THE ANATOMICAL AND CULTURAL DIMENSIONS OF SEXUAL SYMBOLS

Thesis for the Degree of Ph. D. MICHIGAN STATE UNIVERSITY Kenneth J. Lessler 1962



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# THE ANATOMICAL AND CULTURAL DIMENSIONS

OF SEXUAL SYMBOLS

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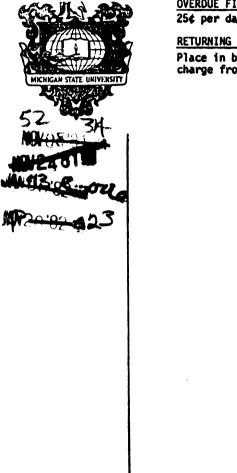
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### THE ANATOMICAL AND CULTURAL DIMENSIONS

OF SEXUAL SYMBOLS

By

Kenneth J. Lessler

AN ABSTRACT OF A THESIS

Submitted to Michigan State University in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

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#### ABSTRACT

## THE ANATOMICAL AND CULTURAL DIMENSIONS OF SEXUAL SYMBOLS

by Kenneth J. Lessler

On the basis of previous research and theoretical formulations directed toward the understanding of sexual symbolism it has become increasingly apparent that symbols are complex, rather than simple stimuli. An extensive discussion of sexual symbolism concluded with eight assumptions about symbol complexity, origins, and functions. The assumptions about symbol complexity provided the point of departure for the experimental phase of the research. Specifically, the postulated Freudian and cultural aspects of sexual symbols were chosen for investigation.

Over 480 college students and 6 expert judges were utilized in the three phases of the investigation. The first phase was directed toward constructing a set of symbols (line drawings) which were empirically understood in respect to the ambiguity and sex-association of their cultural referents, as well as in respect to their Freudian sexual referents. From an initial pool of 720 drawings, 190 were selected and divided into 22 categories based upon different combinations of their levels of ambiguity, and their cultural and Freudian sexual referents.

Experiment I was oriented toward determining if college <u>Ss</u> would sort symbols as masculine or feminine as was predicted from their postulated cultural and Freudian referents. A group procedure was used. The results demonstrated the presence of cultural symbolic elements as well as their relative dominance over Freudian elements in complex symbols. The results also showed that Freudian elements of symbols are present and play a role in the determination of behavior, even when they are not the dominant stimulus elements. Two explanations for the effect of the Freudian referents on the sorting of symbols were discussed.

It was observed that males tended to sort symbols with feminine Freudian referents more accurately than females, and females tended to sort symbols with male Freudian referents more accurately than males. No sex differences were observed when the cultural referents of the symbols were realistic. Finally, it was noted that symbols with masculine referents tended to be sorted more accurately than symbols with feminine referents. Interpretations of the sex differences and of the disparity in the sorting of male and female symbols were considered with reference to the population sampled. A considerable amount of the discussion of Experiment I was devoted to methodological problems. Some possibilities for further research were suggested.

The final phase of the research (Experiment II) related the self-sorting of symbols to two aspects of sexual identity as measured by two exercises from the Terman-Miles Attitude Interest Inventory. The correlations between symbol sorting and the M-F exercises tended to relate femininity with an M-F scale of emotions, and masculinity with an M-F scale of interests, although the correlations were quite low.

The symbol scales which were constructed for Experiment II showed some signs of being a useful measure of M-F. Males and females could be differentiated by the self-sort of symbols with social sexual referents. The two sexes could also be differentiated on the basis of the self-sort of anatomically feminine symbols, although not on the self-sort of anatomically masculine symbols. Males sorted more anatomically <u>feminine</u> than masculine symbols as like-self, and more socially masculine than feminine symbols as likeself. Females sorted both more anatomically and socially feminine symbols than masculine symbols as like-self.

The methodological difficulties encountered in the attempt to measure sexual identity by the use of symbol scales

were discussed. Also, some ideas about the theory and conceptualization of sexual identity which were stimulated by the results of the research were briefly sketched. The discussion was terminated with some general suggestions for future research.

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DEDICATION

to Shirley

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#### CHAPTER I

### INTRODUCTION

### Statement of the Problem

The Freudian hypothesis that unconscious thoughts are represented symbolically has stimulated a variety of investigations. In 1909 Silberer (1959) employed an introspective technique to investigate the symbolic process. Later, hypnosis was used by several investigators (e.g., in 1924 by Roffenstein, 1959; and in 1911 by Schroetter, 1959) to elicit and interpret symbols. Most recently, the research on symbolism has been conducted through nomothetic experimental methods (e.g., Levy, 1954; MacBrayer, 1959; Rabe, 1949). The results of the majority of these studies tend to support the hypothesis that a person indirectly or symbolically expresses thoughts of which he is not aware.

Many applications were found for Freud's theory of symbolism, e.g., the interpretation of dream productions, and the interpretation of clinical instruments such as the Rorschach and the Bender Gestalt. More recently, the rationale of techniques such as Buck's (1948) House-Tree-Person Technique, Franck and Rosen's (1949) Drawing Completion

Test, and Krout's (1950) Symbol Elaboration Test have been rooted in Freud's theory of symbolism. The interpretation of these instruments rests mainly on Freud's hypothesis that elongated and pointed objects represent the male genitalia, and that rounded and enclosing objects represent the female genitalia. It is clear from the studies of A. Jones (1956), Lessler (1962), Starer (1955), and others that abstract forms similar to those described by Freud are identified as predicted from the Freudian hypothesis. In all of these studies there were some "resistant" symbols which did not conform to the Freudian hypothesis, and these should not go unnoticed. Freud himself noted that some symbols did not conform to his expectations. He stated, "It is open to you to ask why this should be so" (1954a, p. 165).

The symbols used in the experimental studies mentioned were generally quite abstract and seemed to have been designed to avoid any resemblance to real objects. But <u>S</u>s in the studies by Lessler (1962), Starer (1955), and Winter and Prescott (1957) often identified the abstract figures as specific objects. It was suggested by Lessler that the object quality which the <u>S</u>s attributed to these figures might have influenced the manner in which the symbols were categorized.

Barker (1957), and Schonbar and Davitz (1960) argued that it is not the anatomical (Freudian) aspect of a symbol to which <u>Ss</u> respond, but cultural cues. These authors showed that realistic drawings were categorized as male or female on the basis of sex-role associations of the object rather than on its shape. The implication of their finding is that the studies of A. Jones (1956), Starer (1955), and others achieved positive results because the <u>Ss</u> responded to the cultural elements of the symbols, although these were certainly vague. That is, a gun is a male symbol, not because it is elongated (the Freudian hypothesis), but because men use guns (the cultural hypothesis).

The present research was focused upon the postulated cultural and Freudian dimensions of symbols. Special consideration was directed toward whether these dimensions may be differentiated and, if so, whether the two dimensions are responded to differentially. An exploratory step was then taken toward relating the postulated symbol dimensions to a personality variable, sexual identity, in order further to investigate symbol dimensionality and the possible usefulness of symbol dimensions for studying personality.

#### Symbolism

### Theoretical Background

Since the goals of the present study necessitate a theoretical as well as empirical understanding of symbolism, a rather extensive review of the theoretical literature will be presented. The review will be organized around five topics: (1) Definition of "symbolism," (2) Psychological functions of symbolization, (3) Origins, universality, and cultural relativism, (4) Characteristics of a symbol, and (5) Concepts and assumptions.

### Definition of "Symbolism"

The difficulty in specifying what is meant by the term "symbol" was nicely phrased by Warburg. He said that the term is a "shapeshifting Proteus, difficult to seize and to pin down" (Stein, 1957, p. 73). As far back as 1912 Schlesinger collected hundreds of different meanings for the term symbol (E. Jones, 1923). Philosophers, psychoanalysts, anthropologists, linguists, and the common man have added many meanings since that time.

"Symbolism" will be traced from the meanings attributed to it by the average man, the linguists, the nonanalytically oriented theorists, the orthodox analysts, to the modern

thinkers within the psychoanalytic framework. Although this survey is not complete, some important meanings assigned to the term symbolism over the past years will be recorded.

In common parlance the term symbol is typically used to mean "something that stands for something else." In the past the "something" was specified as a moral or spiritual thing (Urban, 1939), and currently, the dictionary (Merriam-Webster, 1960) states that the something is ". . . invisible, as an idea, (or) a quality. . . ." Stein (1957) listed two meanings for the common use of the term. A symbol ". . represents or typifies another thing," or is "an outward sign, an emblem, an object referring to another object, to a person or to an idea of a person, principle, ideal, etc. . . ." A symbol is also "a graphic character, figure or sign as used in writing or mathematics" (pp. 73-74).

Probing the term etymologically, Stein (1957) appropriately wrote that "The form of the word 'symbol' shows that it holds many passports, i.e. it is a Greek immigrant which has been naturalized in many lands, and its meaning has consequently been tinged by the verbal community in which it has acclimatized" (p. 73). Baatz (1956), after analyzing the Graeco-Roman meanings of the word symbol, described their communality as a "coming together" or "fitting together." Merriam-Webster (1960) defined the Greek term symbolon as

". . . a sign by which one knows or infers a thing. . . ." All of these definitions have in common the association or connection of two things.

A review of the definitions of symbolism by nonpsychoanalytically oriented thinkers will be presented next. The writers will be placed along a continuum, from those who impute the least psychological meaning to a symbol-referent relationship, to those who attribute greater psychological significance to this relationship. It is recognized that the continuum is somewhat artificial in as much as some authors' views on the subject overlap one another.

The behavioristically oriented theorists imputed the least psychological meaning to a symbol. They regarded a symbol as a substitute stimulus or a conditioned response. Floyd Allport, like Watson, specified that "'. . . the term "symbol" is . . . used to denote primarily an actual response which is used in place of other responses, rather than a "conscious idea" standing for other ideas'" (Morris, 1927, p. 261). Hollingworth (1923) moved closer to attributing psychological meaning to a symbol than did his behavioristic predecessors. He indicated that a symbol is that portion of the original stimulus situation which serves a redintegrative function, "i.e., if a situation xyz has a consequent c, one only needs to be reminded of 'the symbol' x to recall the

total sequence." Morris (1927) questioned the validity of Hollingworth's distinction between the redintegrative function of a symbol and its function as a substitute stimulus, stating that the former idea is contained in the latter.

Other theorists suggested that a symbol is a special type of a sign; a sign which is used to communicate. This specification adds little to our knowledge of the universe of potential symbols, and does not extend the function of a symbol far beyond its use as a substitute stimulus. Ogden and Richards (1956), for example, indicated that a sign may be anything which stands for something else, and that a symbol is but a special case in which a sign is used to communicate meaning. They suggested that symbols may include words, images, gestures, drawings, and sounds. Perry (1954, pp. 480-481) stated that "any datum may be a symbol if it means something or operates as a sign." The only requirement is that the datum ". . . direct expectation or interest to something other than itself" in order to be classified as a symbol. The most general statements indicate that all language is symbolic, e.g., Stebbing (1933, pp. 13-14) noted that ". . . a word is a special kind of sign called a 'symbol.'" She stated that ". . . to understand a verbal symbol is to know what it refers to. . . . "

Morris (1927) did not limit the universe of possible symbols, but he did indicate that symbols must have a personal meaning which allows them to reinstate the original or a similar stimulus (the referent). He is thus a "middle-of-theroader" on our continuum. Quoting Morris's less formal definition, ". . . a symbol is any portion of experience that has become a substitute for and a reminder of some other portion of experience" (1927, p. 284). Morris distinguished two types of symbols: the active symbol and the passive symbol. The active symbol has a redintegrative press, whereas the passive symbol is merely a substitute stimulus and does not have the inherent personal meaning involved in an active symbol. Morris was not quite able to grant the possibility that symbols are meaningful beyond their denotative value.

Whereas the authors reviewed to this point have increasingly attributed meaning to the symbol-referent relationship, there is no delineation of what may or may not serve as a symbol. The symbol-referent relationship is wholly coincidental. The pole on the continuum opposite the behaviorists is represented in this discussion by such philosophers as Cassirer, Langer, and Urban, and the psychologists Rabe and Hall. Each of these writers has given greater attention to the symbol itself. Cassirer ". . . asserts that a symbol must display some form of likeness with its referent. In other

words, not just any item can function as symbolic representation. Thus, symbol usage becomes a special form of conveying, or realizing, meaning" (Rabe, 1949, p. 5).

Susan Langer (1942) differentiated a sign and a symbol by specifying that "a sign indicates the existence . . . of a thing, event or condition" (p. 57). She went on to state that the logical relation between a sign and its object is based on some type of association. Symbols, on the other hand, are ". . . <u>vehicles for the conception of objects</u>." She emphasized that ". . . <u>it is the conceptions, not the things, that symbols directly 'mean</u>'" (pp. 60-61). Langer stated that a symbol does not present the ". . . constituents successively, but simultaneously, so the relations determining a visual structure are grasped in one act of vision" (p. 93). She called this type of symbolism "non-discursive," noting that it is ". . . peculiarly well suited to the expression of ideas that defy linguistic 'projection'" (p. 93).

Urban (1939) specified that a symbol is a special kind of sign. "'. . . In the sign, strictly so called, the natural attributes of the intuition and the connotation of which it is a sign, have nothing to do with each other'" (Hegel, quoted by Urban, p. 408). The symbol, on the other hand, ". . . is always a presentation, though indirect, of the concept" (p. 409). Urban further stated that

. . . to identify the symbol relation with all relations of meaning is to make the symbol notion useless. It is precisely the nature of a symbol that it takes the primary and natural meaning of both objects and words and modifies them . . . in certain ways so that they acquire a meaning relation of a different kind. All symbolic relations are meaning relations, but not all meaning relations are symbolic (p. 405).

Urban continued,

Certain kinds of substitutional signs have gradually come to be called symbols, but they are not . . . <u>genuine</u> symbols. They are merely operational signs, in which no intuitive relation to the object for which they stand remains. I agree with Cassirer that, strictly speaking, these signs are not symbols. In all genuine symbolic relations, Cassirer tells us, some form of likeness is to be found (p. 406).

Urban divided symbols into three classes. Extrinsic or arbitrary symbols, which include the symbols of art and science, arise by a process of contiguous association. The second type of symbol, the intrinsic symbol, has a partial coincidence with the thing symbolized which is of such a character as to make analogous predication possible. The third type of symbol, the insight symbol, has the qualities of the intrinsic symbol but also allows us to see the deeper meanings.

Rabe (1949), whose treatment of symbolism has much in common with that of Urban's, stressed that symbols convey meaning. He designated four attributes which distinguish a symbol from other forms of representation:

- 1. A symbol refers to something.
- 2. It refers to something other than itself.
- 3. It functions in the development of insight, i.e., the conception of meaning.
- 4. It bears a partial likeness to the thing it describes (p. 8).

Rabe's attribution of psychological meaning, and his notation that a symbol must have some special qualities, separates a symbol from a sign. Calvin Hall (1953) elaborated upon the symbol's function of transmitting meaning as opposed to its disguise function which is emphasized in psychoanalytic literature. The psychoanalytic theory of symbolism will be considered next.

To the best of this writer's knowledge Freud began writing about symbolism in 1895, although Brill (1943) opined that Freud was aware of symbolism earlier. The definition of "symbol" that Freud (1954b) presented during the pre-analytic period established the symbol as a substitute stimulus formed on the basis of association in an individual's lifetime. This definition differs little from that of the philosophic writings already discussed. Freud's (1954b) 1895 definition stated that:

B stands in a particular relation to A. For there has been an event which consisted of B + A. A was a subsidiary circumstance, while B was well calculated to produce a lasting effect. The production of this event in memory now occurs as though A had taken B's place. A has become a substitute, a "symbol", for B (pp. 406-407).

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After 1897 Freud specified that a symbolic relationship is one which exists between the latent thought and its conscious, but disguised, representation. This relationship was thought to be a relatively constant one and one whose roots were not accessible to the symbolizer (Freud, 1954a). After 1909, Freud's notions about symbolism changed little, although he remained unsure of the total meaning of the concept. In his 1915-1917 lectures Freud admitted that ". . . we cannot at present assign quite definite limits to our conception of a symbol; for it tends to merge into substitution, representation, etc., and even approaches closely to allusion" (1954a, p. 159).

The definition of symbolism accepted by the orthodox analytic school, as represented by Ferenczi, E. Jones, and Rank and Sachs, is essentially an elaboration of Freud's thinking. Ernest Jones (1923) listed six attributes which he believed characterize the nonpsychoanalytic use of the word "symbol":

- A symbol is a representative or substitute of some other idea from which in the context it derives a secondary significance not inherent in itself.
- 2. It represents the primary element through having something in common with it.
- 3. A symbol is characteristically sensorial and concrete, whereas the idea represented may be a relatively abstract and complex one.

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- 4. Symbolic modes of thought are the more primitive, both ontogenetically and phylogenetically, and represent a reversion to some simpler and earlier stage of mental development.
- 5. In most uses of the word a symbol is a manifest expression for an idea that is more or less hidden, secret, or kept in reserve.
- Symbols resemble wit in being made spontaneously, automatically, and, in a broad sense of the word, unconsciously (pp. 156-157).

According to E. Jones (following Rank and Sachs), those attributes which define "true" symbolism emphasize unconscious and archaic origins as well as symbol universality. True symbols have the following attributes:

- 1. representation of unconscious material;
- constant meaning, or very limited scope for variation in meaning;
- 3. non-dependence on individual factors only;
- 4. evolutionary basis, as regards both the individual and the race;
- 5. linguistic connections between the symbol and the idea symbolised;
- phylogenetic parallels with the symbolism as found in the individual existing in myths, cults, religions, etc. (E. Jones, 1923, p. 207).

Ferenczi (1952) added that it is the displacement of

affect which distinguishes the analytic from the nonanalytic

theories of symbolism. He said,

Only such things (or ideas) are symbols in the sense of psycho-analysis as are invested in consciousness with a logically inexplicable and unfounded affect, and of which it may be analytically established that they owe this affective over-emphasis to <u>unconscious</u> identification with another thing (or idea), to which the surplus of affect really belongs. Not all similies, therefore, are symbols, but only those in which the one member of the equation is repressed into the unconscious (pp. 277-278).

William Allison White (1916), writing in the same year as Ferenczi and E. Jones, and also writing from a psychoanalytic frame of reference, recognized the difficulty and the arbitrariness of rigidly defining the symbolic process in terms of repression and displacement alone. He observed that clear-cut distinctions do not occur in nature, and therefore, one should not expect a clear distinction between conscious and unconscious symbolism. White stated that a continuum exists from those relationships in which the symbol and the symbolized are closely related (as would be the case in an analogy) to those expressions in which the relationship is less evident (analytic symbolism).

Thirty-seven years later Kubie (1953a) wrote,

. . . the symbolic process is a continuum from the conscious literal symbolism by means of which we ordinarily think, speak, act, and communicate with one another, through the preconscious allegorical symbolic forms of artistic and indeed of all creative thought, to the unconscious symbolism of the dream and of pathological symptoms. This last is the restricted usage to which the word <u>symbol</u> has been confined in analytic terminology; but I believe that such a restricted use of the term is both invalid and misleading (p. 39).

Kubie used the term "symbol" to characterize three related

### processes:

a. There is the symbolic function by means of which in thought and in speech we represent abstractions from experience.

- b. There is the symbolic function . . . in figures of speech, metaphores, slang, poetry, obscenities, puns, jokes, and so forth. Here the concept behind the symbol is translated into some other mode of expression; but the relation between the original concept and the symbol remains relatively transparent, except where it is obfuscated in varying degrees for "artistic" purposes. . . .
- c. . . the more limited psychoanalytic use of the term . . . where the symbol is a manifest representation of an unconscious latent idea. Here the link between the symbol and what it represents has become inaccessible to conscious self-inspection (p. 39).

Although Kubie spoke of a continuum, the processes he described seem fairly discreet. Rycroft (1956), using ego analytic concepts, integrated the various modes of symbolization.

Rycroft (1956) defined symbolism as ". . . a general tendency or capacity of the mind, one which may be used by the primary or the secondary process, neurotically or realistically, for defense or self expression, to maintain fixation or to promote growth" (p. 142). He stated further (in partial agreement with Langer and Urban) that it is not the object symbolized which is important, but its function or process. A symbol results from a ". . . displacement of cathexis from the idea of an object or activity of primary instinctual interest on to the idea of an object of less instinctual interest" (p. 143). The object of displacement may be derived from associations based on a part-whole relationship, resemblance, or contiguity. Rycroft thus included symbols based on an iconic relationship with the object, as well as

symbols which are completely individualistic. A further step was taken toward integrating various types of symbols into one system when he stated that "Once a symbol has been formed it may be used by the primary or the secondary process" (p. 144). If a symbol is used by the primary process it functions as an equivalent of the object or activity represented (Fenichel, 1945). If a symbol is used by the secondary process it can serve adaptively since it channels interest to the outside world. Words are an example of symbols which function mainly on the basis of the secondary process. These symbols are both conventionalized and neutralized, but at times they may operate like archaic symbols.

Rycroft, White, and Freud, while stipulating that an individual's cultural environment is important to symbol choice, were not as explicit on this matter as Fromm. Fromm (1951) defined a symbol as that part of the world outside which is used to reflect the world inside. He recognized that one type of symbol, the "conventional" symbol, requires specific cultural experience. He also identified an "accidental" symbol which is formed as a consequence of exposure to an object or experience contiguously with a particular inner experience. Finally, Fromm specified a "universal" symbol which is based upon an intrinsic relationship between the symbol and its referent.

Before formulating a definition of symbolism, the meanings attributed to the term will be retraced. The everyday usage of the word "symbol" has much in common with its linguistic derivation. Both imply that a symbol signifies something other than itself. The behavioristically oriented theorists define a symbol as a substitute stimulus. Other theorists specify that a substitute stimulus must be used to communicate before it may be given the name "symbol." While accepting that a symbol is a substitute stimulus, some theorists point out that a symbol must have meaning for the individual in addition to signifying a specific referent. Theorists, typified by Langer, Urban, Rabe, and Hall, have asserted that a symbol not only must have some relationship to the thing or event symbolized, but must elaborate or clarify the meanings associated with the referent. Freud specified that the symbolic relationship exists between conscious and unconscious referents. The symbol itself is invested with an interest (cathexis) which was once attached to the unconscious referents for which it now serves as a disquise. Freud's position is elaborated upon in the orthodoxy of E. Jones and Ferenczi. White conceived of the possibility that the symbolic relationship between the symbol and its referent occurs on various psychic levels. White's idea was placed in ego analytic context by Rycroft.

Fin sel 71] 71] and dis: the refe it s S\_\_\_\_ Ċ. av 100 sign fear Wit ۰. ್ ಕ · .  Finally, Fromm pointed to the role of culture in symbol selection.

The differentiation between a sign and a symbol which will be used in this study is stated here in its simplest and unelaborated form and will be expanded later in the discussion. A sign signifies an object or event, but is unimportant in itself, and does not imply any meaning beyond the object or event signified. A symbol, on the other hand, refers to more than the object, event, or feeling for which it stands. For example, an abstract figure which is shaped similarly to a penis and elicits an association between the drawing and a penis, is a sign since no other meaning is implied. However, if the figure which looks like a penis signifies maleness, strength, sexuality, or repressed infantile fears or desires, then by definition it is a symbol. This writer agrees with Urban (1939, p. 409) who stated that ". . . the symbol is always a presentation, though indirect of the concept," or with Langer (1942, p. 61) who said, ". . . it is the conceptions, not the things, that symbols directly 'mean'."

# Psychological Functions of Symbolization

Symbolism as Conceptualization

Is symbolization a specific mode of thinking which may be distinguished from other forms of thought? There are essentially three views on this matter. One group of theorists conceptualizes a symbol as a form of abstraction. A second group suggests that a symbol is a manifestation of archaic thinking. The third group of theorists indicate that symbolism operates on both of the above levels and varies between these two levels.

Philosophers such as Ogden and Richards (1956), Hollingworth (1923), Whitehead (1927), and Eaton (1925) conceived of symbolization as a process of conceptualization which frees man from the concrete and allows him to communicate and work with abstraction. It is this view of symbolization which led to the conclusion that it is the "symbolizing" capacity of man which is instrumental in separating him from the rest of the animal kingdom (Cassirer, 1953; Eaton, 1925; Langer, 1942).

The orthodox psychoanalysts state that symbolization is a primitive or archaic mode of thought in which there is an identity between symbol and object, and full affective cathexis on the symbol (Fenichel, 1945). In 1909 Silberer

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(1959), in his auto-symbolic experiments, supported the analytic hypothesis by showing that symoblization becomes extant with the lowering of active mental functioning (apperceptive insufficiency). He stated that symbolization can occur with less psychological energy than higher forms of thought, and therefore symbolization occurs under circumstances where the higher modes of thought have not been developed or when they are inhibited. In this regard E. Jones (1923) stated that:

Symbolic modes of thought are the more primitive, both ontogenetically and phylogenetically, and represent a reversion to some simpler and earlier state of mental development. They are therefore more often met with in conditions that favour such a reversion; for example, fatigue, drowsiness, bodily illness, neurosis and insanity, and, above all, in dreams, where conscious mental life is reduced almost to a minimum (p. 157).

E Jones accepted Silberer's notion that lowered states of functioning are a necessary condition for symbolization, but he believed that it is not a sufficient condition. E. Jones believed that a true symbol originates from unconscious processes and expresses ideas which otherwise would not be allowed representation in consciousness. Since archaic symbols are based on primary process thinking, the "true" symbol is not an appropriate vehicle for higher-level thought.

Jones's (1923) view is similar to that of Rank and Sachs whom Jones quoted as follows:

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"Psychologically considered, symbol-formation remains a regressive phenomenon, a reversion to a certain stage of pictorial thinking, which in fully civilised man is most plainly seen in those exceptional conditions in which conscious adaptation to reality is either restricted . . . or seems to be completely abrogated . . ." (p. 176).

Although Rycroft (1956) accepted the idea that symbols are formed when cathexis is withdrawn from external reality, he also noted that the mind is never totally under the influence of the primary process. Freud himself, while he stated that symbolization occurs on archaic psychic levels, said that he was not sure just where symbolization leaves off and some other form of conceptualization begins (1954a). Likewise, in 1925 Nachmansohn (1959) concluded that the psychological processes observed in dreams also occur in waking life.

Rycroft's objections to the relegation of symbolism to the unconscious developed from the later psychological understanding of the psychic apparatus presented by Freud (1927) in <u>The Eqo and the Id</u>. In this work Freud theorized that the ego grows out of the id as a result of contact with the environment, i.e., the psyche is developed out of a common matrix. The concepts developed in <u>The Ego and the Id</u> led Rycroft (1956) to state that the mind is ". . . a unitary structure which acts as a whole. It is therefore illogical to conceive of the mind as being subdivided into two subsidiary structures. . . functioning in entirely different ways" (p. 140).

Outside of the psychoanalytic framework, the relation of symbolic thinking to conceptualization was clearly stated

by Piaget:

Condensation and displacement represent here almost functional equivalents of generalization and abstraction--the process of logical conceptual thought. Condensation involves giving a common meaning to a number of distinct objects. It expresses the assimilation of different situations and is thus akin to generalization. In the same way there can be no condensation without effective displacement, so displacement corresponds to abstraction on the cognitive level. One can say then that <u>unconscious symbolic thought</u> is an extension of normal thinking. . . (Freeman, Cameron, & McGhie, 1958, p. 82) [italics mine].

Freeman, Cameron, and McGhie (1958, p. 78) regarded ". . . indirect representation and fully developed symbolism as opposite poles of a continuum, including both as elements of symbol formation."

Possibly the best developed and best integrated presentation of symbolism as a process which takes place on various levels of psychic functioning was presented by Kubie (1953a). He observed that ". . . every moment of thought and feeling involves simultaneously the activation of a literal, an allegorical, and a dreamlike meaning of the symbolic representative of all of the percepts and concepts which are relevant to that moment of psychic activity" (p. 41).

Symbolism as Disguise

The primary function attributed to symbolization by most analytic thinkers is that of keeping painful or affectladen ideas from conscious recognition. Fenichel (1945, p. 48) stated that ". . . a conscious idea may be used as a symbol for the purpose of hiding an objectionable unconscious idea; the idea of a penis may be represented by a snake, an ape, a hat, an airplane, if the idea of penis is objectionable." Rank and Sachs (E. Jones, 1923, p. 163) defined a symbol as ". . . a substitutive, perceptual replacement-expression for something hidden. . . .'" Jones (1923) himself subscribed fully to the disguise function of symbolization as evidenced by his well-known statement, "Only what is repressed is symbolised; only what is repressed needs to be symbolised" (p. 183).

Freudian psychoanalysts believe that a symbol functions mainly to aid the forces of repression by keeping the referent of the symbol from awareness. According to this view the ego must control the manifestations of the primitive impulses so as to allow maximal gratification, while at the same time adapting to environmental demands (Palm, 1956). The symbol itself is a compromise formation in which there is a partial expression of affect along with the socialization of content.

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White (1916) wrote,

The unconscious . . . knows no . . . restraints, it would go direct to the goal, but by so doing would offend mortally that within us which has been built up by civilization. Its demands may thus be anti-social and offensive to our conscious personality and then it can only play its part upon the stage under sufficient disguise not to be recognized. This disguise is the symbolism--a symbolism unrecognizable to the subject and so a means of defense, protecting him from a realization that would be painful (p. 9).

"The disguise," according to White, "is the greater the farther the individual has advanced on the path of cultural development, the greater and the deeper the mass of material that overlies the simple primitive instincts" (p. 10). Freud (1954a) observed that the disguise does not yield to ordinary analytic exploration (free association), and that the analyst is forced to rely on his knowledge of symbol referents.

# Symbolism as an Expression of Meaning

It is apparent from the earlier discussion of the definitions of symbolism that everyone does not agree that disguise is the primary function of a symbol. Those who accept a broader definition of the term symbol, such as Urban (1939) and Langer (1942), believe that symbolism is a vehicle for the expression of meaning rather than its disguise. Hall (1953) and Rabe (1949), while not rejecting the idea that a symbol may serve a disguise function, argued that a symbol serves the more important function of emphasizing or clarifying the attitudes and feelings toward the referent of the symbol. Hall (1953) concluded, after studying many dream productions, that dream symbols reveal rather than conceal. Rabe argued that a symbol is "selected" because of its adequacy in giving concrete expression to the meaning which the referent has for the symbolizer. Thus the referent "penis" could be symbolized by the symbols "gun" or "withered tree." These symbols are not merely alternate expressions of the idea symbolized, but emphasize different meanings of the referent. Rabe (1949) concluded that "The keynote of symbol usage is not the avoidance or obliteration of the referent, but rather the most adequate representation of the referent" (p. 29).

# The Redintegrative Function

Can a symbol, once formed, be psychologically meaningful to someone other than its creator? Can a symbol (the product) elicit the same or similar emotions, or facilitate the recall of experiences or ideation associated with a particular object or event in someone who has not formed the symbol? Anyone who employs symbols in poetry, graphic arts, projective techniques, or in research must rely on the assumption that these symbols (words, forms, or events)

will elicit feelings, defenses, or experiences in those who perceive them.

Early theoretical support for the concept that symbols have a redintegrative function was presented by Hollingworth (1923). He posited that a symbol is a portion of an event or experience which calls forth the remembrance of that event or experience. Morris (1927) wrote, "<u>A symbol is any given or</u> <u>experienced substitute stimulus that leads to a reinstatement</u> <u>of the original stimulus</u>. . ." (p. 284). He further stated that an "active" symbol continually presses to evoke its referent.

Support for the concept of redintegration is gained from the psychoanalytic reflex arc model (Rapaport, 1959b). This model indicates that psychic energy flows in either of two directions. The progressive or "topologic" course begins with sensory stimulation, passes through the Systems Unconscious, Preconscious, and Conscious, and terminates in motor action. On the other hand, the stimulation may run in the opposite or regressive direction. Freud (1938) stated in this regard that regression is

. . . assuredly one of the most important psychological peculiarities of the dream process; but we must not forget that it is not characteristic of the dream alone. Intentional recollection and other component processes of our normal thinking likewise necessitate a retrogression in the psychic apparatus from some complex act of ideation to the raw material of the memory-traces which underlie it (p. 492).

It is apparent that the postulation of a redintegrative function of symbols is altogether consistent with the writings of Freud and the later thinking of those steeped in ego psychology.

Hartmann (1959) proposed that some ego functions may eventually lose their instinctual ties. This "secondary autonomy" of ego functions is similar to Gordon Allport's (1937) conception of "functional autonomy." It seems but a small extension of Hartmann's thinking to expect that a symbol may lose its ties with its archaic or impulse-laden roots. Such "autonomous" symbols would not be expected to elicit unconscious conflicts or affects. Many words, for example, may have become "autonomous." Hartmann (1959) postulated that few, if any psychological functions are completely free of conflict. Applying Hartmann's concept of "relative autonomy" to the theory of symbolism, it is suggested that symbols are differentially involved in conflict, and therefore elicit varying ideational or affective connections.

Once it is accepted that symbols may elicit a psychological reaction on the part of the perceiver, one must inquire into the nature of this reaction. Redintegration, as presented by Hollingworth (1923), and later by Morris (1927), refers to the reinstatement of concepts or experiences, and not to the reinstatement of affect. It seems likely

that cognitive redintegration occurs in many symbols, particularly in those which have been neutralized or partially divested of cathexis.

One may object to the formulation that cognitive elements of a symbol are redintegrated since many symbols are meaningless to those who perceive them. It was, in fact, this group of "meaningless" symbols which E. Jones (1923) was inclined to call "true" symbols. In a true symbol the cognitive element is repressed which allows the affect to be expressed. The fact that affect may be transferred to a symbol, while the disguise afforded by a symbol keeps its referent from conscious representation, allows a symbol to aid in the discharge of affect.

Up to this point one may have gained the impression that the symbol itself is the sole determiner of what will be reinstated. It seems probable that many conventional or cultural symbols tend to elicit ideation, whereas universal symbols elicit affective connections, but the dynamic and defensive structure of the individual must also play a role in what is redintegrated. Some individuals, for example, isolate affect whereas others deny or repress content. Still other individuals repress both content and affect. It is posited, therefore, that not only do different symbols elicit different responses, but that there are individual

<u>:</u>: 72 02 ŧ. S 23 ( -Y. - . 0 -3 þ 7 . C 2 ::, differences in what will be redintegrated. Individual variations will be particularly apparent in idiographic studies or in clinical work. In nomothetic studies the symbol elements themselves come into focus.

# Symbolism and Affect

The emphasis on the affective component of the symbol characterizes the psychoanalytic concept of symbolization (Burstin, 1947; Casamajor, 1929; Fenichel, 1945; Klein, 1930). Although Jones (1923) believed that a true symbol has both the property of similarity to the referent and the investment of unsublimated affect, Ferenczi (1952) postulated that the latter characteristic distinguishes the symbol psychoanalytically. He stated, ". . . one was formerly inclined to believe that things are confounded because they are similar; nowadays we know that a thing is confounded with another only because certain motives for this are present; similarity merely provides the opportunity for these motives to function" (p. 281). He further specified that:

Only such things (or ideas) are symbols in the sense of psycho-analysis as are invested in consciousness with a logically inexplicable and unfounded affect, and of which it may be analytically established that they owe this affective over-emphasis or to <u>unconscious</u> identification with another thing (or idea), to which the surplus of affect really belongs (p. 277).

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Rycroft (1956) likewise stated that the cathexis moves from an idea or object of primary instinctual interest to one of less instinctual interest, with the latter operating as a symbol for the former.

#### Multiple Determination of Symbols

The psychological functions of symbolism accepted by the present writer are similar to those proposed by Kubie (1953a; 1953b). A symbol serves a variety of functions at any given moment. It seems incompatible with a dynamic theory of personality to believe that any single motivating force, or any single psychological process, may be pinpointed as the only one operating at any moment of time. A single symbol may disguise its referent and thus aid the forces of repression while simultaneously allowing the expression of affect. The same symbol, at the same moment, may also contain elements which would, if understood, clarify the psychological meaning of the referent to the symbolizer. Another symbol may facilitate communication, and concurrently aid the forces of repression by the isolation of affect. Furthermore, a symbol may be formed on the primary process level and still be useful as a tool for conceptualization when somewhat disenfranchised of its affect.

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# Origins, Universality, and Cultural Relativism

For those who believe that symbols originate from learned associations, or that symbols are signs for an object or a mode of communication, questions concerning origins and universality of symbols are not difficult to answer. These theorists believe that symbols originate from accidental associations in which any object or response can serve as a substitute for any other. The applicability of these symbols is limited to individuals, or at least to cultural groups. Those who regard the symbol itself as important and who posit panhuman drives as the motivating forces in symbol formation are forced to consider how the symbol originated and to postulate its universality. The speculations and assumptions of this latter group of theorists will comprise the content of this section.

# Origins

Freud's thinking concerning the source of symbols changed only to the extent that what he stated tentatively in 1900 was stated with assurance in 1925 and 1937. In 1900 Freud wrote, "Things that are symbolically connected to-day were probably united in prehistoric times by conceptual and linguistic identity" (1956, p. 352); and in 1937 he stated, "Indeed, analytic experience convinces us that particular

psychical contents, such as symbolism, have no other source than hereditary transmission. . ." (1959, Vol. V, p. 344). The linguistic origin to which Freud referred is that proposed by Hans Sperber in 1912. E. Jones (1923) presented Sperber's theory as follows:

. . . the earliest speech sounds were those that served the purpose of calling the mate, . . . while the further development of speech roots accompanied the performance of work. Such work was done in common and, as isstill customary enough, to the accompaniment of rhythmically repeated speech utterances. During this, sexual interest was attached to the work, as though, so to speak, primitive man reconciled himself to the disagreeable but necessary task by treating it as an equivalent of, and substitute for, sexual functioning. Words used during these common tasks thus had two meanings, denoting the sexual act and the equivalent work done respectively. In time the former meaning became detached and the word, now applying only to the work, thus "desexualised." The same would happen with other tasks, and so a store of speech roots gradually accumulated, the original sexual significance of which had been lost (p. 177).

The hypothesis that symbols are rooted in bodily needs, appetites, and conflicts was developed by Kubie (1953b) into a theory of symbol origins. He believed that an infant initially lacks differentiation between the I and the non-I so that what is internal and what is external are not distinguishable. Things outside can, therefore, be used to represent things inside, and vice versa. As a person develops, the relationships become more discrete and distinct, but also less consciously manipulatable. The difference between the I

and non-I never becomes absolute and so the symbol has two referents, one external and one internal.

Ferenczi (1952) presented Beaurain's theory of the ontogenesis of symbols which is similar to that of Kubie's.

There can be no doubt that the child (like the unconscious) identifies two things on the basis of the slightest resemblance, displaces affects with ease from one to the other, and gives the same name to both. Such a name is thus the highly condensed representative of a large number of fundamentally different individual things, which, however, are in some way or other (even if ever so distantly) similar and are for this reason identified. Advance in the knowledge of reality (intelligence) then manifests itself in the child in the progressive resolution of such condensation-products into their elements, in learning to distinguish from one another things that are similar in one respect but otherwise different (pp. 276-277).

# Universality

E. Jones (1923) made an observation about the universality of symbols which is gaining acceptance (cf. Rabe, 1949; Rodrigué, 1956; Rycroft, 1956). Jones (1923) posited that the universality of symbols is a function of the ". . . uniformity of the human mind in regard to the particular tendencies that furnish the source of symbolism--i.e., to the uniformity of the fundamental and perennial interests of mankind" (p. 165). A similar explanation was postulated by Fenichel (1945); he concluded that the archaic nature of the symbolic process accounts for its pervasiveness in man. Likewise, Rodrigué (1956) believed that we need not resort to the postulation of paleological ties in order to explain recurring symbolic motifs which appear in dreams, myths, and jokes. Rodrigué's explanation, like E. Jones's (1923), directed attention to the similarity in human needs, conflicts, phantasies, and anatomy. Rabe (1949, p. 35) stated that ". . . the similarity between contemporary dream symbols and symbolic forms from antiquity would be the function of identical needs operative in both cases." In addition, the universality of symbols may be accounted for by man's common exposure to natural shapes and phenomena which lend themselves to the symbolization of primary objects (Rodrigué, 1956).

# Cultural Relativism

Jones (1923) struggled with the concepts of symbol universality and origin. Whereas Rank and Sachs and many other orthodox analysts defined a symbol in terms of its universality, ancient phylogenetic origins, and consequent constancy of meaning, Jones modified this interpretation of a symbol in order to take greater cognizance of individual and cultural variations. Jones (1923) said that "A preference for one of these meanings can sometimes be correlated with the social class, the mental circle, or the race to which

the individual using the symbol belongs, or it may depend on purely individual constellations" (p. 164).

Freud was aware of cultural influences on some symbols and that the cultural milieu may serve as a reservoir of material from which to form symbols. In a 1914 addition to the <u>Interpretation of Dreams</u>, Freud (1956) wrote, "A number of symbols are as old as language itself, while others (e.g. 'airship', 'Zeppelin') are being coined continuously . . ." (p. 352). In fact, Freud indicated an awareness of three types of symbols: (1) those which are universally disseminated (1954a); (2) those which are restricted to a cultural or linguistic group (1952); and (3) those which are idiosyncratic (1952). Beyond a few scattered statements Freud did not give much attention to the cultural aspect of symbols. A final quotation clearly establishes Freud's position in regard to universal symbolism:

. . . we have actually to believe in unconscious knowledge, thought-relations, and comparisons between different objects, in virtue of which one idea can constantly be substituted for another. These comparisons are not instituted afresh every time, but are ready to hand, perfect for all time; this we infer from their identity in different persons, even probably in spite of linguistic differences (1954a, p. 173).

In contrast, Horney (Krout, 1950) and many others believed that cultural and individual variations are so great that it is not possible to assume that symbols have a universal

significance. Fromm (1951) in a conciliatory fashion identified three types of symbols: conventional, accidental, universal (cf. Freud, 1952; 1954a). The universal symbols are those which possess an isomorphism between the physical and emotional worlds. The accidental symbol is idiosyncratic, while the conventional symbol has cultural currency.

This writer believes that a symbol has both its universal and its individual-cultural components. As Kubie (1953b, pp. 73-74) stated, ". . . every symbolic unit hangs like a hammock between two poles, one internal or bodily . . . and one external . . .;" and Silberer (1959, p. 214) wrote that a symbol ". . . never hangs by a single thread, rather it is part of the weave of a whole fabric." Determining the interaction between the cultural-individual and the universal aspects of symbols will be one of the major tasks of the present study.

# Symbol Characteristics

Defining the characteristics of a symbol, or specifying the universe of objects which may function as symbols are only problems for those who attribute special significance to the symbol itself. The ensuing discussion would be irrelevant for those, like Ogden and Richards (1956), who believe that the only relationship between a symbol and its referent is that one is used to stand for the other. In contrast, Urban (1939, p. 406) stated that, "In all genuine symbolic

relations . . . some form of likeness is to be found" between the symbol and its referent. The characteristics of symbols assume their particular importance for those individuals who interpret symbolic relationships in order to find meanings beyond those which are directly signified.

Freud's writings on the formal characteristics of symbols will be the main focus of this section since later elaboration, deviations, and experimentation emanate from his statements. According to Freud, the number of things symbolized is limited to those which are subject to censorship (later repression): sexual objects and relations, the human body as a whole, parents, children, brothers and sisters, birth, death, and nakedness (1954a). Freud stated that symbolic phenomena are not limited to dreams but similarly dominate myths, fairy tales, jokes, folklore (1952), poetic and colloquial usage in language (1954a), and even extend beyond the use of a common language (1959, Vol. V, p. 116).

Those authors who accept Freud's idea that only what is repressed is symbolized (e.g., E. Jones, 1923; Klein, 1930) would limit the number of things which are grist for the symbolic mill. Others believe that symbols are used more generally as an expression or projection of inner feelings or motives. Burstin (1947) said that symbols are an expression of analogy between ". . . felt things and subjective

experiences." Similarly, Fromm (1951, p. 12) stated that "Symbolic language is language in which the world outside is a symbol of the world inside. . . ." From a different point of view, Jung (Hall & Lindzey, 1958, p. 101) added that the ultimate goals of man also provide material for symbolization.

It has been indicated that symbols, as referred to in psychoanalytic literature, must in some way resemble the primary object. Calvin Hall (1953) found in Freud's writings references to several types of associations or resemblances that a symbol may have to its referent. A symbol may resemble its referent in shape, function, action, color, value, number, sound, quality, personal quality, physical position, and status; or may be associated with its referent through contiguity, part-whole relationship, or contrast. Freud (1954a) placed the heaviest emphasis upon the similarity in form between a symbol and its referent.

Freud stated explicitly that ". . . the penis is symbolized primarily by objects which resemble it in form. . ." (1954a, p. 161); "The female genitalia are symbolically represented by all such objects as share with them the property of enclosing a space or are capable of acting as receptacles. . ." (1954a, p. 163).  $\frac{1}{2}$  Although Freud believed that most symbols always represent the male or the female

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Many symbols which Freud specified as male are also objects associated culturally with men. In 1911 Freud (1956) indicated some awareness of the coincidence between anatomy and culture when he wrote, "In men's dreams a neck-tie often appears as a symbol for the penis. No doubt this is not only because neck-ties are long, dependent objects and peculiar to men. . . " (p. 356). Freud (1956) further stated that there is no ". . . doubt that all weapons and tools are used as symbols for the male organ. . ." (p. 356). Both the cultural and form characteristics of the symbols mentioned by Freud allow a symbolic association with maleness. There is no doubt, however, that Freud believed that the most compelling characteristic of a symbol is its shape. In this regard he wrote that ". . . the imagination does not admit of long, stiff objects and weapons being used as symbols of the female genitals or of hollow objects . . . being used as symbols for the male ones" (1956, p. 359). A hat, Freud stated, ". . . usually has a masculine significance, though occasionally a feminine one. . . . It is open to you to ask why this should be so" (1954a, p. 165). A possible response to Freud's challenge is that there is an incongruence between the form

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and the cultural association to hat, i.e., a hat is shaped like a container (particularly if it is seen sitting top down), but may be worn by men. A consideration of the interaction between the cultural and shape characteristics of symbols comprised a major part of the present investigation.

Freud's view concerning the characteristics of symbols has been essentially unchanged in psychanalytic writing (cf. Fenichel, 1945; A. Freud, 1956; Rodrigué, 1956; Rycroft, 1956). Ferenczi (1952) added a clarifying and useful point when he stressed that the similarity between the object and its referent merely provides the opportunity for symbolic displacement but does not in itself establish a symbolic relationship. Hence, a stick does not necessarily symbolize a penis, but if there was a need to symbolize the male genitalia, a stick, because of its shape, would be a good candidate. One cannot assume, for example, that the top projection of Card VI on the Rorschach or the Washington Monument is a "penis symbol"--only that they have the qualities which would allow them to serve as symbols.

In contrast to the Freudians, Jung (1925, p. 249) believes that there is ". . . no fixed significance of things." He thus implied that the symbol characteristics themselves are not important in determining the meanings attributed to them. If that is the case, the only proper method of

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interpreting a symbol is <u>vis-a-vis</u> the subject. Paradoxically, Freud said that symbols can be interpreted without reference to the symbolizer (1954a, p. 157; 1956, p. 214 footnote), but also cautioned that one's understanding of the symbolizer must be utilized for accurate interpretations (1954a, p. 158; 1956, pp. 352-353). The difference between Jung and Freud is clear. Freud stated that with some symbols, and under some circumstances, one can interpret directly from the symbol to the referent, and Jung said that this is not appropriate.

# Concepts and Assumptions

This writer's ideas, which have been scattered <u>passim</u> throughout the preceding pages will be integrated in this section. For purposes of the present study a symbol is distinguished from a sign by the assumptions that a symbol is important in itself and serves some psychological function, whereas a sign merely signifies an object or event. This broad definition is suggested in order to allow the latitude necessary for the specifications and assumptions which follow.

1. A symbol is multiply determined; it serves many functions simultaneously. For example, the symbol "gun" may disguise the thought "penis," it may emphasize aggressive feelings about male sexuality,

and it may at the same time allow the venting of affect.

- 2. There are universal, culturally restricted, and idiosyncratic symbols and symbol elements. The universal elements (those which are cross-culturally valid) have their basis in the common needs, conflicts, and anatomy of mankind. Idiosyncratic aspects of symbols are formed by a coincidence between an inner idea or experience and an external object or event, with the result that the latter becomes a symbol for the former. In the culturally restricted elements of a symbol either the symbol or the referent is rooted in cultural artifacts or experiences.
- 3. A symbol may simultaneously have universal, cultural, and idiosyncratic elements. A screwdriver, for example, is shaped like a penis (universal), is culturally associated with men, and may at the same time have idiosyncratic referents.
- 4. Universal symbol elements share some form of similarity with their referents. A sexual symbol is often similar in shape to its referent, although a symbol and its referent may share other qualities (cf. Rycroft, 1956).

- 5. Individual and culturally restricted aspects of symbols may not have qualities in common with their primary objects. Object-referent similarity is not a necessary quality of these symbols. There are, however, many cultural and individual symbols which, like universal symbols, share common elements with their referents.
- 6. Symbols may be formed on a primary or secondary process level, and once formed may be used for either type of thinking. Those symbols formed on the secondary process level become invested with individual psychological meaning, and those formed on the primary process level become neutralized. Since an individual never functions completely on either the primary or secondary process level, no symbol can be considered totally free of one or the other type of thinking.
- 7. Symbols vary in the degree to which they are invested with affect. Symbols may be formed initially on archaic psychic levels and later partially lose their primary process ties through neutralization. Symbols may also be formed on a secondary process level and later become invested with affect. Those latter symbols are then indistinguishable from those formed by the primary process.

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8. Symbols have a redintegrative function. A stimulus which impinges upon an individual from the outside world can reinstate within him affective or ideational responses associated with the stimulus. To the extent that a stimulus achieves this effect, it serves a redintegrative function and may then be called a symbol. (a) In some cases the affective associations, and in other cases the ideational associations to a symbol may be redintegrated; but the ideational and affective connections are not recognized simultaneously. (b) A symbol will simultaneously stimulate those meanings which are universal, culturally restricted, and idiosyncratic. The relative weight of the cultural, universal, and individual meanings which are redintegrated will depend on the stimulus as well as on the receptive individual's personality, experiences, and temporary state.

# Review of Symbolism Studies

Early experimental and clinical studies were concerned with whether the symbolic phenomenon, as described by Freud, was valid. Possibly it is more correct to say that many of the early studies were geared to demonstrate that symbolism actually occurs. There were also some attempts, mainly of a

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clinical and academic nature, to show the generality or universality of symbolic expression.

Within the last twenty years, and especially in the last ten years, there has been a surge of theoretical and experimental work on symbolism. While the theoretical work, particularly that of Kubie (1953a; 1953b) and Rycroft (1956) has gained a great deal of sophistication, the experimental investigations are still naïve. The naïveté is not manifested so much in experimental design but, as Rapaport (1959a) complained, in theoretical understanding. The present review will be restricted to the studies on (a) the validity of symbolism, and (b) symbol universality, although there are other aspects of symbolism being studied, e.g., symbol meaning (Arey, 1960; Rabe, 1948; 1949; Rychlak, 1959), and the affective cathexis of symbols (Dixon, 1956; Gardner, 1955; Goldman, 1960; Rabe, 1949).

### Validity

Schroetter (1959) in 1911 demonstrated that some of his subjects, when asked to dream under hypnosis, produced symbols which were consonant with those expected from the Freudian theory of symbolism. In 1924 Roffenstein (1959) found a naïve, but symbolizing subject. Under strong direction to disguise the contents of the situation about which she

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. . was to dream, the subject produced dreams vividly illustrative of the symbolic transformations Freud described.

In 1925 Nachmansohn (1959) used a procedure similar to that used by Schroetter and Roffenstein, but added a new touch. He asked <u>Ss</u> to compose symbolic dreams about a situation in the waking state and found that they could not, or would not, perform this task. Under hypnosis the same <u>Ss</u> produced elaborate, and occasionally, symbolically rich dreams about the same stimulus situation.

Farber and Fisher (1943), like the experimenters before them, became aware that not everyone would dream under hypnosis. Five of their twenty-five Ss, however, could not only transform a situation into a symbolic dream, but could translate the symbolic dreams of others. Farber and Fisher observed that the sexual nature of the symbolic transformations may have been due to the sexualized transference of the Ss to the hypnotists. They further demonstrated in a crucial dream that symbolic transformations of a non-sexual stimulus may not be distinquishable from those which have sexual referents. If one accepts the evidence of the previously cited authors concerning the symbolic transformation of sexual material, one is also forced to accept the conclusion that a symbol may sometimes be used to symbolize sexual material, and at other times to

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indirectly represent material of a less sexual nature.

In 1912 Silberer (1959) showed in his introspective accounts that symbolization may occur without intent to disguise, and without sexual or other socially reprehensible drives motivating the transformations. His symbolizations, which occurred under a reduced state of ego functioning (drowsiness), were directed toward the solution and clarification of intellectual problems which were bothering him. Although Rapaport (1959a) questioned whether any symbol can be devoid of impulse, the demonstrations by Silberer (1959), and by Farber and Fisher (1943) showed that symbolization may occur when the sexual and aggressive motivations seem to be minimal.

The demonstrations by the above authors showed clearly that some subjects under altered states of ego functioning indirectly represent ideas or situations in a manner quite similar to what Freud observed. Furthermore, symbols may be interpreted by individuals who are unfamiliar with Freudian symbol theory. The experiments of Farber and Fisher (1943), and Silberer (1959) indicated that some symbols may not have sexual referents. The observation that some symbols are relatively free of impulse cathexis supports the postulation of relative autonomy presented under the theoretical discussion.

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Krout (1950) took a clinical-experimental approach toward the construct validation of her symbol test. She accepted the Freudian hypothesis that long objects refer to the male genitalia and rounded ones to the female genitalia, and then proceeded to construct a projective test based on Freud's theory combined with her own isomorphisms. She found that the interpretation of her protocols strikingly matched those of clinical reports and impressions. Although it is difficult to evaluate the methodology in this study, one is at least impressed by the productiveness of the symbolic hypothesis as a clinical tool, as well as by the evidence which seems to favor the Freudian interpretation of line drawings.

The experimental approaches toward the validation of the theory of symbolization will be discussed next. Some of the early studies were directed more toward discovering whether words may function as substitute stimuli rather than toward studying symbolism as conceived of by the psychoanalytically oriented thinkers. Kapustnik (1934) in 1930 found that conditioned behavior was retained when words were substituted for the conditioned stimulus. In 1934 Smolenskaya (1935) obtained similar results. Wells was interested in whether <u>Ss</u> could match musical compositions with their titles. Wells's (1929) study, although poorly conceived and executed

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by modern standards, is the forerunner of many studies of the representational adequacy of art forms.

One wonders, as did Farber and Fisher (1943), how much the experimenter unconsciously or unwittingly influences the productions and interpretations of symbolic material. The studies of Greenspoon (1955), Quay (1959), Rogers (1960), and many others showed how subtly the productions of <u>Ss</u> may be influenced by the values or interests of the experimenter. Since 1954 several authors have attempted to determine whether objects and words have the referents assigned to them by<sup>•</sup> Freud and his followers. Although the studies which will follow have many methodological and theoretical flaws, the experimenter influence is greatly reduced, and there is a greater attempt at methodological, if not psychoanalytic, sophistication.

Levy (1954) stimulated many investigations by his lack of positive findings in a study he entitled "Sexual Symbolism: A Validity Study." Levy found that his fifth-grade <u>S</u>s did not match male first names with elongated or pointed objects, nor female first names with rounded or containing objects differently than would be expected by chance. He also found that the learning of paired associates (an abstract figure, and a boy's or girl's first name) was not facilitated by both members of the pair having like-sexed referents. Furthermore,

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the errors made on the recall test were not consistent with the sex referents of the symbols, i.e., the <u>S</u>s did not make errors associating male names with male symbols any more than would be expected by chance.

MacBrayer (1959) had male college <u>Ss</u> look briefly at symbol-name pairs and then attempt to recall them. She found no difference in the ability of the <u>Ss</u> to recall the names of symbols with like-sexed as opposed to opposite-sexed referents. In contrast to Levy's (1954) results, however, MacBrayer noted that the errors were in the direction of the supposed sex referent of the figures with which the name was to be paired. Since the <u>Ss'</u> guesses were in the expected direction, she concluded that her evidence supported the Freudian hypothesis.

Contrary to the findings of Levy (1954) and MacBrayer (1959), Rabe (1949) found that a symbolic connection between a symbol and its referent (Rabe used words) facilitated paired associate learning. Many of the symbol pairs that Rabe used were more closely associated than those of Levy and MacBrayer. Compare the pair "cave-womb" with the pair "pointed object-Jack." Cave and womb have a common shape, whereas "Jack" and the pointed object do not.

MacBrayer found that like-sexed symbol-name pairs did not facilitate the recall of specific names. The names

recal the s and r and a round in se (Acor 1959; The d Preud child use o label resul child: correc strate influe tional a tobac tound. s symbo recalled by the <u>S</u>s tended to have the same sex referents as the symbols. Thus the association is "pointed object-male" and not "pointed object-Jack."

Experimental support for the hypothesis that children and adults identify long and pointed objects as male, and rounded and containing objects as female has been reported in several studies utilizing line drawings as the stimuli (Acord, 1962; A. Jones, 1956; Lessler, 1962; Moos & Mussen, 1959; Stennett & Thurlow, 1958; Winter & Prescott, 1957). The data from four studies, however, did not support the Freudian hypothesis. Acord and Levy did not find that children could match first names with symbols. Either the use of a group procedure, or the use of first names as labels for the symbols could account for their lack of positive results (Lessler, 1962). The present writer (1962) found that children, when seen individually, could sort sex symbols correctly into male and female categories.

Barker (1957), and Schonbar and Davitz (1960) demonstrated that the sex-specific shape of the object would not influence the <u>Ss'</u> responses if the stimulus was a representational reproduction of a culturally sex-related object, i.e., a tobacco can would be classified as male even though it was round. These writers reasoned that if the cultural element of a symbol determines the response to it, then the Freudian

hypothesis must not be valid. Rather than accepting these results as evidence for the nonvalidity of the Freudian hypothesis, this writer believes that Barker's, and Schonbar and Davitz's results indicated that an individual will function on a secondary process level when reality cues are available. The fact that <u>S</u>s respond to reality cues does not mean that affective roots are not present.

In none of the studies reviewed have all of the symbols been correctly identified. Jacobs's (1954) <u>S</u>s identified only seventy per cent of his word symbols "correctly" as male or female. Austin Jones (1956), who used line drawings as the stimuli, reported 82 per cent correct identification. Lessler (1962) speculated that some of the misclassifications in symbol sorting studies may have been due to a conflict between the anatomical and cultural elements of the symbols.

Indirect or symbolic representation has repeatedly been found in experimental and clinical studies--the question remains whether the representation is the result of cultural associations, anatomical similarities, or both. It is predicted that when sufficient cultural cues are provided, the <u>Ss' responses will be culturally oriented</u>. When these cues are withdrawn the responses will be impulse oriented.

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## Universality and Cultural Relativism

The cross-cultural and intracultural constancy of symbolic meaning is beginning to receive experimental attention. The studies of Jacobs (1954), A. Jones (1956; 1961), Starer (1957), Winter and Prescott (1957), and many others demonstrated that symbol meanings are predictable with a variety of samples in the United States. The studies of Barker (1957), and Schonbar and Davitz (1960) indicated that the agreement on symbol meaning in the previously cited studies might have been due to cultural sex-type associations, rather than "universal" symbol referents.

A few studies outside of the United States have come to this writer's attention. McElroy (1954) gave 779 Scottish children from nine to sixteen years of age a choice between symbols and found that they generally preferred those which had the characteristics (roundness or elongatedness) of the opposite sex. McElroy discounted Sir Cyril Burt's remark that many of the symbols had cultural meanings because he believed that the symbols were chosen on the basis of their universal referent, i.e., the shape of the human body.

Jahoda (1956) used McElroy's figures with the Ga tribe in the region of Accra in Africa. He found that both males and females preferred female symbols. In that culture both sexes live exclusively with women until puberty. Jahoda's

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Another cross-cultural comparison of symbolization may be made between the results obtained by Osgood (1960) and those of Kagan, Hosken, and Watson (1961). Kagan, <u>et al</u>., studied American children, and Osgood studied Anglo-Japanese, Navajo, and Mexican-Spanish adults. Both authors found that the <u>Ss</u> most frequently attributed angularity to males and roundness to females. Kagan, <u>et al</u>. believed that the similarity in symbol meanings may be due to "universal" experiences of his subjects as well as to a common exposure to the mass media.

Other evidence bearing upon symbol universality is of a more academic character. For example, Brill (1943) and Niederland (1956) traced specific symbolic representations through mythological, historical, linguistic, and anthropological literature. Other methods of demonstrating the universality of symbols have included the exposure of particular symbols in ancient writings or drawings (Götz, 1931; Andrianova-Perete, 1935), and the analysis of a poem showing its ancient and universal roots (Barron, 1947).

It is believed by this writer that a symbol's dimensionality must be understood before one can conclude that a symbol

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has universal referents. It is conceivable that some qualities of symbols have universal meanings, but these meanings must be differentiated from those which are culture bound or idiosyncratic. It is the intent of the proposed study to establish that symbols have both universal and cultural meanings.

# Sexual Identity and Sexual Symbolism

In the present study an exploratory step has been taken toward relating symbolism to sexual identification. Some justification for such a procedure was gained from two sources. First, the perception of symbols (line drawings) has been experimentally related to personality variables by such authors as Franck and Rosen (1949), Jahoda (1956), A. Jones (1961), Krout (1950), and McElroy (1954). And secondly, Freud (1956, p. 359) in 1925 observed that the inversion of sexual symbols in dreams may express the dreamer's wish to be of the opposite sex.

The term sexual identification has many meanings even within Freud's writings. Bronfenbrenner (1960) has reviewed and integrated Freud's scattered references to sexual identification. According to Bronfenbrenner, Freud treated identification as a process in which a child models himself after his parents because of a dependent relationship

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(anaclitic identification) or a fear relationship (aggressive identification). Sometimes Freud emphasized the process and motive of identification and at other times the result. While accepting much of Freud's theory of sexual identification, other writers conceptualize the process and product of identification differently, e.g., Lazowick (1955) emphasized the learning aspect of identification, Mowrer (1953) the developmental and defensive aspects, Sanford (1955) the motive, and Brown (1958) the result.

In a paper evaluating the measures of sexual identification, Bronfenbrenner (1957) differentiated "sexual identification" from "sexual identity." Sexual identity is defined as the end product of the influences of the identification and socialization processes. The socialization process includes the emulation of teachers, relatives, and celebrities, as well as the direct and indirect manipulation of behavior by a great variety of sources in the environment.

From an experimental standpoint there is some reason to believe that sexual identity is not a unitary construct. Heston (1948), for instance, noted that those masculinityfemininity tests which contain interest items correlate higher with each other than with M-F tests which contain personality items. DeCillis and Orbison (1950), Kooser (1955), and Shepler (1951) have similarly obtained low correlations between M-F

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scales with different item content. Factor analytic studies also typically have found more than one bipolar dimension on the M-F tests (Engel, 1961; Ford & Tyler, 1952; Sanford, Webster, & Freedman, 1957).

Colley (1959, p. 167) distinguished three aspects of sexual identity. One aspect is biological sexual identity which includes ". . . the characteristics of heredity and organic structure and function which distinguish the biologically male from the biologically female." He then specified that "sociological sexual identity . . . applies to such things as gross behavior, dress, interests, attitudes, social standards of beauty and strength, and some personality characteristics. . . . " Finally, Colley defined psychological sexual identity as a person's characteristic way of perceiving his sexual interaction with others. He cautioned that although one may conceptualize various aspects of sexual identity, they are in reality only undefined parts of a gestalt.

This writer believes that one can meaningfully differentiate psychological from social sexual identity on the basis of the accessibility to conscious representation of content regarding psychological and social sexual identity. It is postulated that the manifest sexual orientation is composed of sex-role interests, preferences, and behavior which are readily available to consciousness. The latent

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aspects of sexual identity may consist of psychological reactions such as ascendence-submission, introversionextroversion, dependency needs, feelings of adequacy or inadequacy, or the perception of oneself as "male" or "female," etc. The idea of "levels" of awareness of sexual identity is suggested for its heuristic value, although it is recognized that such sharp distinctions probably do not occur. It must certainly be true that there are aspects of our social identity which are not available to consciousness, and that there are elements of our psychological identity of which we are keenly aware.

In summary, sexual identification is defined as the process by which one models himself after an individual (usually the parent) with whom he has a strong emotional bond. Sexual identity is the end product of sexual identification and of the more diffuse cultural moldings of personality into sex-types. Finally, social sexual identity is differentiated from psychological sexual identity and the former is postulated as being more available to awareness than the latter. These constructs are presented for their heuristic value and should be regarded as tentative (cf. the discussion in Chapter IV for elaboration and modification of these ideas).

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#### CHAPTER II

### SYMBOL SELECTION

The present investigation was divided into three phases. The first phase, which is outlined in this chapter, was focused on the construction of a set of line drawings. These drawings were utilized in the second phase (Experiment I) which tested hypotheses concerning the sorting of line drawings into male or female categories. The final phase (Experiment II) of the study related the self-sorting of the drawings to scores on a masculinity-femininity inventory.

Seven hundred and twenty line drawings were collected from known experimental investigations of symbolism (e.g., Krout, 1950; Lessler, 1962; Levy, 1954; MacBrayer, 1959; McElroy, 1954; Starer, 1955), from instruments utilizing line drawings (Bender Gestalt Visual Motor Test, 1938; VC Figure Preference Test, 1956; Welsh Figure Preference Test, 1949),<sup>1</sup> and from drawings specially constructed for the present study.<sup>2</sup> The drawings vary from abstract to representational, and were initially rendered in black ink on 3 x 5 white cards.

<sup>&</sup>lt;sup>1</sup>Reproduced by special permission from the authors.

<sup>&</sup>lt;sup>2</sup> The symbols were designed and rendered by Shirley M. Lessler.

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In order to establish the Freudian or anatomical referent of each figure the resulting symbol pool was submitted to a group of six judges (all staff members of the Michigan State University Counseling Center) who were familiar with the Freudian hypothesis regarding the isomorphism between symbol structure and the genitalia. The symbols were projected on a white screen by an opaque projector. After some introductory comments about the nature of the study, the judges were instructed as follows:

I would like your help in establishing the symbolic referent of some line drawings with which I am working. You will recall that Freud stated that elongated and/or pointed objects are used symbolically to represent the male genitalia, and that rounded and/or enclosing objects symbolically represent the female genitalia.

You will be shown 720 line drawings for about five seconds each. Please rate each of these drawings according to whether its shape more closely approximates that of the female genitalia or the male genitalia, i.e., according to the Freudian hypothesis. You will notice that many of the figures represent real objects. Please neglect the object value of the figure and rate it <u>only</u> in terms of the shape. You will also notice that some of the objects have complex shapes. Please rate these figures on their predominant shape characteristics.

In order to establish what objects the figures resemble, if any, the figures were presented via an opaque projector to three general psychology classes (37 students in each class; mean age: males 20-1, females 18-7). The students in each class responded to 250 figures during a one hour class session; hence, all of the symbols were not judged by each student. Inspection of five figures which were judged by one class at the beginning of the hour and by another class at the end of the hour did not reveal any obvious differences between the responses of the students in the two classes, nor did it reveal any fatigue effect. The students rated the figures in response to the following instructions:

I am conducting a research project in which I am showing students some line drawings, many of which are abstract, or unclear. I would like your help in establishing what these drawings <u>look like</u>.

I will show you each drawing for five seconds on the screen and I would like you to write in one or two words on the paper provided what the figure <u>looks like</u> to you.

There is no need to put your name on the paper since I am interested in what the drawings look like to most people, not to any single individual. Please try very hard to name each object. However, if a figure does not in any way remind you of anything put a question mark in the space provided.

Are there any questions?

The students' questions were answered by paraphrasing the instructions.

The responses to the figures were catalogued into the following categories: (1) greater than 75 per cent agreement (28 or more <u>Ss</u> gave the symbol a similar label) on what the figure looked like; (2) greater than 25 per cent, but less than 75 per cent agreement on what it looked like (9 to 27 <u>Ss</u> agreed upon what the figure looked like); (3) less than 25 per cent agreement on the object value of the figure (less than 9 <u>S</u>s agreed upon the object quality of the figure). These ratings will be referred to in the remainder of the text as "object clarity" ratings or ratings of the stimulus ambiguity.

The next step in the construction of the symbol set was to establish the "cultural sex-associations" of the objects which the students named in the last operation. Descriptions (309 items) which were assigned to any symbol by more than 25 per cent of the students were listed on a sheet of paper (Appendix A). A general psychology class of 38 students (19 males and 19 females) of approximately equivalent age (males 19-9, females 19) and grade level to the students originally making the object associations were asked to judge the cultural sex-association of the nouns. The subjects were given the following instructions:

I am conducting a research project in which I need to know whether certain objects are associated culturally more with males or with females. I have a list of 309 objects which I would like you to rate according to whether you associate them more with males or with females. Some words are listed alone, while others have an explanation or are in a series and should be considered as a group.

There is no need to put your name on the paper since I am interested in how most people in our culture respond to these objects rather than what any single individual believes. Please write your age, sex, and year in school in the appropriate spaces on the answer sheet. Anyone who is not a citizen of the U.S. should indicate this fact on the top right of the answer sheet.

I know some items will be vague and difficult, but just put down your first association to the object--

i.e., whether it seems to be associated more with males or females in our culture. Please be sure to rate every item!

Are there any questions?

Student questions were answered by paraphrasing the instructions.

The figures were categorized into sets on the basis of (a) the agreement of the judges upon the anatomical sexual referents, (b) the clarity or ambiguity of the figures in respect to what they looked like, and (c) the cultural sexassociations to the labels associated with the figure (Appendix в). The criteria for each subset and the number of figures included in each subset are specified in Appendix B. The subsets (categories) within each major set resulted from combinations of the anatomical and cultural sexual referents of the figures. Symbol categories will henceforth be indicated by groups of numerals and letters. The Roman numerals will indicate the symbol set, the first letter the Freudian sexual referent, and the second letter the cultural sex-association of the object referent.

Set I symbols are distinguished by a high agreement on the anatomical and object meanings of the figures. Set II symbols have high agreement on the anatomical dimension, but the object quality of the figures is more ambiguous. Set III symbols are of two types: one type has a high anatomical agreement, but the figures did not remind the Ss of any

cultural objects, i.e., the responses to these figures were purely descriptive (the paucity of cultural referents will be indicated by a "-"); a second type of symbol in Set III has an agreed upon anatomical referent and reminded the students of a variety of different cultural objects, but none of these objects were agreed upon by as many as nine Ss (the potpourri of object referents will be indicated by an X). Symbol Sets I, II, and III each have four categories with ten symbols in Symbol Sets IV and V each have two categories of ten each. symbols each. Symbols in Set IV have clear object and cultural referents, but the experts did not agree upon their anatomical referents (a "?" will indicate this lack of agreement). Set V symbols are similar to Set IV symbols except that the cultural referents were agreed upon by a smaller percentage of the students.

The next symbol sets to be mentioned emerged during the construction of the symbol categories and were included in the present research for any additional information they might yield. These symbols have been designated as "supplementary" symbols. Each category within the supplementary symbol set contains only five symbols. Set SI (S indicates supplementary symbols) symbols have agreed upon anatomical and object referents. The object referent was not clearly associated with men or women in the culture

or subculture represented by the sample (the lack of agreement on the sex-association will be indicated by a "?"). Set SII symbols are similar to SI symbols except that there was less consensus on what they looked like. A second type of Set SII symbol has agreed upon anatomical referents and at least two object referents upon which 25 to 75 per cent of the <u>Ss</u> agreed. The two object referents, however, have conflicting cultural sex-associations (indicated by M/F), e.g., a figure may be called a ribbon by 25 per cent of the Ss, and a bow tie by 35 per cent of the <u>Ss</u>.

In addition to the criteria mentioned above for the inclusion of symbols in the final set, the following less formal criteria were utilized by the writer for symbol selection: (1) line quality which would make the figure easily visible for group presentation, (2) content variety within each symbol category, (3) cross-cultural familiarity (at least within Western cultures), and (4) potential projective qualities.

The resulting set of 160 primary figures and 30 supplementary figures were photographically reproduced on 35mm slides for group presentation. In order to reduce response set all 190 figures were randomized with a table of random numbers for use in Experiments I and II. The symbols

are reproduced in their final order in Appendix C. The data utilized in the grouping of each symbol is presented in Appendix D.

#### CHAPTER III

# EXPERIMENT I

The thread of thought traced through the review of the theoretical and experimental literature on symbolism began with an idea presented by Langer (1942) and culminated in Experiment I. Langer stated that symbols present many concepts simultaneously. This idea was assimilated into psychoanalytic thinking by Kubie (1953a; 1953b) who postulated that a symbol functions simultaneously on various psychological levels. Fromm (1951) earlier had stated that some symbols have cultural meanings. This writer suggests that the cultural meaning is another facet of a multidimensional symbol. The postulations concerning multiple levels or multiple dimensions of sexual symbols have been mainly theoretical. This experiment was designed to investigate symbol dimensionality empirically.

The theory of mental levels, or mental topography, may be useful in thinking about symbol dimensions. The concept of topography is a direct descendent of Hughling Jackson's concept of levels of neural integration (Rapaport, 1959b). In Jackson's model higher levels of integration

inhibit or control lower levels; and impairment of a higher level function allows the reinstatement of a lower level function. Jackson's idea was the basis for Freud's dynamic psychology (Rapaport, 1959b). The eqo, which functions on the reality principle, inhibits the id, which functions on the pleasure principle. In regard to symbols it is postulated that the cultural (reality) aspects of a symbol are higher (in a topographical sense) level elements than the anatomical (instinctual) elements, i.e., cultural symbols are ego syntonic and are manipulated on a secondary process level, whereas Freudian symbols are more closely connected with their instinctual roots. Hence, when the cultural elements of a symbol are clear, one would expect, according to the Jacksonian model, an inhibition of the lower level, or anatomical elements. This formulation would account for the experimental findings of Barker (1959), and Schonbar and Davitz (1960). In addition, it would be expected that when the higher level dimensions of a symbol are not clear, or when the higher level psychological functions are inhibited, the lower level processes will be manifested. If the foregoing statements are true, and if indeed the Freudian meanings of symbols are lower level meanings, one would expect that Freudian elements of a symbol will become more apparent when the cultural elements are absent or vague, or under

conditions of reduced ego functioning. The process described is not a static domination of one psychic process by another, but an interplay of forces so that when the higher level functioning weakens or is thwarted one sees signs of lower level functioning.

#### General Hypotheses

The major hypotheses tested in Experiment I were (a) that graphically presented sexual symbols have at least two referents operating simultaneously, and (b) that the responses to these symbols would be on the highest psychic level allowed by the nature of the stimulus materials. These statements were analysed into four substatements (these will be concretized later):

- When reality cues are available <u>S</u>s will respond to the graphic symbolic representations in terms of the reality principle.
- 2. When reality (cultural) cues are only marginally available and instinct-oriented (anatomical) cues are present, Ss as a group will (a) not respond consistently if the reality and instinctual cues are incongruent (e.g., if the cultural content is masculine and the anatomical referent is feminine), (b) make a consistent response in the hypothesized direction

if the levels of the symbols are congruent (the interpretation of 2b is dependent upon the veridicality of statement 2a).

- When reality cues are minimally available, <u>S</u>s will respond to the anatomical referents of the symbols.
- 4. When the instinctual cues of a symbol are unclear or mixed, and when reality cues are (a) available, <u>S</u>s will respond to the reality cues, (b) marginally available, <u>S</u>s will respond to the reality cues (note the difference between statements 2a, 2b, and 4b).

## Subjects

The subjects for Experiment I were college students enrolled in beginning psychology courses. The subjects were sought early in the course to insure naïveté. There were 93 male <u>Ss</u> (mean age 19-3), and 76 female <u>Ss</u> (mean age 18-4) for a total N of 169. It is believed that the university student sample can provide a basis for generalizations beyond the university population since at the present stage of inquiry responses to symbolic stimuli seem to be little affected by whether one is psychotic, neurotic, or normal (Moos & Mussen, 1959); a nurse or a university student (Stennett & Thurlow, 1958); a male or a female; young or old (Lessler, 1962).

Freud (1958, p. 373) commented in this regard that symbolization is common to normals and neurotics alike.

### Instrument

Line drawings (Appendix C) were selected as the "symbolic" stimuli in this experiment and in Experiment II. There was, therefore, a need to justify both the use of line drawings and the assumption that these drawings are symbols. The rationale was partly theoretical and partly pragmatic. The psychoanalytic theory of symbolism originated from the analysis of symbolic productions in dreams. Since dream symbols are usually experienced visually, line drawings were chosen in preference to words as symbolic stimuli. Line drawings were also chosen because their cultural stimulus value can easily be manipulated. The ambiguity dimension of line drawings also may be easily varied when using graphic representation.

Line drawings are not "symbols," but "signs," as defined earlier by this writer. There was reason to expect, however, that the iconic aspects of the line drawings used in the present study made them available for the symbolization of predictable objects or ideas (cf. Ferenczi, 1952). Furthermore, having accepted the postulate that external stimuli may facilitate the redintegration of cognitive and affective associations, it was posited that the figures used in this study have symbolic potential. The line drawings will henceforth be referred to as "symbols" with full cognizance of the limitations and assumptions involved in this label.

## Procedure

The stimuli for Experiment I consisted of 190 symbols (Appendix C) constructed as outlined in the chapter on symbol selection. The symbols were presented to the <u>S</u>s in their classrooms during regular class sessions. They were projected by a 35mm automatic slide projector at the rate of five seconds per exposure. Justification for the group administration of symbols is derived from a study by Stennett and Thurlow (1958) who found no significant differences between the group and individual procedures for symbol presentation.

The <u>S</u>s were instructed to respond to the symbols as follows:

I would like your cooperation in some research I am conducting. I have distributed an IBM answer sheet to each of you. Please do not put your name on it so that your answers will remain anonymous. I do need to know your age, sex, and year in school, so please write this information in the appropriate spaces. Also, if you were not born in the U.S., please write the approximate number of years you have been in this country.

I want to learn whether the line drawings and abstract figures you will be shown remind people more of males or females. I realize that many of the drawings do not look like real objects, but I would like you to

use your imagination and mark the first response that comes to your mind. If the drawings remind you more of males, i.e., men or boys, place a mark in the column labeled M on your answer sheet. If the drawing reminds you more of females, i.e., women or girls, place a mark in the column labeled F. You will not have time to stop and think; just mark the first answer that comes to your mind. You will be shown 190 drawings for five seconds each and should record your answer during this time. Be sure to make a choice for every drawing.

Are there any questions?

All questions were answered by paraphrasing the instructions.

### Specific Predictions

The following predictions were made from the general statements presented earlier in the discussion of this experiment. For each prediction the null hypothesis was rejected if the symbol sort differed from chance at least at the .05 level of significance (two-tailed test).

- 1. Set I symbols
  - a. Set I symbols which have congruent cultural and anatomical referents (IMM, IFF), will be sorted in the direction hypothesized for these referents.
  - b. Set I symbols which have incongruent cultural and anatomical referents (IMF, IFM), will be sorted in a manner consistent with the cultural stimulus value of these symbols.

- 2. Set II symbols
  - a. Set II symbols which have congruent cultural and anatomical referents (IIMM, IIFF) will be sorted in the direction hypothesized for these referents.
  - b. Set II symbols will have incongruent cultural and anatomical referents (IIMF, IIFM) will not be sorted consistently by either their cultural or their anatomical referents.
- 3. Set III symbols
  - a. Set III symbols with no distinguishable cultural stimulus value (IIIM-, IIIF-) will be sorted in a manner consistent with their judged Freudian (anatomical) referents.
  - b. Set III symbols with mixed cultural object referents (IIIMX, IIIFX) will be sorted in a manner consistent with their anatomical referents.
- 4. Set IV symbols (IV?M, IV?F) will be sorted in a manner consistent with their cultural referents.
- 5. Set V symbols (V?M, V?F) will be sorted in a manner consistent with their cultural referents.
- 6. Supplementary symbol sets
  - a. Set SI symbols (SIM?, SIF?) will be sorted consistent with their anatomical referents.

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- b. Set SII symbols (SIIM?, SIIF?) with unclear cultural sex-associations will be sorted in a manner consistent with their anatomical referents.
- c. Set SII symbols (SIIMM/F, SIIFM/F) with mixed stimulus values and conflicting cultural sexassociations will be sorted in a manner consistent with their Freudian referents.
- No sex differences will be found in the categorization of symbols.

#### Results

Tables 1 through 8 contain the results of the statistical tests of the predictions in Experiment I. Before proceeding with the presentation of the results, the abbreviations and terminology used in the text and tables will be clarified.

- Symbol sets: symbols were grouped on the basis of similarity of qualities. The qualities common to each set are outlined below and were discussed more extensively earlier (also cf. Appendices B and D).
  - Set I (4 categories; 10 symbols each): cultural object referents were clear, and Freudian sexual referents were agreed upon by the judges.
  - Set II (4 categories; 10 symbols each): cultural
     object referents were more ambiguous than in Set I,
     and Freudian sexual referents were agreed upon by the
     judges.

- Set III (4 categories; 10 symbols each): cultural
   object referents were either not apparent or were
   scattered, and Freudian sexual referents were agreed
   upon by the judges.
- Set IV (2 categories; 10 symbols each): cultural object referents were clear, and Freudian sexual referents were <u>not</u> agreed upon by the judges.
- Set V (2 categories; 10 symbols each): the cultural
   object referents were less clear than in Set IV,
   and Freudian sexual referents were not agreed upon
   by the judges.
- Set SI (2 categories; 5 symbols each): cultural object referents were clear, but the cultural sex-association of the object referents were not agreed upon. Freudian sexual referents were agreed upon.
- Set SII (4 categories; 5 symbols each): cultural
   object referents were less clear than in Set SI
   symbols. Sex-associations were not agreed upon or
   were conflicting. Freudian sexual referents were
   agreed upon.
- Symbol category: a symbol category was the most homogeneous
  grouping of symbols. Symbols within a category were
  similar in respect to the sexual referents of the
  Freudian elements, the clarity of the object referents,
  and the cultural sex-association of the object
  referents.
- Combined symbol category: two symbol categories which were similar except for the sexual referents of the two symbol elements were combined in a single category.

## Abbreviations:

Roman numerals: designates the symbol set.

- S: designates supplementary symbol sets.
- First letter after Roman numeral: specifies the Freudian referent.

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M = male sexual referent

F = female sexual referent

? = sexual referent not agreed upon by the
 judges

Second letter after Roman numeral: provides information about the cultural referent.

- M = male sex-association
- F = female sex-association
- ? = sex-association not agreed upon by the
   judges
- X = numerous object referents
- = little object quality

Example: IIMF = Set II symbols with male Freudian
and female cultural referents; IV?F = Set IV
symbols with no agreed upon Freudian referents
and feminine cultural referents.

Sex-group: a sample of <u>S</u>s of one sex.

Combined sex-group: the male and female <u>Ss</u> consolidated into a single sample.

Prediction 1: Set I Symbols

(a) It was predicted that Set I symbols which had congruent cultural and anatomical referents (IMM, IFF) would be sorted in respect to these referents, i.e., IMM symbols would be sorted as male and IFF symbols would be sorted as female. The <u>t</u>'s reported in Table 1 for Set I congruent symbols were all significant well beyond the .001 level and support Prediction 1a. These <u>t</u> tests compared the mean sort of the symbols into male or female categories with

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the sort which would be expected by chance. For all tests in Experiment I it was expected that 50 per cent of the symbols would be sorted in respect to the prediction by chance alone. The chance expectancy for the individual symbol categories for the Set I congruent symbols was five; however, most <u>Ss</u> sorted nine or ten of these symbols as predicted (mean sort = 9.7 for the male subjects, and 9.28 for the female subjects).

(b) It was predicted that Set I symbols which had incongruent cultural and anatomical referents (IMF, IFM) would be sorted consistent with the cultural sex-association of their object referents. The data from all symbol-category sex-group combinations clearly support this prediction well beyond the .001 level of significance (Table 1). An average of 8.78 IMF symbols were sorted as feminine, and 9.42 IFM symbols were sorted as masculine (chance expectancy was five) in the combined sex-group.

### Prediction 2: Set II Symbols

(a) It was predicted that the Set II symbols which had congruent cultural and anatomical referents (IIMM, IIFF) would be sorted according to these referents. Set II congruent symbols were sorted as predicted by all subgroups and in both symbol categories significantly (p  $\leq$  .001) better than

Set			Congruent			Incongurent	
		MMI	IFF	I MM+FF	IMF	IFM	I MF + F M
Males	م بر	9.753	9.247	19.00	8.774	9.258	18.032
(n=93)	້ທ	.3621	.6230	.9783	1.9811	2.4109	6.575
	4	76.17***	51.92***	88.24***	25.87***	26.45***	30.21***
Females	١×	9.750	9.316	<u>1</u> 9.053	8.789	9.618	18.408
(n=76)	້ຜ	.2967	.6456	1.3038	1.8751	.4258	2.4581
	Ļ	76.12***	46.81***	69.11***	24.12***	61.74***	46.74***
Males +	ж	9.751	9.278	19.030	8.781	9.420	18.201
Females	້ຜ	.3307	.6305	.8920	1.9220	1.5427	4.7331
(N=169)	Ļ	107.49***	<b>***</b> 06.69	124.38***	35.44***	46.28***	49.02***

Comparisons of M-F sort of Set I symbols with chance expectancy. Table l

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<sup>a</sup>Chance expectancy = 5 for individual symbol categories and 10 for the categories combined.

 $b_{Means}$  = the number of symbols sorted by the cultural referents.

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chance (Table 2). The observed means revealed that 7.81 IIMM symbols were sorted as male, and 7.44 IIFF symbols were sorted as female in the combined sex-group where the chance expectancy was a mean of five correct sorts.

(b) It was predicted that the Set II symbols which had incongruent cultural and anatomical referents (IIMF, IIFM) would not be sorted by either their cultural or anatomical referents. These symbols were sorted consistent with the cultural sex-association of their object referent at less than the .001 level of significance (Table 2). The mean sort of these symbols when scored with the cultural referent was 6.6 for the IIMF symbols, 6.7 for the IIFM symbols, and 13.3 for the combined Set II incongruent symbol categories (chance expectancy was 5, 5, and 10, respectively).

# Prediction 3: Set III Symbols

It was predicted that Set III symbols with no distinguishable cultural stimulus value (IIIM-, IIIF-) would be sorted consistent with their anatomical referents. Prediction 3a was supported in all symbol categories and sexgroup combinations (Table 3). The Set IIIM- symbols were sorted consistent with their male Freudian referents significantly (p  $\langle .001 \rangle$  more often than was expected by chance. The mean sort in the direction of the Freudian referent was 6.87

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$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Set			Congruent		I	Incongruent	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$			MMII	IIFF	IIMM+FF	IIMF	IIFM	IIME+FM
	Males	d K Na	7.495	7.688	15.16	6.774	6.516	13.290
t 16.44*** 20.72*** 25.79*** 8.90*** 8.90*** $\overline{X}_2$ 8.184 7.132 15.32 6.368 1.2723 2.2224 4.1123 3.5158 6.36*** 2.24.61*** 12.47*** 22.87*** 6.36*** 6.36*** 12.47*** 22.87*** 6.36*** 6.36*** 12.47*** 22.87*** 10.85*** 10.85*** 10.85*** 1 ***p < .001	(n=93)	ູ	2.1440	1.5647	3.7237	3.6984	4.4264	11.9691
$ \overline{X}_{2}^{2} \qquad \begin{array}{ccccccccccccccccccccccccccccccccccc$		ч	16.44***	20.72***	25.79***	8.90***	6.95***	9.169***
	Females	к	8.184	7.132	15.32	6.368	7.039	13.408
t 24.61*** 12.47*** 22.87*** 6.36*** $\overline{X}_2$ 7.805 7.438 15.23 6.592 s 1.8604 1.9262 3.8810 3.6359 t 26.74*** 22.85*** 34.52*** 10.85*** 1 ***p < .001	(n=76)	<mark>م</mark> ۷	1.2723	2.2224	4.1123	3.5158	3.6118	8.5381
$ \frac{\overline{X}}{s}^{2} 7.805 7.438 15.23 6.592 6 \\ s^{2} 1.8604 1.9262 3.8810 3.6359 4 \\ t 26.74*** 22.85*** 34.52*** 10.85*** 11 \\ ***p < .001 $		ч	24.61***	12.47***	22.87***	6.36***	9.35***	10.17***
<pre>s<sup>4</sup> 1.8604 1.9262 3.8810 3.6359 4 t 26.74*** 22.85*** 34.52*** 10.85*** 11 ***p &lt; .001</pre>	Males +	١×	7.805	7.438	15.23	6.592	6.751	13.343
t 26.74*** 22.85*** 34.52*** 10.85*** 11 ***p < .001	Females	۵ م	1.8604	1.9262	3.8810	3.6359	4.1045	10.3696
***p < .001	(N=169)	Ч	26.74***	22.85***	34.52***	10.85***	L L	13.50***
		> d***	.001					

Set II symbols with chance expectancy.<sup>a</sup> sort of Comparisons of M-F Table 2.

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categories combined.

 $\mathbf{b}_{\mathsf{Means}} = \mathsf{the} \mathsf{number} \mathsf{of} \mathsf{symbols} \mathsf{sorted} \mathsf{by} \mathsf{the} \mathsf{cultural} \mathsf{referents}.$ 

Table 3. Comparisons	Comp	of M	sort of Set	LF sort of Set III symbols with chance expectancy	with chance	•	ru
Set		-WIII	IIIF-	IIIM-+F-	XWIII	IIIFX	IIIMX+FX
Males (n=93)	ب ه <sub>2</sub> xل	6.871 3.2440 10.02***	5.742 7.2370 2.66**	12.61 9.5442 8.146***	6.462 2.8817 8.31***	6.419 3.2244 7.62***	12.88 7.1054 10.42***
Females (n=76)	$t $ $\mathbf{x}_2^{\mathbf{X} }$	8.145 2.5254 17.25***	5.579 6.4070 1.994*	13.66 9.8014 10.19***	7.447 1.7438 16.15**	5.013 3.5598 0.06	12.45 6.2505 8.543***
Males + Females (N=169)	t s <sub>2</sub>	7.444 3.3078 17.47***	5.669 6.8300 3.33***	13.08 9.8740 12.74***	6.905 2.5981 15.36***	5.787 3.8472 5.22***	12.69 6.7284 13.48***
* *	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	.05 .01 .001					

categories combined.

 $b_{Means} = the number of symbols sorted by the anatomical referents.$ 

<sup>a</sup>Chance expectancy = 5 for individual symbol categories and 10 for the

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for the male <u>S</u>s, and 8.15 for the female <u>S</u>s. The IIIFsymbols were also sorted in the direction of the Freudian referents, although the <u>t</u>'s did not reach as high a level of significance. The mean sort in the direction of the female Freudian referent was 5.74 (p  $\langle .01 \rangle$ ) for the male <u>S</u>s, and 5.58 (p  $\langle .05 \rangle$ ) for the female <u>S</u>s.

(b) It was predicted that Set III symbols with mixed cultural object referents (IIIMX, IIIFX) would be sorted consistent with their anatomical referents. Set IIIMX and IIIFX symbols were sorted in respect to their anatomical referents by the combined sex-group at less than the .001 level of significance (Table 3). When the symbol and sex categories were considered individually, it was observed that the female sort of the IIIFX symbols was not significantly different from that expected by chance. All other symbol-category sex-group combinations reached a level of significance less than .01. The mean sort consistent with the Freudian referent of the IIIMX symbols was 6.9, and 5.8 for the IIIFX symbols for the combined sex-group.

#### Prediction 4: Set IV Symbols

It was predicted that Set IV (IV?M, IV?F) symbols would be sorted consistent with their cultural referents. This prediction was supported in each symbol-category

sex-group combination at a level of significance well beyond .001 (Table 4). The mean sort expected by chance was five for the individual symbol categories. It was observed in the combined sex-group that an average of 9.3 IV?M symbols were sorted in respect to their male cultural referents, and 9.1 IV?F symbols consistent with their female cultural referents.

Table 4. Comparisons of M-F sort of Set IV symbols with chance expectancy.<sup>a</sup>

Set		IV?M	IV?F	IV?M+?F
Males	$\overline{x}_{2}^{b}$	9.194	8.978	18.172
(n=93)	s	.8317	.8908	2.5353
	t	44.33***	40.67***	49.50***
Females	$\overline{x}_2$	9.329	9.303	18.632
(n=76)	s	.6770	.4538	1.3558
-	t	45.91***	55 <b>.67***</b>	64.66***
Males +	$\overline{x}_2$	9.254	9.124	18.379
Females	s	.7622	.7166	2.0462
(N=169)	t	63.30***	63.35***	76.17***

\*\*\*p < .001

<sup>a</sup>Chance expectancy = 5 for individual symbols categories and 10 for the categories combined.

<sup>b</sup>Means = the number of symbols sorted by the cultural referents.

Prediction 5: Set V Symbols

It was predicted that Set V symbols (V?M, V?F) would be sorted consistent with their cultural referents. The Set V

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symbols were sorted consistent with the cultural sex-associations of the object referents as was predicted by both sexes and by the combined sex-groups at a significance level beyond .001 (Table 5). The means for the combined sex-groups were 7.5 V?M symbols sorted as male, and 6.1 V?F symbols sorted as female when the chance expectancy was five.

Set		V?M	V?F	V?M+?F
Males (n=93)	$\frac{\overline{x}_{2}^{b}}{s}$ t	7.409 2.2225 15.58***	6.419 1.8983 9.93***	13.828 3.9266 18.63***
Females (n=76)	₹ s t	7.618 1.8391 16.84***	5.803 3.0938 3.98***	13.421 5.3137 12.99***
Males + Females (N-169)	x2 s t	7.503 2.0491 22.75***	6.142 2.5154 9.36***	13.645 4.5637 22.18***

Table 5. Comparisons of M-F sort of Set V symbols with chance expectancy.<sup>a</sup>

\*\*\*p < .001

<sup>a</sup>Chance expectancy = 5 for individual symbol categories and 10 for the categories combined.

<sup>b</sup>Means = the number of symbols sorted by the cultural referents.

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Prediction 6: Supplementary Symbol Sets

(a) It was predicted that the Supplementary Set I (SIM?, SIF?) symbols would be sorted consistent with their anatomical referents. The results from the combined male and female samples for the combined symbol categories indicated that these symbols were sorted opposite (p  $\langle$  .001) to the Freudian referents of the symbols (Table 6). The male Ss sorted these symbols in opposition to the Freudian referents (mean = 4.2) with a consistency greater than would be expected by chance (p  $\langle .001 \rangle$ ). The female sample, however, did not sort the symbols significantly different from chance (mean = 4.8). The significant t found in the combined sex and combined symbol categories was therefore a result of the male sort. When Table 6 was examined further it was noted that the female Ss sorted the SIM? symbols in agreement with the Freudian referents, but sorted the SIF? symbols in opposition to the Freudian referents. The summation of these two sorts in the combined SI symbol category resulted in these two significant but opposite sorts cancelling each other.

When the symbol categories and sex-groups were considered individually, it was noted that the SIM? symbols were sorted in respect to their Freudian referents significantly (p  $\langle .001 \rangle$ better than chance by the female <u>S</u>s, but were not sorted

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different from chance by the male <u>Ss</u>. With a chance expectancy of 2.5 "correct" sorts, the males sorted 2.7 SIM? symbols consistent with the Freudian referents, and the females sorted 3.0 SIM? symbols in respect to the Freudian referents. The SIF? symbols were sorted opposite from the Freudian referents by both the male and female <u>Ss</u> at less than the .001 level of significance. The male <u>Ss</u> sorted 1.7 SIF? symbols and the female <u>Ss</u> 1.9 SIF? symbols according to the female Freudian referents, when the chance expectancy was 2.5.

The results from the statistical analysis of the SI symbols yielded inconsistent and misleading information. These results will be commented upon in the discussion section of the present chapter (also cf. the item analysis, Appendix E).

(b) It was predicted that SII symbols (SIIM?, SIIF?) which did not have agreed upon cultural sex-associations would be sorted consistent with their anatomical referents. The results of the combined symbol category data, as in the case of the SI symbols, were not representative of the individual symbol category sorting. The data from the combined symbol categories indicated that the SII symbols were sorted by their Freudian referents. The male <u>Ss</u> sorted these symbols in respect to the anatomical referents with a consistency expected by chance less than one time in a

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Table 6.		Comparisons of M-F	sort of th	the supplementary symbols with chance expectancy.	ary symbols w	vith chance	expectancy. <sup>a</sup>
Set		ŚWIS	SIF?	SIM?+SIF?	SIIM?	SIIF?	SIIM?+SIIF?
Males (n-93)	t s 2 t	2.677 1.0035 1.70	1.742 .9327 -7.57***	4.419 2.1809 -3.795***	3.280 .9427 7.75***	2.236 1.1608 -2.36*	5.516 1.9264 3.586***
Females (n=76)	$\mathbf{x}_2^{\mathbf{x}_2}$	3.026 1.0660 4.44***	1.868 .7824 -6.23***	4.895 1.6154 -0.7202	3.329 .9437 7.44***	2.053 1.0105 -3.88***	5.382 1.7591 2.510*
Males + Females (N=169)	t s <sub>2</sub>	2.834 1.0557 4.23***	1.799 .8640 -9.80***	4.633 1.9718 -3.398***	3.302 .9382 10.76***	2.154 1.0952 -4.30***	5.456 1.8447 4.368***
		SIIMM/F	SIIFM/F	SIIMM/F+SIIFM/F	IFM/F		
Males (n=93)	t s2	2.484 1.10133 -0.15	2.645 1.1879 1.28	5.129 2.3745 0.8072			
Females (n=76)	د ه <mark>x</mark> د	2.263 1.4498 -1.72	2.684 .9389 1.66	4.947 2.1584 -0.3145			
Males + Females (N <del>=</del> 169)	t s <sub>2</sub>	2.385 1.2143 -1.36	2.663 1.0701 2.05*	5.047 2.3311 0.400			
	**p <	.05 .001					
<sup>a</sup> Chance exp categories combined	aChance	ce expectancy = bined.	2.5 for	individual sy	symbol categories	and 5	for the

 $b_{Means}$  = the number of symbols sorted by the anatomical referents.

categories combined.

thousand. The females likewise sorted the combined SII symbols in the anatomical direction, but at a lower level of significance (p < .05). When the two single sex samples were combined, the significance level for the sort of the symbols in the Freudian direction was less than .001 (Table 6).

When the symbol categories were considered individually, however, it was found that while the SIIM? symbols were sorted in the Freudian direction at less than the .001 level of significance, the SIIF? symbols were sorted opposite to the Freudian direction, i.e., as male ( $p \leq .05$ ). When the two categories were combined, the more consistent sort of the SIIM? symbols overshadowed the reversal in the SIIF? symbols and made it appear as though Prediction 6b was supported. These results will be commented upon further in the discussion section of the present chapter (also cf. the item analysis, Appendix E).

(c) It was predicted that SII symbols (SIIMM/F, SIIFM/F) which had more than one object referent with conflicting cultural sex-associations would be sorted consistent with their Freudian referents. These symbols were not sorted different from chance expectancy (2.5 in single symbol categories and 5 in the combined categories) by either the single sex-groups or the combined sex-groups. This prediction was not supported from the data of the present study.

found The r comp of t sort, major the g the <u>s</u> Where symbo Freud ncre ir tı IIIM ∏ale Were sorte their ŝs so of the

Prediction 7: Sex Differences

It was predicted that no sex differences would be found in the categorization of symbols as male or female. The mean sorts of the male and the female <u>Ss</u> and the statistical comparisons of these means are presented in Table 7. Because of the irregularities observed in the supplementary symbol sort, only the statistical comparison (<u>t</u> tests) of the five major symbol categories will be discussed.

No sex differences were observed in the sorting of the symbols in Set I. This fact was partially explained by the Ss' high level of accuracy in the sorting of these symbols. Where sex differences were observed in the Set II and III symbols, male Ss were found to sort symbols with feminine Freudian referents (IIFF, IIIFX) significantly ( $p \langle .01$ ) more consistently than did the female Ss. The female Ss, in turn, sorted symbols with male Freudian referents (IIMM, **IIIM-)** significantly (p  $\langle$  .001) more consistently than did the males. In the two symbol sets with Freudian referents that were not agreed upon by the judges (IV and V), the male <u>S</u>s sorted V?F symbols significantly (p  $\langle .05 \rangle$  more in terms of their cultural referents than did the females, and the female Ss sorted IV?F symbols significantly (p  $\langle .05 \rangle$  more in terms of their cultural referents than did the males. No sex

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Table

			Set I			
	IMM	IFF	IMM+FF	IMF	IFM	IMF+FM
x,	9.753	9.247	19.00	8.774	9.258	18.032
$\overline{\overline{x}}_{F}^{M}$ t	9.750	9.316	19.053	8.789	9.618	18.408
t <sup>r</sup>	.03	-0.56	-0.323	-0.07	1.89	-1.119
			Set II			
	IIMM	IIFF	IIMM+FF	IIMF	IIFM	IIMF+FM
X X X t	7.495	7.688	15.16	3.226	3.484	6.710
$\overline{\mathbf{X}}_{\mathbf{n}}^{M}$	8.184	7.132	15.32	3.632	2.961	6.592
t	-3.37***	2.63**	-0.524	-1.38	1.68	0.236
			Set III			
	IIIM-	IIIE-	. IIIM-+F-	IIIMX	IIIFX	IIIMX+FX
X <sub>M</sub>	6.871	5.742	12.61	6.462	6.419	12.88
-M -7	8.145	5.579	13.66	7.447	5.013	12.00
X <sub>M</sub> X <sub>F</sub>	-4.82***	0.40	-2.185*	4.14***	4.95**	
	Set IV Set V					
	IV?M	IV?F	IV?M+?F	V?M	V?F	V?M+?F
<u>x</u> ,	9.194	8.978	18.172	7.409	6.419	13.828
$\overline{\overline{\mathbf{X}}}_{\mathbf{F}}^{\mathbf{M}}$	9.329	9.303	18.632	7.618	5.803	13.421
t	-1.00	-2.52*	-2.101*	-0.94	2.55*	1.234
		Suppl	ementary Sy	mbol <b>s</b>		
	SIM?	SIF?	SIM?+F?	SIIM?	SIIF?	SIIM?+F?
<u> </u>	2.677	1.742	4.419	3.280	2.236	5.516
X X T t	3.026	1.868	4.895	3.329	2.053	5.382
t	2.22*	-0.88	-2.218*	-0.33	1.13	0.669

Table 7. Comparison of male and female means for M-F symbol sort.

SIIMM/F	SIIFM/F	SIIMM/F+FM/F
2 494	2 645	5.129
		4.947
		0.770
	2.484 2.263 1.30	2.263 2.684

\*\*\*p < .001

Table 7. <u>Continued</u>

differences were observed in the sorting of symbols with male cultural referents in Sets IV and V.

# Congruity of Referents

The sorting of the congruent symbols was compared with the sorting of the incongruent symbols within Sets I and II by the use of a paired t test (Table 8). Within Sets I and II, symbols which had congruent Freudian and cultural referents (IMM, IFF, IIMM, IIFF) were sorted significantly  $(p \langle .001)$  more consistently than those which had incongruent symbol elements (IMF, IFM, IIMF, IIFM). The differences between the congruent and incongruent symbols of Set I were compared with those of Set II by the use of a procedure outlined by Walker and Lev (1953, p. 158). It was found that the differences between the congruent and incongruent symbols in Set II were significantly (t = -5.197, p < .001) larger than the differences between the sorting of congruent and incongruent symbols in Set I. Incongruity of symbols thus seemed to have had the effect of reducing the mean sort of symbols which were otherwise similar. This effect appeared to increase with a reduction in the clarity of the object referents of the symbols (from Set I to Set II).

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Table 8. Tests for the effect of ambiguity and congruence on the M-F symbol sort (N=169).

	Comparison of Congruent ar	nd Incongruent Symbols
	Set I	Set II
D	0.822	1.888
s <u>–</u> D	0.1652	0.2989
t	4.976***	6.316***

Comparison of Unambiguous and Ambiguous Symbols

	Congruent Symbols Set I vs. II	Incongruent Symbols Set I vs. II	Set IV vs. V
D	3.793	4.858	4.737
s <sub>—</sub>	0.1612	0.2963	0.1693
t	23.530***	16.396***	27.962***

\*\*\*p < .001

### The Ambiguity Dimension

The mean sorts of symbols which were similar to each other in every respect except for the ambiguity of the cultural referent were compared with each other by use of a paired <u>t</u> test. Symbols with greater object clarity were sorted significantly ( $p \leq .001$ ) more consistently than similar symbols with more ambiguous object referents (Table 8). Hence, Set I congruent symbols were sorted significantly ( $p \leq .001$ ) better than Set II congruent symbols. Set I incongruent symbols were likewise sorted significantly ( $p \leq .001$ ) more consistently than their counterparts in Set II. Finally, Set IV symbols were sorted more accurately ( $p \leq .001$ ) than Set V symbols.

## Item Analysis

A response count was made for each of the 190 symbols. The number of responses classifying each symbol as male is recorded in Appendix E. The normal approximation to the binomial distribution was used to test whether the sort of any item was different from that expected by chance. Each symbol would have a .5 probability of being identified in the predicted direction by chance alone. Since there was an N of 169, at least 71 <u>Ss</u> sorting a symbol in one direction was needed for the sort to be considered significantly different from chance at the .05 level, 67 <u>Ss</u> sorting in one direction

for the .01 level, and a split of at least 63 to 106 for the .001 level.

# Set I Symbols

Every Set I symbol (congruent and incongruent) was sorted in the direction predicted from the cultural referent with a consistency expected by chance less than one time in one thousand.

## Set II Symbols

All but two (29 and 69) of the congruent symbols in Set II were sorted according to their cultural referents by the combined sex sample ( $p \le .001$ ). Symbol 29 was described as a slice of bread, and symbol 69 as a propeller. A summary statement will be made in this section about each of the symbols which was not sorted as expected in order to orient the reader and aid in understanding the inconsistencies. The reader is referred to Appendix D for a fuller account of the predominant descriptions attributed to each symbol by the raters in the symbol construction phase of the present research.

Fifteen out of twenty incongruent symbols in Set II were sorted consonant with their cultural referents with a frequency expected by chance less than one time in one

hundred. The five symbols (7, 47, 134, 169, 171) which were not sorted consistently were described by the <u>S</u>s as follows: MF symbol 134 was seen predominantly as a witch's hat, but ten <u>S</u>s saw it as a tack; a second MF symbol (169) was seen most often as a rolling pin, but was seen by other <u>S</u>s as a firecracker, a club, and a dynamite stick. Three FM symbols were also found to have had some dissonance among the cultural associations: symbol 7 was seen predominantly as a boxing glove, but was described as a mitten or a glove by ten <u>S</u>s; symbol 47 was seen by 22 <u>S</u>s as a ball, but it was also seen as an orange or an onion; finally, symbol 171 was described as a spring, but also as a bracelet, a barrel, and piston rings.

## Set III Symbols

All of the Set III symbols with male anatomical referents and with a minimum of cultural stimulus qualities (IIIM-) were sorted by their Freudian referents more often than would be expected by chance ( $p \leq .01$ ). Five of the Set III female symbols (IIIF-) were sorted consistent with their anatomical referents more often than expected by chance ( $p \leq .05$ ) although four of the female symbols were not sorted significantly different from chance expectancy (these symbols were all circles or combinations of circles). One

symbol (89) was sorted <u>opposite</u> to the predicted direction ( $p \leq .001$ ). Symbol 89 was most often described as "semicircles," but the few object associations given tended to be masculine, e.g., wheel and fender, steering wheel, fish lure, and sweat band. (See Appendix F for a complete summary statement of the data on the "recalcitrant" symbols.)

Thirteen out of twenty Set III symbols with multiple object associations were sorted according to their anatomical referents. Eight IIIMX symbols were sorted by a significant  $(p \leq .001)$  number of the <u>S</u>s as male, although two male symbols (102 and 113) were sorted as female with greater frequency than would be expected by chance  $(p \leq .01)$ . Symbol 102 looked like a ribbon to seven <u>S</u>s, although others saw it as a worm, algae, and string. Symbol 113 was seen variously as a finger, fetus, pipe, pen, and gum. It should also be noted for later discussion that symbol 102 and 113 were both somewhat rounded, although the judges agreed that their shapes were predominantly masculine.

Three Set III female symbols with varied cultural stimulus values (IIIFX) were not sorted consistently as masculine or feminine. Two of these symbols (67, 148) were sorted by a significant (p < .001) number of <u>S</u>s as masculine. Symbol 148 was seen by eight <u>S</u>s as a wheel, by eight as a donut, and by others as a dish, target, inner tube, record, and rifle

bore. Symbol 67 was thought by some to look like a wheel, radar, fur or waves.

## Set IV Symbols

All male symbols in Set IV, and all but one female symbol, were sorted according to the cultural sex-association of the object referents more often than expected by chance  $(p \leq .001)$ .

#### Set V Symbols

The Set V symbols were predominantly sorted (13 out of 20) as predicted from their cultural referents. Five female symbols and one male symbol were not sorted significantly different from chance expectancy. One male symbol (187) was sorted as feminine. This symbol was thought to look like a keg or a barrel by fourteen <u>S</u>s; however, eight <u>S</u>s believed it looked like a bowl or an urn. (Note that agreement by only eight <u>S</u>s was not sufficient for the labels to have been considered in the symbol grouping.)

## Supplementary Symbols

The results of the item analysis of the supplementary symbols were quite irregular (Appendix E). Twelve out of the thirty symbols were sorted consistent with their Freudian

referents, but thirteen were sorted in <u>opposition</u> to the Freudian referents. The remaining five symbols were not sorted in a manner that could be distinguished from chance. The reader is referred to Appendices D through F as well as to the methodology section in the discussion for elucidation of the complexity of these symbols.

## Discussion

In order to accentuate an attitude of cautiousness in the interpretation of the results of Experiment I the discussion will be initiated by a consideration of some methodological difficulties. The section on methodology will be followed by several sections on the interpretation of the results. The discussion will conclude with some suggestions for further research.

### Methodological Problems

The supplementary symbols served the valuable, but dubious, function of highlighting methodological problems. The problems which will be discussed below were drawn into sharp focus through a consideration of the items that were <u>not</u> sorted as predicted, or like other symbols in the same category. This section is not intended to vitiate the negative or disruptive results, but to expose the difficulties which to

some extent affected all of the items used in this study.

Differences between word and picture. (a) The sexassociation of the figures used in the present study was determined from students' M-F responses to labels of these drawings. This procedure assumed that the cultural sexassociation of a label would be similar to the sexassociation of a drawing. In many cases this assumption may be justified, especially when the word specifies an object which has little variation, e.g., baseball. In other cases the sex-association to a label may be expected to be similar to that of the pictured object even though the label may conjure up a variety of mental images of objects in the class specified by the label. For example, the word "gun" may elicit a great variety of images, although it is assumed that all of these images would have a similar sex-association, viz., male. Sometimes the two methods of eliciting a sexassociation (via words or pictures) may yield conflicting results. The possibility that the associations may be different to written labels and to line drawings of objects was supported in a study by Dorcus (1932), and in another by Karwoski, Gramlich, and Arnott (1944). The objects used by Karwoski <u>et.al</u>., were similar to those used in the present study.

Five of the "mis-sorted" symbols may have elicited inappropriate sex-associations as a result of a label-object disparity. Symbol 41 was most frequently referred to as a box, and therefore "box" was the term used to elicit the sexassociations. The particular box pictured looks like a crate or a shipping carton. It seems plausible that the association to "crate" may be different than that to "box." Similarly, a symbol which looks like a kitchen multipurpose tool (70) was referred to as a can or bottle opener. On the basis of the label alone one might think of a beer can opener which would probably be associated more with males than with females. Symbols 112, 60, and 183 may suffer from the same malady. The fact that many symbols which were used in the supplementary symbol category did not yield clear cultural sexassociations may have been the result of the methodology employed.

If the foregoing observations were correct, then the studies of symbolism which used words as the symbolic stimuli (e.g., Dixon, 1956; Jacobs, 1954; Rabe, 1948; 1949) would not be directly comparable to those which used drawings.

(b) <u>Object associations not reaching a frequency high</u> <u>enough to be considered in the symbol classification</u>. Only those labels which were attached to the figures by nine or more subjects were considered in the grouping of symbols.

The use of this arbitrary cutting point made it appear as though some figures did not have a recognizable object quality, or had one object quality, when actually there were other "hidden" object associations to the figures which were neglected. This methodological quirk may have been the factor which caused the "mis-sorting" of several symbols. For example, symbol 187 was referred to as a barrel or keg by more than eight Ss, and therefore was classified on the basis of this label. However, eight Ss saw symbol 187 as a vase or urn, and nine others saw it as a basket, muff, bowl, jar, and candle vase. More Ss indicated that figure 187 looked like a feminine object than indicated that it looked like a masculine object, but because of the method used for symbol classification the symbol was treated as if its predominant cultural referent was male.

Another result of the use of an arbitrary cutting score was to classify symbols as eliciting numerous object associations when actually they may have had only one or two predominant labels (see symbol 148) which did not reach the frequency necessary to be considered in the classification. From a perusal of Appendix F it appears that many of the symbols which were not sorted in a manner which could be differentiated from chance, or were sorted in opposition to prediction, had one or more of these "hidden" cultural referents. Fortunately,

in most cases there was either little agreement or substantial agreement upon the object referent of a figure.

(c) Misleading grouping of labels for cultural sexassociation. The descriptions of what the figures in the present study looked like were later used to determine the cultural sex-associations of the figures. The manner in which these descriptions were presented to the Ss (Appendix A) influenced the sex-association elicited. For example, the labels "coffee cup" and "mug" were combined into one item (symbol 112) for presentation to the students who judged the sex-association. "Cup" alone had a feminine association, and "mug" alone probably would be masculine. When the two labels were combined into one label the two associations conflicted and therefore no consistent association was observed. The labels for symbols 70 and 183 were also poorly combined. In the future the labels could profitably be presented along with the figures when eliciting the sex-associations.

(d) <u>Inappropirate tabulation of labels</u>. When the "look-like" associations were tabulated, it sometimes became necessary to group labels under a single heading. For 'example, "basketball net," "basketball basket," "hoop and net for basketball," and the like were all subsumed under the rubric "basketball net." Some people referred to this figure (185) as a "basket." One could not tell from this

latter label whether the person meant "wastebasket" or "basketball basket." When the cultural sex-associations were tabulated, it was found that a basketball net was associated with males and a basket with females; the symbol was thus placed in the M/F category. When the figures were sorted as male or female in Experiment I, it was noted that figure 185 was seen clearly as male, which led this writer to believe that many of the <u>S</u>s who labeled the figure "basket" were giving an abbreviated form for "basketball basket." This problem may have been involved in the cataloguing of symbol 112, as well as in an undetermined number of other symbols.

(e) <u>Shape complexity</u>. Judges were asked to determine the anatomical referents of the figures on the basis of their "predominant" shape. A figure which was judged as male may have rounded qualities or a figure judged as female may be somewhat elongated if its predominant shape was elongated or rounded respectively (cf. symbols 102 and 113). Therefore, there was an undetermined amount of conflicting Freudian message contained in many symbols. This problem was particularly highlighted in symbol categories which had mixed Freudian referents (IV and V). In this regard it should be noted that there were more 5-1 or 1-5 judge disagreements among the symbols which were sorted as reversals

than in the symbol test as a whole (Appendix F).

(f) <u>Pooling of sex-associations</u>. Males and females in our culture may differ in their perception of the sexassociations of certain objects. This possibility had no chance for expression in the present research since the sexassociations of the male and female <u>Ss</u> were pooled. Generally there was little cause for concern because of the unanimity of agreement on the sex-associations. Some trends were observed: more men than women associated wheat, a mailbox, and a crown with males; and more women than men associated a mousehole and hills with males. It is suggested that the sex-associations of males and females be considered separately in future research.

(g) <u>Sample size and symbol categorization</u>. The statement that one event is equal to another event is on tenuous statistical grounds, especially when it is based on a small sample. Yet the assumption of "no difference" was repeatedly accepted in the categorization of symbols. In the supplementary symbols it was assumed that there were no consistent sex-associations given to the labels; and in symbol Sets IV and V it was assumed that since the raters did not agree upon the Freudian referent of the symbol, the referent was mixed. In the symbol Set IIIX it was also assumed that since a predetermined number of Ss did not agree

upon an object label, the symbol did not possess a consistent object referent.

The inconsistent results in the supplementary symbol sorting may have been a function of the assumption of equality of the sex-associations. For example, symbols 93, 114, 121, and 185 may have had consistent associations which were opposite to the Freudian referents, but which were not obvious in the responses of the criterion sample. Other symbols which yielded results in the predicted direction may have been happy coincidences between the Freudian referent and the cultural association which did not appear in the earlier sampling. The assumption of equality did not seem to affect the sort of symbols in the regular symbol sets.

The seven methodological difficulties mentioned above were manifested primarily in the supplementary symbols, and were infrequent, though not nonexistent, among the regular symbol sets. Any theoretical statements based on the  $\underline{t}$  tests which resulted from symbols suffering from such severe pathology would be extremely suspect, and for this reason the supplementary symbols will not be considered in the theoretical discussion which follows.

### Symbol Referents

The results of the present research lend evidence for the statement that a symbol may be sorted as masculine or feminine by adult <u>S</u>s on the basis of its cultural sex referent. In addition, there is evidence that symbols may be responded to as masculine or feminine on the basis of their shape or Freudian characteristics when the cultural pull of the symbols is minimal. These results support Fromm's (1951) proposition that there are cultural as well as universal symbols. Freud's postulation that the shape of an object is important in respect to its sexual referent is also supported. The more subtle effects of the Freudian referents will be discussed later.

Barker (1957), and Schonbar and Davitz (1960) found that pictures of objects were not sorted according to their Freudian referents and concluded that these referents were not important. Their results (but not their conclusions) were consonant with those of the present study. They found that realistic pictures of objects were sorted as male or female consistent with their cultural sex-associations of the pictures regardless of their Freudian referents. When the cultural sex-associations of the pictures were not specific, although the Freudian sexual referents were clear, the pictures

were not sorted consistently. Since the pictures with clear cultural sex-associations were sorted according to their cultural referents, in spite of the Freudian referents, and since those pictures which did not have clear cultural sex specific associations were not sorted consistently, they believed that the Freudian hypothesis is incorrect.

Researchers using abstract figures found that their figures were sorted in agreement with the Freudian hypothesis and concluded that their work provided evidence for the veridicality of Freud's statements. Starer (1955), and Winter and Prescott (1957) used figures which were considerably more abstract than those used by Barker (1957), and Schonbar and Davitz (1960), and found that their results tended to support the Freudian hypothesis, i.e., the figures were sorted in accordance with their elongatedness or roundedness.

To this writer's knowledge no authors have shown that the figures used in their studies were acultural, and therefore, it is not clear whether their results were based on the Freudian or the cultural aspects of their stimuli. Starer, and Winter and Prescott entitled their studies "Cultural Symbolism," and produced tables to show that the most frequent associations to their figures were consonant with their Freiduan sexual referents. The figures were thus similar to the Set II congruent figures used in the present study, and the results were likewise similar. Other researchers

such as Acord (1962) and Lessler (1962) also found results which appeared to support the Freudian hypothesis, although the cultural stimulus value of their symbols was not assessed. To this point there has been little evidence for the sorting of figures as male or female on the basis of elongatedness or shape alone. The present findings, however, do lend evidence for a sex specific association based primarily on shape, i.e., the symbols which had little cultural stimulus value or a vague cultural stimulus value were sorted by college <u>S</u>s of both sexes as predicted from Freudian symbol theory significantly more often than would have been expected by chance.

There was a possibility that the adult <u>Ss</u> in the present research were sophisticated about the Freudian symbolism hypothesis which would account for the "correct" sorting of the Set III symbols. It is noted, however, that the <u>Ss</u> were tested in the second week of an introductory psychology course in which nothing had yet been mentioned about Freud and his ilk.

The sorting of the long objects into the male category and the rounded objects into the female category might have been learned incidentally in the course of the experiment. The fact that there were many round objects with male cultural elements, and long objects with female cultural elements, reduced the possibility of this type of learning.

Furthermore, the randomization of the symbols reduced the chance of the implied response set.

#### Sex Differences

The sex differences reported in other studies requiring the sorting of symbols into male and female categories indicated that males sort symbols more accurately than females (A. Jones, 1956; Starer, 1955; Winter & Prescott, 1957). In each of the studies cited the sample was composed solely, or in large part, of hospitalized mental patients. These patients were seen individually by the experimenter and were asked to sort ten symbols which closely approximated the Set II congruent symbols and/or the Set III symbols used in the current research. The subjects, procedures, and symbols used in these studies were different from those used in the present study which would make any comparisons highly speculative.

In the present study 190 symbols were administered by a group procedure to normal subjects. The symbols with clear cultural referents (Set I) were not sorted differently by the two sexes. No sex differences were found in Sets I, II, III, and V when the symbol categories were combined. It was only when the symbol categories were considered individually that the sex differences became prominent.

In every case in which sex differences were noted, and when the symbols had an agreed upon Freudian referent (excluding the supplementary symbols which were not considered for reasons cited earlier), the male Ss sorted the symbols with female Freudian referents better than the female Ss, and the female Ss sorted the symbols with male Freudian referents better than did the male Ss. The observation that males sorted V?F symbols better than females, but that females sorted IV?F symbols better than males would seem at first glance to attenuate the previous statement. Since the weighting of the Freudian referents in symbol Sets IV and V was not established, however, it is difficult to use this latter evidence as either support for, or evidence against, the earlier statement. The interpretations of these sex differences are grossly speculative, but nonetheless may be of some value.

One interpretatation of the accuracy of sorting opposite sex Freudian symbols is that the <u>S</u>s, who were generally in late adolescence, were interested in cues regarding the other sex and thus accurately perceived symbols which had even a marginal heterosexual stimulus value. McElroy (1954) found that males "preferred" symbols which were rounded, and females preferred symbols which had angular characteristics. It is possible that the sex differences found in the present

study were also a result of symbol preference.

On the other hand, an explanation based upon defense could be posited,<sup>1</sup> i.e., since the adolescent <u>S</u>s were struggling with their own sexual identity, they found like-sexed symbols more threatening and anxiety provoking than heterosexual symbols. The first postulation is essentially an approach reaction whereas the latter postulation is an avoidance reaction. Both of these reactions may be operating at the same time to yield the small, but significant sex differences observed in this study.

#### Symbol Dimensions

It was postulated that cultural and anatomical symbol referents are simultaneously present. It was further postulated, using the Jacksonian model of levels of neural integration, that cultural symbol elements would inhibit the expression of the Freudian symbol elements. From the evidence cited below it was concluded that the figures used in the present study concurrently contained cultural and Freudian referents and the former were more potent in the determination of the sorting of the symbols than the latter.

Support for the presence of two referents which

<sup>&</sup>lt;sup>1</sup>The writer wishes to recognize this contribution of Dr. B. Kell.

have a predictable effect was gained by manipulation of the ambiguity of the reality or cultural cues of the symbols. As the reality cues were reduced, the sorting of the symbols was based more on the Freudian referents. Hence, Set II symbols were not sorted as accurately in respect to their cultural referents as were Set I symbols, and Set III symbols were sorted significantly in the direction of their Freudian referents.

The main body of evidence for the conclusion that symbols are multidimensional was derived from the paired t tests comparing the congruent and incongruent symbols within symbol Sets I and II. If it is granted that the experimenter was able to maintain a fairly consistent cultural stimulus weighting for all symbols within symbol Sets I and II, the slightly poorer sorting of the incongruent than the congruent symbols must be explained in some other manner than by reference to the possible heterogeneity of the cultural referents. The variable which was manipulated was the postulated Freudian referent of the symbols. Since it was found that when the Freudian referent was similar to the cultural referent the symbols were sorted better than when there was a conflict of referents, this writer concluded that the second referent was present and had a predictable effect. The mechanism by which symbol incompatibility disrupts the sorting of the symbols is

open for speculation. Some interpretations or explanations of these findings will be suggested.

If the tendency to respond to the cultural stimulus elements is considered to be higher in the habit hierarchy than the tendency to respond to the Freudian elements, then the results of the present research may be parsimoniously explained by learning theory. When the symbol elements were congruent the tendency to respond to the cultural and Freudian symbol elements complemented each other and the resulting sort was as high as was allowed by the clarity of the stimuli. As the strength of the cultural referent was reduced, and/or a competing stimulus was added, the responses to the cultural elements were less consistent. Finally, when the cultural pull was markedly reduced, the Freudian element was expressed in the subjects' responses. Although the significant, but less consistent, sort of the Set III symbols may have resulted from some unmeasured cultural pull of the symbols, the efficacy of this explanation may be partially questioned since the sort of the Set III symbols according to their Freudian elements would have been expected to be more consistent than was observed.

From a psychoanalytic point of view, the competing forces may be conceptualized as drive related pressures on

the one hand, and reality forces on the other.<sup>1</sup> As the reality stimulus is lessened, the possibility of drive expression is increased. To state this conversely, as the reality stimulus was increased in clarity, the ability to use the cultural referent to control the drive is increased. A second factor influencing the control of the drive is the compatibility of the two referents. The demand for ego defenses is increased when the stimulus elements are incompatible.

The symbols could have been sorted on the basis of a conscious choice between the two symbol referents (adaptively), or on the basis of some defensive ego activity. If the symbols were in fact sorted adaptively, a reduction in the sort by the cultural referents would not have been observed in the incongruent symbols. Since a reduction in the goodness of sort of the incongruent symbols was observed, most individuals must have sorted the symbols defensively.

A defensive sorting of the symbols implies that the threatening quality of the Freudian or impulse related elements of the symbolswas kept from awareness. This may be accomplished through a denial of the drive related element, distorting the

<sup>&</sup>lt;sup>1</sup>The author wishes to express his debt to Dr. D. Pryor for extensively discussing the psychoanaltyic interpretations with the writer.

element by turning it into its opposite, or by isolating the two elements. It cannot be determined from the results of the present research which of these defensive maneuvers was invoked.

In the Set I congruent symbols there was maximal opportunity to respond either defensively or adaptively to the cultural elements of the symbols without distorting the Freudian elements. These symbols were sorted more in terms of their reality referents than any of the other symbols. The Set I incongruent symbols offered a more conflictual situation; although one in which reality cues were dominant. The sorting of these symbols was not as accurate as the sorting of the congruent symbols, which may reflect some disturbance in the cognitive sort of these symbols by the incongruent Freudian elements.

The Set II congruent symbols offered less of an opportunity to sort the symbols by the reality referents, and as expected, the accuracy of the sorting of these symbols by the reality referents was lower than in the Set I congruent symbols. As the pressure from the Freudian elements was further increased by symbol incongruity, the accuracy of the sort of the Set II symbols by their reality referents was still further reduced. That is, with a continual reduction in the strength of the reality referents, and/or with the increase in the conflictual Freudian elements, the ability to sort the symbols

in respect to their reality referents was disturbed.

Finally, when the reality cues were minimal (in the Set III symbols) the sorting was least consistent, and was now made according to the Freudian referents of the symbols. It must be asked why these symbols were sorted different from chance. Why didn't the Ss defend against a recognition of the impulse by sorting these symbols opposite to the Freudian referents? Two possibilities occurred to this writer. First, the Ss may have assumed an uncritical passive ego state which allowed the sorting of the symbols by their Freudian referents with a minimum of eqo intervention. This passivity is, of course, a defensive attitude which denies the conflict between the impulse and reality demands. On the other hand, the Ss could have assumed a defensively active ego state in which they supplied their own idiosyncratic cultural meanings to the symbols, thereby denying the Freudian or impulse related nature of the symbols. Finally, the Set III symbols could have been sorted by an unconflicted awareness of the Freudian elements (adaptively).

The theoretical formulations and research findings of George Klein, Robert Holt, and Fred Pine (Klein, 1959; Klein & Holt, 1959; Pine, 1961) are relevant to the understanding of the operation of the Freudian referent in the symbol sort. In the present research the symbol sorting task

allowed and encouraged the hypercathexis of reality. It is believed that the <u>S</u>s'awareness of the Freudian elements of the symbols was marginal, especially in the symbols with clear cultural referents. Even though the <u>S</u>s were probably not aware of the incongruent Freudian referents, the effect was a disturbance in the accurate categorization of symbols. Klein (1959) suggested that a stimulus (such as the Freudian symbol element) which operates on the periphery of conscious thought and attention, but which nevertheless may be shown to have an effect, should be referred to as an "incidental stimulus."

Klein (1959) observed that:

Anyone working on the problem of incidental stimulation would do well to give up any notions that the effects will be huge, clearly explicit on just any level of response and in any task. The very forces that render a stimulus incidental to begin with render them also incidental in their effects on behavior, at least under the conditions of reality appraisal and pragmatic considerations which ordinarily characterize waking life. But certain corollary implications are equally important: conditions of induced passivity, reduced reality testing and reduced activity in thought--concepts which to my mind are crucial to a general theory of cognitive behavior--will also enhance the effects of the incidental stimulus on thought and behavior (p. 300).

In reference to Klein's statement about the magnitude of the effect of the marginal stimulus, it was noted that it was only after a comparison of the sorts within the same level of ambiguity of the cultural stimulus that the small but

significant effect of the marginal element became apparent. The effect of the marginal (Freudian) referent was not observable upon the initial analysis of the data. That is, all symbols were sorted significantly as predicted from the focal (cultural) element even when there was a contradictory marginal stimulus (the Freudian referent). When the opportunity for reality testing was reduced by increasing the ambiguity of the cultural referent, the effect of the marginal stimulus tended to be stronger as would have been predicted from Klein's formulation. Finally, when the reality cues were minimized, the Ss sorted the symbols by the Freudian elements. The sort of the Set III symbols may have reflected an increased use of passivity as a defense due to the unavailability of reality cues. The passivity of the sorting of the Set III symbols was not formally gauged, although the comment of one <u>S</u> during a post-experiment discussion of the research was instructive. This S said that he could not believe that the abstract figures had any meaning so he just marked the column which was closest to where his pencil was resting.

#### Symbol Strength

The writer will briefly embark on a highly speculative and strictly <u>post</u> <u>hoc</u> discussion of a fascinating trend in the data. The facts are as follows (refer to Tables 1-5):

- The mean sort of symbols with masculine referents was higher than that of symbols with feminine referents when the cultural and anatomical referents were congruent. (Note: these statements are not statistical statements, but informal observations.)
- The mean sort of Set III symbols with masculine Freudian referents was higher than that of those symbols which had feminine Freudian referents.
- 3. The mean sort of symbols with mixed anatomical referents and clear cultural referents was higher for those symbols with masculine cultural referents than for those with feminine cultural referents.
- In the incongruent symbols there appeared to have been a greater disturbance (reduction in the mean sort) when there was a masculine marginal stimulus.
- 5. Four Set III feminine symbols which were circles, semicircles, or combinations of these forms were not sorted significantly different from chance.
- Females did not sort feminine Freudian symbols with mixed cultural referents better than expected by chance.

From the above observations this writer arrived at the tentative conclusion that the male anatomical and cultural referents were more "potent" stimuli, than their feminine symbolic counterparts.

Assuming that these observations have some validity, it may be speculated that maleness, both culturally and psychologically, has greater clarity or potency than femaleness in the subculture represented by the <u>S</u>s in the present research. The more accurate sort of male symbols than female symbols may reflect the fact that (1) this is a predominantly male oriented culture; (2) in the population sampled, boys and girls were striving and competing in a "masculine" way; and (3) there is a lower cultural variance (greater stereotypy) allowed men than women in our culture. Both D. G. Brown (1958) and Lynn (1959) were vocal concerning the relatively stereotyped, and somewhat more rigidly defined sex roles of males than of females.

Still another speculation about the apparent potency of male symbols was derived from the writer's observation that it was much easier to think of long male objects than round female objects when creating the symbols used in the present research. This problem may have occurred because the writeris male, although female colleagues seemed to have the same difficulty. If the writer's difficulties have any relationship to the relative prevalence of long-male vs. round-female objects, then one might attribute the more accurate sorting of elongated objects to the incidental learning or overlearning of this relationship.

The ascendency of masculine symbols could also be accounted for by the greater intrusive quality, separateness,

or obviousness of the male genitalia as opposed to the less visible female genitalia.<sup>1</sup> This quality of "thereness" may make the male genitalia more an object of comment or fear than the female genitalia.

Finally, it could be hypothesized that since male objects are generally more activity oriented, aggressive in content, pointed, and "dynamic" in shape, they provide a stronger stimulus than their more passive, static, feminine counterparts. Willner (1957) found in a subception study that elongated geometric forms were recognized faster than less elongated forms. This result also leads to a potency interpretation of male shapes. The speculations in this section should be considered as directions for study rather than dogma for authoritative quotations.

## Theoretical Assumptions

Eight assumptions were derived from the theoretical discussion on symbolism in Chapter I (cf. pp. 41 ff). The results from Experiment I provided evidence directly relevant to four of these assumptions (2, 3, 4, and 5). These assumptions and the related evidence will be discussed briefly.

Assumption 2 specified that symbols have universal,

Dr. H. H. Anderson is gratefully acknowledged as the source of this idea.

cultural, and idiosyncratic meanings. Although cultural and idiosyncratic symbol meanings were clearly apparent in the present research, it would take further research, and specifically, cross cultural research, to determine if the symbols which had little cultural meaning (Set III) were actually universal. At this point the data indicates that symbols which have little cultural content are responded to consistently in respect to their anatomical (universal) referents, and symbols which have a heavy cultural loading are responded to consistently in respect to their cultural referents.

The idiosyncratic meanings of symbols were observed in the responses which were elicited during the sex-association phase of the symbol construction. It was informally observed that the number of individual meanings seemed to increase with an increase in symbol ambiguity, and were most common at medium levels of ambiguity (cf. Abt, 1959; Kagan, 1960). When the symbols were abstractions or geometric forms, the responses to them again achieved greater consensus, i.e., the associations to symbols with obvious cultural meanings were consistent, as were the descriptions of the symbols which closely approximated geometric forms.

Assumption 3, which is based upon the thinking of Kubie (1953a) and Langer (1942), stated that symbols present many concepts simultaneously. It may be concluded from the

evidence from Experiment I that:

- a. Symbols have cultural referents, i.e., symbols may be sorted as male or female on the basis of their cultural referents (cf. Barker, 1957; Farber & Fisher, 1943; Fromm, 1951; Schonbar & Davitz, 1960).
- b. Symbols have Freudian referents, i.e., symbols may be sorted as male or female according to their elongatedness or roundedness (cf. Freud, 1954a; E. Jones, 1923).
- c. Symbols are complex, i.e., both cultural and Freudian referents may be simultaneously present in a single symbol (cf. Kubie, 1953a; Langer, 1942).

The fourth assumption from the theoretical discussion was a restatement of the Freudian (1954a) contention that the shape of universal symbols is isomorphic with their sexual referents. This assumption was supported on the basis of the present data, i.e., long objects were sorted as male and round objects were sorted as female when the cultural meanings were minimized. In regard to Assumption 4, it must be questioned whether these symbols were universal or whether the meanings were learned by association with objects which were present within the culture.

The fifth assumption specified that individual and cultural symbol meanings may not be consistent with the meaning of the symbol which is based upon its elongatedness or

roundedness. This assumption was supported by the data. The symbols with cultural referents were sorted according to these referents whether or not the anatomical referent was congruent or conflicting. It was also obvious from a perusal of the idiosyncratic associations to the figures that although many of the associations were consistent with the Freudian referents, many conflicted with the Freudian meaning.

Freud's (1956, p. 359) statement that ". . . the imagination does not admit of long, stiff objects and weapons being used as symbols of the female genitals, or of hollow objects, such as chests, cases, boxes, etc., being used as symbols for the male ones" was not wholly supported by the present results. The presence of "weapons" in his quote shows that he did not differentiate the cultural and anatomical referents of symbols. The present study demonstrated that the imagination does admit of long objects being sorted as feminine and hollow objects as masculine if the cultural content of the symbol so specifies. When the cultural elements were minimized, the long objects were consistently sorted as male and the rounded objects as female. Even in this latter case not all long objects were sorted as male, nor were all rounded and containing objects sorted as female. An explanation for this less than perfect sort may be derived from Freud's later works where he recognized ego defenses

more fully than he did when he proposed his theory of symbolism.

The evidence thus far indicates that symbol meaning depends largely on the formal or structural characteristics of the symbols in agreement with Fenichel (1945), A. Freud (1956), S. Freud (1954a), Rodrigué (1956), and Rycroft (1956). This statement should not be construed to mean that symbol structure is the only characteristic which determines symbol meaning (cf. Hall). Ferenczi's (1952) admonition that the shape of the symbol establishes the opportunity but not the necessity for affective cathexis must be taken seriously. Finally, it should be noted that although the cultural and/or anatomical referents were based more upon structural characteristics of the symbols, the idiosyncratic meanings of the symbols often seem to disregard structure.

Some corollary information was gained about Assumption 7. It was assumed that symbols are differentially invested with affect. This should be amended to read that symbol <u>elements</u> are differentially invested with affect. According to E. Jones (1923) and Ferenczi (1952), the affective cathexis of a symbol separates symbols as defined by pscyhoanalysts from the term "symbol" as more commonly used. The assumption that Freudian symbol elements are invested with instinctual interest provided the basis for the psychoanalytic

explanation of the results of the symbol sort. That is, by assuming that the Freudian symbol elements were more closely associated with the drive than the cultural symbol elements, the reduction in the accuracy of sorting by the cultural referents when the symbol referents were incongruent was explained as an affective disturbance of the cognitive processes, a disturbance which increased as the chance to defend against the threatening aspects of the Freudian symbols was lessened.

Rycroft (1956) suggested that the affective involvement of symbols varies from those symbols which are highly invested with instinctual interest to those which have become relatively autonomous. Although this writer accepts Rycroft's view, there was no direct evidence found to support or refute the continuum theory of affective cathexis.

Assumptions 1, 6, and 8 in the theoretical discussion pertained to the genesis and individual functions of symbols. These assumptions may best be studied by idiographic-clinical methods.

## Suggestions for Further Study

Further validation of the effects of the incidental stimulus value of Freudian symbol referents are in order. It is suggested that if efforts were made to reduce the hypercathexis of reality, there would be a differential effect on

the congruent and incongruent symbols, i.e., the congruent symbols would be continually sorted with respect to the cultural and Freudian elements, while the incongruent symbols would show a progressive tendency to be sorted in respect to the Freudian elements as the reality cues are progressively reduced.

One method of accomplishing this end is to tachistoscopically increase the rapidity of the presentation of the symbols. A second suggestion is to force repeated association to the same symbols<sup>1</sup> (cf. method used by Pryor, 1962). Further knowledge could also be gained about symbol elements through the manipulation of these elements by use of stereoscopic or tachistoscopic juxtaposition or superimposition.<sup>2</sup>

The findings concerning sex differences in the sorting of symbols, as well as those which indicated a differential sorting of male and female symbols, warrant further study.

<sup>&</sup>lt;sup>1</sup>This suggestion by Dr. H. H. Anderson is gratefully acknowledged.

<sup>&</sup>lt;sup>2</sup>Dr. C. L. Winder is respectfully acknowledged for this idea.

#### CHAPTER IV

### EXPERIMENT II

It was hypothesized in Experiment I that symbols have dimensions and that these dimensions are differentially available to awareness. For the purposes of Experiment II the cultural dimension of the symbols was designated as the social dimension, and the Freudian dimension was referred to as the psychological dimension. It was postulated in the introductory chapter that there are psychological and social aspects of sexual identity. If it could be demonstrated that individuals react to symbol levels differentially and predictably in terms of specific aspects of their sexual identity, this would reflect positively upon the theory and measure of sexual identity, as well as upon this writer's hypotheses and assumptions about symbol dimensions.

Two scales of the Terman-Miles Attitude Interest Inventory (1936) (henceforth, T-M) were selected as the criterion measures because they seemed to be unidimensional, relatively brief, and to possess some relationship to social sexual identity (interests, activities and preferences) and to psychological sexual identity (emotional reactions). If

the dimensions on a symbol test relate differentially to the two exercises of the T-M, this result would be construed as partial construct validation for the T-M exercises and for the symbol test. Also, this eventuality would be considered as evidence for the dimensionality of symbols and the dimensionality of sexual identity.

# **Predictions**

The following predictions were tested by Experiment

## II:

- The responses to the postulated symbol levels will relate differentially to responses to M-F measures that are purportedly tapping different aspects of M-F.
  - a. The cultural level of the symbols will relate to the interest scale (Exercise 5) of the T-M significantly more than to the scale of emotional reactions (Exercise 4).
  - b. The psychological level of the symbols will relate significantly more to Exercise 4 of the T-M than to Exercise 5.
- 2. Males and females will respond differently when asked to sort symbols as "like-me" or "not like-me."

- As a group, males will respond to the psychological dimension of the symbols differently than females.
- b. As a group, males will respond to the cultural dimension of the symbols differently than females.

It is obvious that in addition to the demonstration of the dimensionality of symbols, a measure of sexual identity may be a by-product of Experiment II. If the symbol test divided individuals in relation to their manifest and latent sexual identity, it would provide a short, nonverbal measure of sexual identity which would be amenable to both mechanical scoring and clinical interpretation. The symbol test would allow the investigator or clinician an opportunity for further exploration into various aspects of sexual identity rather than limit the datum to a score. The intent of the measure also could be easily disguised and thus made nonthreatening for the subject. In contrast, the better inventories and/or projective tests of M-F incorporate only one or two of these qualities. Most M-F measures are vague in terms of the construct measured, multidimensional without explanation of these dimensions, transparent, threatening, and poorly suited for clinical investigation.

### Subjects

A sample of 165 <u>S</u>s (90 males, mean age 20-0; 75 females, mean age 18-9) was drawn from the same population which was utilized in the symbol construction phase and in Experiment I (General Psychology students at Michigan State University). These <u>S</u>s had not been used in any other operation of the present research and were tested during the first two weeks of their psychology course to preserve all possible naïveté.

## Instruments

# Masculinity-Femininity Scale

Two scales of the Terman-Miles Attitude Interest Test (1936) were selected as the criterion measures of psychological and social sexual identity (Appendix G). In a factor analysis of the Terman-Miles using a ninth-grade sample, Ford and Tyler (1952) identified a psychological or emotional factor and an interest factor in the male and female samples, as well as a third factor in the female sample. The author suggests that Exercises 4 and 5 are the best measures of the first two factors.

The exercises which compose the T-M inventory were separately constructed. The items were selected for each

exercise on the basis of whether or not they differentiated between the sexes. Grade school, high school, and college subjects were used for test construction and validation. Scores may be tabulated either for the test as a whole or for each exercise individually.

Exercise 4 (Form A), the test of emotional and ethical attitudes, is composed of 98 statements about pity, fear, anger, and disgust. Subjects are asked to respond to each of the items on a four point scale and the items are scored M or F on an empirical basis. Terman and Miles found that the split-half reliability of Exercise 4 was .88 for single sexgroups, and .90 for mixed sex-groups. They found a 21 to 34 per cent overlap between the responses of the two sexes.

The test of interests (Exercise 5), contains 117 items in Form A. These items inquire about occupational, literary, and activity preferences. The items may be answered L (like), D (dislike), or N (neither), and are scored M or F on an empirical basis. Split-half reliability for a single sex group was .66 and .86 for the sexes combined. There was a 6 to 12 per cent overlap between the groups. In the present research seven items which were originally printed with Exercise 4 were scored with Exercise 5 as suggested by Terman and Miles. All items were scored as specified by the authors (1936).

# Symbol Test

The construction of the symbols was described in Chapter II. The supplementary symbols were not scored in Experiment II because the referents were more poorly understood and because of the small number of symbols in each category. The <u>S</u>s were asked to categorize the symbols as "like-me" or "not like-me" and to record their responses on an IBM answer sheet. The scoring was based upon the assumptions about symbol dimensionality which were discussed earlier in this paper. The reader will recall that it was assumed that line drawings provide the stimulus for the affective and cognitive redintegration of feelings or conceptions which are related to the formal characteristics of the stimulus figures; hence, the drawings used in the present research were believed to be symbolic. It was further hypothesized that these symbols had more than one dimension, and that these dimensions were differentially available to consciousness. The higher level dimension was labeled the social or cultural dimension, and the lower level psychological. Because of the manner in which the two dimensions of the symbols were combined, it was possible to derive a separate, though not completely independent, score for the responses to the social and the psychological dimensions of the symbols.

Several systems for scoring the symbol test were devised. The simplest scoring system involved weighting all responses equally. For example, if a subject chose an item with a culturally feminine component as "like-self," it was scored "l" on the social femininity scale. The total social femininity score consisted of the number of items with socially feminine referents chosen as "like-me." The same procedure was followed for the social masculinity scale, and for the psychological symbol scales. It was believed that scoring the test in this fashion alone might have disregarded some important data.

It was posited that if a male chose a symbol which obviously resembled a flower as "like-me," it was more of an open admission of femininity than if he chose a symbol which vaguely resembled a flower as "like-me." Therefore, the choice of a symbol with an obvious opposite-sex cultural referent was given greater weight in the weighted scales than the choice of a symbol with a similar cultural referent which was ambiguous.

When an <u>S</u> sorted a symbol as "like-self" which had an opposite-sex anatomical referent, but with no apparent cultural referent, the choice was given greater weight on the psychological scales. This weighting seemed appropriate since there was less opportunity for the ego to rationalize or otherwise defend against the choice by the use of reality

cues. The sorting of a symbol as "like-me" which had no cultural stimulus value was thus considered a greater admission, albeit unconscious, of psychological masculinity or femininity than the sorting of a symbol as like-self which provided greater opportunity for the operation of ego defenses.

It was believed that scoring the rejection (sorting the symbol as "not like-me") of a symbol might provide additional information about the <u>Ss</u>. A social and a psychological femininity scale were constructed in which both the acceptance of symbols with feminine referents, and the rejection of symbols with masculine referents were scored. The psychological and social femininity scales (like-me, not like-me scales) were tabulated with and without weighted items.

The scoring paradigms are contained in Table 9. Various scales were derived from these scorings. The symbol column presents each symbol category in coded form (cf. Chapter III): the Roman numerals indicate the symbol set, the first letter specifies the Freudian referent (M = male, F = female, - = no agreement), and the second letter provides information about the cultural sex-association (M = male, F = female, X = multiple referents, ? = lack of agreement on the sex-association).

	Psychological	l Femininity			Social Femininity	mininity	
	Like-me	Not Like-me		Like-me	-me	Not L	Not Like-me
Symbol <sup>a</sup> t	Unweighted Weighted Unweighted Weighted Unweighted Weighted Unweighted Weighted	ed Unweighted Wei	ghted Unw	<i>l</i> eighted	Weighted	Unweighted	Weighted
IMM		×				×	×
IMF	۲	×		×	×		
IFF	°×			×	×		
IFM	×					×	×
MMII		×				×	
IIMF		×		×			
IIFF	×			×		-	
IIFM	×					×	
-WIII		×	×				
XWIII		×					
IIIF-	××						
IIIFX	×						
ΜζVΙ						×	×
IV?F				×	×		
ΜżΛ						×	
Λ?F				×			

Symbol scoring system. Table 9.

b An "x" specifies that all symbols in that set were scored in the direction indicated by the scale; e.g., an x under the psychological femininity like-me scale for symbols in Set IFF indicates that the 10 IFF symbols were keyed F for this scale.

Like-me     Not Like-me     Like-me     Not Like-me       Nymbol     Unweighted Weighted Unweighted Weighted		Psychological Masc	Masculinity		Social Ma	Social Masculinity	
<pre>1 Unweighted Weighted Unweighted Weighted W</pre>		Like-me	- Not Like-me	LiJ	ke-me	Not Li	.ke-me
	Symbol	Unweighted Weighte	d Unweighted Weighted	Unweighted	Weighted	Unweighted We	ighted
	IMM	×		×	×		
	IMF	×				×	×
<ul> <li>× × × × ×</li> <li>× × × × ×</li> <li>× × × × ×</li> </ul>	IFF		×			×	×
	IFM		×	×	×		
	MMII	×		×			
	IIMF	×				×	
× × × × ×	IIFF		×			×	
× × × × × × × × × × × × × × × × × × ×	IIFM		×	×			
× × × × × × × × × × ×	-WIII						
× × × × × ×	XWIII	×					
× × ×	LIIF-						
× × × ×	IIIFX		×				
××	ΜζVΙ			×	×		
×	IV?F					×	×
	MSM			×			
	V?F					×	

Table 9. Continued.

#### Procedure

The symbol test and Form A of Exercises 4 and 5 of the T-M were administered to the <u>S</u>s during regular class sessions. The symbol test was given first since the intent of this test was less obvious than that of the T-M scales. The symbols were presented in random order and projected with a 35mm automatic slide projector for a period of five seconds each. The Ss were instructed as follows:

I would like your cooperation in a research project I am conducting. Before we begin please fill out the heading on the answer sheet with your age, sex, year in school, and if you were not born in the U.S., the number of years you have resided here. I do not need your name-your answers will thus be anonymous. The numbers appearing on the booklets are for purposes of identification and coding. Please do not turn the pages or proceed to another section of the booklet until asked to do so.

I am trying to determine whether people can describe their own personalities by the use of line I will show you some drawings for five drawings. Some of these drawings are abstract and seconds each. do not look like anything, while others will probably remind you of some object. If the drawings in any way remind you of yourself, your interests, or your personality, mark the answer sheet under "L" for "like-you." If not, mark it "N" which will mean "not like-you." That is, I want to know if some quality of the drawings reminds you of some quality of your own personality. I realize that this is a difficult and an ambiguous task, but just mark the first thing that comes to your mind .

Now I will show you the drawings. You will have only five seconds to make your decision about whether to categorize a drawing as like-you or not like-you, so mark the first choice that occurs to you. Please respond to every item.

Are there any questions?

Student questions were answered by paraphrasing the instructions.

After completing the symbol test the <u>S</u>s were asked to respond to the T-M exercises as follows:

Please turn the page and read the instructions for the next section. Begin when you are ready, and continue until you are finished. When you have completed all of the questions please bring the materials to me. I would like to thank you ahead of time for your cooperation in my research.

The instructions for the T-M were those used in the published T-M scales with such modifications as were necessary in order to make them applicable to the present research (Appendix G).

#### Results

The results of Experiment II are presented in Tables 10 through 13.

## Prediction 1

It was predicted that the responses to the psychological and social symbol scales would relate differentially to the responses to M-F measures purportedly tapping different aspects of M-F. The correlations resulting from a comparison of two T-M exercises with the symbol scales are reported in Table 10. The scoring procedures for arriving at the scores from which the correlations were derived will be outlined below to facilitate their interpretation.

Table 10. Correlations between two Terman-Miles of the masculinity-femininity symbol	between t inity-fem	wo Terman-N nininity sym	n-Miles exercises symbol test.	and	various scorings	ıgs
		T-M Exercise 4 Scale of Emotions	e 4 one	M-T A-C	Exercise Of Intere	5 s+s
Scales <sup>a</sup>	Males n=90	or emal n=75	M + F M=165	Males n=90	Fem D D E D	
T-M Ex 5	+.0781	+.3057**	+.3542			
<b>Psych Symbol Scales</b>						
Like-me only						
	0572	1985	1455	0	80	054
Psy masc wt Psv fem unwt	0455 0955	1912 2859*	1393 2305**	+.2178* +.0659	+.2978* +.1331	+.0580 1134
	1039	287	235	7	121	114
-	+.0928	+.1907	+.1756*	+.1949	+.1940	+.2441**
Like-me + not like-me						
Psy fem unwt Psy fem wt	0600 1208	1284 1587	1411 1778*	1851 1936	1520 1622	2297** 2308**
Soc Symbol Scales						
Like-me only						
Soc masc unwt Soc masc wt Soc fem unwt Soc fem wt Tot wt soc masc + fem	0467 0436 1199 1037 +.0448	0229 +.0079 3413** 4148** +.3105**	+.0973 +.1239 3660** +.3447**	+.2407* +.2526* 1605 1841 +.3542**	+.8357** +.3679** 0547 +.0861 +.4006**	+.6027** +.5293** 5855** 5973** +.7784**

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	-	T-M Exercise 4	4	<b>√</b> − <b>L</b>	T-M Exercise 5	
ſ	Scal	Scale of Emotions	suc	Scale	Scale of Interests	sts
Scales	Males	Females	ы Н Н Ш	Males	Females	M + F
	06=u	n=75	N=165	n=90	n=75	N=165
Like-me + not like-me						
Soc fem unwt	0372	3085**	3464**	4684**	3878**	7932**
Soc fem wt	0420	3113**	3433**	4800**	3988**	7995**

<sup>a</sup>See text for explanation of the scales.

 $^{*}_{P}$  < .05  $^{**}_{P}$  < .01

- a. T-M Exercises 4 and 5. Responses which were keyed as masculine were given a score of +1. Responses which were keyed as feminine were given a score of -1. Each subscore was derived by algebraically summing the masculine and feminine subtotals and then adding 100 to eliminate negative scores.
- b. Symbol scales (see Table 9).
  - (1) Like-me only. Only those items which were responded to as "like-me" were counted. The scores for each key was the total number of like-me responses.
  - (2) Like-me plus not like-me. Feminine items which were sorted as "like-me" were scored, as well as masculine items which were sorted as "not like-me." The total score was the sum of the keyed like-me plus not like-me responses which yielded a femininity scale.
  - (3) Unweighted keys. Each item was given a score of one.
  - (4) Weighted keys. Selected items were given a score of two.
  - (5) Weighted masculine plus feminine scales. This scoring was designed to be comparable to the T-M scoring. Masculine items were weighted positively and feminine items negatively. The two scores were summed algebraically and 100 was added to eliminate negative scores.

When the responses to the various keys of the social and psychological symbol scales were compared with the responses to Exercises 4 and 5 of the T-M it was noted that the correlations were generally low in the single-sex subsamples. When the samples were combined, the correlations increased in size although they still remained low. In the combined-sex sample the correlations reflected the difference between the mean male and female scores (see Prediction 2). Because of the spurious nature of the correlations of the combined-sex sample, they will not be considered in the results or discussion sections, although they are reported in Table 10. The correlations between the symbol scales and the T-M Exercises were tested against the hypothesis that they came from a population in which the correlation was zero (Table 10).

The symbol scales which most simply and directly attempted to assess psychological and social masculinity and femininity were used for the comparisons suggested by Prediction 1. The statistical test for the comparisons of the correlations was that suggested by Walker and Lev (1953, p. 257) for comparing correlations obtained from related samples. The results of these comparisons are presented in Table 11.

Table 11. <u>t</u> ratios resulting from the comparisons of the correlations of symbol scales with Exercise 4 as compared with the correlations with Exercise 5 of the Terman-Miles Attitude Interest Inventory.

Symbol Scale	Males (n=90)	Female <b>s</b> (n=75)
Psych. Masc.	-1.86	-3.75**
Psych. Fem.	-1.11	-3.24**
Social Masc.	-2.03*	-13.29**
Social Fem.	+0.28	-2.17*

\*\*p < .01

#### Prediction la

It was hypothesized that the cultural level of the symbols would relate to the interest scale (Exercise 5) of the T-M significantly more than to the scale of emotional reactions (Exercise 4). The predicted relationship between the T-M scale of interests and the social symbol scales was supported by the correlations obtained from the male (p < .05) and female (p  $\langle$  .01) Ss on the social masculinity scale (Table 11). Subjects who scored masculine on T-M Exercise 4 also tended to score masculine on the social masculinity The correlations between the T-M scale of interests scale. and the social masculinity symbol scale were low, but significantly different from zero (p  $\langle .01 \rangle$  in both the male and female samples (Table 11). The correlations between the social masculinity symbol scale and the T-M scale of emotions were not significantly different from zero.

The comparisons between the correlations of the T-M exercises and the social femininity scale yielded results which were contrary to prediction in the female sample and not significant in the male sample. In the male sample the correlations between the T-M exercises and the social femininity symbol scale were not significantly different from zero. The social femininity symbol scale also did not correlate

differentially with Exercises 4 and 5 of the T-M in the male sample.

In the female sample the social femininity scale correlated significantly (p  $\langle$  .01) with the scale of emotions on the T-M. Female <u>S</u>s who scored low (feminine) on the T-M exercise of emotions tended to score high (feminine) on the symbol scale. This correlation between the social femininity symbol scale and T-M Exercise 4 was significantly (p  $\langle$  .05) different from the correlation which did not differ significantly from zero found between T-M Exercise 5 and the social femininity scale.

## Prediction 1b

It was predicted that the psychological level of the symbols would relate significantly more to Exercise 4 (scale of emotions) of the T-M than to Exercise 5 (scale of interests). In the male sample the psychological masculinity scale correlated significantly (p < .05) with the T-M scale of interests, but did not correlate with the scale of emotions. The difference between the correlations of the psychological masculinity scale with the T-M exercises did not reach an acceptable level of significance. The prediction can be neither supported nor rejected on the basis of the data from the male sample.

The psychological masculinity scale correlated

significantly (p  $\langle .05 \rangle$  with the T-M scale of interests in the female sample, as it did in the male sample, and there was no significant relationship with the scale of emotions. The difference between the correlations was significant beyond the .01 level in the female sample. This result was opposite to Prediction 1b, i.e., the masculine psychological symbol scale related more to the interest scale of the T-M than to the scale of emotions.

No significant correlations were observed between the psychological femininity scale and the T-M exercises in the male sample, and the correlations of the symbol scale with the two T-M exercises likewise could not be statistically differentiated. In the female sample, however, the scores on the psychological femininity scales related significantly (p < .05) to the T-M scale of emotions, and did not relate significantly to the scale of interests. The differences between the correlations were significant beyond the .01 level.

In summary, Prediction 1b was not supported by the male <u>S</u>s for either the psychological masculinity or femininity symbol scales. The female <u>S</u>s, however, related the psychological masculinity scale to the T-M interest scale in opposition to the prediction, but related the psychological femininity scale to the T-M scale of emotions as was predicted.

When the results from Predictions la and lb are integrated, the relationship of the symbol scales and the T-M exercises comes into sharper relief. Both the psychological and social masculinity scales correlated with the T-M scale of interests and not with the T-M scale of emotions. The masculinity scales correlated significantly more with the T-M scale of interests than with the T-M scale of emotions, every comparison but one. The exception was that in the male sample the differences between the relationship of the psychological masculinity scale with two T-M exercises fell slightly short of statistical significance. The femininity scales, whether intended to measure the psychological or the social aspects of sexual identity, tended to correlate with the T-M scale of emotions in the female sample. In the male sample the femininity scales did not significantly correlate with the T-M exercises. The sort of the feminine symbols by male subjects also did not relate differentially to either of the T-M exercises.

The correlations between the psychological symbol scales and the T-M scales indicated that the two tests had less than six per cent common variance. The social symbol scales and the T-M exercises had only twenty-five per cent common variance.

The weighting of selected items (cf. Table 9) in the symbol scales did not seem to make any substantial difference in the size of the correlations between the symbol scales and the T-M exercises. In one case the weighting reduced the correlation observed before the weighting. When scales were combined, the correlations were sometimes increased, but more often the combining obfuscated the relationships which were obtained in the uncombined scales.

Scoring rejections or not like-me responses often obliterated the relationships which were observed in the uncombined psychological scales. In the social symbol scales, the not like-me scoring related more consistently (though not more highly) with the T-M exercises than did any other scoring procedure. The effect of weighting the not like-me scales yielded a very small change in the size of the correlations.

## Prediction 2

It was predicted that males and females would sort symbols differently when asked to sort them as "like-me" or "not like-me." The data pertinent to this prediction are presented in Tables 12 and 13. The unweighted and uncombined psychological and social symbol scales were selected for the between sex comparisons because these scales provide the least

	Psych. Masc.	Psych. Fem.	Social Masc.	Social Fem.
₹ <sub>M</sub>	21.311	23.244	30.70	16.88
s <sup>2</sup>	89.6099	108.3890	139.1122	80.6392
x F s <sup>2</sup>	23.373	27.653	20.867	34.253
s <sup>2</sup>	66.9668	85.6890	82.4954	93.3268
t	-1.481	-2.852**	5.959***	-11.740***
	**p < .01			

Table 12. Comparisons between mean scores for 90 males and 75 females on the unweighted symbol scales.

\*\*p < .01 \*\*\*p < .001

Table 13. Comparisons between the number of symbols from the masculine or feminine symbol scales sorted as like-self.

	Psych. Masc.	vs. Fem.	Social Mase	c. vs. Fem.
	Males (n=90)	Females (n=75)	Males (n=90)	Female <b>s</b> (n=75)
D	-1.933	-4.28	13.788	-13.386
s	.740	.8265	. 992	1.169
t	-2.613***	-5.179***	13.90***	-11.451***

\*\*\*p < .001

complex measures of psychological and social sexual identity (cf. discussion).

## Prediction 2a

It was predicted that, as a group, males would sort symbols in the psychological scales differently than females. The female Ss sorted a significantly ( $p \leq .01$ ) higher mean number of symbols as like-me on the psychological femininity scale than did the male Ss. Males and females did <u>not</u> differ significantly (t = -1.48) in their self-sort of the symbols on the psychological masculinity scale (Table 12). When the self-sort of the symbols was further compared within sex-groups it was noted (Table 13) that both males and females sorted significantly ( $p \leq .001$ ) larger numbers of psychologically feminine than masculine symbols as like-self. Prediction 2a was thus supported for the psychologically feminine symbol scale, although no support was gained for the prediction from the sorting of psychologically masculine symbols.

# Prediction 2b

It was predicted that, as a group, males would sort symbols in the social symbol scales differently than females. This prediction was supported in the sorting of the socially masculine and feminine symbols. Male <u>S</u>s sorted significantly

(p  $\langle$  .001) more culturally masculine symbols as like-self than did female <u>Ss</u>. Females sorted significantly (p  $\langle$  .001) more culturally feminine symbols as like-self than did males (Table 12).

Within the sex-groups (Table 13), males sorted significantly (p < .001) more culturally masculine symbols as like-self than culturally feminine symbols. Females, on the other hand, sorted more culturally feminine symbols as like-self than culturally masculine symbols. Prediction 2b was thus supported in the comparison between sex-groups as well as in the intrasex-group comparisons.

#### Discussion

Experiment II was designed to provide further information about symbol dimensionality and to explore the use of symbols for measuring certain aspects of sexual identity.

# Prediction 1

It was predicted that the psychological and social symbol scales would relate to the T-M scales of emotions and interests respectively. It was observed from the present results that the crucial variables in the relationship between the T-M exercises and the symbol scales were not symbol levels, but the sexual referents of the symbols and the sex of the sample, i.e., the masculine symbol scales correlated with the T-M scale of interests in the male and female samples, and the feminine symbol scales correlated with the T-M scale of emotions in the female sample, and to neither of the T-M exercises in the male sample. It must be questioned whether the relationship of femininity in the symbol scales with the T-M scale of emotions, and of masculinity with the interest exercise on the T-M were artifacts of the symbol test, of the sample, or of the T-M exercises.

If masculine symbols were more heavily weighted on the cultural level, and feminine symbols on the psychological level, the correlations observed in Prediction 1 could be easily understood. The data do not support such an easy explanation. Turning to the data from Experiment I, it was found that masculine symbols were sorted by their cultural referents in Sets I, II, IV, and V, but by their anatomical referents when the cultural referents were minimized (in Set III). Similarly, the feminine symbols were sorted by their cultural content when it was present, and by their anatomical referents when the symbols were relatively devoid of cultural meaning. On the basis of these two considerations, this writer believed that the explanation for the correlations observed in Experiment II must lie elsewhere.

An examination of the T-M exercises likewise did not yield any information which would explain the relationships between the symbol scales and the T-M exercises. Some corollary information about the exercises may be important for the interpretation of the results. The scale of interests and activities of the T-M asks the S to state his preferences for objects or activities. The scale of emotions requests more introspection; the subject is asked for his emotional reaction to varying situations. In general, if the S admits an emotional reaction it is scored as feminine, and if he denies any emotional reaction it is scored as masculine. The scale of emotions thus may be a scale of sensitivity, or of willingness to admit emotional "softness." In a factor analytic study of the T-M by Ford and Tyler (1952), Exercise 4 was found to have a heavy loading on Factor I ("sensitivity"). These observations do not account for the fact that females related the social and psychological dimensions of feminine symbols to the scale of emotions, rather than relating the former to a scale of emotions and the latter to the scale of interests and activities.

The population sampled may have affected the sorting of masculine and feminine symbols. It is tentatively suggested that in a college population females are expected to incorporate masculine cultural standards (interests and activities)

of competition and intellectual achievement. While men may maintain their cultural standards, they are expected to reject their "manly" striving for emotional independence, and instead accept a prolongation of a dependency relationship at the university. It is conceivable that this emphasis on the role aspects of masculinity may have been tapped in the correlations between masculinity and the scale of interests and activities. Women must rely on what is psychologically feminine in themselves to maintain their identity as women. These women therefore relate what is feminine to feminine emotions, rather than to feminine activities, which they have temporarily abdicated.

The lack of correlation between the femininity scales and either of the T-M exercises in the male sample may also be a function of the population sampled. Males may be unwilling to admit feminine emotions or interests because of cultural inhibitions (cf. Brown, 1958; Lynn, 1959). If the male <u>Ss</u> did not admit femininity, the correlation between the femininity scales and the T-M exercises would be minimized. Actually, males not only admitted femininity on the cultural and psychological scales of the symbol test, but admitted more femininity than masculinity (see Prediction 2). Furthermore, the variation of the male <u>Ss'</u> responses to the femininity scale was not significantly different from the variation of the

female <u>Ss'</u> responses (F=1.26 on the psychological femininity scale, and 1.16 on the social femininity scale).

Although statistically significant relationships were observed between the T-M exercises and the symbol scales, these relationships were uniformly low. The highest correlations between the psychological symbol scales and the T-M exercises accounted for less than six per cent of the common variance. In the social symbol scales there was, with one exception, less than twenty-five per cent of the common variance accounted for in the correlations between the two tests. The small size of the correlations may be partially accounted for by the differences in the methods by which the two tests attempted to assess sexual identity. Campbell (1960), and Campbell and Fiske (1959), have cogently pointed out that two scales may or may not correlate with each other on the basis of similarity or dissimilarity of the construction of the scales. There were several features which were dissimilar between the T-M exercises and the symbol scales.

The T-M exercises ask that an <u>S</u> respond cognitively about his interests and emotional reactions. The type of response desired in the symbol test was not as clearly specified, but it was expected that the reaction would be cognitive to the social symbols and less cognitive to the psychological symbols. The rather vague instructions for the

self-sorting of the symbols may have elicited a wide variety of responses. A few of the subjects mentioned to the examiner that they made their sorts on the basis of preference, and others volunteered that their choices were made by a reflection on their own activities. This variation in the interpretation of the instructions may have changed their meaning and their correlation with the T-M exercises.

The stimuli utilized in the two tests were also obviously different, i.e., verbal stems were used in the T-M exercises, and line drawings in the symbol test. The Franck and Rosen test (1949), which is similar to the symbol scale in as much as both tests are ambiguous and involve the interpretation of line drawings, has notably not correlated with other tests of masculinity-femininity (Engel, 1961; Shepler, 1951). Hence, the lack of similarity in stimuli may account for the low correlations.

Finally, the symbol scales were scored differently than the T-M exercises. The symbol scales were scored from theoretical assumptions, and the T-M exercises were scored on an empirical basis. When the similarity of scoring was increased by using the T-M formula of positively weighting masculine responses and negatively weighting feminine responses, the correlations with the T-M scales tended to increase. When the similarity between the two scales was further enhanced

by scoring only items on the symbol scales which could be responded to cognitively (in the social symbol scales) the correlationswere observed to increase still further.

Although the correlations were small, and although there were some methodological explanations for the correlations which were observed, the theoretical extension of these results should not be neglected. Most simply interpreted these results indicate that femininity is defined more in terms of emotions, and masculinity in terms of culture. The results also suggest that males define their sexuality in terms of social role, whereas women define their sexuality on both a psychological and social level. These ideas will be discussed in the section on sexual identification.

# Prediction 2

It was predicted that males and females would respond differently to a self-sort of sexual symbols. This prediction was supported by the present data. The manner in which the <u>Ss</u> differed provided some clues concerning the future development of an M-F symbol test of sexual identity, as well as some further ideas about the theory of sexual identity.

On the social symbol scales, males sorted more masculine symbols as like-self than feminine symbols, and also sorted more masculine symbols as like-self than did the female <u>S</u>s.

The female <u>S</u> likewise sorted the social feminine symbols as expected; they sorted more socially feminine symbols as likeself than masculine symbols, and more socially feminine symbols as like-self than did the males. These results provided encouragement for the development of a test of social sexual identity. When these results were juxtaposed with the results of Prediction 1 of the present experiment, some questions about the construct validity of the social symbol scale were raised.

It must be questioned whether the masculine and feminine social symbol scales measure social sexual identity since the social femininity scale related more to the T-M scale of emotions in the female sample, and the social masculinity scale related more to the T-M scale of interests in both the male and female samples. Although these correlations are theoretically interesting, they account for only a small part of what was measured by these scales. The implication that the social femininity scale measures only, or mainly, feminine emotions is further weakened when the obviousness of the cultural referents of the symbols is recalled from Experiment I. It will be remembered that the symbols in Set I and Set II were responded to by most <u>S</u>s in accord with their cultural referents.

The scores of the male and female <u>S</u>s on the psychological symbol scales require some thought. The psychological femininity scale differentiated males from females. Females sorted more symbols with psychologically feminine referents as like-self than males, and more symbols with psychologically feminine referents as like-self than masculine referents. Males, however, sorted more symbols with psychologically feminine than masculine referents as like-self, which was surprising. The psychological masculinity scale was the only scale which did not differentiate males from females with a statistically respectable level of significance, although there was a tendency for the females to sort more symbols with psychologically masculine referents as like-self than the males.

It will be recalled that the masculine symbol scales related significantly to the T-M scale of interests, and did not relate significantly to the scale of emotions. If the psychological masculinity scale was merely a contaminated replica of the social masculinity scale, it would have been expected that the self-sort of the symbols as scored by these two scales would be more similar than was observed. The fact that the results from the psychological scales and the social scales were different may add some support to the notion that the symbol levels were responded to differentially in a

self-sort of symbols. Also, the discrepancy between the responses to the social and psychological symbol scales may add some weight to the already established concept of symbol dimensions. At the very least, the differing results on the psychological and social symbol scales offer encouragement for the development of a measure of the hypothesized levels of sexual identity. Assuming that the symbol scales measured what was claimed, which at this time is a highly tenuous assumption, some explanation of the results are in order.

The hypothesis presented earlier to explain the correlation between the masculinity scales and the interest exercise of the T-M, and the femininity scales with the T-M exercise of emotions will be invoked again to deal with the findings of Prediction 2. The hypothesis was that the population sampled came from a situation which accentuated male role aspirations, but feminine emotional qualities of dependence and submissiveness. This femininity may be reflected by the higher femininity than masculinity scores on the psychological symbol scales by male and female Ss. The same Ss maintained a clear perception of their own social roles as males and females, as reflected by the self-sort in the social symbol scales. The suggestion that the results are a function of the population sampled may be easily tested by administering the scales to a non-college population to see if the males

continue to score higher on the psychological femininity than on the psychological masculinity scales.

More work is required on the symbol test before it should be given any definite structure. Some observations and criticisms will be presented at this juncture which may aid in the further development of the instrument.

In Experiment II a "shotgun" approach was taken in the scoring of the symbol scales in order to probe as many leads as was feasible. Scales were scored with and without weighting, with and without rejection responses, and by using the scales singly and in combination. Relatively speaking, the most easily understood scales were those which used the fewest assumptions and were most simply scored. It is suggested that further attempts be made to differentiate and simplify the scales. For example, the symbols in Sets I, II, and III might be used to form separate scales. There was some reason to believe from the present results that the Set II symbols were instrumental in differentiating males from females. Kagan (1960) found that stimuli of medium levels of ambiguity (such as found in the Set II symbols) yielded fruitful results on TAT type stimuli. Abt (1959) also wrote about the efficacy of stimuli of medium levels of ambiguity in eliciting projective data.

The inclusion of the not like-me responses in the

present work was based on the assumption that a rejection of an item was as meaningful as its acceptance. It now appears that placing the symbol in the not like-me category, when there were only two categories, may have other meanings besides indicating that the symbol is "not like-me." For example, a "waste basket" use of the not like-me category is particularly suspect in the sorting of vague symbols. When the items have obvious object referents, as they tend to have in the social symbol scales, the not like-me category may have the hoped for meaning. This conclusion was supported by the differences in the correlations observed for the like-me plus not like-me psychological scale as opposed to the similar social symbol scales.

Responses were weighted in order to follow-up some of the writer's hunches about the meanings of certain items. The weightings in certain instances raised the correlations between the T-M scales and the symbol scales. However, in the social masculinity scale the weighting severely reduced the correlation found before the items were weighted. Weighting, like the use of the rejection score, and like the combining of scales, was undertaken before a sufficient understanding was gained about the symbols. It is recommended that further work with these symbols should proceed without these frills until such time as the basic materials are better understood.

Symbol Sorting and Sexual Identity

The hypotheses tested in Experiment II, and the instruments which were used to test these hypotheses, were derived from an inaccurate semantic manipulation of the "components" of sexual identity and the "levels" of sexual symbols. Dichotomies and trichotomies which divide sexual identity into anaclitic and aggressive, psychological and biological, psychological and social, or psychological, biological and social were commented upon in Chapter I. This writer made an essay toward differentiating those aspects of sexual identity of which an individual was aware from those aspects about which he was not usually aware. Regrettably, a retrogressive step was taken in Experiment II for the expedience of finding measures of these levels of awareness of sexual identity. What was termed the "manifest" levels of sexual identity was equated with "social or cultural" sexual identity, and the "latent" level of sexual identity was equated with "psychological" sexual identity.

The faulty equations that social = manifest, and psychological = latent sexual identity were then applied to the criterion measures. One T-M exercise queried the individual about his interests, activities, and preferences, and therefore seemed to be culturally oriented. Likewise,

the symbol scale which was scored for cultural content was culturally oriented, and was therefore compared with the T-M scale of interests as a measure of manifest or social sexual identity. The difference between "manifest," "conscious," and "cultural" sexual identity have become muddled and could benefit from clarification.

The idea of an awareness, either conscious or preconscious, of one's sexual identity was the kernel of the concept to be conveyed by the various terms. This awareness most likely includes cultural aspects of sexual identity, as well as an awareness of one's biological sexual characteristics. It may also include a consciousness of one's "masculine" or "feminine" emotions; one's softness, aggressiveness, etc. And it may even include a clear perception that one is following in his father's or mother's footsteps. It is reasonable for theoretical purposes to separate conscious biological, cultural, and emotional (psychological) sexual identity. These same areas of sexual identity may also be found in different proportions and strengths in those aspects of sexual identity of which one is not aware. The writer is thus suggesting that sexual identity be considered vertically, i.e., in depth, as well as horizontally, i.e., in terms of important areas around which the gestalt called sexual identity is organized.

The interest scale, and the scale of emotions probably measure aspects of conscious or preconscious sexual identity as does the social symbol scale. The interpretation of the data in light of these redefinitions would change the emphasis from the depth of sexual identity, to the components within levels. The change in interpretation is subtle, but important.

What was earlier called "latent" sexual identity was unfortunately equated with "psychological" sexual identity. The notion that there is a portion of sexual identity of which an individual is not aware was the important feature which was to be contrasted to those aspects of sexual identity of which an individual is aware. The term "psychological" implies both a psychology of consciousness and also of unconsciousness in present day usage, and therefore does not adequately convey the intended meaning. The term "latent" was also discarded because of its implication of "lurking." The term "unconscious," even though heavily burdened, best bespeaks of the writer's intentions. As with conscious sexual identity, the content of unconscious sexual identity may be divided into social, biological, and emotional (psychological) components for heuristic reasons.

Although the T-M exercise of emotions was chosen as the criterion measure of the unconscious (then psychological)

level of sexual identity, it seems apparent that this scale measures conscious emotional reactions. The low correlations between the psychological (henceforth "anatomical") symbol scale and the T-M scale of emotions may now be explained by the assumption that they tap different levels of awareness of sexual identity. The fact that some positive correlations were observed may have been the result of the cultural components in the anatomical symbol scale.

It is not certain that the anatomical symbol scale mirrors unconscious sexual identity. This still must be demonstrated experimentally. If the scale provided a vehicle through which an individual could reveal information about his unconscious sexual identity, it would serve a valuable function.

The correlational data from Experiment II appears to provide information about the relation of the symbol scales to two different aspects of conscious or preconscious sexual identity. The information derived from the anatomical symbol scale provided the only source of information about unconscious sexual identity. It must be questioned whether the sort of more feminine than masculine anatomical symbols as likeself indicated that males in the sample had a strong unconscious feminine identity--this writer believes that it does; but this remains to be proven.

There were a number of findings which seemed to point towards fascinating ideas about the development of sexual identity. Since such ideas are only tangentially related to the present work, they will be sketched in skeleton form. The results pertinent to the ideas about sexual identity will be presented below.

It was observed that male <u>S</u>s sorted more anatomically feminine symbols as like-self than anatomically masculine symbols, although they sorted more culturally masculine than feminine symbols as like-self. The anatomical and social masculinity scales related to the interest scales of the T-M in the male sample, but the femininity scale did not relate to either of the T-M exercises.

The females, on the other hand, sorted more anatomically and culturally feminine symbols as like-self than masculine symbols. They also tended to sort more anatomically masculine symbols as like-self than did the male <u>Ss</u>. Their responses to the symbol scales related masculinity to interests and femininity to emotions as measured by the T-M exercises.

The reader will be reminded of some of the results and trends noted in Experiment I so that the results of both experiments may be integrated in this discussion. First, it was found that the meanings of the symbols were, on some levels of awareness, apparent enough to the <u>Ss</u> so that they

could be sorted accurately as male or female. The sorting was based upon the cultural components of the symbols when these were available, and on the anatomical or Freudian elements when the reality cues were markedly reduced. Furthermore, there was a subtle, but measurable effect of the Freudian stimulus elements even when the cultural elements were strong. It was also suggested that male symbols in some way may be more potent than female symbols. And finally, males tended to sort symbols with feminine anatomical referents better than females, and females tended to sort symbols with masculine anatomical referents better than males.

Before incorporating these results into a discussion of sexual identity, it is emphasized that the results of the present study may be strictly an artifact of the instruments used. Also, the results should be interpreted with allowances made for the idiosyncracies of a state university population.

The process of acquiring a sexual identity is not believed to be a onetime incorporation of the same sex object, nor a single-minded learning to copy the behavior of one individual. This writer believes that sexual identification is a continuing process that begins in infancy and progresses throughout life. There are undoubtedly critical periods such as the Oedipal stage, the pubescent and adolescent stages, maturity (marriage, childbirth, and parenthood), and later

the changes peculiar to growing old, such as menopause and retirement. (These ideas are based upon the writings of U. Bronfenbrenner, D. G. Brown, T. Colley, D. Lynn, and H. S. Sullivan.)

Both male and female children are raised by a woman, and their early interpersonal experiences are largely influenced by the female person to whom they have been intensely exposed (Lynn, 1959). In the first years of life a child must certainly learn more deeply about feelings and emotions than about a woman's social role. These feelings and emotions provide a deep-seated or ontologically early feminine emotional basis in each human of either sex. The sorting of anatomically feminine symbols as like-me by the male and female <u>S</u>s was interpreted as support for this theorizing. Furthermore, the relationships noted between the femininity scales and the scale of emotions on the T-M, and the masculinity scales and the scale of interests on the T-M, seem to further corroborate these ideas.

At a later age a boy attaches his identity to his father or some other male, whereas a girl may maintain her primary identification with her mother. In a male child the process of change is aided by several outside forces. A boy, once he is identified as such, is given little leeway to be anything but a boy. A "boy" is defined in terms of things and

actions which are made clear by significant others. He has little chance to learn what a man is like emotionally through the same kind of intimate contact which he had with his mother. Maleness is learned at a distance. In this regard Lynn (1959) has stated that women learn to be women by copying their mothers, but men learn to be men through cultural stereotypes. The stereotypy of the masculine role may be reflected in the more accurate sorting of male than of female symbols. The social rather than emotional quality of maleness may have been reflected in the correlations of the anatomical and social masculinity scales with the T-M scale of interests. The postulated emotional femininity of males was possibly mirrored in their sorting of more feminine anatomical symbols as like-self than masculine anatomical symbols, although they were more positive of their conscious masculine social identity. Females demonstrated a feminine anatomical and feminine social identity in their sorting of the symbols.

It follows from these ideas that femaleness may have an ontogenetically earlier origin than maleness. Hence, masculinity may be profitably studied by attending to the Oedipal and post Oedipal stages, whereas we must look earlier to study femininity.

Some further ideas which are germane to the measurement of sexual identity were extracted from the present research.

It was indicated in the introduction that sexual identity has been defined as an end product of the process of identification. It now seems more appropriate to call it a cross section taken at any moment in time. With mature subjects the cultural aspect of this cross section may be measured by a variety of methods. The hypothetical unconscious elements are more elusive. This elusiveness may result from a greater homogeneity of unconscious content; a content much less sharply defined as M or F than the conscious cultural aspects of sexual identity. The presumed lack of sharpness would be due to a greater primary process involvement of the unconscious This writer would not wish to be so unpopular as content. to posit that men and women are unconsciously the same; however, it is suggested that they are more similar unconsciously than consciously (at least in a college population responding to the present methods and procedures).

# Summary and Future Development

The anatomical (psychological) and social dimensions of the symbol scales were found to correlate very little with the scales of emotions or interests of the T-M. The low correlations which were found related masculinity to the scale of interests, and femininity to the scale of emotions without regard to symbol levels.

The symbol scales differentiated males from females on the social symbol scales and on the feminine anatomical symbol scale. Males and females did not make statistically different scores on the masculine anatomical symbol scale.

It is suggested that the symbol scales must first be refined along the lines suggested in the discussion before they are put to further service. The new scales should then be administered to populations of differing social backgrounds, and also to groups with known problems with sexual identity. If the symbol scales measure anything meaningful, an age difference would also be expected and should be investigated. Certainly further attempts must be made toward the construct validation of the symbol test as a measure of conscious as well as unconscious sexual identity. An idiographic use of the symbol scales should provide useful information along these lines. The writer believes that such endeavors will not only add a useful instrument to the psychologist's already large repertoire, but will also reap a harvest of new ideas about the development of sexual identity.

### CHAPTER V

## SUMMARY AND CONCLUSIONS

On the basis of previous research and theoretical formulations directed toward the understanding of sexual symbolism it has become increasingly apparent that symbols are complex, rather than simple stimuli. An extensive discussion of sexual symbolism concluded with eight assumptions about symbol complexity, origins, and functions. The assumptions about symbol complexity provided the point of departure for the experimental phase of the research. Specifically, the postulated Freudian and cultural aspects of sexual symbols were chosen for investigation.

Over 480 college students and six expert judges were utilized in the three phases of this investigation. The first phase was directed toward constructing a set of symbols which were empirically understood in respect to the ambiguity of their cultural referents, the sex-association of their cultural referents, and the sexual referents of their Freudian elements. From an initial pool of 720 symbols, 190 were selected and divided into 22 categories based upon different combinations of their levels of ambiguity, and their

Freudian and cultural sexual referents.

The second phase of the research (Experiment I) was oriented toward determining if college <u>S</u>s would sort the symbols as masculine or feminine as was predicted from their postulated cultural and Freudian referents. It was observed that:

- Symbols could be categorized as male or female according to their cultural referents.
- Symbols could be categorized as male or female according to their Freudian referents.
- 3. Symbols had Freudian and cultural elements simultaneously, i.e., symbols are complex.
- 4. Symbols which contained conflicting cultural and Freudian sexual referents were sorted according to their cultural referents.
- 5. The Freudian elements of complex symbols had an effect on the consistency of the symbol sort.

6. The effect of the Freudian elements were inversely related to the ambiguity of the cultural referents. These results demonstrated the presence of cultural symbolic elements as well as their relative dominance over Freudian elements in complex symbols. The results also showed that Freudian elements of symbols are present and play a role in the determination of behavior, even when they are not the dominant stimulus elements. Two explanations for the effect of the Freudian referents on the sorting of symbols were discussed.

The following sex differences were observed in the sorting of symbolic stimuli:

- Males tended to sort symbols with feminine Freudian referents more accurately than females, and females tended to sort symbols with male Freudian referents more accurately than males.
- There were no sex differences observed when the cultural referents of the symbols were realistic (Set I symbols).

Finally, it was observed that symbols with masculine referents tended to be sorted more accurately than symbols with feminine referents.

Interpretations of the sex differences and of the disparity in the sorting of male and female symbols were considered with reference to the population sampled. A considerable amount of the discussion of Experiment I was devoted to methodological problems. Some possibilities for further research were suggested.

The final phase of the research (Experiment II) related the self-sorting of symbols to aspects of sexual identity as measured by a standard M-F test. This phase of the research was undertaken in order to further understand symbol levels, as well as to make an early step toward the practical use of symbol sorting. The correlations between symbol sorting and the M-F test which were observed tended to relate femininity with an M-F scale of emotions, and masculinity with an M-F scale of interests, although the correlations were generally low.

The symbol scales which were constructed for Experiment II showed some signs of being a useful M-F measure.

- Males and females were differentiated by a selfsort of symbols with social sexual referents.
- 2. Males and females were differentiated on the basis of the self-sort of anatomically feminine symbols, although not on the basis of anatomically masculine symbols.
- 3. Males sorted more anatomically feminine than masculine symbols as like-self, and more socially masculine than feminine symbols as like-self.
- 4. Females sorted more anatomically and socially feminine than masculine symbols as like-self.
  Methodological difficulties encountered in the attempt to measure sexual identity by the use of symbol scales were presented in the discussion of Experiment II. Also, some

ideas about the theory and conceptualization of sexual identity which were stimulated by the results of the present research were briefly sketched. The discussion was terminated with some general suggestions for future research.

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APPENDICES

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APPENDIX A

CULTURAL MASCULINITY-FEMININITY RATINGS

### APPENDIX A

# CULTURAL MASCULINITY-FEMININITY RATINGS

.

-	2.11	25	inon (for incrime
1.	kite	25.	iron (for ironing clothes
2.	lips	26.	mouth
3.	door	27.	
4.	peanut		
5.	clover		bellows
6.	hat, ladie <b>s</b>	29.	
7.	aerial or observation	30.	doorknob
	balloon with basket	31.	sun and rays
8.	pulley, pulley system	32.	
9.	wheel		jackknife
10.	gate	33.	bead <b>s</b>
11.	hammer, sledge hammer,	34.	plow, hand plow
	-	35.	stone, rock
12.	hatchet (axe)	36.	b <b>as</b> eball cap
13.	flute	37.	key
14.	whistle	38.	log
15.	<pre>pipe (for smoking)</pre>	39.	pickle fork, olive fork
16.	pi <b>s</b> tol	40.	hat, man <b>'s</b>
17.	donut	41.	ball
18.	hills, mountains	42.	Greek column, pillar
19.	hat (derby)	43.	di <b>s</b> h, saucer, or plate
20.	b <b>as</b> eball	44.	cattail, <b>s</b> wamp weed
21.	salt shaker	45.	button
22.	fingernail file	46.	hairbrush
23.	arrowhead, spearhead	47.	window
24.	box (lid open or ajar)	48.	hor <b>s</b> eshoe

49.	ocean wave	78.	mou <b>s</b> e hole
50.	pur <b>s</b> e, handbag	79.	clarinet
51.	fish creel, fish basket	80.	cigar
52.	top hat, stovepipe hat	81.	flag on pole
53.	<b>s</b> hovel, <b>s</b> pade	82.	<b>s</b> ky <b>s</b> craper, tall
54.	water bag, ice bag, hot	83.	<b>s</b> hield
	water bottle	84.	nut (as in nuts a
	paper airplane	85.	flower pot
	fork tines, head of fork handcuffs	86.	teeth (of fish, a shark)
58.	anchor	87.	comb
59.	circular saw blade	88.	amoeba
	(electric saw blade)	89.	mushroom
60.	cloud	90.	va <b>s</b> e, flower vase
61.	<pre>coat of arms, crest,   emblem, shield</pre>	91.	hand drill, brace
62.	clam, clam <b>s</b> hell	92.	bell (and clapper
63.	nut, nut <b>s</b> hell	93.	doorway
64.	rocket, mi <b>ss</b> ile, <b>s</b> pace	94.	bongo drum
65	ship arrow	95.	garden fountain, mental fountain
	ferris wheel	96.	dripping candle
	umbrella	97.	tooth (molar)
68.		98.	door (ajar, open)
	brush (for brushing)	99.	hat
69. 70.	<b>s</b> pool leaf	100.	fork
		101.	<b>s</b> tair <b>s</b>
71.	basketball net	102.	cylinder, tube, p
	necktie	103.	cigarette
	light bulb	104.	crown
	French bread, Vienna bread	105.	apple
75. 76	bullet, gun shell	106.	worm
76. 77.	bowl box	107.	gla <b>ss,</b> goblet, drinking gla <b>ss</b>

79.	clarinet
80.	cigar
81.	flag on pole
82.	<b>s</b> ky <b>s</b> craper, tall building
83.	<b>s</b> hield
84.	nut (as in nuts and bolts)
85.	flower pot
86.	teeth (of fish, animal, shark)
87.	comb
88.	amoeba
89.	mushroom
90.	va <b>s</b> e, flower va <b>s</b> e
91.	hand drill, brace
92.	bell (and clapper)
93.	doorway
94.	bongo drum
95.	garden fountain, orna- mental fountain
96.	dripping candle
97.	tooth (molar)
98.	door (ajar, open)
99.	hat
00.	fork
01.	<b>s</b> tair <b>s</b>
02.	cylinder, tube, pipe
03.	cigarette
04.	crown
05.	apple

108.	vacuum cleaner
109.	oil can
110.	piece of bread, slice of toast
111.	<pre>string of pearls,   necklace</pre>
112.	pillow
113.	lip <b>s</b> tick
114.	pi <b>s</b> tol, revolver, gun
115.	briefcase
116.	rubber raft, life raft
117.	scissors
118.	ba <b>s</b> ketball
119.	candle
120.	hand spade, trowel, garden tool
121.	paper bag, sack
122.	ice pick
123.	curl of hair, wave of hair
124.	oar, paddle
125.	rattail comb
126.	fingernail, cuticle, or manicure scissors
127.	life pre <b>s</b> erver, life ring, life <b>s</b> aver
128.	coil spring
129.	champagne glass
130.	<b>s</b> word
131.	pliers
132.	anvil
133.	pencil point
134.	flame, fire

135.	snake
136.	rock, boulder
137.	broom
138.	army helmet
139.	fish net (small)
140.	knife
141.	chef's or baker's hat
142.	pear
143.	fire cracker
144.	barrel, keg
145.	target, bull <b>'s</b> eye
146.	feather
147.	funnel
148.	football
149.	golf club
150.	coffee pot
151.	<b>s</b> hopping bag
152.	horn (of animal)
153.	Washington Monument
154.	rain drop, tear drop, drop of water
155.	cornucopia (horn of plenty)
156.	lightning
157.	catcher's mit
158.	thumb tack
159.	beer bottle
160.	peas in pod
161.	bow tie
162.	rake
163.	bridge
164.	cup

165.	bottle, jar	192.	snail
166.	cannon	193.	footpr
167.	hol <b>s</b> ter	194.	satche
168.	coffee cup or mug		over trav
169.	radio wave	195.	
170.	chair, <b>s</b> eat	196.	faucet
171.	gun	197.	
172.	mace, spiked club, medieval weapon	198.	
173.	casserole	199.	wood s
174.	baseball bat	200.	bow, ł
175.	wagon wheel	201.	car wh
176.	butter knife	202.	wri <b>s</b> t
177.	citru <b>s</b> fruit (orange,	203.	whip,
	grapefruit)	204.	banana
178.	cork <b>s</b> crew	205.	loaf c
179.	bolt (as in nuts and bolts)	206. 207.	
180.	file (for wood or metal)	207.	
181.	pie	209.	
182.	<b>sombrero, cowboy hat</b>	210.	wine c
183.	deer	211.	bowlin
184.	hand saw	212.	
185.	tractor tire	213.	tent
186.	can opener, bottle opener	214.	bar be weig
187.	flag, banner, pennant	215.	dog bo
188.	drawing or drafting compa <b>ss</b>	216.	paring
189.	cave	217.	tree
190.		218.	electr shav
191.	water-hose, garden hose	219.	egg

2.	Shall
3.	footprint
94.	<b>s</b> atchel, valise, overnight bag, traveling bag
5.	hairpin, bobby pin
6.	faucet
97.	clock
.8	moon
9.	wood <b>s</b> crew
0.	bow, hair ribbon
01.	car wheel
2.	wri <b>s</b> t watch
3.	whip, bull whip
4.	banana
5.	loaf of bread
6.	nail
7.	mailbox
8.	light plug, electric plug, or wall plug
9.	heart, heart shape
.0.	wine gl <b>ass</b>
1.	bowling ball
2.	thimble
3.	tent
4.	bar bells, dumbbells, weights
5.	dog bone
6.	paring knife
7.	tree
8.	electric razor, electric shaver
9.	egg

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0.	bass drum	249.	bubble <b>s</b>
1.	wrench	250.	baby bottle
2.	rolling pin	251.	ironing board
3.	needle	252.	brandy glass
4.	meat cleaver,	253.	jug
	butcher's hatchet	254.	<b>s</b> poked wheel
5.	antlers	255.	• •
6.	beer mug, beer stein		wheat <b>s</b> talk)
7.	fla <b>s</b> k	256.	potato
8.	tin <b>s</b> nips, metal shears	257.	drum
9.	bicycle wheel	258.	lance, <b>s</b> pear
0.	wicker basket,	259.	bench
	straw basket	260.	fla <b>s</b> hlight
1.	snare drum	261.	pitcher, creamer,
2.	tack		gravy pitcher
3.	<pre>knapsack, back pack, camping bag</pre>	262.	chain
4		263.	teeth
4. 5.	magnet tweesers	264.	baby buggy, baby carriage
6.	boxing glove	265.	bird's nest
7.	spatula	266.	acorn
8.	pool ball, billiard ball	267.	ice cream cone
9.	fi <b>s</b> hing reel	268.	meat fork, cooking
0.	<b>s</b> mile		fork
1.	gear	269.	bag
2.	table knife	270.	keÿhole
3.	еуе	271.	snippers, pincers
4.	engagement or diamond ring	272.	<b>s</b> ailor' <b>s</b> hat
5.	<pre>shepherd's hook, shepherd's</pre>	273.	coin
	staff	274.	hot dog
5.	cane	275.	ship's steering wheel
7.	<b>s</b> tirrup	276.	airplane
3.	compass (for direction)	277.	stick

- 279. chemical flask
- 280. T square
- 281. athletic bag, gym bag
- 282. kettle, pot
- 284. finger
- 285. porthole
- 286. snowman
- 287. cap (hat)
- 288. meat knife, butcher knife
- 289. toaster
- 290. basket
- 291. propeller
- 292. screw driver
- 293. gas can

- 294. electric wall socket
- 295. potato peeler
- 296. cigar butt
- 297. épée, rapier, foil, fencing **s**word
- 298. dresser drawers, bureau
- 299. agitator for washing machine
- 300. gun sight
- 301. beanie
- 302. tire
- 303. beach ball
- 304. spool of thread
- 305. flower
- 306. harpoon
- 307. tom-tom (Indian drum)
- 308. hunting knife
- 309. parachute

APPENDIX B

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CRITERIA FOR SYMBOL CATEGORIZATION

<b>CATEGORIZATION</b>
SYMBOL
FOR
CRITERIA

# Rater agreement necessary for subset classification

		Na LET ay	agreement necessary tor subset crassification	UDSEL CTASS	TETCALIOU	
Subset*	Anatomi (N	Anatomical Ratings (N=6)	Look <b>s-</b> like Rating <b>s</b> (N=37)	Cultural S( (N	Sex-association (N=38)	Symbols
	Number	Sex	Number Agreeing	Number	Sex	Number
I MM	5+	Male	28+	28+	Male	10
IMF	5+	Male	28+	28+	Female	10
IFF	5+	Female	28+	28+	Female	10
IFM	5+	Female	28+	28+	Male	10
MMII	5+	Male	9–27	28+	Male	10
IIME	5 +	Male	9-27	28+	Female	10
IIFF	5+	Female	9–27	28+	Female	10
IIFM	5+	Female	9–27	28+	Male	10
-WIII	5+	Male	<9 >19 descrip. + ?			10
XWIII	5+	Male	<9 < 9 descrip. + ?	<b>&lt;28</b> **	Male	10
IIIF-	5+	Female	<9 >19 descrip. + ?			10
IIIFX	5+	Female	$\langle 9$ $\langle$ 9 descrip. + ?	<b>&lt;28*</b> *	Female	10
MÇVI	<5	MOLF	28+	28+	Male	10
IV?F	<5	M or F	28+	28+	Female	10
ΜżΛ	<5	M or F	9–27	28+	Male	10
V?F	<5	M OL F	9-27	28+	Female	10

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	Number	Sex	Number Agreeing	Number	Sex	Number
SIM?	5+	Male	28+	< 25	M OF F	Ŋ
SIF?	5+	Female	28+	< 25	M OF F	S
ŚWIIS	5+	Male	9–27	< 25	M OF F	S
SIIF?	5+	Female	9-27	< 25	M OY F	ъ
SIIMM/F	5+	Male	9-27	28+ 28+	Male Female	ъ
SIIFM/F	5+	Female	9-27	28+ 28+	Male Female	ъ

Figures which follow numerals indicate the anatomical and cultural sex referent of the symbol in that order.

M = male

F = female

X = mixed object association

- = no object referent

? = lack of judge or rater agreement on sexual referent

M/F = opposing object and sex-associations to the same figure

S = supplementary symbols

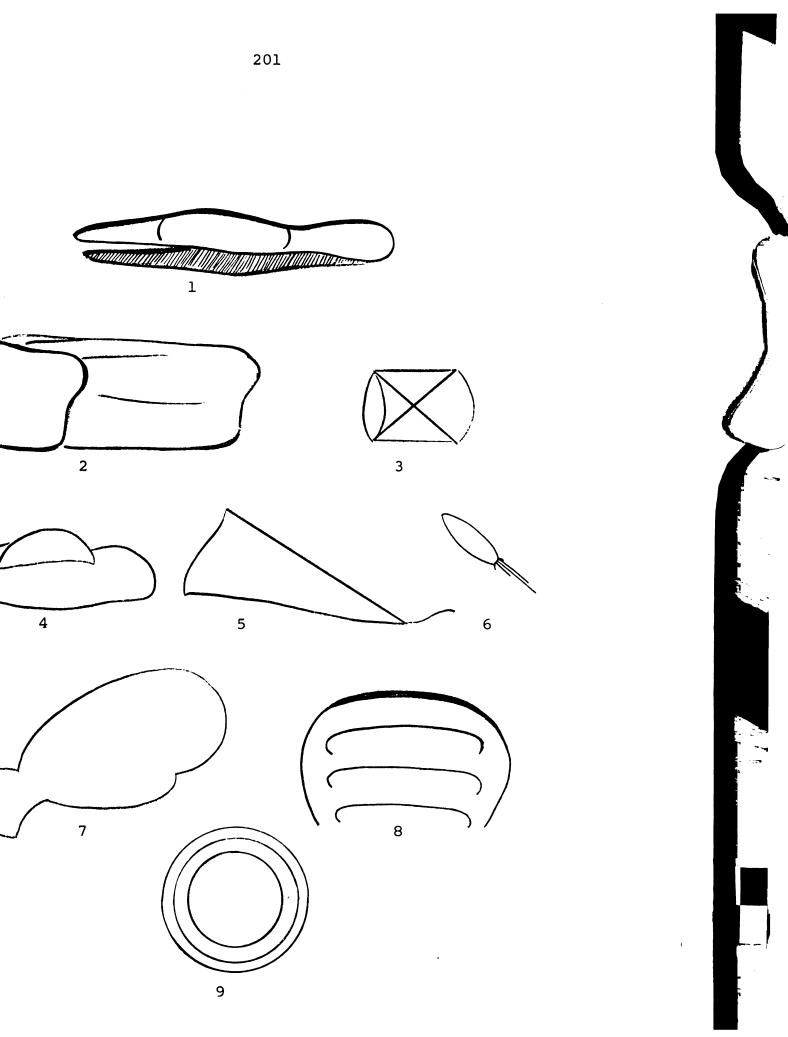
\* = Roman numerals indicate set.
\*\* = Cumulative frequency over th

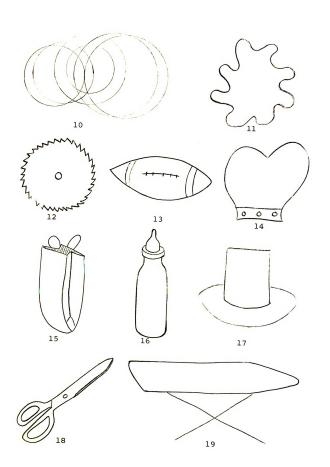
Cumulative frequency over the various object designations for each symbol. \*\*

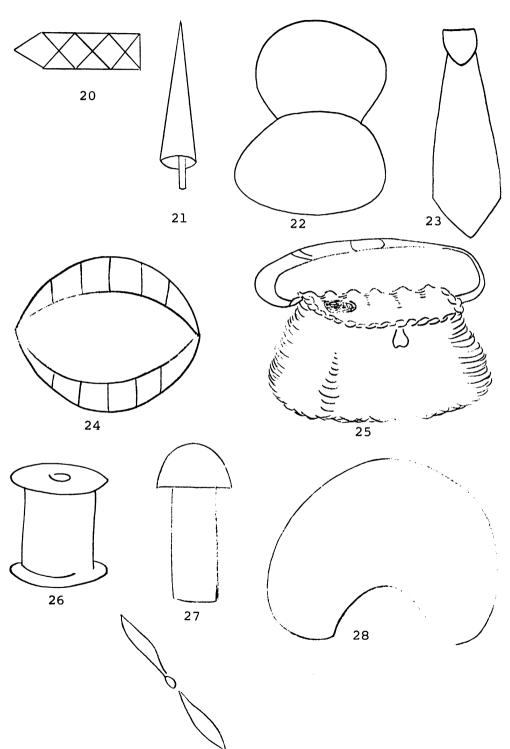
APPENDIX C

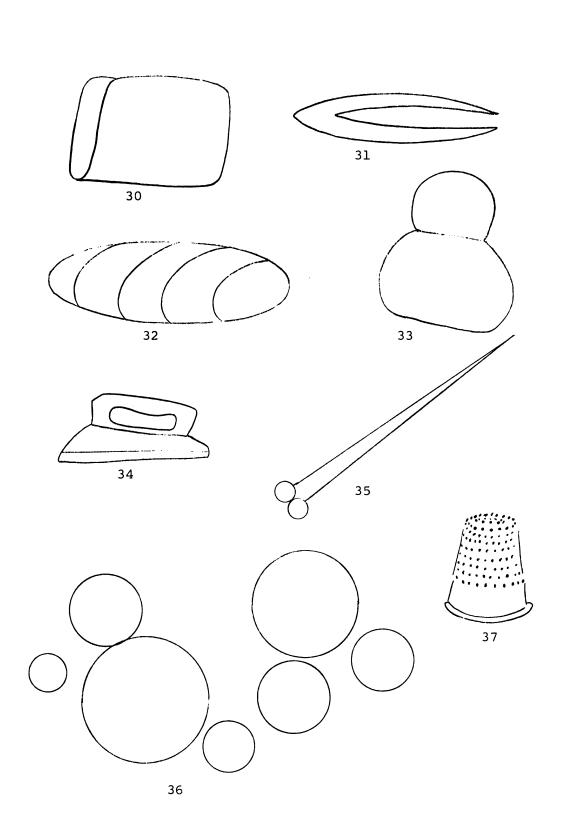
SYMBOLS\*

\*The line quality of these reproductions differs from the original rendering by felt point and drafting pens.

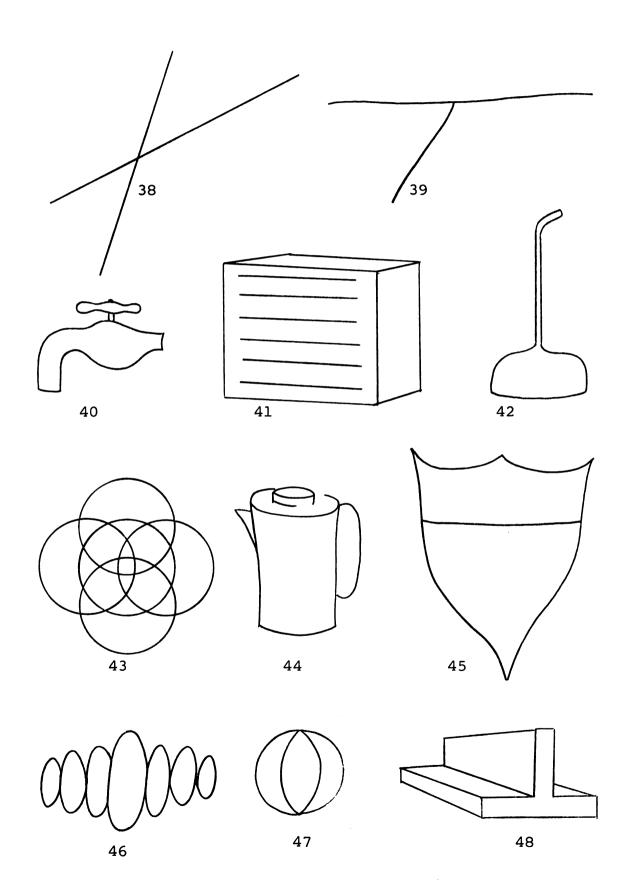


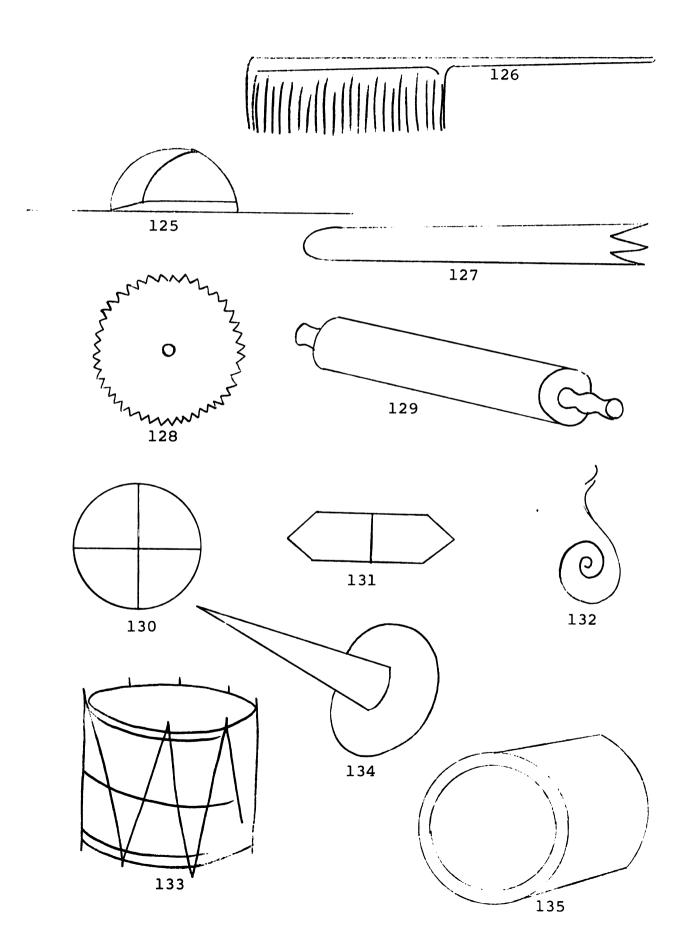


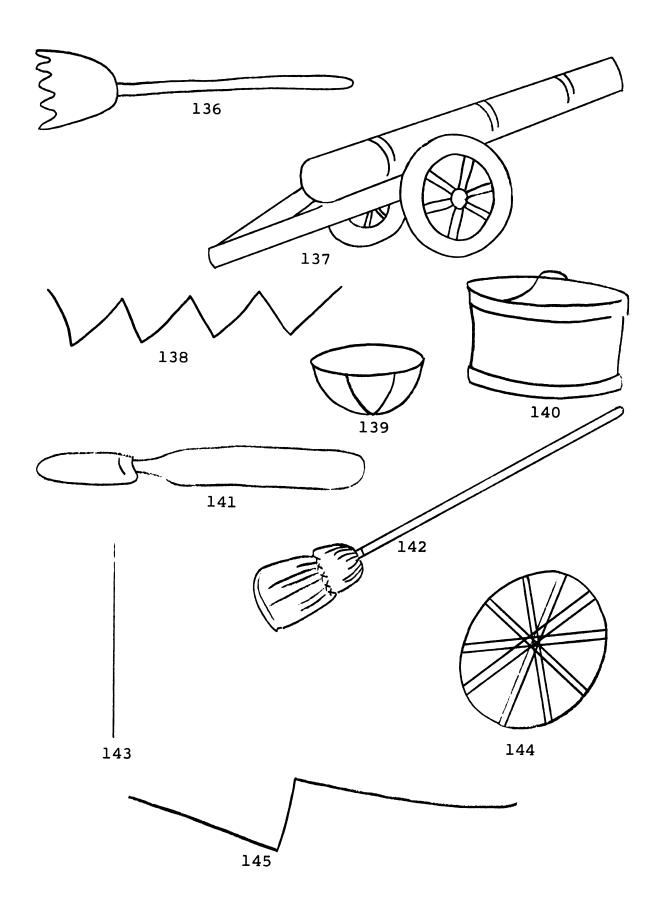


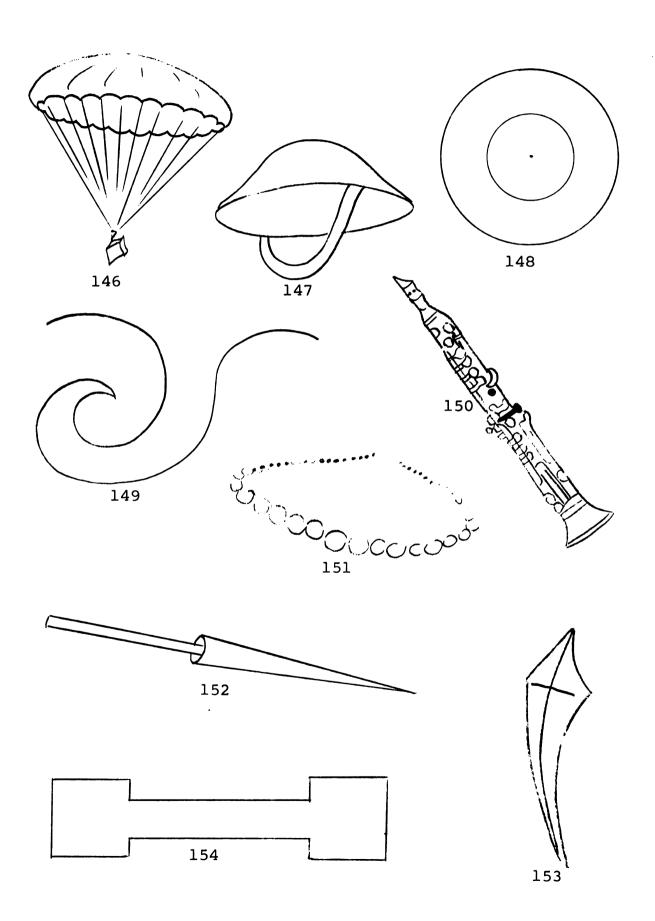


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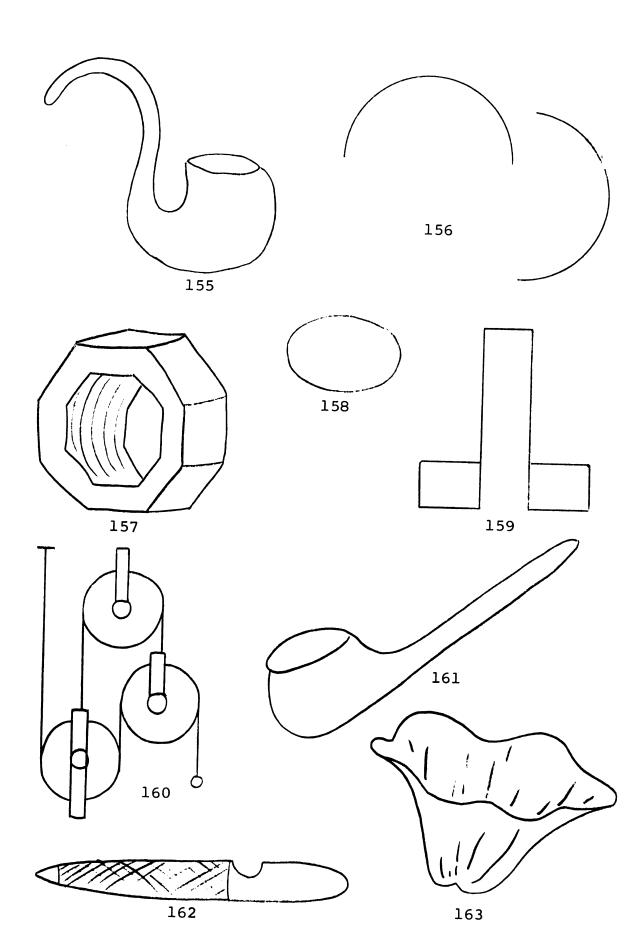




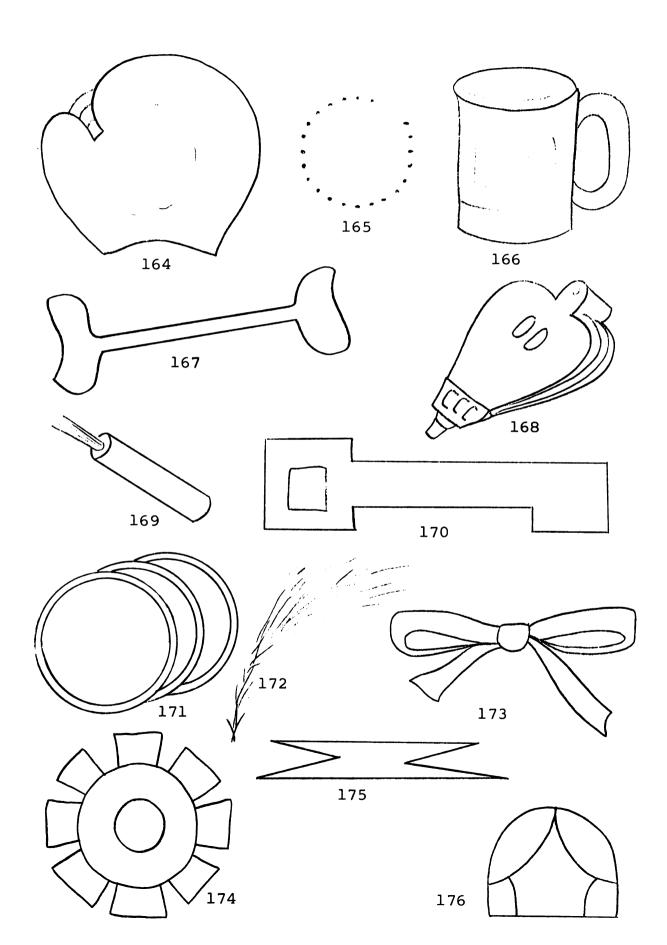


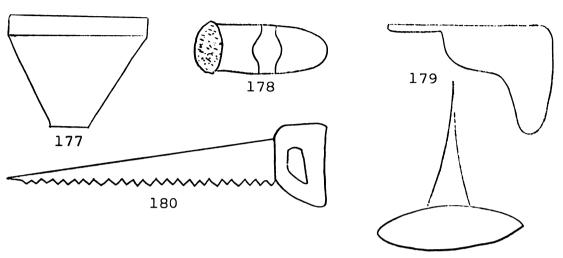


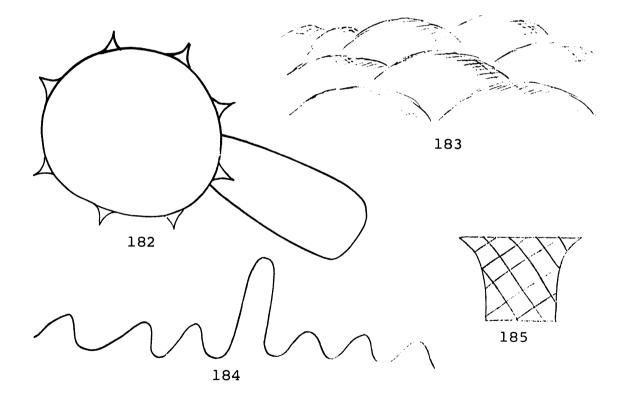
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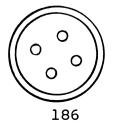


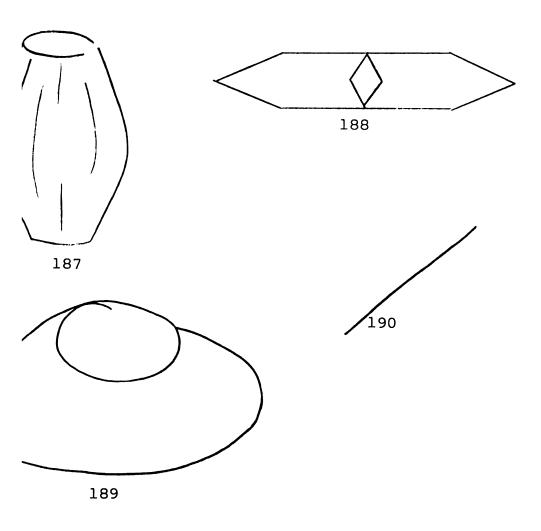
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APPENDIX D

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# SYMBOL DESCRIPTION, CULTURAL SEX-ASSOCIATION AND

# JUDGED ANATOMICAL REFERENT

## APPENDIX D

# SYMBOL DESCRIPTION, CULTURAL SEX-ASSOCIATION AND JUDGED ANATOMICAL REFERENT

Symbol Number	Symbol Set	L Predominant Descriptions	De- criptic Agree- ment (37 Raters)	• (38 Rate	soc. B ers)	Refere (6 Judge	al ent es)
				Male	Fem.	Male	Fem.
1	IMF	Tweezers	34	2	36	6	0
2	IV?F	Loaf of bread	36	4	34	3	3
3	V?M	Drum (bongo, indian), barrel(4)*, time gla <b>ss</b> (3),can(2)	14	36	2	2	2
4	IIIFX	? cap(4),fried egg(5), cloud(4), flying sauces dough, car,glove and ball	7 c,			0	6
5	IIMM	Kite	12	34	4	6	0
		<pre>?(10),dunce cap(5), candle(2),fireworks(2)</pre>					
6	IIIMX	<pre>?(5), rocket(4), flagel- late(3), knife(3), ice pick(3), tadpole(3), radish, pin</pre>				6	0
7	IIFM	Boxing glove glove(4),mitten(6)	22	38	0	0	6
8	IIIFX	Toaster(8), car grill(4) handles, fan, scales, ladder	),			0	6
9	IIIF-	Description + ?	25			0	6
10	IIIF-	Description + ? cylinder,hoop,rings	20			0	6
*Descr	iption	agreement					

\*Description agreement

11	SIIF?	Amoeba,etc. blob,etc.(17),shell, <b>s</b> ponge	12	20	18	0	6
12	IV?M	Circular saw,etc.	32	36	2	2	4
13	IV?M	Football	37	38	0	4	2
14	SIIF?	Crown heart(3),hat(7),?(3)	20	21	17	0	6
15	IV?F	Bag <b>,s</b> ack Shopping bag	29	9 0	29 38	3	3
16	IMF	Baby bottle	33	0	38	5	1
17	IV?M	Top hat, etc.	37	38	0	4	2
18	IMF	Scissors	37	0	38	6	0
19	IV?F	Ironing board	37	0	38	4	2
20	IIMM	<pre>Bullet ?(12),crayon(3),arrow, tower</pre>	13	38	0	6	0
21	IIIMX	<pre>Dunce cap(7),spear- head(7),tree(6), rocket(3),umbrella(3)</pre>				6	0
22	IIFF	Pur <b>s</b> e ?(5),chair(9),bread, potato	11	0	38	0	6
23	IMM	Necktie	37	38	0	6	0
24	IIFF	Mouth teeth(6),?(6),eye	19	4	34	0	6
25	SIIFM /F	Purse Creel	17 17	0 35	38 5	0	6
26	IV?F	Spool of thread Spool	13 23	1 2	37 36	3	3
27	IIMM	<pre>Mushroom Rivet(or bolt) ?(3),fireplug(3), doorway(3)</pre>	11 9	15 38	23 0	6	0
28	IIIFX	<pre>?(7),bean(7),artist's pallet(3)</pre>				0	6
29	IIMM	<pre>Propeller bowtie(4),bow(7)</pre>	22	37	1	6	0

30	V?F	Bread,toast folded paper(5),brief ca <b>se(</b> 5)	14	6	32	2	4
31	V?F	Tweesers ?(9),pinchers(2), clam(4)	10	2	36	4	2
32	V?F	<pre>Vienna bread(Italian, French) cigar(7),seashell(2), candy(2),egg(2)</pre>	14	0	38	4	2
33	SIF?	Snowman	30	18	11	0	6
34	IV?F	Iron	37	0	38	4	2
35	IIMF	Sci <b>ss</b> ors pins(6),hat pins(4), needles(4),tongs(2)	9	0	38	6	0
36	IIFF	Bubble <b>s</b> de <b>s</b> cription(18)	18	1	37	0	6
37	IV?F	Thimble	37	1	37	2	4
38	IIIM-	<pre>? + description crossroads(5), 2 sticks(3),pins(2)</pre>	22			6	0
39	IIIM-	<pre>? + description intersection(6), twig(3)</pre>	24			6	0
40	SIM?	Faucet	37	16	22	5	1
41	SIF?	Box	28	23	15	1	5
42	SIIMM	/					
	F	Vacuum cleaner oil can	18 12	1 36	37 2	6	0
43	IIIF-	Description church window(5), atomic pattern(2)	28			0	6
44	IV?F	Coffee pot	36	2	36	2	4
45	IV?M	Shield,crest,coat of arms, etc.	29	35	3	2	4
46	V?F	String of pearls, necklace, beads Bracelet	8 9	0	38	2	4

Spring(3), description(6)

47	IIFM	Ball de <b>s</b> cription(3),?(4), orange(2),eye(3),onion	22	38	0	0	6
48	IIIMX	<pre>?(5),benches(7),beam(4) "T" rail,monument,blocks</pre>				6	0
49	IIIF-	? + description	32			0	6
50	IFM	Tent	37	37	1	0	6
51	IIMF	Agitator Candle ?(4),anchor,chisel,hat, doorknob	16 9	13 4	25 34	6	0
52	IIIFX	Chee <b>s</b> e(8),box(8),?(3), ice(2),nut(2)				0	6
53	IMM	Paddle ba <b>s</b> eball bat	9 28	38 38	0 0	6 6	0 0
54	IFF	Baby buggy	37	0	38	0	6
55	IIIF-	<pre>? + description drum(4),ball(4),wheel, can,eye,gunsight</pre>	19			0	6
56	V?F	Cornucopia	23	6	32	3	3
57	IFF	Bow	33	1	37	0	6
58	IIFM	Wheel,tire target(5),plate,record	13	36	2	0	6
59	V?F	Comb Bru <b>s</b> h	13 11	6 4	32 34	3	3
60	SIF?	Mailbox	34	22	16	1	5
61	IIIMX	<pre>Tube(6),dowel(7), cigarette(8),rod(6), roll of paper(3)</pre>				6	0
62	IFF	Pitcher	37	3	35	0	6
63	IIIFX	<pre>Hat box(5), cake(4), box(4), cheese(5), drum, dog, dish, des- cription, hat</pre>				0	6
64	V?M	Doorknob	16	32	6	2	4

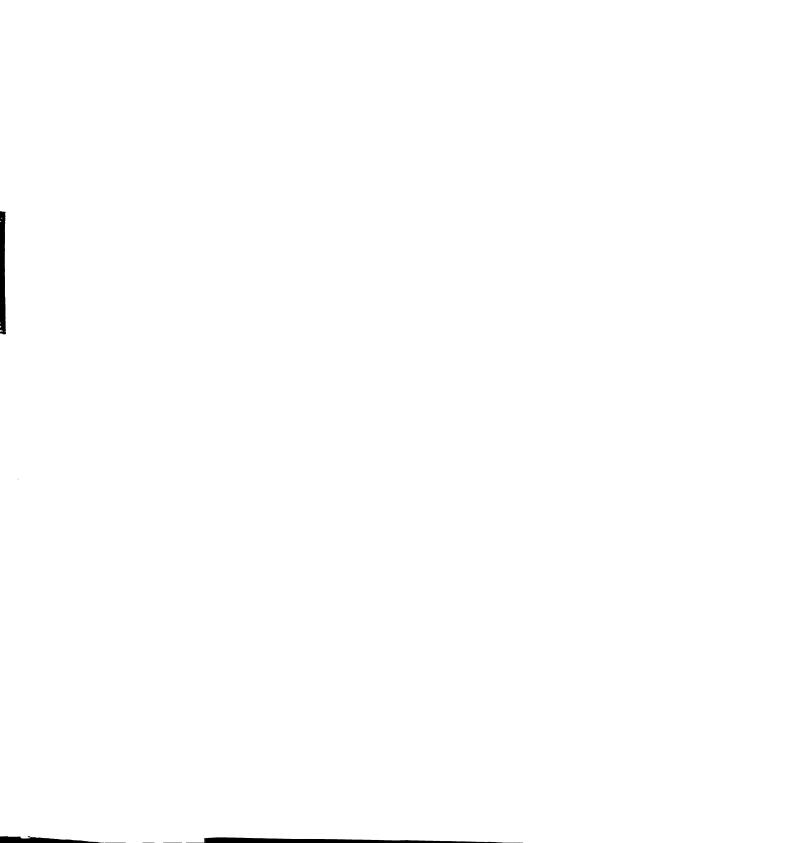
65	IIIFX	?(5),bean(5),bag(3), potato(2),boxing glove,animal,balloon				0	6
<b>6</b> 6	V?M	Horn(animal) ?(ll),door handle(3), ship vent(2),cap	9	36	2	4	2
67	IIIFX	<pre>Wheel in motion(5), waves(7),description(3), ?,circular motion, whirlpool</pre>				0	6
68	IIFF	<pre>Slice of bread ?(8),baseball diamond(3) swimpool(2)</pre>	19	6	32	0	6
69	IIMF	Hairpin	12	l	37	6	0
		<pre>?(l6),knife handle(2), handle(3)</pre>					
70	SIM?	Can opener	32	24	14	6	0
71	IIIM-	<pre>? + description crystals(2),rockets(2)</pre>	25			6	0
72	IIFM	Bowling ball description(5),citrus fruit(3),?(2),bull's eye	24	37	1	0	6
73	IV?M	Antlers	3 <b>6</b>	35	3	3	3
74	V?M	Box kite	25	33	5	3	3
75	SIM?	Hand <b>s</b> pade	37	23	15	6	0
76	IIIFX	<pre>description(15)stones(6); smoke rings(4)</pre>	,			0	6
77	IMF	Candl <b>e</b>	35	4	34	6	0
78	IV?F	Water fountain	34	2	36	4	2
79	IIFF	<pre>Flower ripples(7),lettuce(2), ?(5),doily(2),hat</pre>	11	0	38	0	6
80	SIF?	Mountain,hill sand dunes(5)	29	21	17	0	6
81	IMM	Hunting knife knife	10 26	38 33	0 5	6	0
82	IIFM	<pre>Tire stone wheel(3),stone hatchet(3),donut(3)</pre>	12	36	2	1	5

83	IIIF-	<pre>? + description footprint(3)</pre>	25			0	6
84	IV?M	Boxing glove	35	38	0	3	3
85	V?M	Plier <b>s</b>	20	36	2	3	3
86	V?F	<pre>Salt shaker jar(3),?(6),vase(3), fish(3),bird(2)</pre>	11	8	30	4	2
87	IFF	Pie	37	4	34	0	6
88	IIFF	Vase	20	0	38	0	6
89	IIIF-	<pre>? + description wheel and fender(2), face(2),sweat band</pre>	23			0	6
90	V?M	Steering wheel	20	36	2	2	4
91	IFF	Handbag,purse	37	0	38	0	6
92	IFF	Pot,kettle	34	4	34	0	6
93	SIIM M/F	Scissors Golf clubs	17 13	0 37	38 1	5	l
94	IIMF	Candle pencil(5), needle(3), nail(2), toothpick(2)	14	4	34	6	0
95	IIIM-	? + description mallet(2)	19			6	0
96	IV?F	Flower	29	0	38	3	3
97	IIFM	Horseshoe	21	37	1	1	5
98	SIIF?	Chair <b>s</b> eat ba <b>s</b> ket(5),?(5),pot(2), hat(2),commode(2)	16	18	20	1	5
99	V?M	Wrench description(5), glasses,lamps,bells, wind measurer	15	37	1	2	4
100	IIIM-	<b>? +</b> de <b>s</b> cription golf green, cliff	24			6	0
101	IIMF	Italian bread,etc. Pea pod	12 9	0 8	38 30	6	0

102	IIIMX	<pre>Ribbon(7),waves(3), worm(4),string(6), candy,description, algae,water</pre>				6	0
L03	IFF	Clouds	37	7	31	0	6
L04	IFM	Target	34	36	2	0	6
L05	IIMM	File	21	38	0	6	0
L06	IMM	Pi <b>s</b> tol	37	37	1	6	0
L07	IFM	Horseshoe	36	37	1	1	5
108	IMF	Umbrella	37	4	34	6	0
109	IIIMX	<pre>?(8),telephone pole (7),street sign(4), horn(3)</pre>				6	0
110	IIIF-	Description	30			0	6
111	SIIF M/F	Bowtie Ribbon	13 23	38 1	0 37	0	6
112	SIF?	Coffee cup or mug	35	22	16	1	5
113	IIIMX	<pre>Finger(5),fetus(3), ?(5),knife(4),baby</pre>				6	0
114	SIIM M/F	Dripping candle Twig, stick	16 13	3 38	35 0	6	0
L15	IMF	Lip <b>s</b> tick	35	0	38	6	0
116	IIIMX	<pre>?(8),pin in tube(4), pump(4),bullet, hypodermic needle</pre>				6	0
L <b>17</b>	IFF	Flower pot	29	0	38	0	6
118	IFM	Tire Tractor tire	22 15	36 37	2 1	0	6
19	IMM	Plier <b>s</b>	37	36	2	6	0
120	IIMM	Knife leaf(5),?(12),pen(2)	12	33	5	6	0
.21	SIIF M/F	Wagon wheel Citru <b>s</b> fruit	13 16	37 3	1 35	0	6

122	IIMF	Needle	18	1	37	6	0
123	IIIM-	<pre>? + description wedge(2),pyramid(2), dunce cap</pre>	30			6	0
124	V?F	Handbag suitcase(4),flatiron(4), ?(3), lid,doormat	10	0	38	2	4
125	SIIF?	<b>Mo</b> u <b>s</b> ehole	22	21	17	0	6
126	IMF	Rattail comb	36	2	36	6	0
127	IIIMX	Wooden fork(7),broken wood(7),broken te <b>s</b> t tube,rocket,cigar, <b>s</b> tick				6	0
128	V?M	Electric <b>s</b> aw blade,etc.	24	36	2	2	4
129	IMF	Rolling pin	35	1	37	6	0
130	IIFM	<pre>Gunsight description(13),pie(6), compass,graph</pre>	10	38	0	0	6
131	IIIM-	<pre>? + Description arrows(3),sign(2)</pre>	21			6	0
132	V?F	<pre>Curl(of hair) ?(7),description(2), spring(2),music sign(3), fuse(2),tail(2)</pre>	13	0	38	2	4
133	IFM	Snare drum	37	35	3	0	6
134	IIMF	Witch hat Tack	12 10	1 18	37 20	6	0
135	IIFM	<pre>Pipe section culvert(5),description (5),tile(2),barrel(2), can(2)</pre>	16	38	0	0	6
136	IIMF	Broom Flower	15 11	2 0	36 38	6	0
137	IMM	Cannon	37	38	0	6	0
138	IIIMX	<pre>description(7),saw- tooth(8),waves(5), teeth(5),mountains(4)</pre>				6	0

SIIF M/F	Dish or bowl Beanie or cap	9 13	di <b>s</b> bow bean ca <b>p</b>	L 6	36 32 9 1	0	6
IIFF	Hat box drum(6),basket(3)	2	20	2	36	0	6
SIIM M/F	Knife Spatula	1	9	33 0	5 38	6	0
IMF	Broom	3	37	2	36	6	0
IIIM-	<pre>? + description pin(2),hair(2),no.l(2)</pre>	2	?7			6	0
IV?M	Wheel	3	86	37	1	2	4
SIIM?	Stair <b>s</b>	1	.3	20	18	6	0
IFM	Parachute	3	86	36	2	0	6
IFM	Helmet	3	33	37	1	0	6
IIIFX	<pre>description(7),wheel (8),donut(8),dish(4), innertube(3),target(3)</pre>					0	6
IIMF	Curl of hair Wave(ocean)		.7 .1	0 20	38 18	5	1
SIM?	Clarinet	2	28	16	22	6	0
IIFF	<pre>Necklace, beads false teeth(5),?(2), rock garden(3), clam(2)</pre>	2	necl bead		38 37	0	6
SIIM							
M/F	Lance Umbrella		.3 .7	37 4	1 34	6	0
IMM	Kite	3	86	34	4	6	0
IIMM	Weights H beam(2),fuse(2), ?(10),floor plan(2), description(2)	1	.3	38	0	6	0
IV?M	Smoking pipe	3	86	37	1	4	2
IIIF-	? + description	3	81			0	6
IFM	Nut(a <b>s</b> in nut <b>s</b> and bolt <b>s)</b>	3	35	38	0	0	6



		_		2		•	_
158	IIFF	Egg de <b>scr</b> iption(12)	16	3	35	0	6
159	SIIM?	<pre>Doorway building(5),?(5), musical note(4),eye glasses(2)</pre>	13	24	14	6	0
160	IV?M	Pulley	29	36	2	2	4
161	IMM	Smoking pipe	37	37	1	6	0
16 <b>2</b>	IMF	Fingernail file file(7)	24	0	38	6	0
163	IFF	Flower	30	0	38	0	6
164	IFM	Catcher's mit	36	36	2	0	6
165	IIIF-	<pre>? + description sun(2)</pre>	22			0	6
166	IFM	Beer mug	30	37	1	0	6
167	IIMM	Bone barbells,canoe paddle, wrench(3),crutch(2)	14	36	2	6	0
168	IV?M	Bellows	34	33	5	4	2
169	IIMF	Rolling pin firecracker(2),club(2), dynamite,scroll	27	1	37	6	0
170	SIM?	Кеу	36	24	14	6	0
171	IIFM	<pre>Spring ?(8),description(8), barrel(3),piston ring (3),bracelet(2),hoops, ball bearings</pre>	9	32	6	0	6
172	SIIM?	Wheat weed(6),tree(5),pine needle <b>s(2)</b>	20	21	16	5	1
173	IV?F	Bow	31	1	37	3	3
174	IIFM	Gear ?(7),flower(6),wheel(3)	11	38	0	1	5
175	IIMM	<pre>Anvil ?(8),description(3),vase, cup,pulley,bow</pre>	15	37	1	6	0
176	IIFF	Window stage(9),curtain,house, doorway	21	10	28	0	6

77	IV?F	<pre>Flower pot board(7),funnel(4), basket(2),wedge(3)</pre>	9	0	38	2	4
78	IMM	Cigar butt	29	38	0	6	0
79	IIMM	Gun ?(8),drill(2),tree, sign,chair	15	38	0	6	0
30	IMM	Hand saw	37	38	0	6	0
31	SIIM?	Tack party hat(9),witch's hat(3), ?(2),sundial	17	16	21	5	1
32	V?M	Club hammer(4),weapon,trap, di <b>s</b> h, <b>s</b> un	25	38	0	3	3
33	SIIF?	Hills sand dunes(4),mounds(3), ball,egg	20	21	17	0	6
34	SIIM?	Ocean wave wave lengths(5),graphs (5),mountain(3),teeth	12	20	18	6	0
35	SIIF						
	M/F	Ba <b>s</b> ket Ba <b>s</b> ketball net	17 11	5 36	33 2	0	6
36	IFF	Button	30	4	34	0	6
37	V?M	<pre>Barrel,keg urn+vase(8),drum(6), basket(2),lamp(2),bowl, muff</pre>	14	37	1	3	3
88	IIIM-	? + description spinner, tie pin, punch,glass	21			6	0
89	IIIFX	<pre>Purse(3),hat(5),sack(4), rock,?(6),ice bag(2), spitoon,jelly fish</pre>				0	6
90	IIIM-	<pre>? + description hills(5),twig(4),slide, string,needle</pre>	24			6	0

APPENDIX E

ITEM ANALYSIS OF THE MALE-FEMALE SYMBOL SORT

Symbol Set	Symbol Number	Numbe: syml	Number of <u>S</u> s sorting symbol as male	sorting male	Symbol Set	Symbol Number	Number of symbol		<u>S</u> s sorting as male
		Males	Females	Males + Females			Males	Females	Males + Females
		n=93	n=79	N=169			n=93	n=79	N=169
MMI	153	***68	71***	160***	IFF	186	12'''	20'''	32111
	23	92***	76***	168***		117	9	5	11
	106	63***	76***	169***		163	311	2	5
	161	92***	71***	163***		87	Τ	3	4
	137	***06	74***	164***		16	л.,	1	2
	53	92***	76***	168***		57		0	
	180	92 * * *	76***	168***		62	99	0	9
	81	***16	73***	164***		92	3	3	9
	119	***06	75***	165***		54	Τ	1	2
	178	***06	76***	166***		103	31	18,,,	49'''
	$^{*}$ p <	p < .05 sort	ted male						

\*\*p < .01 sorted male \*\*\*p <.001 sorted male 'p < .05 sorted female ''p < .01 sorted female '''p <.001 sorted female</pre>

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ale	Males + Females	N=169	166***	163***	155***	141***	162***	169***	159***	162***	155***	163***	12'''	52'''	16	8, 1	31'''	52'''	55'''	37'''	54'''	41
symbol as male	Females	n=79	76***	74***	71***	65***	71***	76***	74***	74***	75***	76***	4	26''	50**	4	17	25''	28'	21	20'''	22
sγ	Males	n=93	***06	***68	84***	76***	***16	63***	85***	88***	80***	87***	8	26'''	41	4'''	14'''	27	27	16'''	34''	19'''
Number			107	157	164	104	166	118	146	147	50	133	176	24	68	151	140	62	158	22	36	88
Set			ΠFΜ										IIFF									
le	Males + Females	N=169	41'''	19'''	6		5 - 1	58'''	5 - 1	311	51'''	311	149***	128***	114***	159***	158***	109***	136***	160***	85	131***
ool as male	Females	n=79	20'''	5 - 1	1	5 5	1	29'	2	2	22'''	311	64***	62***	<b>***</b> 09	71***	72***	<b>60**</b>	66***	73***	28'	65***
symbol	Males	<b>n=</b> 93	21	14'''	8	3.1.	4	29' ' '	3, 1,	Τ	29'''	0	85***	66***	54	88***	86***	49	70***	87***	57*	66***
рег			01	m	Ŋ	9	129	77	142	16	Ч	18	27	175	ß	179	105	120	20	154	29	167
Number			162	108	115	126	12	•	Ч					Ч		Ч	Ч	Ч		Г		Т

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nale	Males + Females	134***	138***	105**	110***	128***	78	94	143***	82	126***	<b>6</b> 9	65''	65''	82	106***	84	79	85	53'''	48'''
symbol a <b>s</b> male	Females	60***	65***	49*	53***	60***	34	42	65***	45	e0***	24'''	30	30	39	49*	38	42	39	26''	24'''
γs	Males	74***	73***	56*	57*	68***	44	52	78***	37'	66***	45	35'	35'	43	57*	46	37'	46	27	24'''
Number		58	67	82	72	135	171	7	174	47	130	43	10	83	110	89	6	55	49	156	165
Set		IIFM										IIIF-									
	s + les		_	_	-	-	-	-	-		-	*	*		*	*	*	*	* *	* *	*
ale	Males + Females	96	56''	30.	62'''	61	34''	51'''	47''	81	59''	115***	135***	104**	111***	145***	134***	112***	125***	145***	127***
ools as male	Females Male Fema	48* 96	23''' 56''	12''' 30''	28' 62''	33 61''	19''' 34''	20''' 51''	23''' 47''	37 81	33 59''	60 <b>***</b> 115**	67*** 135**	53*** 104**	55*** 111**	69*** 145**	64*** 134**	54*** 112**	63 <b>***</b> 125*1	70*** 145**	62*** 127**
symbols as male			-	-			-														
as	Females	48*	. 23	12	28'	- 33	1911	. 20	23	37	1 33	60***	67***	53***	55***	***69	64***	54***	63***	70***	62***

		Males	Females	Males + Females			Males	Females	Males + Female <b>s</b>
IIIMX	127	53	58***	111***	IIIFX	67	57*	50**	107***
	138	62**	59***	121***		76	18,	32	50'''
	21	62**	64***	126***		189	20'''	21'''	41
	116	62**	66 * * *	128***		63	40	43	83
	109	***69	67***	136***		65	22	42	64''
	9	61**	50**	111***		148	57*	54***	111***
	61	<b>**</b> *6L	<b>***</b> 89	147***		52	41	44	85
	48	92***	75***	167***		28	21	22'''	43'''
	102	30'''	30	60''		ω	37'	51**	88
	113	34''	29'	63'''		4	23'''	21'''	44'''
MŞVI	144	81***	72***	153***	IV?F	34	1 I	0	Ι
	168	65***	55***	120***		78	11.1	6	20'''
	17	92***	75***	167***		15	8		15'''
	45	85***	73***	158***		44	8	1	116
	73	91***	***69	160***		96	4	1	5 - 1
	12	***6L	71***	150***		2	48	33	81
	160	89***	71***	160***		26	2	0	2
	84	92***	74***	166***		37	2	0	2
	155	91***	72***	163***		19	1	0	1
	13	***06	73***	163***		173	116	2	11

	Males + Females	58'''	80	84	26'''	34'''	35'''	62''	95	86	16	42'''	143***	49'''	92	78	68'	44'''	27'''	136***	118***
of <u>S</u> s ting as	remale <b>s</b>	26''	35	42	13,,,	18,,,	14'''	41	48	41	39	10,	63***	23'''	40	38	35	23'''	9.1.9	e0***	52**
Number sor	Males	32''	45	42	13'''	19T	21	21	47	45	52	32''	80***	26'''	52	40	33''	21'''	21'''	76***	66***
Symbol Number		32	30	46	86	124	132	31	177	59	56	114	42	93	141	152	139	25	111	121	185
Symbol Set		V?F										SIIMM/F					SIIFM/F				
-	+ v																				
ting	Males + Females	130***	157***	126***	60.11	132***	142***	88	135***	146***	151***	119***	80	96	147***	43'''	115***	107***	142***	131***	46'''
of <u>S</u> s sorting ol as male	remales males Female	64*** 130***	72*** 157***	59*** 126***	23''' 60'''	64*** 132***	59*** 142***	43 88	62*** 135***	65*** 146***	66*** 151***	58*** 119***	42 80	43 96	66*** 147***	21''' 43'''	54*** 115***	51** 107***	61*** 142***	54*** 131***	16''' 46'''
er of <u>S</u> s sorting mbol as male Econolog Molog																					
er of <u>S</u> s sorting mbol as male Econolog Molog	remates	64***	72***	<b>29***</b>	23'''	64***	59***	43	62***	65***	<b>***</b> 99	58***	42	43	66***	21'''	54***	51**	61***	54***	16'''

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orting ale	Male <b>s +</b> Females	117***	59'''	144***	59'''	103**
Number of <u>S</u> s sorting symbol as male	Males Females	64***	26''	e0***	32	43
Numbe sy	Male <b>s</b>	53	3311	84***	27	<b>*</b> *09
Symbol Number		125	11	183	98	14
Symbol Set		SIIF?				
orting le	Males + Females	114***	152***	126***	95	71'
r of <u>S</u> s sorting bol as male	Females Males + Females	53*** 114***	70*** 152***	60*** 126***	47* 95	25'' 71'
Number of <u>S</u> s sorting symbol as male						
Symbol Number of <u>S</u> s sorting Number symbol as male	Females	53***	×××0L	***09	47*	25''

### APPENDIX F

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## COMPLETE DESCRIPTIVE AND RATING DATA OF SYMBOLS

SORTED CONTRARY TO EXPECTATION

COMPLI Sym.	J.	ETE DES M	SCRIPTIV M-F Sort	t VE AND I	COMPLETE DESCRIPTIVE AND RATING DATA OF SYMBOLS SORTED CONTRARY TO EXPECTATION Sym. M-F Sort "Looks-like" Number Cult. Anatom.	SORTED CON' Number	<b>FRARY TO EXP</b> Cult.	ECTATION Anatom.	NOI .mc
Males	Males		Fem.	M + F	Descriptions	Agreeing	Sex-a <b>ss</b> oc. M F	Ref. M	تى
89 57*			40 <b>*</b>	106***	<pre>Desc. + ? wheel and fender(2), a face(2), sweat band, grin, magnet and string eye, ball with top, ball, mannequin wig, fish lure</pre>	3 3 11, re		0	ο
102 30'''			30	60	Ribbon(7), waves(3), worm(4), string(6), candy, desc., algae, water, straw, twisted paper, thin candy, smoke, eel, wire, sperm	n(4), algae, per,		Q	0
113 34''	34''		29	63	<pre>Finger(5),fetus(3),?(5), knife(4),gum,tadpole, desc.,picture molding, shelf support,furniture, pen,letter opener,ghost, smoking pipe,horn,grasper, ornament,Indian head piece</pre>	), e, per, iece		٥	0

These frequencies were not high enough to be considered in the construction <sup>a</sup>The numbers in parenthesis indicate the number of subjects using this of the symbol sets and thus were not placed in the agreement column. description.

# APPENDIX F

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Q	Q	m	0	Q	ъ	ъ
0	0	m	9	0	Ч	-
		г	14	17	15	16
		37	24	21	23	22
		14	32	29	28	35 (6) (17)
Wheel in motion(5), waves(7),desc.(3),?, circle in motion,whirl- pool,radar,pool of water, saw,fan,inside of cabbage, friction,web,pin wheel	<pre>Desc.(7),wheel(8),donut (8),dish(4),target(3), innertube(3),sombrero, rifle bore,record,life saver</pre>	<pre>Barrel,keg drum(6),vase,urn(8),bas- ket(2),lamp(2),muff, bowl,bomb,jar,candle vase</pre>	Can opener clamp,?,potato peeler, man signalling	Mountain, hill sand dunes(5), desert, terrain, arm joint	Box TV, ventilator,cement block,drawers,board	Coffee cup or mug (coffee cup) (cup) (mugnot rated) pitcher, shaving mug
107***	111***	60''	43''	115***	107***	142***
50**	54***	23'''	21.1	54***	51**	61 * * *
57*	57*	37'	22	61**	56*	81 * **
67	148	187	70	80	41	112
IIIFX	IIIFX	Mżn	SIM?	SIF?	SIF?	SIF?

ר	ч	9	٥	9	0	н
4	ц	0	0	0	Q	ц
2	16	17	17	17	30 31	38 1
7	-	-		-		
77	21	21	21	21	ς α α	37
r D	20	22	20	20	16 13 13 16,	17 13
loaf of bread(3)	Wheat weed(6),tree(5),pine needles(2),seed pod, meteor,quill pen	Mousehole tunnel(5),hole in wall(3), hat(2),planetarium,gutter, entrance,building	Hills sand dunes(4), mounds(3), ball, egg, micrograph, bubbles, balloon tops, stones, hay mounds, people bending over	Crown heart(3),?(3),hat(7)	Dripping candle 16 Twig, stick 13 side of house, flute, tooth- pick, ?, dripping paint, needle, bobby pin, someone standing around corner	Scissors Golf clubs ?,bubble makers(2), music notes, tongs, glasses,pipes
+	.11	117***	144***	103**	42''	49''
r )	25	64***	60***	43	10.	23'''
	46	53	84***	¥*09	32''	26'''
8	172	125	183	14	114	6
•	SIIM?	SIIF?	SIIF?	SIIF?	SIIMM/F	SIIMM/F

SIIFM/F 121	76***	<b>***</b> 09	136 <b>***</b> Wagon wheel	13	37	г	0	9
			Citrus fruit	16	m	35		
			<pre>tomato(7),flywheel</pre>					
SIIFM/F 185	<b>***</b> 99	52**	118*** Basket	17	36	9	0	9
			Basketball net	ΤT	S	33		
			<pre>net(2), wastebasket (6),</pre>					
			thimble, criss-cross					
			hat					

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APPENDIX G

ATTITUDE-INTEREST ANALYSIS TEST

E

#### APPENDIX G

#### ATTITUDE-INTEREST ANALYSIS TEST\*

You are asked to cooperate seriously and carefully in answering the items in this test booklet. This is not an intelligence test. We want to find out something about the attitudes and interests of people. Your answers are needed to help do this. Read the instructions carefully for each section of the test. Work as rapidly as you can. As soon as you have finished Exercise 1 go right on to Exercise 2 and complete the test. In each case read the directions with care, and work the exercise as rapidly as you can.

#### Exercise 1

Below is a list of things that sometimes <u>cause anger</u>. For each thing mentioned mark 1, 2, 3, or 4 on your IBM answer sheet using the key below to show how much anger it causes you.

1	VERY	MUCH	3	A LITTLE
2	MUCH		4	NONE

Please mark every item.

1.	Being blamed for something you have not done
2.	Being called lazy
3.	Being called stupid
4.	Being called a thief
5.	Being deceived by a supposed friend
6.	Being disturbed when you want to work
7.	Being snubbed by an inferior
8.	Being unexpectedly slapped on the back as a joke
9.	Hearing someone make fun of your clothes
10.	Hearing your political views ridiculed

Go to the next page

<sup>\*</sup>Two exercises extracted for research purposes from the Terman and Miles Attitude-Interest Analysis Test, Form A, 1936.

11. Seeing boys make fun of old people

12. Seeing an honest official thrown out of office by politicians

- 13. Seeing a person laugh at a cripple
- 14. Seeing people disfigure library books
- 15. Seeing someone cheat in an examination
- 16. Seeing someone trying to discredit you with your employer
- 17. Seeing someone laugh when a blind man runs into an obstacle

Below is a list of things that often <u>cause fear</u>. For each thing mentioned mark 1, 2, 3, or 4 on your IBM answer sheet using the key below to indicate how much fear it causes <u>you</u>. Be honest and admit all the fears you have. Fears are not disgraceful.

VERY MUCH A LITTLE 1 3 2 MUCH 4 NONE 18. Automobiles 28. Garter snakes 19. Being lost 29. Graveyards at night 20. Heart trouble Being in a closed room 30. 21. Becoming deaf or blind 31. Insects 22. Bulls 32. Lightning 23. Burglars 33. Negroes 24. Contagious diseases 34. Pain 25. Deep water 35. Punishment in the next world 26. End of the world 36. Thunder 27. Floods 37. Windstorms Go to the next column

Below is a list of things that sometimes <u>cause disgust</u>. For each thing mentioned mark 1, 2, 3, or 4 on your IBM answer sheet using the key below to indicate how much disgust it causes you.

1 VERY MUCH	3 A LITTLE
2 MUCH	4 NONE
<ul> <li>38. An unshaven man</li> <li>39. A butcher shop</li> <li>40. A drunken man</li> </ul>	<ul> <li>41. Crooked teeth</li> <li>42. Food stains on clothing</li> <li>43. Foul language</li> </ul>
Go to next column	<u>Go to next page</u>

44. 49. Seeing a woman smoking Gum chewing 45. Mushy food in your teeth 50. Sight of slimy water 46. Offensive breath 51. Smell of decaying fish 47. 52. Soiled or ragged fingernails Pimples 53. 48. Sagging socks on a man Spitting in public 54. Untidy clothes Go to next column Word "gent" used for gentleman 55.

Below is a list of things that sometimes <u>arouse pity</u>. For each thing mentioned mark 1, 2, 3, or 4 on your IBM answer sheet using the key below to indicate how much pity it arouses in <u>you</u>.

1	VERY MUCH	3	A LITTLE
2	MUCH	4	NONE

56. A bee that is drowning 57. A dog that must be killed for biting people A man who is cowardly and can't help it 58. 59. An insane person 60. An old person with a fatal disease 61. An orphan girl 62. Overworked horses 63. Overworked children 64. A fly caught on sticky fly paper 65. An underfed child 66. Very old people 67. A wounded deer A baby bird whose mother is dead 68. 69. A wounded soldier who must beg for a living 70. A young person totally paralyzed

Below is a list of acts of various <u>degrees of wickedness</u> or badness. For each thing mentioned mark 1, 2, 3, or 4 on your IBM answer sheet using the key below to show how wicked or bad you think it is.

2 DECIDEDLY BAD 4 NOT REALLY BAD	1	EXTREMELY	WICKED	3	SOMEWHAT BAD
	2	DECIDEDLY	BAD	4	NOT REALLY BAD

71. Picking flowers in a public park

72. Stealing a ride on a truck

73. Telling a lie to avoid punishment

Go to next page

74. Whispering in school 75. Boys teasing girls Making fun of cripples 76. 77. Using slang Breaking windows 78. 79. Boys smoking before they are 21 Indulging in "petting" 80. 81. Moderate drinking 82. Excessive drinking Putting pins on the teacher's chair 83. 84. Swiping fruit out of orchards 85. Laziness 86. Going to bed without saying your prayers 87. Not brushing your teeth 88. Boys fighting 89. Being a slacker in time of war 90. Boy running away from home 91. Neglecting to study your lesson 92. Being a Bolshevik Not standing up when the "Star Spangled Banner" is played 93. Drinking a great deal of coffee and tea 94. Being cross to your brother or sister 95. 96. Shooting rabbits just for fun 97. Having fits of temper 98. Insulting the defenseless

In each comparison below mark 1, 2, or 3 on your IBM answer sheet using the key below to show how well you like the things mentioned.

if you like the FIRST thing better.
 if you like the SECOND thing better.
 if you have the SAME LIKING for both.

99. (1) Make plans (2) Carry out plans 100. (1) Work involving many details (2) Work involving few details 101. (1) Interesting work with small (2) Uninteresting work with large income income (2) Give a report verbally 102. (1) Give a report in writing 103. (1) Work with men (2) Work with women 104. (1) An auto with scruffy paint but excellent motor (2) An auto with fresh paint but only fairly good motor 105. (1) Live in the country (2) Live in the city

Go to the next page for Exercise 2

#### Exercise 2

For each occupation below, ask yourself; would I like that work or not? If you would <u>like</u> it, mark 1 on your answer sheet. If you would <u>dislike</u> it, mark 2 on your answer sheet. If you would <u>neither like nor dislike</u> it, mark 3 on your answer sheet. In deciding your answer, <u>think only of the</u> <u>kind of work</u>. Don't consider the pay. Imagine that you have the ability to do the work, that you are the right age for it, and that it is equally open to men and women.

Don't stop to think long; answer fairly quickly.

- 1 I would <u>like</u> it
- 2 I would dislike it
- 3 I would neither like nor dislike it.

106.	Architect	119.	Stock breeder
107.	Chef or cook	120.	Optician
108.	Auto racer		
109.	Librarian	121.	Social worker
110.	Building contractor	122.	Music teacher
		123.	Clerk in a store
111.	Detective	124.	Singer
112.	Nurse	125.	Preacher
113.	Private secretary		
114.	Journalist	126.	Novelist
115.	Forest ranger	127.	Soldier
		128.	<b>Drafts</b> man
116.	Dairyman	129.	Artist
117.	Dressmaker	130.	Bookkeeper
118.	Florist		
G	o to the next column	Continue below	

For the remainder of the items mark 1, 2, or 3 on your IBM answer sheet using the key below according to whether you like it, dislike it, or neither like nor dislike it.

- 1 LIKE
- 2 DISLIKE
- 3 NEITHER LIKE NOR DISLIKE

Key

1 LIKE

2 DISLIKE

**3 NEITHER LIKE NOR DISLIKE** 

Go to next page

Do you like or dislike these people?

Men with beards 131. 132. Babies 133. Infidels 134. People with loud voices 135. Argumentative people 136. Very forgiving people 137. Very quiet people People who spend freely 138. 139. People with gold teeth 140. Tall women 141. Men who take the lead 142. Mannish women Do you like or dislike these? 143. Charlie Chaplin 160. Hopscotch 144. Social problem movies 145. Movie love scenes 161. Dare base 162. Drop the handkerchief 146. Poetry 163. Chess 147. Detective stories 164. Charades Stories of home life 165. Collecting flowers 148. 149. Adventure stories 150. Comic supplements 166. Cooking 167. Studying lessons Repairing a door latch 151. Radio magazines 168. 152. Chemistry 169. Parties and socials 153. Dramatics 170. Being with one other 154. Ancient languages 155. Civics 171. Strict Sunday laws 172. Pet cats 173. Near-beer 156. Spelling 157. Hunting 174. Coca cola 175. 158. Skating Cheese 159. Horseback riding 176. Candies

Go to next column

After each book you have read, indicate how well you like it. Skip those you have not read.

LIKE IT
 DISLIKE IT
 NEITHER LIKE NOR DISLIKE IT
 SKIP IF YOU HAVE NOT READ

Robinson Crusoe, by Daniel Defoe 177. 178. Lorna Doone, by Richard D. Blackmore Through the Looking Glass, by Lewis Carroll 179. 180. Westward Ho, by Charles Kingsley 181. Daddy Long Legs, by Jean Webster Peter Pan and Wendy, by J. M. Barrie 182. Huckleberry Finn, by Mark Twain 183. Rip Van Winkle, by Washington Irving 184. 185. The Wonder Book, by Nathaniel Hawthorne 186. Bird's Christmas Carol, by Kate Douglas Wiggin Rebecca of Sunnybrook Farm, by Kate Douglas Wiggin 187. Christmas Carol, by Charles Dickens 188. 189. The Man Without a Country, by Edward Everett Hale Little Men, by Louisa Alcott 190. 191. The Secret Garden, by Frances Hodgson Burnett 192. Captains Courageous, by Rudyard Kipling 193. Little Lord Fauntleroy, by Frances Hodgson Burnett 194. Boy's Life of Theodore Roosevelt, by Herman Hagedorn 195. Gulliver's Travels, by Jonathan Swift 196. Biography of a Grizzly, by Ernest Seton-Thompson Evangeline, by Henry W. Longfellow 197. 198. Tales from Shakespeare, by Charles Lamb 199. Adventures of Sherlock Holmes, by Conan Doyle

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Key

- 1 LIKE
- 2 DISLIKE
- **3 NEITHER LIKE NOR DISLIKE**

Suppose you were an artist, what would you like to draw?

- 200. Fruits
- 201. Children
- 202. Horses
- 203. Clouds
- 204. Cats
- 205. Flowers
- 206. Tigers
- 207. Ships

Suppose you were a newspaper reporter, what would you like to write about, or report?

- 208. Accidents
- 209. Sporting news
- 210. Musical events
- 211. Theatrical news
- 212. News oddities
- 213. Commercial news

If you had two years to travel, with plenty of money, what would you like to see and do?

- 214. Visit Holland
- 215. Hunt lions in Africa
- 216. Spend a day in Westminster Abbey
- 217. See London Bridge
- 218. Visit many famous battlegrounds
- 219. Visit many manufacturing plants
- 220. See how people prepare their food
- 221. Spend a year on a sailing boat
- 222. Study social customs
- 223. See how criminals are treated
- 224. Learn about various religions

That is all -- Thank you for your cooperation. Please be sure that your age, sex, year in college and citizenship status are indicated on <u>both answer sheets</u>.

ROCM USE ONLY

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