presence was observed in the psychoneurotic and arteriosclerotic groups. It cannot be said that Machover's observation was upheld on this clue.

#20. Small Hands.- Machover<sup>11</sup> observed this to indicate weakness, either physically or psychically. Its presence was observed in the alcoholic group of this study. It is believed that Machover's observation was upheld on this clue.

#22. Small Fingers.- Machover<sup>12</sup> observed this to be an indication of repressed aggression. Its presence was observed in the psychoneurotic and alcoholic groups of this study. It is believed that Machover's observation was upheld on this clue.

---

9 Idem, Ibid., p. 60-63.

10 Idem, Ibid., p. 60-63.

11 Idem, Ibid., p. 62.

12 Idem, Ibid., p. 63-65.

#24. Short Legs.- Machover<sup>13</sup> observed this as a clue to insecurity and feelings of decline and deficit. In this study its absence was observed in the paranoid schizophrenic group.

#26. Short Feet.- Machover<sup>14</sup> observed this to be a clue to general insecurity in the environment. Its presence was noted in the alcoholic and normal groups of this study. The presence in the former group upholds Machover's observation; the latter is questionable. Also this clue was absent in the paranoid schizophrenic and chronic undifferentiated schizophrenic groups.

#28. Small Figure.- Machover<sup>15</sup> considered this to indicate an open confession of weakness and defect and observed its presence in the alcoholic, regressed schizophrenic, psychoneurotic, involutional. In this study its presence was observed in both groups just mentioned which seems to uphold her observation. It was absent, however, in the paranoid schizophrenic, chronic undifferentiated schizophrenic, and involutional melancholia groups.

b) The O b s e r v a b l e s.- Here again each one of the six clues found significantly to be present or absent will be studied in the perspective of Machover's claim.

---

13 Idem, Ibid., p. 65-67.

14 Idem, Ibid., p. 66.

15 Idem, Ibid., p. 91.

#32. Hat on Head.- Machover<sup>16</sup> observed the presence of this one in the person who was infantile sexually but who nurtured vivid fantasies of virility. In this study this clue was absent in the character disorder.

#36. Dot for an Eye.- Machover<sup>17</sup> observed this item as the unseeing eye and noted its occurrence in the narcissistic, infantile, subjects. In this study this clue was absent in the normal group.

#38. Pupil Omitted.- Machover<sup>18</sup> classed this as the eye deprived of its function and observed its presence in the self-absorbed individual. This clue was present in the arteriosclerotic group of this study which suggests that her observation was upheld on this clue.

#41. Eyelashes Missing.- Machover<sup>19</sup> observed this to indicate feelings of impotence. This clue was present in the arteriosclerotic group. It is believed that Machover's observation was upheld on this clue.

#59. True Profile.- Machover<sup>20</sup> observed this clue in the evasive type subjects. In this study it was present in the alcoholic group which might uphold Machover's observation.

---

16 Idem, Ibid., p. 53.

17 Idem, Ibid., p. 49.

18 Idem, Ibid., p. 97.

19 Idem, Ibid., p. 50-52.

20 Idem, Ibid., p. 156.

#99. No Clothes.- Machover<sup>21</sup> did not describe this item clearly but it can be assumed that the presence suggests body preoccupation but some guilt connected with this preoccupation. This clue was present in the alcoholic group of this study which does not give enough information to either confirm or deny Machover's observation in this study. Also in this study this clue was absent in the catatonic schizophrenic and chronic undifferentiated schizophrenic groups.

c) The Q u a l i f i a b l e s.- The same procedure followed in the two preceding classes will be followed for this third group of items.

#109. Circle for a Head.- The presence of this item has been considered by many as a sign of immaturity. The child will draw a round head. Goodenough<sup>22</sup> gives a better explanation of this clue. The clue was absent in the paranoid, schizophrenic, psychoneurotic, hysteric, and normal groups of this study.

#110. Unkempt Hair.- Machover<sup>23</sup> observed the presence of this clue to suggest sexual disorderliness. This clue was absent in the catatonic schizophrenic group.

---

21 Idem, Ibid., p. 75-77.

22 Florence L. Goodenough, Measurement of Intelligence by Drawings, Yonkers, World Book, 1926, p. 147.

23 Machover, Op. cit., p. 52.

#112. Hair Shaded.- Machover<sup>24</sup> observed the presence of this item to suggest virility conflict which was connected with some form of sexually deviant behavior. In this study this clue was present in the normal group which is believed does not uphold Machover's observation.

#117. Circle for an Eye.- Machover<sup>25</sup> classed this clue as the unseeing eye and observed its presence in the emotionally immature, egocentric, subjects, especially the mental defective and hysteric groups. It was absent in the involuntional melancholia group of this study.

#126. Mouth Open Wide.- Machover<sup>26</sup> observed its presence to suggest infantile, oral, aggression. In this study this clue was present in the character disorder which seems to uphold Machover's observation.

#127. Mouth Closed Tight.- Machover<sup>27</sup> observed the presence of this item to suggest tension as if shutting the mouth from something. In this study this clue was present in the psychoneurotic group which seems to support Machover's observation.

---

24 Idem, Ibid., p. 53.

25 Idem, Ibid., p. 47-49.

26 Idem, Ibid., p. 44.

27 Idem, Ibid., p. 45.

#142. Caved in Chest.- Machover<sup>28</sup> observed this in individuals who feel frail and weak. In this study its presence in the arteriosclerotic group supports her observation; the presence in the character disorder does not though. This clue was absent in the catatonic schizophrenic and chronic undifferentiated schizophrenic groups.

#148. Arms Away from Side.- Machover<sup>29</sup> observed the presence of this clue in the timid, socially blocked, individuals. This clue was absent in the paranoid schizophrenic group of this study.

#176. Legs Bent at Knees.- Machover<sup>30</sup> observed its presence in the psychically weak, discouraged, subjects as projecting a compensatory trend toward movement and activity. The presence of this clue in the alcoholic group of this study seems to uphold her observation.

#177. Legs Wide Apart.- Machover<sup>31</sup> observed its presence to suggest assertiveness which is a compensation for feelings of insecurity. She observed its presence in the character disorder, hysteric, and alcoholic groups. This clue was absent in the paranoid schizophrenic group of this study.

---

28 Idem, Ibid., p. 114.

29 Idem, Ibid., p. 125.

30 Idem, Ibid., p. 65.

31 Idem, Ibid., p. 92.

#179. Thin, Shaky, Wasted, Legs.- Machover<sup>32</sup> observed the presence of this clue to be an expression of decline or deficit and noted its occurrence in the senile and involuntional subjects. Its occurrence in the arteriosclerotic group may uphold her observation; its appearance in the alcoholic group probably does not.

#202. Disturbed Symmetry.- Machover<sup>33</sup> observed this clue in the psychoneurotic, mental deficiency, and organic subjects as an expression of physical inadequacy or a sense of body incoordination. The presence of this clue in the psychoneurotic group of this study upholds her observation to some extent.

#205. Thin Line.- Machover<sup>34</sup> observed its presence in the timid, insecure, individuals. She noted it occasionally in the withdrawn schizophrenic and alcoholic groups. The presence of this clue in the alcoholic group of this study seems to uphold her observation; the presence in the arteriosclerotic group does not. This clue was absent in the paranoid schizophrenic group of this study.

#210. Sparse Hair.- Machover<sup>35</sup> observed the presence of this clue to suggest feelings of impotence. The presence

---

32 Idem, Ibid., p. 66.

33 Idem, Ibid., p. 88.

34 Idem, Ibid., p. 96.

35 Idem, Ibid., p. 52.

of this clue in the psychoneurotic group of this study does not uphold this observation. This clue was basent in the catatonic schizophrenic group of this study.

The significant clues have been discussed and compared with Machover's observations. Further information can be obtained by a closer study of the patterns.

## 2. Discussion of Pattern Elaborations.

Since interpretations were eliminated from this study, it was felt that they should be excluded from Machover's patterns in order that comparisons could be made between her patterns and those obtained from this study. Patterns can be observed from the columns of Table III. The paranoid schizophrenic pattern includes clues from both the paranoid and schizophrenic patterns devised by Machover. Since she did not list any catatonic schizophrenic clues, those used for this pattern had to be taken from only her schizophrenic pattern. Because the chronic undifferentiated schizophrenic group has clinical signs from both the paranoid schizophrenic and catatonic schizophrenic groups, this pattern was composed of clues from both of the above mentioned groups. Since Machover did not list a character disorder pattern, this pattern was made up of clues from both her psychopath and aggression patterns. Machover's organic pattern was used for her arteriosclerotic pattern.

TABLE III.- Patterns of Items Which Machover Observed in Ten Diagnostic Categories.

	Item No.	Par. Sch.	Cat. Sch.	Und. Sch.	Invol Mel.	Men. Def.	Char. Dis.	Psy. Neu.	Hyst.	Arter. scler.	Alc.	Nor-mal
Measurables	1	+		+		+				+		
	3	+	+	+								
	5	+		+								
	13	+	+	+								
	19						+					
	21						+					
	25						+					
	27	+		+		+	+			+		
	28	+	+	+	+			+				+
	50						+					
Observables	52					+			+			+
	53											+
	58	+	+	+		+						+
	65					+						
	66								+			
	68						+					
	71						+					
	72						+					
	73						+					
	76					+						
	79	+	+	+								
	80					+						
	81	+	+	+								
	83						+					
	84						+					
	96								+			
100	+		+									
106								+				

TABLE III.- Patterns of Items Which Machover Observed in Ten Diagnostic Categories. (cont'd)

Item No.	Par. Sch.	Cat. Sch.	Und. Sch.	Invol. Mel.	Men. Def.	Char. Dis.	Psy. Neu.	Hyst.	Arter. scler.	Alc.	Nor-mal
117					+			+			
124							+				+
125											
126											+
128						+					
132											+
147							+				
152	+	+	+								
154							+				
155							+				
156	+	+	+				+				
157	+		+				+				
165					+						
174						+					
177						+		+			+
178							+				
179					+						
182							+				
193							+				
194						+					
196	+	+	+								
197	+	+	+								
201											
202					+		+		+		
204	+	+	+		+	+	+		+		+
205	+	+	+								+
207						+	+	+			+
208						+	+	+			

These eight items were found to be significantly absent or present in one or more patterns of this study.

Paranoid schizophrenic pattern.- Seventeen clues were present in Machover's paranoid schizophrenic pattern<sup>36</sup>.

They were:

- |   |                              |
|---|------------------------------|
| #1. Large Head                              | #81. Internal Organs Showing |
| #3. Large Ears                              | #100. Spontaneous Writing    |
| #5. Large Eyes                              | #152. Arms Omitted           |
| #13. Long Neck                              | #156. Joints Showing         |
| #27. Large Figure                           | #157. Rib Lines Visible      |
| #28. Small Figure                           | #196. Conspicuous Buttons    |
| #58. Confusion of Profile<br>and Front View | #197. Pockets Emphasized     |
| #79. Sexual Organs Visible                  | #204. Heavy Line             |
|   | #205. Thin Line              |

All of these clues were present in other Machover patterns, but none were present in the paranoid schizophrenic pattern obtained from this study. However

- |                |                   |
|----------------|-------------------|
| #1. Large Head | #28. Small Figure |
| #5. Large Eyes | #205. Thin Line   |

were significantly absent in this study. Also in this study seven significant absence clues occurred in this group only, not appearing in any other pattern. They were:

- |                 |                           |
|-----------------|---------------------------|
| #1. Large Head  | #148. Arms Away from Side |
| #2. Small Head  | #177. Legs Wide Apart     |
| #5. Large Eyes  | #205. Thin Line           |
| #24. Short Legs |                           |

---

<sup>36</sup> Idem, Ibid., p. 8, 15, 22, 38, 44, 47, 48, 51, 57, 64, 74, 75, 87, 89, 90, 93, 94, 97, 98, 118, 119, 121, 140, 141.

Catatonic schizophrenic pattern.- Twelve clues were present in Machover's catatonic schizophrenic pattern<sup>37</sup>.

They were:

- |   |                           |
|---|---------------------------|
| #3. Large Ears                              | #152. Arms Omitted        |
| #13. Long Neck                              | #156. Joints Showing      |
| #28. Small Figure                           | #196. Conspicuous Buttons |
| #58. Confusion of Profile<br>and Front View | #197. Pockets Emphasized  |
| #79. Sexual Organs Visible                  | #204. Heavy Line          |
| #81. Internal Organs Showing                | #205. Thin Line           |

All of these clues were present in other Machover patterns but none were present in the catatonic schizophrenic pattern obtained from this study. In the pattern from this study, however, two significant absence clues occurred only in this diagnostic category. They were

- |                    |                   |
|--------------------|-------------------|
| #110. Unkempt Hair | #210. Sparse Hair |
|--------------------|-------------------|

Chronic undifferentiated schizophrenic pattern.- Seventeen clues were present in Machover's chronic schizophrenic pattern<sup>38</sup>. They were:

- |   |                           |
|---|---------------------------|
| #1. Large Head                              | #100. Spontaneous Writing |
| #3. Large Ears                              | #152. Arms Omitted        |
| #5. Large Eyes                              | #156. Joints Showing      |
| #13. Long Neck                              | #157. Rib Lines Visible   |
| #27. Large Figure                           | #196. Conspicuous Buttons |
| #28. Small Figure                           | #197. Pockets Emphasized  |
| #58. Confusion of Profile<br>and Front View | #204. Heavy Line          |
| #79. Sexual Organs Visible                  | #205. Thin Line           |
| #81. Internal Organs Showing                |                           |

---

<sup>37</sup> *Idem*, *Ibid.*, p. 22, 44, 51, 63, 74, 75, 86, 89, 91, 94, 97, 98, 118, 119, 121.

<sup>38</sup> *Idem*, *Ibid.*, p. 8, 15, 22, 38, 44, 47, 48, 51, 57, 64, 74, 75, 87, 90, 93, 94, 97, 98, 118, 119, 121, 140, 141.

All of these clues were present in other Machover patterns but none were present in the chronic undifferentiated schizophrenic pattern obtained from this study. However #28. Small Figure was significantly absent in this study. Like Machover's pattern, none of the clues were noted in our pattern only, and all were noted in one or both of the other two schizophrenic patterns. Those in this study, however, were significantly absent, while Machover's were present.

Involitional melancholia pattern.- Five clues were present in Machover's involitional melancholia pattern<sup>39</sup>.

They were:

- |  |                                |
|--|--------------------------------|
| #28. Small Figure                          | #165. Omission of Trunk        |
| #76. Midline Emphasis                      | #179. Thin, Shaky, Wasted Legs |
| #80. Sexual Organs Seen<br>Through Clothes |                                |

The last four clues were present in this pattern only and not observed in other of Machover's patterns. #28. Small Figure was significantly absent in the pattern obtained from this study. #117. Circle for an Eye was significantly absent in the pattern from this study only, not being absent or present in patterns from this study or present in the involitional melancholia pattern from Machover's study.

---

39 Idem, Ibid., p. 66, 68, 74, 89, 90.

Mental deficiency pattern.- Eight clues were present in Machover's mental deficiency pattern<sup>40</sup>. They were:

- |   |                          |
|---|--------------------------|
| #1. Large Head                              | #65. Neck Omitted        |
| #27. Large Figure                           | #117. Circle for an Eye  |
| #52. Teeth Showing                          | #202. Disturbed Symmetry |
| #58. Confusion of Profile<br>and Front View | #204. Heavy Line         |

Machover observed #65. Neck Omitted to be present in this pattern only. In this study no pattern was obtained for this group.

Character disorder pattern.- Twenty-two clues were present in Machover's character disorder pattern<sup>41</sup>. They were:

- |                             |  |
|-----------------------------|--|
| #19. Large Hands            | #128. Heavy Line for Mouth             |
| #21. Large Fingers          | #155. Hands Shaded                     |
| #25. Long Feet              | #156. Tightened Waistline              |
| #27. Large Figure           | #157. Rib Lines Visible                |
| #50. Nostrils Indicated     | #174. Shading of Genital Area          |
| #68. Hands in Pockets       | #175. Lines Closing Place at<br>Crotch |
| #71. Fist Clenched          | #193. Tie Flying Away from Body        |
| #72. Mitten Type Hand       | #194. Inadequate Tie                   |
| #73. More than Five Fingers | #204. Heavy Line                       |
| #83. Feet Without Shoes     | #207. Heavy Erasures                   |
| #84. Figure at Left         | #208. Heavy Shadings                   |

Fourteen of these clues were present in no other group except this one. They were:

- |                         |                                 |
|-------------------------|---------------------------------|
| #19. Large Hands        | #73. More than Five Fingers     |
| #21. Large Fingers      | #83. Feet Without Shoes         |
| #25. Long Feet          | #84. Figure at Left             |
| #50. Nostrils Indicated | #128. Heavy Line for Mouth      |
| #68. Hands in Pockets   | #174. Shading of Genital Area   |
| #71. Fist Clenched      | #193. Tie Flying Away from Body |
| #72. Mitten Type Hand   | #194. Inadequate Tie            |

<sup>40</sup> Idem, Ibid., p. 22, 38, 44, 49, 57, 91, 94, 98, 103.

<sup>41</sup> Idem, Ibid., p. 15, 16, 44, 61, 64, 67, 81, 91, 92, 97-100, 113, 115, 119, 127, 139, 140, 145, 146, 154.

None of these clues were either present or absent in this pattern of this study. However, in this study #32. Hat on Head was absent, and #126. Mouth Open Wide was present in this pattern, not appearing in other patterns.

Psychoneurotic pattern.- Eleven clues were present in Machover's psychoneurotic pattern<sup>42</sup>. They were:

- |                           |                          |
|---------------------------|--------------------------|
| #28. Small Figure         | #182. Feet Shaded        |
| #124. Concave Mouth       | #202. Disturbed Symmetry |
| #147. Arms Held at Side   | #204. Heavy Line         |
| #154. Hands Dimmed Out    | #207. Heavy Erasures     |
| #155. Hands Shaded        | #208. Heavy Shadings     |
| #178. Legs Close Together |                          |

Five of these clues were noted by Machover in no other group except the psychoneurotic. They were:

- |                         |                           |
|-------------------------|---------------------------|
| #124. Concave Mouth     | #178. Legs Close Together |
| #147. Arms Held at Side | #182. Feet Shaded         |
| #154. Hands Dimmed Out  |                           |

In this study

- |                          |                   |
|--------------------------|-------------------|
| #127. Mouth Closed Tight | #210. Sparse Hair |
| #202. Disturbed Symmetry |                   |

were present in this pattern only with #202. Disturbed Symmetry, seen in the psychoneurotic pattern of both this study and that of Machover.

---

<sup>42</sup> Idem, Ibid., p. 22, 36, 60, 88, 91, 95, 96, 98, 103.

Hysterical pattern.- Eight clues were present in Machover's hysterical pattern<sup>43</sup>. They were:

- |                           |                         |
|---------------------------|-------------------------|
| #52. Teeth Showing        | #117. Circle for an Eye |
| #66. Line Across the Neck | #177. Legs Wide Apart   |
| #96. Hands Omitted        | #207. Heavy Erasures    |
| #106. Feet Omitted        | #208. Heavy Shadings    |

Three of these clues were present in this pattern only.

They were:

- |                       |                    |
|-----------------------|--------------------|
| #66. Line Across Neck | #106. Feet Omitted |
| #96. Hands Omitted    |                    |

None of these clues were either present or absent in the hysterical pattern obtained from this study. However, #8. Small Nose was present only in this pattern of this study.

Arteriosclerotic pattern.- Four clues were present in Machover's arteriosclerotic pattern<sup>44</sup>. They were:

- |                   |                          |
|-------------------|--------------------------|
| #1. Large Head    | #202. Disturbed Symmetry |
| #27. Large Figure | #204. Heavy Line         |

All clues were present in other Machover's patterns and #1. Large Head was present in the arteriosclerotic pattern obtained from this study.

- |                      |                        |
|----------------------|------------------------|
| #16. Small Shoulders | #41. Eyelashes Missing |
| #38. Pupil Omitted   |                        |

present in the arteriosclerotic pattern of this study, were not present in any other pattern of this study.

---

<sup>43</sup> Idem, Ibid., p. 44, 49, 57, 88, 92, 97.

<sup>44</sup> Idem, Ibid., p. 37, 91, 95.

Alcoholic pattern.- Ten clues were present in Machover's alcoholic pattern<sup>45</sup>. They were:

#28. Small Figure	#132. Thick Lips
#52. Teeth Showing	#177. Legs Wide Apart
#53. Tongue Showing	#204. Heavy Line
#124. Concave Mouth	#205. Thin Line
#126. Mouth Open	#207. Heavy Erasures

Three of these clues were present only in this pattern.

They were:

#53. Tongue Showing	#132. Thick Lips
#126. Mouth Open	

Two of these clues were present in the alcoholic pattern obtained from this study. They were:

#28. Small Figure	#205. Thin Line
-------------------	-----------------

Also

#20. Small Hands	#99. No Clothes
#26. Short Feet	#176. Legs Bent at Knees
#59. True Profile	

were present in this pattern of this study and not present in any other pattern of this study.

Normal pattern.- Although Machover<sup>46</sup> believes that drawings may reveal anxiety, guilt, aggression, psychosexual immaturity, and many other personality traits which are sometimes seen in the normal individual, a person cannot be classed in any abnormal group on these signs alone. She does not suggest a normal pattern and believes normal adjustment

---

<sup>45</sup> Idem Ibid., p. 10, 43-46, 92-98.

<sup>46</sup> Idem, Ibid., p. 23-24.

depends on the readiness to face problems and defects, level of energy, capacity to integrate experiences, and the degree of control. Drawings, she believes, just shows the presence of the trait; not whether it has or will lead to adjustment difficulties. In this study it was found that #36. Dot for an Eye was significantly absent in this pattern only, while #7. Large Nose and #112. Hair Shaded were significantly present in this pattern only.

As can be observed from this study, a predominance of significant absence signs occurred in the schizophrenic groups and the involuntional melancholia group; a predominance of significance present signs occurred in the arteriosclerotic, character disorder, psychoneurotic, hysteric, alcoholic, and normal groups; while neither appeared significantly in the mental defective group. In the catatonic schizophrenic group #17. Large Arms was significantly present. It was the only presence sign occurring in the three schizophrenic groups or the involuntional melancholia group. In the character disorder group #32. Hat on Head was significantly absent. In the normal group #36. Dot for and Eye, and #109. Circle for a Head, were significantly absent with the latter being absent significantly also in both the psychoneurotic and hysteric groups. It cannot be said accurately why there were no significant absence or present signs in the mental

deficiency group of subjects. It may be that the immature clues expected of mental defectives occur only in subjects of extremely low I.Q.'s. It could be that they have some of the characteristics of the psychotic and the non-psychotic subjects with neither being dominant enough to be significant at the .01 level.

From the results of this study, assumptions can be made with some degree of reliability. At this point it can be said safely that clinicians agree that the psychotic patients (schizophrenic and involuntional melancholia) are unable to perceive their own conflicts because their defenses have broken down and been replaced by delusional systems. According to Schilder<sup>47</sup> people perceive themselves as they perceive the environment. Then the psychotic patients (schizophrenic and involuntional melancholia) are unable to perceive the environment adequately because they cannot perceive themselves adequately. This means that they are unable to project their own conflicts onto the environment and consequently their drawings do not show these areas of stress. Since their delusions cause them to feel superior in these areas of stress, their drawings reveal these delusions not

---

<sup>47</sup> Paul Schilder, Image and Appearance of the Human Body, New York, International University Press, 1950, p. 44.

the conflicts of the patients drawing. Instead of revealing their conflicts in the drawings, their delusional systems permit them to go to the other extreme of denying their existence.

The non-psychotic patients (character disorder, psychoneurotic, hysteric, and alcoholic groups) definitely have conflicts and their drawings reveal these areas of conflict. It could be assumed that they perceive the environment as they perceive themselves and project their conflicts onto the environment. Since the arteriosclerotic patients are in better contact than the schizophrenic and involuntional melancholia patients and since they are somewhat aware of their deficiencies, they may project their conflicts onto the environment and show them in their drawings. It has long been recognized that normal subjects can have conflicts and still adjust in society. This could account for their drawings revealing areas of conflict.

The significant items obtained from this study and the patterns of items for each group of subjects used in this study have been compared with Machover's observations. Although attempts have been made to explain the occurrence of certain phenomenon, it should be understood that this is the first statistical study of its kind, and that only a few

assumptions can be made at this time. Further explanations of this study, its usefulness and its inadequacies, as well as suggestions for improvement of future studies will be discussed in the conclusion.

## CHAPTER V

### RESUME OF PURPOSE AND PROBLEMS

Since Machover's rationale for the Draw a Person Test had never been put to experimental testing, its value as a diagnostic instrument was highly questionable. It was felt that a rationale based on Schilder's concept of the body image offered possibilities for that purpose. Before clinicians could be assured of the projective value of the Draw a Person Test, experimental evidence had to be established to support Machover's assumptions. The purpose of this study was to determine whether the scoring items suggested by Machover differentiate subjects with various personality disorders.

In order to establish scoring criteria for this study, 214 items were selected from those presented by Machover. These items were classified and placed into three groups: thirty in the measurable group, seventy-six in the observable, and one hundred and eight in the qualifiable group. Because Fisher and Fisher<sup>48</sup> had determined in an earlier experiment that stance, look, and facial expression could not be judged adequately by psychologists, such interpretations were eliminated from this study.

---

<sup>48</sup> Seymour Fisher and Roda Fisher, "Test of Certain Assumptions Regarding Figure Drawing Analysis", Journal of Abnormal and Social Psychology, Vol. 45, No. 4, October 1950, p. 725-734.

To make this study more nearly complete, the population was composed of twenty male subjects from ten diagnostic categories and a group of twenty normal male subjects. For practical reasons only the male sex drawings were used. To reduce variables these male sex drawings were drawn before the drawings of the opposite sex.

Because it was desired to find significant distinguishing items, each group was compared with the total of the other ten groups. The .01 level was considered adequate for the basis of significance. Since the frequencies were converted to proportions, a table was arranged to determine where any possible combination of proportions was significantly different at the .01 level.

Although Machover observed only presence clues and never realized that the absence of a clue could become significant, it was found in this study that absence clues occurred quite frequently, especially in the schizophrenic and involitional melancholia groups. It can be noted that of thirty one significantly absence clues, twenty four were in the three schizophrenic groups and two were in the involitional melancholia group. This seems to have more meaning when it is compared with the lack of presence clues. Of thirty eight presence clues from this study, only one occurred in the above mentioned groups, it being in the catatonic schizophrenic group.

Interesting also from this study, is the presence signs in the non psychotic groups (character disorder, psychoneurotic, hysteric, and alcoholic), arteriosclerotic, and normal groups and the lack of significantly absence signs. Of thirty eight presence clues, thirty seven were in these groups. Two absence signs were in the normal group and one each in the character disorder, psychoneurotic, and hysteric groups, with none occurring in the alcoholic or arteriosclerotic groups.

In addition to the above mentioned results, it was found that neither absence nor presence signs were noted in the mental deficiency group. This is especially interesting in view of the fact that Machover and other workers expect certain signs to be present.

Although the hypothesis stated in the introduction was not totally accepted, it was found that some signs were significant in only one diagnostic category with

#1. Large Head	#148. Arms Away from Side
#2. Small Head	#177. Legs Wide Apart
#5. Large Eyes	#205. Thin Line
#24. Short Legs	

absent only in the paranoid schizophrenic group;

#110. Unkempt Hair	#210. Sparse Hair
--------------------	-------------------

absent only in the catatonic schizophrenic group;

#117. Circle for an Eye  
absent only in the involuntional melancholia group;

#126. Mouth Open Wide, present  
#32. Hat on Head,  
absent only in the character disorder group;

#127. Mouth Closed Tight           #210. Sparse Hair  
#202. Disturbed Symmetry  
present only in the psychoneurotic group;

#8. Small Nose  
present only in the hysteric group;

#16. Small Shoulders               #41. Eyelashes Missing  
#38. Pupil Omitted  
present only in the arteriosclerotic group;

#20. Small Hands                    #99. No Clothes  
#59. True Profile                   #176. Legs Bent at Knees  
present only in the alcoholic group;

#7. Large Nose                      #112. Hair Shaded  
present

#36. Dot for an Eye  
absent only in the normal group.

It seems appropriate at this time to compare briefly the results of this study with the observations of Machover. In this study, sixty nine significant signs (thirty eight presence and thirty one absence) occurred on thirty five items as compared to 114 presence signs on fifty six items observed by Machover. Of the sixty nine significant signs in this study, twenty two presence and fifteen absence signs occurred on fifteen measurable items, four presence and four absence from the six observables, and twelve presence and twelve absence from fourteen qualifiabiles.

Of the 114 significant signs observed by Machover, twenty six presence signs occurred on nine measurable items, twenty nine presence signs on nineteen observables, and fifty nine presence signs on twenty eight qualifiabes. It seems worthwhile to note that more of the signs from this study occurred on the measurable items while more of Machover's observations occurred on the qualifiable items. Since the measurables were measured and the qualifiabes were judged it would seem that the results of this study were less subject to bias. It is interesting also that of the 114 items observed by Machover only eight were significantly absent or present in this study with partial agreement on five items, and disagreement on three items.

Since the results of this study show very little agreement with Machover, some doubt must be cast on her assumptions. It should be kept in mind, however, that this is only one study. Further studies are needed before the results of her many years of clinical observations can be discounted.

## CONCLUSION

This study was initiated because the Survey of Literature showed that no studies had proved that the scoring items on the Machover Draw a Person Test differentiated diagnostic categories. By comparing one group with the total other ten groups from a population of twenty male subjects from each of ten diagnostic categories and from a control group of twenty normal subjects, it was felt that differences might be shown on some scoring items.

Although Machover noted only presence signs in her observations of drawings from different diagnostic categories, it was found in this study that some signs were absent sufficiently enough to be significant.

It was shown also in this study that patterns could be arranged for each group except for the mental defective category and that some items were significantly absent or present in one group only.

Because Machover's interpretations on some items were vague and ill defined, it was not possible to note complete agreement. However, partial agreement was noted on a limited number of items.

It can be said that the results of this study cause concern over Machover's assumptions and provide invaluable material for further research.

## Suggestions for Further Research.

As is expected from all research, new material was found in this study which needs to be investigated before the merit of the Draw a Person Test can be determined.

Since so much disagreement with Machover's observations was noted and since significantly absence signs were found which Machover did not observe, the most striking need is for a cross validation of this study. Other studies could be made using the female drawings by male subjects or either the male or female drawings by female subjects. The order of the drawing of each figure is an interesting topic which could be studied further in which either the male or female subjects could be used. Other diagnostic categories than the ones used for this study might be used.

Although items derived from interpretations were excluded from this study, too many items still exist, rendering a tedious, complicated, scoring system. Attempts should be made to combine some of these items into a more compact scoring system and then studies could be made to determine whether the new items differentiate diagnostic groups. Since we classified the scoring items into categories (Measurables, Observables, and Qualifiables), studies could be made comparing these categories with a known criteria.

Some knowledge of what each category measures might be obtained. Also we might learn more of how the categories compare with one another. In order to further reduce the number of scoring items, studies could be made with only one group of scoring items, either one of the three (Measurables, Observables, or Qualifiables). This would make scoring faster and less complicated and provide a more streamlined test which might be an adjunct to diagnostic testing.

## BIBLIOGRAPHY

Albee, G.W. and R.M. Hamlin, "An Investigation of the Reliability and Validity of Judgments of Adjustment Inferred from Drawings", Journal of Clinical Psychology, Vol. 5, No. 4, October 1949, p. 389-392.

A study in which it was found that experienced clinical psychologists were able to determine which of ten drawings suggested better adjusted persons.

Anastasi, A. and J.P. Foley, Jr., "A Survey of Literature on Artistic Behavior in the Abnormal, I, Historical and Theoretical Background", Journal of General Psychology, Vol. 25, First Half, July 1941, p. 111-142.

A comprehensive review of the literature concerned with the art of the abnormal and children covering the period of the 19th century and the early 20th century. It shows the interest in drawings and the evolution of drawings which led up to the present day drawing techniques.

-----, "A Survey of the Literature on Artistic Behavior in the Abnormal, IV, Experimental Investigations", Journal of General Psychology, Vol. 25, First Half, July 1941, p. 187-237.

A review of investigations carried on under modified experimental conditions. Nothing is said about the statistic used. It shows that a step in the right direction was made but reveals the need for better experimental control.

Barker, Alman J., Jerry K. Mathis, et al., "Drawing Characteristics of Male Homosexuals", Journal of Clinical Psychology, Vol. 9, No. 2, April 1953, p. 185-188.

Shows the inadequacy of clinical judgment when comparing feminine characteristics on drawings of male homosexuals and male non homosexuals.

Bender, Lauretta, A Visual Motor Gestalt Test and Its Clinical Use, New York, The American Orthopsychiatric Association, 1938, 173 p.

A text describing a technique of measuring mental deficiency and other types of psychosis through the operation of the gestalt principles.

Blum, Richard H., "The Validity of the Machover Draw a Person Technique", Journal of Clinical Psychology, Vol. 10, No. 2, April 1954, p. 120-125.

A study comparing Machover's interpretative system of the Draw a Person Test with rating scales of psychiatrist, chief wardman, and interpretations from a battery of psychological tests.

Buck, J.N., "The H. T. P. Test", Journal of Clinical Psychology, Vol. 4, No. 2, April 1948, p. 151-159.

A description of the H. T. P. and its two phase approach to personality: non-verbal, creative, unstructured; verbal, apperceptive, more formally structured.

-----, Administration and Interpretation of the H. T. P., Proceedings of the H. T. P. Workshop Held at Veteran's Administration Hospital, Richmond 19, Virginia, March 31, April 1, 2, 1950, Beverly Hills, Calif., Western Psychological Services, 1950, 67 p.

A description of the H. T. P., its uses, latest forms of administration, scoring, and analysis.

Feather, Don B., "An Exploratory Study in the Use of Figure Drawings in a Group Situation", Journal of Social Psychology, Vol. 37, Second Half, May 1953, p. 163-170.

A study comparing poor drawings with low academic grades, subjective evaluation by the subjects, and observations and judgments by psychologists.

Fisher, Seymour and Roda Fisher, "Test of Certain Assumptions Regarding Figure Drawing Analysis", Journal of Abnormal and Social Psychology, Vol. 45, No. 4, October 1950, p. 725-734.

A study revealing that psychologists could not agree on Machover's paranoid signs, expressions of the face or eyes, or stance.

Goodenough, Florence L., Measurement of Intelligence by Drawings, Yonkers, World Book, 1926, 177 p.

Historical survey of drawings and a concise description of a technique of drawings for measuring intelligence in children.

Granick, Samuel and Leon J. Smith, "Sex Sequence in the Draw a Person Test and Its Relation to the M.M.P.I. Masculinity-Femininity Scale", Journal of Consulting Psychology, Vol. 17, No. 1, February 1953, p. 71-73.

A study of sex sequence in drawings using both male and female subjects and its relation to the M.M.P.I. Masculinity-Femininity Scale.

Hammer, Emanuel, "Relationship Between Diagnosis of Psychosexual Pathology and the Sex of the First Drawn Person", Journal of Clinical Psychology, Vol. 10, No. 2, April 1954, p. 168-170.

A study of sexual offenders in which it was found that subjects committed for rape drew their same sex first more often than those committed for homosexual activities.

Holzberg, Jules D. and Murray Wexler, "The Validity of Human Form Drawings as a Measure of Personality Deviation", Journal of Projective Technique, Vol. 14, No. 4, December 1950, p. 343-361.

A study comparing student nurses and female schizophrenic patients on 174 scoring items using the female figure. Although significant differences occurred, results are quite vague.

Lehner, George F.J. and Erick K. Gunderson, "Reliability of Graphic Indices in a Projective Test (The Draw a Person)", Journal of Clinical Psychology, Vol. 8, No. 2, April 1952, p. 125-128.

A study showing agreement of author's ratings with his re-ratings and with other rater's ratings.

-----, "Height Relationships on the Draw a Person Test", Journal of Personality, Vol. 21, No. 3, March 1953, p. 392-399.

This study compares the mean height of male and female figures drawn by male and female subjects at different age levels.

Levey, Sidney, "Figure Drawing as a Projective Technique", Abt, L.E. and L. Bellak, Projective Psychology, New York, 1950, Knopf, p. 257-297.

A description of a drawing technique in which the author supports Machover's assumptions that drawings may be a projection of self-concept.

Machover, Karen, Personality Projection in the Drawing of the Human Figure, Springfield, Thomas, 1949, 160 p.

This text contains a description of Machover's rationale for drawings: her method of administration, scoring, and interpretation; and selected illustrative case studies.

Machover, Karen, "Drawing of the Human Figure: A Method of Personality Investigation", Anderson, Harold, and Gladys Anderson, Projective Techniques, New York, Prentice Hall, p. 341-369.

Although written two years after her book, the author still supports her original opinion that drawings are a projection of body image or self concept.

Maniford, Florence, "A Note on the Use of Figure Drawings in the Diagnosis of Sexual Inversion", Journal of Clinical Psychology, Vol. 9, No. 2, April 1953, p. 188-189.

A study showing that both male and female subjects tend to draw their same sex first with incidence of same sex first greater among male subjects.

Royale, Robert E., "Drawing Characteristics of Neurotic Patients Using a Drawing of a Man and Woman Technique", Journal of Clinical Psychology, Vol. 5, No. 4, October 1949, p. 392-395.

No significant differences found in this study between anxiety neurotic veterans and non-anxiety neurotic veterans on a check list of twenty eight drawing traits.

Schilder, Paul, Image and Appearance of the Human Body, New York, International University Press, 1950, 353 p.

A text explaining that emotional influences, organic pathology and physical difformities in one person can cause distortions in his perception of the body image of others.

Spoerl, Dorothy Tilden, "Personality and Drawing in Retarded Children", Character and Personality, Vol. 8, No. 3, March 1940, p. 227-239.

Conclusions were made on this study that personality could be judged through children's drawings and that the drawings of each subject is consistent and easily identified.

Stonesifer, Fred A., "A Goodenough Scale Evaluation of Human Figures Drawn by Schizophrenics and Non-Psychotic Adults", Journal of Clinical Psychology, Vol. 5, No. 4, October 1949, p. 396-398.

Using Goodenough's scoring scale on this study, the author found no significant differences between male schizophrenic subjects and non-psychotic veterans.

APPENDIX I  
SCORING ITEMS

## APPENDIX I

### Scoring Items

"Measurables".- Each item was compared proportionately either with the entire figure, or to a segment of the figure of which it is a part.

- #1. Large Head: if length is more than  $1/6$  length of complete figure, if width across forehead is more than  $1/8$  length of complete figure, or if in profile depth is more than  $1/8$  length of complete figure.
- #2. Small Head: if length is less than  $1/8$  length of complete figure, if width is less than  $1/10$  length of complete figure, or if in profile depth is less than  $1/10$  length of complete figure.
- #3. Large Ears: if length is more than  $1/4$  length of head, if width is more than  $1/8$  length of head.
- #4. Small Ears: if length is less than  $1/6$  of head, if width is less than  $1/12$  length of head.
- #5. Large Eyes: if length is greater than  $1/6$  length of head, if width is greater than  $1/8$  length of head.
- #6. Small Eyes: if length is less than  $1/12$  length of head, if width is less than  $1/16$  length of head.
- #7. Large Nose: if length is longer than  $1/3$  length of head.
- #8. Small Nose: if length is less than  $1/5$  length of head.
- #9. Large Mouth: if length is greater than  $1/4$  length of head.
- #10. Small Mouth: if length is less than  $1/6$  length of head.
- #11. Large Chin: if length is greater than  $1/4$  length of head.
- #12. Small Chin: if length is less than  $1/8$  length of head.
- #13. Long Neck: if length is greater than  $1/12$  length of complete figure.
- #14. Short Neck: if length is shorter than  $1/16$  length of complete figure.
- #15. Large Shoulders: if width is greater than  $1/3$  length of complete figure.
- #16. Small Shoulders: if width is less than  $1/6$  length of complete figure.
- #17. Large Arms: if length is greater than  $1/2$  length of complete figure.
- #18. Small Arms: if length is less than  $1/4$  length of complete figure.

- #19. Large Hands: if length is greater than  $1/3$  length of arm.
- #20. Small Hands: if length is less than  $1/5$  length of arm.
- #21. Large Fingers: if length is greater than  $1/6$  length of arms.
- #22. Small Fingers: if length is less than  $1/10$  length of arms.
- #23. Long Legs: if length is greater than  $1/2$  length of complete figure.
- #24. Short Legs: if length is less than  $1/4$  length of complete figure.
- #25. Long Feet: if length is greater than  $1/8$  length of complete figure.
- #26. Short Feet: if length is less than  $1/2$  length of complete figure.
- #27. Large Figure: if greater than  $2/3$  length of page.
- #28. Small Figure: if less than  $1/3$  length of page.
- #29. Figure at Top of Page: if  $2/3$  of figure is above center of page.
- #30. Figure at Bottom: if  $2/3$  of figure is below center of page.

"Observables".- These items were determined by either presence or absence.

- |   |  |
|---|--|
| #31. Head Omitted                           | #69. Cane in Hand                          |
| #32. Hat on Head                            | #70. Gun in Hand                           |
| #33. Hair Seen Through Hat                  | #71. Fist Clenched                         |
| #34. Ears Omitted                           | #72. Mitten Type Hand                      |
| #35. Eyes Blacked Out                       | #73. More Than Five Fingers                |
| #36. A Dot for an Eye                       | #74. Less than Five Fingers                |
| #37. An X for an Eye                        | #75. Hand at Genitals                      |
| #38. Pupil Omitted                          | #76. Midline Emphasis                      |
| #39. Eyes Omitted                           | #77. Below Waistline Omitted               |
| #40. Eyes with Glasses                      | #78. Line Across Waist                     |
| #41. Eyelashes Missing                      | #79. Sexual Organs Visible                 |
| #42. Arms Omitted                           | #80. Sexual Organs Seen Through<br>Clothes |
| #43. Eye Brow Missing                       | #81. Internal Organs Showing               |
| #44. Eyes Closed                            | #82. Legs Seen Through Clothes             |
| #45. Only One Eye                           | #83. Feet Without Shoes                    |
| #46. Dots for a Nose                        | #84. Figure at Left                        |
| #47. Nose Omitted                           | #85. Figure at Right                       |
| #48. Trunk Omitted                          | #86. Figure in Nude                        |
| #49. An X for a Nose                        | #87. Male in T Shirt                       |
| #50. Nostrils Indicated                     | #88. Figure with Tie                       |
| #51. Mouth Omitted                          | #89. Black Bow Tie                         |
| #52. Teeth Showing                          | #90. White Bow Tie                         |
| #53. Tongue Showing                         | #91. Breast Pocket Handkerchief            |
| #54. Cigar in Mouth                         | #92. Fly of Trousers Visible               |
| #55. Pipe in Mouth                          | #93. Wrist Watch                           |
| #56. Cigarette in Mouth                     | #94. Ring                                  |
| #57. Toothpick in Mouth                     | #95. Character Stereotype                  |
| #58. Confusion of Profile<br>and Front View | #96. Hands Omitted                         |
| #59. True Profile                           | #97. Figure in Frame                       |
| #60. Front View Face                        | #98. Wrong Foot in Profile                 |
| #61. Beard on Face                          | #99. No Clothes                            |
| #62. Mustache                               | #100. Spontaneous Writing                  |
| #63. Sideburns                              | #101. Not Enough Room for Feet             |
| #64. Adam's Apple                           | #102. Back View                            |
| #65. Neck Omitted                           | #103. Nipples for Male                     |
| #66. Line Across Neck                       | #104. Figure Seated                        |
| #67. Hair on Chest                          | #105. Pole in Hands                        |
| #68. Hands in Pockets                       | #106. Feet Omitted                         |

"Qualifiabiles".- The presence or absence of these items was determined by judgments made by the writer.

- |  |  |
|--|--|
| #107. Head Shaded                            | #161. Trunk as a Circle                |
| #108. Bald Head                              | #162. Trunk as a Square                |
| #109. Circle for a Head                      | #163. Trunk as a Oblong                |
| #110. Unkempt Hair                           | #164. Vertical Lines for a Trunk       |
| #111. Hair Well Groomed                      | #165. Elaborate Eyelashes              |
| #112. Hair Shaded                            | #166. Tightened Waistline              |
| #113. Ears in Wrong Place                    | #167. Rib Lines Visible                |
| #114. Ears Shaded                            | #168. Erasures at Hips                 |
| #115. Eyes Shaded                            | #169. Exaggerated Hips                 |
| #116. Orbit Large, Eye Small                 | #170. Shading of Hips                  |
| #117. Circle for an Eye                      | #171. Change of Line at Hips           |
| #118. Bushy Eyebrow                          | #172. Small Hips                       |
| #119. Trim Eyebrow                           | #173. Lines Across Pelvic Region       |
| #120. Elaborate Eyebrow                      | #174. Shading of Genital Area          |
| #121. Nose Shaded                            | #175. Lines Closing Place at<br>Crotch |
| #122. Nose Made Larger                       | #176. Legs Bent at Knees               |
| #123. Nose Made Smaller                      | #177. Legs Wide Apart                  |
| #124. Concave Mouth                          | #178. Legs Close Together              |
| #125. Convex Mouth                           | #179. Thin, Shaky, Wasted, Legs        |
| #126. Mouth Open Wide                        | #180. Erasures on Feet                 |
| #127. Mouth Closed Tight                     | #181. Change of Line at Feet           |
| #128. Heavy Line for Mouth                   | #182. Feet Shaded                      |
| #129. Oval Shaped Mouth                      | #183. Tiny, Pointed, Feet              |
| #130. Thin Line for a Mouth                  | #184. High Heel                        |
| #131. Smile on Lips                          | #185. Figure Leaning                   |
| #132. Thick Lips                             | #186. Figure Bending Over              |
| #133. Thin Lips                              | #187. No Clothing, Body Shaded         |
| #134. Chin Made Larger                       | #188. Male in Trunks (Muscular)        |
| #135. Chin Made Smaller                      | #189. Male in Trunks (Weak)            |
| #136. Chin Shaded                            | #190. Male in Tight Trousers           |
| #137. Chin Erased                            | #191. Male Trousers from Skirt         |
| #138. Chin Reinforced                        | #192. Draped Suit                      |
| #139. Confusion of Front<br>View and Profile | #193. Tie Flying Away from Body        |
| #140. Male Likeness of Bosom                 | #194. Inadequate Tie                   |
| #141. Barrel Chest                           | #195. Especially Decorated Tie         |
| #142. Caved in Chest                         | #196. Conspicuous Buttons              |
| #143. Arms in Front of Body                  | #197. Pockets Emphasized               |
| #144. Arms Above Position                    | #198. Elaboration of Shoe Laces        |
| #145. Arms Behind Back                       | #199. Figure Running                   |
| #146. Arms Below Position                    | #200. Figure Walking                   |
| #147. Arms Held at Side                      | #201. Extreme Symmetry                 |

- |                                     |                          |
|-------------------------------------|--------------------------|
| #148. Arms Away from Side           | #202. Disturbed Symmetry |
| #149. Arms Perpendicular to<br>Body | #203. Broken Line        |
| #150. Arms Vertical                 | #204. Heavy Line         |
| #151. Arms in Single Dimension      | #205. Thin Line          |
| #152. Circle for a Nose             | #206. Wavy Line          |
| #153. Hands Pointing Toward<br>Body | #207. Heavy Erasures     |
| #154. Hands Dimmed Out              | #208. Heavy Shadings     |
| #155. Hands Shaded                  | #209. Hips Omitted       |
| #156. Joints Showing                | #210. Sparse Hair        |
| #157. Fingers Like a Claw           | #211. Baby Figure        |
| #158. Sticks for Fingers            | #212. Oval Shaped Trunk  |
| #159. Nails Carefully Articulated   | #213. Shoulders Shaded   |
| #160. Grape Like Fingers            | #214. Mouth Shaded       |

APPENDIX 2  
ABSTRACT OF  
A CHECK ON THE VALIDITY OF SOME OF  
MACHOVER'S CLAIMS

## APPENDIX 2

### ABSTRACT OF A Check on the Validity of Some of Machover's Claims

This study was undertaken to check on some of Machover's claims for her Draw a Person Test. An attempt was made to find significant items for each of ten diagnostic categories: paranoid schizophrenia, catatonic schizophrenia, chronic undifferentiated schizophrenia, involuntional melancholia, mental deficiency, character disorder, psychoneurosis, hysteria, arteriosclerosis, and alcoholism, and for a control group of normals.

From each category twenty male figures drawn, before the female figure, by male subjects were scored on 214 items suggested by Machover. These items were numbered from one to 214 and classified from one to thirty as "Measurables", from thirty one to 106 as "Observables", and from 107 to 214 as "Qualifiabiles". The significant items at the .01 level for each group were found by comparing each group with the total of the other ten groups using the Critical Ratio of Proportions.

Although Machover observed only presence signs, the results of this study showed both presence and absence signs significant at the .01 level. Of the thirty one significant

absence signs, twenty four were found in the three schizophrenic groups and two in the involitional melancholia group. This suggests that these subjects cannot project their conflicts onto the drawings because they are unable to perceive themselves adequately. With the exception of one sign in the catatonic schizophrenic group, the significant presence signs occurred in the non psychotic groups (character disorder, psychoneurotic, hysteric, and alcoholic), arteriosclerotic, and normal groups. This suggests that these subjects are in better contact with reality and are better able to perceive themselves adequately; consequently they can project their conflicts onto the drawings. Neither presence nor absence signs were significant in the mental deficiency group. The writer cannot explain this phenomenon. The total significant signs (thirty one absence and thirty eight presence) were found on thirty five of the 214 scoring items. Of these thirty five items, eight were present in some of Machover's diagnostic patterns but the results of this study did not show complete agreement with Machover's observations on any of these items.

The results of this study have disagreed with Machover's findings so emphatically that a cross validation of this study is suggested. Other studies could be done using female drawings by male subjects or either male or

female drawings by female subjects. Special attention **could** be given to absence signs to see whether they occur in other studies. Other diagnostic categories could be considered. Machover's scoring items need to be revised into a more compact scoring system. The writer feels that the Draw a Person Test has possibilities as an adjunct to diagnostic testing but more studies are needed badly before agreement can be reached as to what it measures.