January, 1967

INNER FREEDOM

FURTHER THEORETICAL AND METHODOLOGICAL ELABORATIONS

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Introduction

In an earlier paper we made a distinction between three components of inner freedom. The components were: 1) The ability to relax muscular attitudes (inhibitory control) and to give in to body impulse; 2) the ability to experience new and odd stimulus aspects contradicting conventional reality; and 3) a disposition or readiness to invest meaning and to give interpretations of ambiguous situations. We maintained that each of these components could be linked to specific responses in standardized test situations. As a measure of the first component we suggested the employment of a Kohnstamm reactivity test, a positive response to the test (granted that the subject did not know about the Kohnstamm phenomenon beforehand) reflecting a higher degree of inner freedom than a negative response. As a measure of the second component we suggested the use of an Aniseikonic lens test, the shorter the reaction time before seeing a table as tilted and the greater the tilt seen, being a function of the subject's degree of inner freedom. Finally, as a measure of the third component, we suggested the use of an ambiguous figure test, the Dorp pictures, and that the number of hints needed before the subject reported seeing a Key Picture as 'Humans in Action' would be inversely related to his degree of inner freedom.

In a subsequent empirical study we examined the relationship between these measures. We found that with one exception, the measures turned out to be significantly intercorrelated. The exception was the ambiguous picture test. The lack of association found between this test and the other measures confronted us with the problem as to whether to consider the component supposedly being measured by the test as unrelated to the other components (which would imply a refutation of our conceptual notions regarding inner freedom), or to question the validity of the test as a measure of the component in question. Since an analysis of the test revealed properties or assumptions going beyond the concept it was supposed to measure, we decided to favor the latter alternative. We are here referring to the fact that the test puts a premium on human movement responses and that it might be considered more a hidden figure test than a test tapping readiness and willingness to take chances and to commit oneself to interpretations going beyond what is offered in terms of sure information. The fact that we found the test in a secondary analysis to be significantly related to the field dependency dimension supports this interpretation. It should be noted, that a consequence of the decision made is that an important part of our initial theoretical

formulation has yet to be submitted to empirical scrutiny.

As mentioned, in our earlier study we focused upon three components of inner freedom. That is to say, we defined inner freedom as having "layers" reaching out into and determining behavior in three different types of situations. We don't believe inner freedom to be restricted to these three components, however. Additional components, we think, can be specified and operationalized.

A feature of our earlier study is that we limited ourselves to only one empirical measure of each component. Faced with the objective of assessing the relationship between conceptual components, it might be seriously questioned whether the use of only one method to cover each component is sufficient. If each component could be linked up with at least two methods we would be in a much better position to decide, if negative findings should emerge, whether to question the validity of the methods or the tenability of the conceptual formulations. If the two methods should produce inconsistent results we could reasonably doubt the validity of one of them. On the other hand, should both methods produce equally negative results our doubt would unequivocally be directed toward the soundess of the

conceptual formulation, particularly of course, if the methods should provide data being significantly interrelated.

In the pages to follow we are going to continue our elaboration of the concept of inner freedom. We will describe some additional conceptual components and indicate possible methods for their empirical measurement. We will also suggest some supplementary measures regarding the components previously discussed.

Altogether, we will be dealing with 8 components of inner freedom. That is to say, we will suggest that inner freedom can be split up into 8 interrelated conceptual variables. The variables are:

1. Ability to relax muscualar attitude and to give in to bodily impulse.
2. Ability to experience new and odd stimulus aspects contradicting conventional reality.
3. Ability to cope with ambiguous stimuli.
4. Ability to tolerate unrealistic experiences.
5. Ability to change mode of psychological functioning.
6. Ability to become hypnotized.
7. Attitude of openness toward non-intellectual experiences.
8. Attitude of trust and confidence in people and nature.

It should be noted that we are postulating attitudinal as well as aptitudinal components. Furthermore, we have reformulated the earlier component described as "readiness to invest meaning and to give interpretation of ambiguous situations" to "ability to cope with ambiguous stimuli". The reason for this change will be given in a later section.

Before entering into a discussion of the various components we would like to point out that our concept of inner freedom has many features in common with the inner conditions considered important by many psychologists to foster and support psychological creativity. Harman et al. (1966) emphasize the following conditions: 1) access to unconscious data, 2) fluent free associations, ability to play spontaneously with hypotheses, metaphores, paradoxes, transformations, relationships, etc. 3) ability for visual imagery and fantasy, 4) relaxation and openness, 5) acute perception of sensory inputs, 6) empathy with external processes, objects and people, 7) aesthetic sensibility, 8) ability to 'see through' false solutions and phony data, and 9) a tendency not to sensor own 'productions' by premature negative judgement. Roger (1959) describes and emphasizes quite similar conditions: a)low degree of psychological defensiveness; lack of rigidity and permeability of boundaries in concepts, beliefs, perceptions and hypotheses; tolerance for ambiguity

where it exists, ability to receive and integrate apparently conflicting information, sensitive awareness of feelings and openness to all phases of experience; b) evaluative judgement based primarily, not on outside standards or prejudices, but on one's own feelings, intuition, aesthetic sensibility, sense of satisfaction in self-expression, etc; c) the ability to 'toy' with ideas, colors, shapes, hypothesis, to translate from one form to another; to think in terms of analogues and metaphors. Roger also adds two external conditions fostering creativity. These conditions are : 1) an atmosphere of psychological safety in which the individual feels accepted as of unconditional worth, in which he feels he can be spontaneous without fear that his actions or creations will be prematurely evaluated by rigid external standards, and in which he feels empathic understanding; and b) an atmosphere of psychological freedom, of permisiveness to think, to feel, to be whatever is discovered within oneself. Of course, these two external conditions will to some extent be dependent upon internal dispositions. Some people are more able than others to take advantage of an atmosphere of psychological safety and freedom. We might even suggest that the degree of inner freedom is a crucial determining factor in this respect.

However, we are here confronted with a hypothesis in need of empirical testing. The same is true as regards the

relationship between inner freedom and creativity. Submitting these hypotheses to empirical scrutiny would require that we have attained a rather clear conception of what is referred to by inner freedom. The present paper is devoted to a theoretical elaboration of this concept and to a discription and discussion of relevant methodological issues. In the chapters to follow we will focus on each of the eight components of inner freedom delineated above. We would like to stress that we don't believe this to be an exhaustive list of components, but it represents at least a starting point for further inquiries into the conceptual properties of inner freedom.

Component I: Ability to relax muscular attitude

We earlier made the assumption that this component will be revealed in a Kohnstamm test situation as an involuntary arm elevation on the basis of minimal prior reassurance and information. Since we found in our study that nearly one-third of a subject sample consisting of male college students had to be discarded because of prior knowledge or experience with the Kohnstamm phenomenon, it is evident that the test is not a good one. Its restricted applicability limits its usefulness as a diagnostic instrument.

As a new and additional measure of the very same component we will suggest a respiratory movement scale. The scale we have in mind is the respiratory ego-maturity scale described in one of our earlier monographs (1965). This is a scale consisting of a number of scoring criteria for evaluating a subject's ability to submit himself to his spontaneous ("instinctual") respiratory impulse in a standardized test situation.

The test situation consists of having the subject lying down in a resting supine position on a couch (after strain gauges have been fastened around his chest and abdomen) and instructing him simply to submit himself passively to his own respiratory movements. In this situation we would expect a person with inner freedom to be able to relinquish conscious

and unconscious control over his own breathing. The crucial question becomes how to ascertain the degree to which a given breathing pattern does reflect control or lack of control.

As mentioned in the earlier monograph it is possible to hypothesize what sort of respiratory pattern will emerge in a genuinely relaxed state, and to formulate criteria for scoring the extent to which a given pattern deviate from or conform with the theoretically defined pattern. We have already formulated some tentative criteria in this area, relating the criteria to an evaluation of 8 different aspects of a subject's respiratory behavior (recorded electronically through mercury-in-rubber-tubes strain gauges). The aspects are: 1) the mean thoracic period; 2) the mean trunk amplitude; 3) the thoracic-abdominal amplitude quotient; 4) the inspiratory quotient; 5) the thoracic-abdominal time synchronization; 6) the thoracic period variability; 7) the thoracic amplitude variability; and 8) the abdominal amplitude variability. Depending upon the subject's position with respect to each of these aspects or variables, he can be ascribed an item score of 0, 1, or 2, the higher the score the more his respiratory features deviate from the defined optimal one. Finally, the subject's item scores can be summarized into a scale score with the potential range of scores going from zero to 16.

Parenthetically, it should be noted that the scale mentioned originally was derived in part from empirical data and in part from Reich's concept of armor mobility, which has many similarities with the inner freedom construct. It should also be noted that the scale fits in quite well with Schultz's suggestion that specific respiratory rest patterns will reflect a person's ability to assume a state of passive concentration.

It is evident that the scale in its present form cannot provide a fully adequate criterion measure of inner freedom. On the other hand, if it could be ascertained that the scale does correlate significantly with the Kohnstamm reactivity test, we would immediately have at our disposal a method with a much broader applicability than the latter test for assessing a component of inner freedom which we have come to consider important. An empirical study is presently under way assessing the relationship between the two methods.

Component II: Ability to experience new stimuli.

We have assumed that the amount of time elapsing before a subject reports seeing changes in a familiar object when he starts to look at it through aniseikonic lenses, provides an empirical measure of this variable. We have also assumed that the amount of distortion seen in the object is related to the same component. It should be noted that these two measures, the time and the distortion factor, are not totally independent of each other. If no distortion is seen, if the time scores reaches its upper limit or its maximum value, so will we not obtain any distortion score either. The greatest weakness of the aniseikonic test (the version we have made use of) is the relatively large proportion of subjects (again referring to male college students) who do not report seeing any distortion (tilt of the top of a desk in front of the subject) even after looking through the lenses for 180 seconds, divided up into two sessions of equal length and the latter one being introduced with a hint as to what the subject might expect to see. In our previous study we found the non-responders to equal 38% of the sample tested.

It is possible that modifications might be introduced in the Aniseikonic test procedure reducing substantially the proportion of non-responders. However, it is also possible that these modifications might have serious repercussions on what is being measured by the test. We are thinking here

primarily on changes having to do with further hints and suggestions as to what the subject might expect to see while wearing the lenses. It is also possible to lengthen the test sessions without changing the instructions. Whether this will produce a better gradation of the subjects falling in the lower end, is, however, an open question.

When aniseikonic lenses are worn they produce sensations contradictory to the world of reality. A subject may trust his immediate sensory impressions, or he may tend to suppress then in an attempt to maintain a sort of perceptual constancy. Consequently, we may think about the non-responders to the aniseikonic lens test as showing a high degree of resistance to perceptual change, or as persons tending to experience their world through preconceived ideas and firmly established cognitive-perceptual schemata.

When we talk about the ability to experience new stimuli, we are referring to the ability to open up for immediate sensory impressions and to abdicate schemata that do not fit these very impressions. Looking upon inner freedom from this angle, we may suggest a couple of other tests, supplementing the Aniseikonic lens test.

The first test we have in mind is an apparent movement test based upon the phenomenon that alternating visual stimuli under certain circumstances practically always are perceived as a movement back and forth of one stimulus figure

only. Working with naive subjects, it might be possible, after repeatedly exposing the subjects to the movement illusion, to build up a schemata that the movements seen are real ones and that they are to be expected in the experimental situation. The next step would be to introduce a systematic slowing down of the alternation rate of the stimuli, and notice the rate reached when the subject recognizes a change from movement to alternation. We might expect that the subject being characterized by the greatest resistance to change and the strongest tendency toward perceptual constancy, to require the longest time or the greatest slowing down of the alternation rate, before seeing any 'reality' changes. A main weakness of the method is that it might favor the hypercritical and hyperalert subject at the expense of the one giving in to a more passive receptive attitude toward the experimental situation. This follows from the fact that experiments have shown variations in attention from an active to a passive one, to have repercussions on the experience of apparent movements. Thus, a most crucial element is that the subjects through the preliminary test sessions have really come to believe that the stimulus is moving and that the movements have attained a certain familiarity for them.

The great advantage of this latter test is that the number of non-responders probably can be reduced to zero.

As far as we know, no study has yet been done employing

this method, although it has been suggested by Klein et al (1962) as a possible instrument to distinguish between subjects being high and low in terms of tolerance for unrealistic experiences.

A third method measuring the same component might be suggested. We are thinking about a modification of the reversible figure test employed by Klein et al (1962). The test consists of two stimulus figures, the Schroeder 'staircase' figure and a "double-cross" figure. Both figures can be seen in either of two phases. The first figure can be seen as a staircase coming from the ceiling or as an upright staircase. The other figure can be seen as either a black cross on a white background, or as a white cross on a black background. With steady viewing, practically all subjects experience these phases as alternating.

In the study just referred to by Klein and co-workers, the two figures (one at a time) were presented to the subjects at a distance of a few feet. Before the experimental trials, the phenomenon of reversals was described to the subject and he was allowed to examine the figures and to experience them in both phases. When the experimental trials started he was instructed to depress a telegraph key whenever the staircase appeared inverted and to keep it depressed until he saw a reversal in the figure. For the other figure he was told to signal with the key whenever the white cross appeared

in the foreground. The test scores were: 1) The number of alternations seen in two one minute trials on each figure, and 2) the percentage of time the subject viewed the figures in the phase which conformed the most to everyday experience (i.e., the staircase in an upright position and the double cross as a black windmill).

The main assumption underlying the scores was that a person with a low tolerance for unrealistic experiences will tend to see few reversals and that he will tend to spend a relatively long time experiencing the phase of the figures which conform the most with conventional, everyday experience.

From our own theoretical viewpoint we may look upon the test as a potential measure of perceptual constancy and of resistance to change. Emphasizing the difference in conventionality of the figure phases, we might see the test as a possible instrument to measure a subject's ability to experience new stimulus aspects, if not contradictory, so at least at odds with conventional reality. Adopting this position, we might, however, seriously question the adviseability of allowing the subject to examine the figures before the experimental test trials begin. It is difficult to get around giving a description of the phenomenon of figure reversal as part of the instruction to the test, but this might possibly be done in relation to another stimulus figure than those used in the test trials. It is pointed out by Klein et al., that the windmill figure used in their experi-

ment involves phases which differ minimally in conventionality. This very fact makes this figure well suited for demonstration as part of the instruction to the test proper. What we are suggesting in other words, is to present the subject with reversible figures that differ markedly in terms of conventionality of their two phases, and restrict the scoring to the time interval elapsing before the subject reports a figure reversal from the conventional to the non-conventional phase. As far as we know, no study has yet been done making use of this particular method.

As a further method, not very much different from the one just mentioned, we will suggest the use of the Concept Constancy Test of Jacobsen and Asher (1963). The test consists of 5 series of pictures, each series comprising 20 pictures or items showing a gradual transition from one concept to another. The series are: 1) a cat changing into a dog; 2) a vase changing into two human facial profiles; 3) a parallelogram changing into the letters 'fly' 4) a bearded man's face changing into a sitting cat; and 5) an arrow changing into the letters 'summer'. The subject is instructed to record 'what he sees' as each item is exposed and before the next one appears. The exposure time is about 15 seconds per item. Scoring is based on the point at which the outcome of a transition is correctly perceived and 'consistently' given. Each subject is ascribed five individual scores plus a sixth, combined composite or total score.

In the study referred to the five individual scores were found to correlate with the total score (minus the individual score in question) as follows: .78, .87, .78 and .82. Consequently, the reliability of the test is quite satisfactory.

According to Jacobsen and Asher, concept constancy may be described as the natural tendency of established concepts to avoid tension, which spontaneously results when they are disrupted, by assuming a certain constancy, stability, or autonomy. They postulate that individual differences exist in terms of concept constancy threshold (i. e., disruptive tolerance) and that a person showing a high threshold (showing delay in disrupting one concept for another when their attribute values are gradually altered) by and large will be less creative than persons allowing themselves rapid concept disruption. Their empirical findings indicate this to be true- granted that one is willing to except the 'solution' of so-called brainstorming problems as a valid criterion measure. It should be added that no relationship could be demonstrated between the concept constancy test and general intelligence and academic achievement.

Component III: Abilityto cope with ambiguous stimuli.

Having discarded the Dorp test as a valid instrument to assess a person's readiness to invest meaning and to give interpretations of ambiguous stimuli, the first relevant method that comes to our mind is the Rorschach inkblot test. In contrast to the pictures used in our original study, the Rorschach cards do not possess any predetermined 'hidden' or 'correct' figures, and they are even more ambiguous and multidimensional (involving colors, shadings, etc.), than the Dorp pictures. The main problem becomes how to score or to classify Rorschach responses in order to throw light on the dimension in question.

As a starting point we are going to review some earlier findings concerning the relationship between Rorschach responses and inner freedom, broadly conceived.

Snyder (1956) reports the following Rorschach variables to discriminate between subjects showing positive and negative responses to the Kohnstamm test:

1. Number of FM responses; Kohnstamm respnders obtaining higher FM scores. (p = .0001).
2. Fisher's personality rigidity index; Kohnstamm responders obtaining lower scores (p = .0004).
3. Amount of time spent with the cards; Kohnstamm responders spending more time (p = .0005).
4. Number of M responses; Kohnstamm responders obtaining higher M scores (p = .0012).
5. Total number of responses; Kohnstamm responders giving more responses (p = .0044).

6. Variety of determinants; Kohnstamm responders showing greater variety of determinants ($p = .0244$).

7. Sum C scores; Kohnstamm responders obtaining higher scores ($p = .0250$).

8. Number of failures; Kohnstamm responders showing less frequency of failures to one or more cards ($p < .05$).

9. Reaction time to chromatic cards; Kohnstamm responders showing longer reaction time ($p = .0548$).

10. F% scores; Kohnstamm responders obtaining lower scores ($p = .0618$).

11. Reaction time generally; Kohnstamm responders using more time to study the cards before responding ($p = .0668$).

12. Time devoted to each response; Kohnstamm responders devoting more time ($p = .0968$).

Granted that Kohnstamm reactivity do reflect inner freedom, we may interpret the results as showing that subjects with higher inner freedom feel more at ease when faced with ambiguous stimuli. They don't show greater readiness to respond to such stimuli, if by readiness we think about reaction time, but they do show a greater ability to cope with and to respond to diverse aspects of such stimuli. The less frequency of failures to respond to any one card, the greater variety of determinants, the less F% scores, the greater Sum C scores, the greater number of FM and M responses, and the greater total number of responses, all testify in favor of this latter inference. On the other hand, the greater amount of time devoted to each response, the greater reaction time to the chromatic cards, and the greater amount of time spent

before responding to the cards generally, clearly suggests that subjects with high inner freedom are not more ready than others to size up and respond quickly to an ambiguous situation. In fact, the opposite seems to be true.

Gardner et al. (1959) report that tolerance vs. intolerance for unrealistic experiences seem to be related to Rorschach responses. They state:

> "In the Rorschach test, low scoring (i.e., intolerant) subjects tended to limit themselves to clearly defined forms. They had a smaller proportion ($p < .10$) of responses in which the form was vague (e.g., clouds). The difference was most marked in their whole responses. Intolerant subjects produced almost as many well-formed responses as 'tolerant' subjects, but they produced less than half as many vague wholes ($p < .05$). As a result their W% (proportion of whole responses) was lower ($p < .01$), instead they gave more responses (p .01) to the large details on the blots, which are the most clearly defined and easily accepted forms. Intolerant subjects, then, tend to limit themselves to rational reality - bound responses and to utilize those parts of the blots that most easily lend themselves to such interpretation. Tolerant subjects are more likely to tamper with the 'reality' of the blots". (p. 93)

It seems to be implied by this statement that the number of responses <u>per se</u> is an inadequate measure of inner freedom. What seems to count is the number of total responses and particularly, the subjects ability to relinquish his reality-testing functions so as to allow himself to project meaning into forms that do not sharply fit the image, or to interpret forms in ways that go beyond their conventional meaning.

Summarizing the results of an earlier study by Klein and Schlesinger (1951), linking behavior in the Rorschach test to the experiencing of apparent movement, Klein et al.

(1962) mention the following Rorschach responses as being characteristic of intolerant subjects: 1) concern over the reasonableness of responses; 2) literalness of approach, i.e., a tendency to anchor responses to unequivocal attributes of the stimuli; 3) a tendency to report only clearly delineated easily confirmable forms and meanings; and 4) avoidance of associative elaboration. Contrasting response properties were found to characterize subjects obtaining a high range score on the apparent movement test.

In their own study, Klein et al. rate their subjects Rorschach protocols on a global basis according to the following two criteria: 1) evidence of concern with realism and reasonableness of responses, and 2) variety of responses. They distinguish between two scoring categories only, tolerance and intolerance of unrealistic experiences, and in rating the protocols, they work with a predetermined frequency distribution with respect to the two categories.

It is possible that a global evaluation of Rorschach protocols may provide basis for a more refined scoring system. What we are thinking about is a rating procedure giving rise not to a dichotomization of the subjects but to a quantitative scale or continuum having several categories. The higher end of the scale may for instance, be defined by the following response characteristics (again we are leaning heavily on Klein's descriptions):

"The subject shows great freedom in his way of tampering with the cards. He accepts comfortably the task as an opportunity for projection. He views the blot as something to be played with, or if he doesn't explicitly enjoy the task, he doesn't find it uncomfortable, i.e., he is notably free of critical comments and expression of dissatisfaction with the task. He toys with alternative conceptions for a given area, and he elaborates responses from small hints provided by the blots. In formulating meanings of the blots he draws either upon the train of his associations, or on specifiable physical areas; he doesn't feel compelled to anchor responses only to meanings that are clearly confirmable by physical features of an area nor only to physical details that provoke least doubt about the meaning they suggest. He has a tendency to use a variety of other determinants than form alone, such as shadings, color, etc. For the most part, however, are these other features integrated with the form attributes of the blots. References to color, frequency, disclose an easy blend".

The opposite end of the scale might be defined as follows:

"The subject sets severe limits to the ideational freedom he permits himself in confronting the open-ended instruction. This shows itself either in unproductivity and few responses or as a tendency to subject his response to an extremely critical eye. He prefers certainty, the confirmable meaning, while the less certain is allowed expression only grudgingly, warily, and with circumspection. His protocols are dotted with qualifiers as if "to keep the record straight". He is concerned over an imaginary picture that does not fit a meaning. He tends generally to be caught up in the formal qualities of the blot rather than in the associative by-ways of the meanings that happen to come to his mind. His orientation to the test shows a general discomfort indicated by his manner of response, e.g., he may quibble, repeatedly ask questions about how he is to respond, complain about the vagueness of what is expected of him, etc. In the case where he does give many responses. the quantity will not testify to ease and freedom of responsiveness. This will also turn up in his color responses. He will tend either to show a total unresponsiveness to color or sporadic, unmodulated reactions to it".

There are several similarities between descriptions above and the variables reported by Snyder to discriminate between

subjects showing positive and negative Kohnstamm reactivity. There are no reasons why the latter variables could not be included as supplementary criteria within the framework of a global rating of Rorschach behavior.

Before empirical tests have been performed it is unwarranted to conclude that for instance a five point rating scale of Rorschach behavior necessarily will provide unreliable measures. On the other hand, the reliability of global rating scales are often not very satifactory.

One way to avoid having to deal with a global scale is to develop a quantitative sign scale. Snyder's findings indicate that this might be a real possibility.

It is important to note that freedom of responseness to the Rorschach cards, according to Klein's description, does not imply a minimum of form-determinants. It is emphasized that modulation and integration between form and non-form elements is characteristic of tolerant subjects.

This latter remark about integration brings us over to another system for scoring Rorschach responses, a system that has been shown to possess satisfactory reliability. What we have in mind is Holt's system for evaluating adaptive regression potentials. The system is a very molecular and time-consuming one. It is based upon a rating not of the Rorschach protocol at large but of each response included in the protocol. The main rating dimensions are

the defense demand and the defense effectiveness of a given response.

The theoretical rationale behind the two dimensions are taken over from psychoanalytic theory. It is assumed that drive-related responses, i.e., responses containing oral, anal, sexual, exhibitionistic-voyeuristic, homosexual and aggressive elements or images, do demand defensive operations on the part of the ego and the more so the more blatant and intensive the underlying drive-derivatives. Furthermore it is assumed that a similar defense demand is present in relation to unrealistic thinking. Included under this heading are responses involving percepts which deviates from what can be seen in the real world (e.g., "a rabbit with bat's wings") and responses where the percept is realistic, but some other aspects of the response reflect non-logical or primary process thinking. Examples of this type of responses include logical contradictions (e.g., "young maids, but they look old"), verbal condensations (e.g.,"diaphragram")and unlikely activities (e.g., "Ubangis, playing pattycake"). Ratings of defense demands is done in relation to a scale ranging from zero (a perfectly logical and realistic response) to five.

Defense effectiveness is a global rating of how effective the subject is in making a drive-related or an unrealistic response into an understandable and acceptible link of communication. The rating is baased upon the

following factors: 1) the form level of the response, i.e., an estimate of the accuracy with which the concept matches or fits the blot area used (e.g., a good form level allows other people to see and share the percept, and hence makes the unrealistic response more understandable, acceptible and convincing as a communication), 2) expressive behavior accompanying the response (e.g., the more enjoyment over the response, the higher the defensive effectiveness), 3) the degree to which the response is given in a cultural, aesthetic, intellectual, humorous, or other socially acceptible context (e.g., if a response or concept involves human and animal features in combination, and the subject notes that it looks like a mythological creature, this very placement of the response in a "social context" represents a defense contribution), and 4) indications of disruption or defensiveness, like negation, evasion, rationalization or a slight change in the form level when the defense-demanding response is introduced (these features would of course, count negatively in an overall evaluation).

Defense effectiveness is rated in relation to a scale going from plus two (completely successful integration) to minus two (unsuccessful integration). Only responses being considered drive-related or having elements of unrealistic thinking are rated for defense effectiveness. General rules have been developed for combining the criteria

involved in rating this variable but a certain clinical judgement will always be required of the scorer.

Holt's adaptive regression estimate consists of a score derived from the following formula:

$$\lesssim (DD \times DE) / R$$

where DD stands for defense demand, DE for defense effectiveness, and R for the number of responses in the Rorschach protocol. Since DD ratings range from one to five, and DE ratings from minus two to plus two, it follows that the final score can vary from a high negative to a high positive value. High positive scores indicate extensive unrealistic or drive-related thinking, which is well integrated, while high negative scores stand for extensive primary process thinking which is poorly integrated. Intermediary scores point to a small amount of primary process thinking, with good integration receiving higher scores than poor, although it might also stand for a large amount of unrealistic or drive-related thinking evenly divided between parts being well and poorly integrated.

We have spent some time describing Holt's system since we believe that adaptive regression potentials will be associated with inner freedom. Our belief in this respect is supported by some empirical data. In a recent study by Feirstein (1965) it is shown that adaptive regression scores are significantly correlated with apparent movement range scores, aniseikonic time scores, and aniseikonic

distortion scores, in short, with a number of tests, which we have reason to believe are reflecting the inner freedom dimension.

We would like to point out that Feirstein's data indicate that adaptive regression scores show a clear relationship with these tests even when the regression scores are based upon unrealistic thinking or drive-related thinking separately. Conversly, neither the sum total of the defense demand scores, defense efficiency scores or number of Rorschach responses appear to show any clear-cut relationship with the tests mentioned. These results suggest that inner freedom is not related to unrealistic or drive-related thinking per se or to a lack of form boundedness in Rorschach responses but to an ability to let go and to respond freely within an adaptive framework. It is just this quality we are emphasizing when we talk about an ability to cope with ambiguous stimuli.

Cohen (1960) has shown that adaptive regression scores tend to be significantly positively related to ratings of creativity among art students. In this study, it was found that the most creative students tended to give a greater number of Rorschach responses and also a greater number of responses reflecting primary process material. However, the proportion of responses reflecting such material was not found to be discriminating. The more creative students obtained higher adaptive regression scores

even when through statistical procedures, the total number of responses as well as the number of primary process responses were held constant.

Analyzing the contributing factors for the adaptive regression scores obtained by the subjects, Cohen points out that the most important factor seems to be the perceptual accuracy of responses scorable as primary process manifestations. He suggests that the form level scoring alone of these responses might constitute as effective an operational measure of adaptive regression as the more complex rating system proposed by Holt. Feirstein, too, in the study just referred to, explores the effect of limiting the defense contribution ratings (or global integration rating as he prefers to call this variable) to form level alone. He presents data showing the latter procedure to produce results going in very much the same direction as the more complex, multidimensional rating system, although as an overall trend somewhat lower correlation coefficients appear.

An important finding reported by Cohen is that none of the traditional Klopfer location, determinant or content scoring categories do differentiate clearly between relatively creative and non-creative students. This is an interesting finding since it indicates that the personality dimension we are presently concerned with may possibly be recorded by the Rorschach test, although not by any of the

ways Rorschach responses have been traditionally scored and summarized.[1]

We mentioned earlier that it is possible to focus attention not upon the subject's Rorschach responses per se, but upon his attitude toward his responses and toward taking the test. We referred to a study by Klein et al., where great importance was put just on whether the subject enjoyed the task implied by the test or expressed critical comments or other signs of discomfort or dissatisfaction.

It might be possible to gather more systematic information on this particular aspect of a subject's Rorschach behavior by administering a specific experience inventory immediately after the test has been finished. In fact, such experience inventories have been developed and used in empirical studies. For instance, Wild (1965) reports that significant differences were found between teachers

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1). Cohen's study is not the only study existing relating Rorschach responses to independent measures of creativity. Barron (1965), for instnace, reports several studies in this area. One of the personality components underlying creativity, according to Barron, is a disposition toward integration of diverse stimuli (a concept very much similar to our own term "ability to cope with ambiguous stimuli"). Two Rorschach measures are suggested as being relevant to this variable, namely the W% (a subjects tendency to interpret the blot as a whole rather than attend to details in isolation), and the number of different determinants used (i.e., a subjects tendency to use many aspects of the blots in his interpretation such as color, shape, textural qualities, suggestion of motion, etc.). It is reported that these two measures in one study were found to correlate .52 and .37 with a composite measure of creativity. It is also suggested that the Sum C score is related to creativity

(continues on the next page.)

art students and schizophrenics in their answers to a questionnaire about their Rorschach reactions. Differences were found on how much they enjoyed the test, how easy they found it, how confident they were of their responses, and how satisfied they were with their responses. On all the questions, the mean of the art students was more positive in attitude than the mean of either of the other groups. Except for the last question, the group differences were highly significant.

Summing up our present discussion we may say that the Rorschach test seems to have many possibilities for throwing light on certain components of inner freedom. We have indicated different scoring systems - a global rating of Rorschach protocols, a summary score based upon ratings of each response included in a given protocol, the possibility of developing an objective sign scale, and finally, the possible validity of a questionnaire being filled in after the test has been given.

We will not discard the possibility that the Rorschach test might be used to illuminate different components of inner freedom. However, since the stimulus material would always be the same, we are reluctant, at least at our

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measures. By a disposition toward integration, Barron refers to "a resistance to premature closure, combined with a persistent effort to achieve closure in an elegant fashion (i.e., a coherent pattern)".

present stage of knowledge, to go any further than to suggest that the Rorschach test properly scored might throw important light on a person's ability to cope with ambiguous stimuli, and subsequently, on his degree of inner freedom.

Holding on to our earlier programmatic statement as to the desirability of having at least two independent measures of each component entering into inner freedom, we have to look for a second method that can supplement the Rorschach test. We will suggest that a free association test might represent such a method. It presents the subject with a highly ambiguous situation. It requires the subject to relax his criticalness and to give in to spontaneously emerging thoughts and associations and to show freedom of ideation and responsiveness.

In a study by Gardner et al. (1959), a free association test was included among a great number of other tests given to a sample of 30 male and 30 female subjects. The test was administered after the subject had been placed in a comfortable chair and the room lights had been dimmed. The test instruction was:

> "I'd like you to close your eyes when we start. This isn't a test in the usual sense at all, that is, you can't be right or wrong in what you say. I am going to say a word, and after I say it you are to report anything that comes into your mind - words, sentences, thoughts, images, anything - after I say a certain word. The word is meant just to start you going, but it is not meant to limit you in any way. You are to say everything that comes into your mind. Now close your eyes and sit back comfortably".

Two stimulus words were used, namely, dry and house. The association time given to both words was 3 minutes; the subject's associations to the words being recorded on tape.

In scoring the test, the subject's responses were divided up into units, defined as the least number of words that could stand alone as a single thought. Subsequently, the units were classified into categories representing various distances from the stimulus words. A subject's productivity was defined as the total number of lines appearing in his typewritten response protocol.

A factor analysis based upon 33 test scores was performed for males and females separately. One of the most potent factors emerging in the male sample turned out tobe defined by the following variables and their respective loadings:

1. Free association: Large average length of units.. .62
2. Free association: Long response protocols..... .61
3. Aniseikonic lenses: short recognition time..... .54
4. Apparent movement: wide range of movements..... .44

Gardner and his collaborators interpret this factor, in accordance with their theoretical framework, as reflecting tolerances versus intolerance for unrealistic experiences. By this they mean a principle of cognitive control being related to a subject's mode of organizing his behavior in

respect to experiences that violate normal assumptions of reality. We are going to discuss this principle in a later chapter, and we will suggest that tolerance of unrealistic experiences can be considered a separate component of inner freedom.

Gardner's finding that performance on a free association test is associated with the same factor as the aniseikonic lens test and the apparent movement test, supports our contention that the former test do tap the inner freedom dimension.

It is possible that the "productivity" factor is not the most appropriate measure available. On the par with the Rorschach test it may turn out that the subject's attitude toward his associative trains is a more discriminating factor.

It has been reported (Barron 1965) that original and creative scientists and artists tend to prefer unbalanced, unorderly and complex asymmetrical figures (as measured, for instance, by the Barron-Welsh Art Scale). Maybe an ability to cope with ambiguous stimuli often goes hand in hand with a positive preferance for and an attraction towards such stimuli?

Component IV: Ability to tolerate unrealistic experiences.

As a criterion measure of tolerance for unrealistic experiences Klein et al. (1962) employ a specific version of the apparent movement test. Their principal test score is the range of alternation rates giving rise to movement experiences. That is to say, range is defined as the interval in cycles per second between the alternation rate at which the subject reports seeing movements, and the higher rate at which he reports seeing a simultaneous flickering of two stimuli. Two aspects of the test procedure used by Klein et al., ought to be emphasized.

The subjects are not at any time lead to believe that they are confronted with real movements. Before the experiment starts they are shown the test apparatus, the test stimuli, and the means of producing the illusion of movement are demonstrated to them. Some extra demonstration trials are also given to ensure that the subjects are able to recognize the difference between alternations, movement and simultaneity. In short, it is emphasized that movement perception is an entirely illusional experience.

Another aspect of the procedure is the presentation of the stimuli. Only ascending alternation rates are used. That is to say, the experimenter always start with a very low alternation rate and gradually steps up the rate until a consistent flickering is reported. Altogether each subject is given 15 test trials and the mean of the apparent movement

range for the various trials is computed.

As noted, the researchers are not so much concerned with the subject's ability to experience new stimulus contradicting conventional reality, as his ability or readiness to accept experiences contradicting his knowledge of reality. Consequently, it becomes an important point for the experimenters to provide the subject ample knowledge about the reality of the situation. We want to emphasize this point because it is crucial for the distinction drawn between the ability to experience new stimuli (as in the aniseikonic lens test) and the ability to tolerate unrealistic ones. We are supposing that these two abilities are different although both related to a common conceptual dimension.

We were referring to very much to the same issue in our earlier discussion of the reversible-figure test. We mentioned that this test can be given with the aim of measuring the length of time required by a subject to see an unconventional stimulus phase, but that it also can be given with the objective simply to record the number of perceptual shifts taking place over a given period of time. In this latter instance, the subject's prior knowledge of the two reversible phases becomes less important. In fact, it might even be beneficial that the subject knows about the reversibility of the figures beforehand in order to ensure that he understands the task at hand and that he has obtained a firm understanding of the reality of the situation. It might

be maintained that it is 'unrealistic' that one and the same stimulus figure should give rise to two quite dissimilar percepts. Consequently, the shifting might be looked upon as an expression of a tolerance for unrealistic experiences. This was,of course, the very rationale for Klein's use of the test. But Klein et al. also went one step further by instructing the subjects to try to hold back alternations of the figures by pitting their will against it. By introducing this additional element the test might be described as even more a test of unrealistic experiences. If it is 'unrealistic' that one and the same figure gives rise to different percepts, it is still more 'unrealistic' that these percepts should alternate when the subject is instructed to inhibit alternations.

We will suggest that the reversible figure test given under 'holdback' conditions is a pertinent measure of tolerance for unrealistic experiences. We are basing this suggestion in part on the empirical data reported by Klein et al. They report for instance, that the relationship found between the apparent movement test and the number of reversals (within two periods of one minute each) of the staircase figure does change very little from a passive to a hold-back condition, but that this latter condition increases substantially the association between the movement test and the windmill figure test. What is also important, in a subsequent

factor analysis they discovered that the holdback condition of the staircase figure (whether concentrating on number of reversals or on conventional-phase time) was more highly loaded with the first most potent factor emerging from the analysis than measures obtained from a passive condition. They interpret this factor as reflecting tolerance for unrealistic experiences. They present the following factor loadings:

1. Apparent movement, mean range.....76
2. Rorschach classification.....74
3. Staircase, reversals, holding back.....53
4. Staircase, conventional-phase time,holding back.37
5. Staircase, reversals, passive.....-.....35

It should be noted that the windmill figure tests were not included in the factor analysis.

To sum up, we have suggested above that tolerance for unrealistic experiences can be looked upon as a component of inner freedom, and that this very component can be measured by an apparent movement test emphasizing the reality aspects of the test situation, and by a reversible figure test given under conditions where the subject is instructed to hold back and to prevent as far as he can, any change of the percept appearing at a given time. As implied by these two methods, we are thinking about tolerance for unrealistic experiences as an inclination to accept and to give in to perceptual-

cognitive processes of a dynamic nature. We might consequently think about this variable as not too different from the ability to give in to bodily impulses, although, so far, we have been mainly thinking about this latter variable in terms of skeletal-muscular attitudes and impulses. A difference is present, however. In the one instance we are referring to an ability, while in the other, more to an inclination or to an attitudinal component. In other words, when we talk about an ability to tolerate unrealistic experiences, we are thinking not about an ability to perform in a certain way, but about an ability to accept and to tolerate experiences that goes beyond the subject's conscious orientation and intentions.

Component V: Ability to change mode of functioning.

We may start out with the following question: Would not a person that is unable to hold back alternations in the perception of a stimulus figure, by definition so to speak, be less able to change mode of psychological functioning than a person possessing this ability? Isn't it contradictory then to assume the ability to change mode of functioning to be linked to the very same underlying construct as tolerance for unrealistic experiences? The answer to this question depends upon what is meant by an ability to change mode of functioning. Before we make any attempt to answer the question, we would like to present briefly a couple of methods which we believe can be used to tap the variable in question.

The first method we are going to describe is a modified word-association test developed by Wild (1963, 1965). Three lists of 30 words are employed. Each list contains 18 words from the Kent-Rosanoff list and 12 from the Rapaport list. First the test is given with the usual Rapaport instruction, next with an instruction designed to elicit unusual associations, and finally, with an instruction aiming at common conventional associations. The three test conditions may be described as: (1) spontaneous condition, (2) unconventional condition, and (3) conventional conditions, respectively. The two latter conditions involve asking the subject to take the test as he would imagine two given personality types would respond to the stimulus words. Consequently, the unconventional

condition consists of presenting the subject with a character sketch of an unconventional, original person:

> "Most people who meet U remember him because he stands out from any group. He has a novel, unusual turn of thought and is apt to be seized and intrigued by some unexpected aspect of his surroundings that no one else has noticed. His views and opinions sometimes startle those around him. His whimsical, vivid, yet acute perceptions cast a new light on anything he comes in contact with whether it be a poster, a parade, a book, a person, politics, a rainstorm. He points to the comic in the tragic and the seriousness in comedy, the order in chaos and the disorder in structure, the absurdity in the rational and the logic in the absurd. He enjoys and engaged in fanciful speculations and flights of imagination; and his thoughts often leap from one topic to another with no obvious link, so that the direction that underlies them may be obscured. He is different without trying to be so".

Conversely, the conventional condition is represented by a character sketch of a petit bourgeois person:

> "C is apt to blend into his surroundings wherever he is. He lives by custom and convention and finds it easiest to follow the habits of the group he is in. He listens to the opinions of others before making up his mind and tends to go along with the crowd, so that most of his ideas, tastes, likes, and dislikes come from the outside. Always reliable and dependable, he can be counted on to do the right thing in any situation and to give sensible advice. He is startled by unaccustomed and unexpected occurrences, reacting to them with cliches and aphorisms and prefers an orderly, predictable world. His world is simple, clear, structured; things are good or bad, stupid or

> intelligent, happy or sad. He has a knack for solving practical problems and values good common sense. But what is not sensible he regards as suspicious and dangerously aberrant. His thinking is cautious, careful, and controlled; and he does not allow his thoughts to stray from well-travelled, ordinary paths. C usually thinks, reads, eats, believes, perceives, and acts like everybody else; and this is the way that suits him best."

Associations are scored as common if they appear in the standard frequency lists presented by Rapaport and by Kent-Rosanoff.[1] All other associations are designated as unusual.

The main score to be derived from the test reflects the subject's ability to shift from unusual to common associations. The score is a very simple one, it consists of the number of unusual associations given in the "unconventional condition" minus the number of unusual associations given in the "conventional condition". Consequently, the highest scores are obtained by subjects who give many unusual responses to the first condition and few to the second.

We may think of the test scores as reflecting a capacity to assume roles that are different in terms of cognitive-affective perspective. A component of role playing is involved, but also something else, namely, the ability to engage oneself in original and uncommon modes of thought depending upon the demands of the situation.

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1) It has been suggested to add a second criterion, namely, that any association should be considered common if it is given by two or more subjects in the sample being tested.

In suggesting that the test scores provide a measure of inner freedom we are leaning not only on theoretical considerations, but also on empirical results from a couple of studies where the test has been employed.

Wild reports that shifts scores on the word association test is significantly related to shift scores on an object sorting test, and that the ability to shift might represent a general cognitive approach. She also maintains that no significant association exists between shift scores and intelligence test scores. Furthermore, empirical data indicates that shift scores are related to creativity, as rated by independent observers. Wild also points out that there is a slight tendency for subjects obtaining the highest shift score to show the highest spontaneous originality, i.e. number of unusual associations under spontaneous condit-ons. However, the tendency is even weaker than one might have expected ($r = + .22$). Finally shift scores have been found to discriminate significatly between art students, teachers and schizophrenics, and this holds up even when spontaneous originality is controlled for through statistical operations (i.e. analysis of covariance).

In a recent study by Feirstein (1965) it is reported that shift scores on the word association test are significantly related to apparent movement scores as well as to aniseikonic recognition time. The latter correlation was found to be .45, and the former .66 and .55, depending upon

whether a horse or a square were used as stimulus figures. Another finding in this study is that the number of unconventional associations under spontaneous condition shows practically zero correlations with the tests mentioned.

The apparent movement test used in this latter study was based upon a gradually shortening of the separation time between two stimuli, presented tachistoscopically to the subject. The score derived from the test was the total number of times the subject reported seeing movement. Two pairs of stimuli were used, running horses and squares. Each pair was presented in five trials, each trial consisting of a series of nine presentations. The odd-even 'split-half' reliability for the five series were .96 for the horse stimuli and .94 for the squares. The correlation between the movement scores obtained under the two conditions was .82.

It is possible that an apparent movement test, through certain modifications might be used to measure a subject's ability to change mode of functioning.

We have already described two different versions of the apparent movement test. In the one version the reality behind the movement illusion is emphasized, and ascending series of alternation rates only are being used. In the other version, the movement illusion is introduced as real movement and a series of descending alternation rates is employed.

A third version consists of leaving the question as to whether real movements take place or not open for the subject to decide, and to present the rate of stimulus alternations in a randomized order. The great advantage of this method is that one might get around the effect of individual variations in perseveratory and anticipatory sets.

We are not the first ones to suggest the use of randomized alternation rates. This method has been used, for instance, by Hamilton (1960), working with tachistoscopic stimulus presentations. An interesting finding Hamilton's study was that normal control subjects tend to see movement more frequently than neurotic patients. Neurotic patients, whether they are obsessionals, hysterics or anxiety states, furthermore, tend to require a shorter interval between the stimuli in order to perceive movement, and they tend to perceive movement over a shorter time interval than normals. Hamilton also reports that there seems to be a significant relationship between movement perception and the age of the subjects, older people by and large seeing less movements than younger ones.

When we are suggesting that an apparent movement test can be used to measure the ability to change, we have in mind some earlier observations by Wertheimer, Gilbert and others, to the effect that mental sets do have an important effect on the perception of the phi phenomenon. It has been noted time and again that a passive attitude generally will

facilitate movement, while an active discriminating attitude will inhibit movement perception. This being true, an apparent movement test might be thought of as an instrument to record the extent to which a subject is able to shift between a passive and a discriminating atidue or state of mind. The two types of attitudes might easily be induced by varying the instructions given the subject prior to the stimulus presentations.

Granted that the ability to change mode of functioning will be reflected in the shift score obtained on an apparent movement test given under varying instructions, we would like to add that the correlations obtained between shift scores and other indices of inner freedom will probably not be substantially higher than the correlations found between these indices and movement scores obtained under a "passive" condition. The high inner freedom person will probably not excel under an active discriminating condition, in fact we might even think of such a person as rather mediocre under this condition. From this follows, of course, that we are hypothesizing that his greater ability to change will be mainly associated with his "superior" performance under a passive condition. What this amounts to is that we are assuming that a high ability to change on the apparent movement test is conditioned upon a certain inability to close up entirely against perceptual processes of a dynamic nature. We might even go one step

of a threshold wich cannot be surpassed (in terms of suppressions or repressions) without detrimental repercussions on a person's potentiality for change.

Whatever is the final answer to this question, it should be noted that in the study by Feirstein referred to above, apparent movement scores were found to be correlated not only with shift scores on the word association test, but also with the number of unusual associations obtained under the unconventional condition and the number of usual associations obtained under the conventional condition. The correlations found with unusual words in the last instance were -.41 and -.21, for horse and square movements respectively, and in the unconventional condition, .46 and .47. We are reporting these findings because they indicate that high apparent movement scores are related not only to an ability to give unusual verbal responses when such responses are required, but also to censor unusual responses when the situation so demands. Consequently, in this specific test context the ability to change was positively related to a certain proclivity to be "caught" or be "moved" by alternating stimuli.

In this latter study the movement test was not administered with the instruction to the subject to adopt a critical or hyperdiscriminating attitude, but from the result of other studies it is reasonable to believe that subjects reporting the most movements 'spontaneously' will also

see a great deal of movement under a critical condition. We are referring here to the positive correlation found between movement scores and an inability to hold back reversals in a reversible figure test even when instructed to do so.[1] It is likely that the same inability to hold back is also present in the apparent movement situation.

What we are driving at is to give an answer to the question raised at the very beginning of this chapter. We are trying to make clear that by an ability to change mode of functioning we are referring to something more than the ability to play various roles. We are referring to something else than a subjects ability to control his own behavior intellectually and to show intellectual openness and lack of rigidity. What we are primarily referring to is more an ability to shift between an intellectual and a non-intellectual type of experiencing, and an ability to identify with and to get absorbed in different roles on an affective-dynamic as well as on a cognitive level. From this follows that we don't expect the ability-to-change component in our theoretical framework to be significantly related to various tests measuring "flexibility-rigidity" and problem solving capacities in terms of intellectual functions (Cf. The low

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1) The correlations reported by Klein et al. are not strikingly high ones, only .40 and .47 for the windmill and the staircase figure respectively, but they nevertheless indicate that the movement seen by the subject's scoring highest on an apparent movement test possibly have a very compelling and arresting character.

correlation found by Wertheimer and Aronson (1958), between aniseikonic test scores and measures of cognitive perceptual rigidity.)

Component VI: Ability to become hypnotized.

Although some scholars maintain that susceptibility to hypnosis is situationally determined, i.e., determined by motivational factors and by the specific method of induction used by the hypnotist, the prevailing view is that real personality differences do exist. This latter viewpoint is the basis, of course, for the various susceptibility scales presently available.

Whether hypnosis is seen as a state of mind or as a particular type of interpersonal relationship, it is generally agreed upon that the hypnotized person shows little initiative and that he lacks the desire to make and to carry out plans on his own. The planning and willing functions of the hypnotized person are, to a large extent, turned over to the hypnotist. Susceptibility to hypnosis will always have a certain attitudinal element, a willingness to submit oneself to hypnosis. But an ability factor is also present. Some people show a very low susceptibility in spite of overtly expressed favorable and positive attitudes. The ability factor may possibly be described as an ability temporarily to suspend and relinquish certain ego functions like decision-making, independent initiative, reality testing, and critical judgement. This doesn't mean that a hypnotized person ceases to exercise judgement over his behavior. An allover judgement will always be present,

but it is a sort of disassociated judgement that will not interfere unless the subject is asked to do things that are very much counter to his more basic beliefs and values. Susceptibility to hypnosis is very much a question of how far a person is willing and able to go in letting a hypnotist direct and influence his behavior and experience.

The ability to become hypnotized can probably be divided up into a number of more specific abilities. The following ones have been suggested as being most relevant: the ability to become completely absorbed in experiences of an imaginary and fantasy nature, the ability to accept and to live through subjectively formed experiences as if they were real ones, the ability to elaborate experiences from minimal information provided by the environment, the ability to merge thinking and fantasy with feeling and to live in and for the present. Some of these abilities correspond closely to what we have defined as components of inner freedom, while others may be considered as more peripheral ones.

We don't believe hypnotic susceptibility to be synonymous with inner freedom, but we do believe that a person showing high inner freedom will posses the ability to become hypnotized. We do also believe, however, that the ability in question may be shown by individuals not being particularly high in terms of inner freedom. What we are saying is that we consider the ability to become hypnotized

as a component of inner freedom but that the ability in question is not a sufficient criterion of inner freedom.

It is important to note that we are here talking about hypnotic susceptibility as a personality characteristic. That such a characteristic does exist, at least if we restrict ourselves to standardized suggestions given in a permissive and 'academic' setting, is amply documented by Hilgard and his coworkers. Granted the limitations mentioned, there is a substantial amount of evidence that hypnotic susceptibility depends very little upon the personal characteristics of the hypnotist - as long as we are concerned with the subject's initial responsiveness to attempted hypnotic inductions, and as long as the inductions take place under conditions fostering confidence and relaxation.

With respect to adult subjects the following general purpose hypnotic susceptibility scales are available:

Stanford Hypnotic Susceptibility Scle, Form A

Stanford Hypnotic Susceptibility Scale, Form B

Stanford Hypnotic Susceptibilty Scale, Form C

Harvard Group Scale of Hypnotic Susceptibility

The Harvard group scale is a revision of the SHSS, Form A. The group scale can even be given through play-back of tapes, providing a strict standardization of the scale's administration. The A and B forms of the SHSS

are equivalent or parallel forms. They are both non-threatening in character, easy to administer, and show a high internal consistency. They are both highly loaded on a primary suggestibility factor, although both are somewhat biased in the direction of "loss of muscular control" as compared to"cognitive" items. The SHSS, Form C, is broader in content, but the number of items is the same as in the two former scales (n = 12). The Form C scale is a little more threatening and personal, since it involves hallucinations, dream and regression items. However, by most observers it is considered well fitted for experimental studies with normal subjects. Besides its richer content, its greatest advantage is its form of administration. Since the items are arranged in an ascending order of difficulty it is not necessary to go through the whole scale in the case of non-susceptible subjects. It is suggested that testing should continue to the subject's third failure only and that the chance for a subject passing an item beyond this point is very small. Factor analytic studies of the scale indicate that a primary suggestibility factor runs through all the items. The next most potent factor is interpreted as a difficulty factor possibly discriminating between waking and trance susceptibility, and the third most potent factor is interpreted as a special cognitive distortion factor possibly differentiating positive from

negative hallucinations. However, the first factor is by far the most dominant one accounting for 44% of the total variance, as compared to 17% and 5% for the two succeeding factors.

In order to study different areas of hypnotic susceptibility, specific profile scales have been developed. Instead of giving rise to a general susceptibility score, these scales are constructed with the objective in mind of providing comparable scores from subscales tapping different area of hypnotic susceptibility. However, even with respect to these scales do a general susceptibility factor emerge most clearly.

All the scales mentioned have been found to show high retest reliability. For experimental purposes generally, it is suggested to start out with Form A and follow up with Form C at a later testing session.

A large number of studies have been done exploring different parameters of hypnotic susceptibility. According to Hilgard (1965), men and women seem to be equally susceptible to hypnosis; children in the age range of 8 to 12 seem to respond more readily than younger children, while a slight decrease in susceptibility tend to take place with increasing age after the age of about 12, normal subjects tend to be more hypnotizable than neurotic subjects, and the normal out-going subject more hypnotizable than the more troubled-withdrawn subject.

Although most studies relating susceptibility to anxiety, to social influencibility, to conforming tendencies, etc. have found very low and unstable correlations, there are a few parameters that have provided consistent significant relationships. These are self-predictions of hypnotizability; responses to experience inventories emphasizing earlier trance-like experiences and role involvements; acquiescence tendencies as reflected in the Sum-True score on the MMPI; and excess of ideational over motoric interests, particularly of a competitive recreational (athletic) nature.

Commenting upon the results of a number of studies in this area, Hilgard states:

> The results do not yet bring into sharp focus the personality characteristics of the hypnotizable person, but they provide a start...a kind of description emerges of the hypnotizable person as one who has rich subjective experiences in which he can become deeply involved; one who reaches out for new experiences and is thus friendly to hypnosis; one who is interested in the life of the mind, and not a competitive activist; one who accepts impulses from within and is not afraid to relinquish reality-testing for a time. Because these free, irrational, reality-distorting characteristics may be found in flexible combination with realistic academic and social adjustment, there are probably a great many variations on the common theme, thus attenuating the correlations between personality inventories and hypnotic susceptibility" (p.342)

So far very few studies have been done testing the relationship between hypnotic susceptibility and the various other components of inner freedom mentioned earlier in this

paper. In fact, we know about only one investigation of hypnotizability which have made use of any of the methods previously described. This is a study by Roberts (1964) correlating phase reversals on the windmill and the staircase figures with scores obtained on the SHSS Form A and Form C. In a sample of 30 female subjects (college students) the following correlations were found:

		1	2	3	4
1.	Total number of reversals (both fig.) in a passive condition.....	*	.81	.34	.32
2.	Total number of reversals (both fig.) in an active hold-back condition.....		*	.35	.30
3.	SHSS Form A.....			*	.85
4.	SHSS Form C.....				*

Although no significant correlations were found in a male sample of equal size, the correlations reported above do support the thesis that hypnotic susceptibility is related to other components of inner freedom. (The correlations cited are all below the .05 level of statistical significance.)

Parenthetically, it should be noted that the reversible figures used in the study were found to be about equally related to hypnotizability, that active and passive test conditons were found to be of secondary importance, and finally, that the time spent seeing the non-dominant stimulus phase tended to be negatively rather than positively related to hypnotizability under all conditions.

It is far too early to draw any conclusions as regards the reltaionship between hypnotizability and other components of inner freedom, but it seems likely that we are here confronted with an area for further studies that might throw important light on aptitudinal patterns and configurations.

Component VII: Attitude of openness toward non-intellectual experiences.

We mentioned in the last chapter that responses to experience inventories, emphasizing earlier trance-like experiences, spontaneity and role involvement, have been found to show significant relationship with hypnotic susceptibility. In one of the more recent studies in this area by Lee (1963), a distinction is drawn between the following attitudinal-experiential dimensions: 1) conformity vs. autonomy, 2) trance-like experiences, 3) role playing, 4) impulsivity vs. rationality, and 5) concentration and absorption. In order to measure the various dimensions, Lee makes use of a questionnaire consisting of 5 subscales. Each subscale includes 12 questions, the questions being chosen on the basis of a substantial agreement among a group of judges. Intercorrelating the different scales, she finds a very significant relationship between three of the scales, namely, the scales related to dimensions number 2, 3 and 4 above. The intercorrelations between the scales are of approximately the same size as the internal consistency of each of the scales. Consequently, we may ask whether these three scales do, in fact, reflect different attitudinal dimensions. Since Lee does not perform any factor analysis based on the individual scale items, but focuses on the scale scores exclusively, no definite answer can be given to this question.

Looking at the factor loadings of the scale scores,however, it is reasonable to believe that they have a large common element.

Lee's study represents a continuation of an earlier study by Aas (1962), and the latter study, might, to some extent, be seen as a continuation of an earlier study by Shor (1960). The objective of Aas's study was also to explore the relationship between subjective experiences and hypnotic susceptibility. In this study, too, a 60 item experience inventory was used, each item representing a question requiring a yes or no answer. In constructing the inventory, Aas tried to cover each of the following categories: 1) altered state-fading of generalized reality orientation, 2) tolerance for logical inconsistencies, 3) role taking, 4) dissociation-exclusion of distracting stimuli, 5) willingness to relinquish ego control, 6) tolerance for regressive experiences, 7) constructive use of regression, 8) peak experiences-philobatism, and 9) basic trust in interpersonal relations. A weakness of the study as compared to Lee's investigation is the small number of items covering each category, and the varying number of items (from 4 to 9 questions) comprising the various subscales. Consequently, the subscales become less reliable and their intercorrelations more difficult to interpret. On the other hand, Aas does pursue a type of

exploration not found in Lee's study. Concentrating on 24 items, 2 to 4 selected from each of the 9 categories, Aas performs a factor analysis of the responses to a sample of 82 female students. The main objective for this analysis was evidently to test whether the different categories he started out with would hold up as independent dimensions, or whether they could be reduced to a few more basic variables. His initial nine categories were all derived from descriptive and explanatory concepts and notions set forth by various theorists in the field of hypnosis. The problem becomes whether these theorists might not have introduced concepts and perceived as different, phenomena which have a good deal in common or even are basically identical ones.

Aas suggests that four factors can be extracted. These factors are tentatively termed role absorption (accounting for 15.6% of the total variance), earlier experiences of and tolerance for unusual states (12.2%), wish for discipleship (10.9%), and social influencibility (9.3%).

The first most potent factor emerging from the analysis is hypothesized to represent "an ability to become involved and absorbed in many roles and kinds of experiences". Of the 24 items selected for study, 12 were found to be significantly loaded with this factor. Instead of talking of an ability factor, we would rather prefer to talk about an attitude - since the method employed is obviously more related to attitudinal than to aptitudinal matters.

Comparing the items showing the highest loading on the two most important factors, one gets the impression that a subtle but consistent difference is present. The first factor seems to be primarily related to inner feelings and self-surrender, while the second factor is more concerned with what one may call an intellectual and extraceptive orientation. Highly loaded with the first factor is experiences of being enraptured by dance and music with loss of self-feelings, religiously colored experiences and relevations of great intensity, feelings of changing self with changing environment, the experience of elaborating onstories told to others with a subsequent experience of the elaboration being as real as the original story etc. The second factor is more action oriented in a sense, but also more cognitively anchored. Items showing high loading here are experiences of sleep-converstaions, night action with subsequent amnesia, the experience of things changing and becomming strange when actively stared at, the favoring of spontaneity to foresight and self-control, an enjoyment of 'wild'parties, the perception of being regarded by others as a person with a strong sense of humor, the belief that events and things exist which cannot ultimately be logically explained, etc.

A few items turned out to be positively related to the one factor and negatively to the other. These items are of

particular interest in interpreting the two factors. One of these items is the last one mentioned. A belief that there are things which cannot be ultimately explained is positively related to factor 2, but negatively to factor 1. "Being honest, would you say that most things people laugh at are not really very funny",falls in the same category, although agreement here points in the direction of factor 1, disagreement in the direction of factor 2. A third item showing a similar discrimination refers to the preferance for closeness versus distance from other people. A high factor 1 person tends to favor a certain distance from most other people, while the opposite is true for the high factor 2 person.

To sum up the differences, we may venture to say that factor 2 is probably related to an extravert orientation (somewhat akin to under-control) and to an intellectual tolerance for and even belief in unrealistic experiences, while factor 1 is more related to an attitude of openness toward feelings and non-intellectual experiences. Aas indicates that the latter factor is related to involvement and absorption in different roles and kinds of experiences, while the former one is related to earlier experiences of and tolerance for unusual states. Our own interpretation goes a little further in the sense that we suggest that role absorption and involvement has a certain element of cognitive self-exclusion going over and beyond intellectual

role-playing, and that earlier experiences of and tolerance for unusual states has a certain touch of an ideological "lebensanschauung". We will suggest that openness toward non-intellectual experiences represents a component of inner freedom, while an attitude of intellectual acceptance and tolerance (for unusual states of mind, among other things) belongs to another dimension which is only peri-phally related to inner freedom.

In making this distiction we are partly influenced by a study of Cohen (1960) showing Rokeach's Dogmatism scale, a scale assumed to measure an open versus closed mindedness, to be practically unrelated to the ability to cope with ambiguous stimuli as measured by Holt's adaptive regression scores based upon Rorschach responses. We are assuming in other words, that the latter factor mentioned above, is somewhat akin to an open-mindedness on an intell-ectual level, i.e., to a lack of ideological dogmatism.

The next question we may ask is the relationship being present between the two attitudinal factors delineated above and hypnotic susceptibility. We may look upon Lee's role playing subscale as primarily related to Aas's factor 1, and her impulsivity-versus-rationality and trance-like experiences subscales as related to factor 2. This being the case, her data do suggest factor 1 to be more highly related to hypnotizability than factor 2. However, the difference is not strikingly high, and what is more important,

the various scales as noted earlier, are too highly inter-correlated as to be considered as independent measures. Another approach to the above problem is to compare the item correlations with hypnotizability reported by Aas. We find that several of the items being highly loaded on factor 1 do show significant correlations with hypnotizability, but the same is true with several of the items highly loaded on factor 2 as well. Another problem enters into such a comparison. As pointed out by Hilgard (1965), items found to be 'good' predictors of hypnotizability in one study easily turn out to be rather 'bad' predictors in a subsequent study, and vice versa, a fact that makes it extremely difficult to work with individual items. Lee's investigation tries to avoid this pitfall, but leaves the factors tentatively extracted by Aas out of the picture.

Aas reports that his 60 item experience inventory correlates .35 and .36 with the SHSS Form A scale, for males and females respectively, and .47 and .31 with the SHSS Form C scale. Lee, on the other hand, reports her total scale to correlate .33 with SHSS Form C, and her role playing subscale to correlate .38 with the same criterion-measure. These findings indicate clearly that experience inventories do not show very high correlations with hypnotizability. We suppose this to be true even for a scale particularly focused on openness toward non-intellectual

experiences. On the other hand, we do believe that a significant positive correlation consistently will be present in this area.

The next problem is to get hold of a scale measuring the above variable. As noted, 12 of the items used by Aas were found to be highly loaded on the dimension we are presently concerned with. We also mentioned that Aas's factor analysis was based on only 24 of the 60 items comprising his experience inventory. Consequently, the possibility exists that several of the remaining items might be significantly related to the same variable. After reading through these items, we have picked out 16 which we believe belong to the same category. This leaves us with a total of 28 items. Among these are 11 items originally developed by Shor (1960) but included in Aas's inventory. To increase the item pool further we have consulted Shor's earlier questionnaire and also the questionnaire developed by Lee. From the latter inventory we have selected 6 original items, and from Shor's inventory, 6 items not being included in Aas's questionnaire. By doing so we have arrived at a list of 40 items in all, all of which have a certain face-validity. The next step is to submit these items in an empirical pretest in order to determine the scale's internal consistency. Only if an item shows a significant relationship with the scale as a whole, does it deserve a place in the final inventory, and only if the scale turns out to show internal consistency and discriminating power can it

be considered a potential measure of inner freedom.

We do not yet posses any standardized method for measuring an attitude of openness toward non-intellectual experiences, but some preliminary work has been done in this direction.

In conclusion we would like to mention that the Sum C Score in the Rorschach test has been considered a measure of a person's responsiveness to inner feelings and impulses. It has been maintained (Barron, 1965) that Sum C Scores are significantly related to creativity and originality. As noted earlier, we have decided to look upon Rorschach responses exclusively from the point of view of capacities to deal with unstructured stimulus material. By so doing, we may possibly have gone a little too far in a conservative direction. On the other hand, no other psychological test has been as excessively, interpretively squeezed as the Rorschach Inkblots.

mponent VIII: Attitude of trust and confidence in people and nature.

Several researchers have maintained that basic trust is an important factor in hypnotic susceptibility. We are going to suggest that an attitude of trust and confidence in people and nature constitutes an important component of inner freedom.

Without a certain basic trust and confidence a person will always be on guard in relation to stimuli stemming from his internal and external environment. He will be unable to give in to bodily impulse and he will be reluctant to change his conception of things or events. We may even go so far as to say that unless a person has a sort of commitment or belief in the world of nature as an intrinsically tolerable and meaningful one, he will never be able to depart from what is momentarily understandable and intellectual categorizable. And just such a departure, or a capacity for such a departure, seems to us to represent a critical aspect of inner freedom.

The main problem confronting us is how to measure an attitude of trust and confidence. One avenue might be to assess an individual's more basic existential beliefs, his perception of his own solidarity or alienation in relation to nature and other living beings. This might be done through a clinical examination, although some preliminary attitude scales do exist in this area. Another avenue would be to focus upon the degree of suspiciousness, skepticism and hypercriticalness, characterizing an individual's orientation

toward his surroundings. At the one extreme we may think about the paranoid personality, and at the other, the trustful and accepting individual. It has to be recognized of course, that trusting under certain circumstances might tend toward simplicity and confindingness of a pathological nature.

Concentrating on this latter dimension, the Guilford-Martin Personnel Inventory (1943) represents a possible method of measurement. The Guilford-Martin inventory is constructed to tap the temperamental and attitudinal area commonly designated as paranoid. The inventory is divided into three subscales, defined as follows:

Subscale O- objectivity (as opposed to personal reference or a tendency to take things personally)

Subscale Ag-agreeableness (as opposed to a belligerence, a dominating disposition and an over-readiness to fight over trifles).

Subscale Co-cooperativeness (as opposed to fault-finding tendencies or overcriticalness of people and things).

The three subscales consists of 48, 38 and 62 items, i.e., questions requiring a yes or no answer. The reliability of the scale scores is reported to be .83, .80 and .91, respectively. Although the intercorrelations between the scales are rather high, varying between . 55 and .64, it is maintained by the authors that the subscales should be handled as separate variables.

Looking over the subscale titles and their respective items, one gets the impression that it is mainly the third

subscale, the Co-scale, that covers the attitudinal dimension we are presently concerned with. According to Guilford and Martin, a high score on this scale "indicates a willingness to accept things and people as they are and a generally tolerant attitude, (while) a low score indicates an overcriticalness of people and things and an intolerant attitude". It is also maintained that the higher the score on the scale the better is usually the subject's mental health, granted that he doesn't show other signs indicating a torpid and sluggish condition being the basis for his lack of criticalness.

It is interesting to note that Snyder (1956) found the Co-scale to differentiate between subjects showing positive and negative Kohnstamm reactivity. The positive subjects by and large obtained higher scores on the Co-scale. The same was true with respect to two other scales, the O and Ag scales, but the difference was not significant in either of these cases.

Separating her subjects into males and females, it turned out that the Co-scale did differenciate significantly between Kohnstamm positive and Kohnstamm negative male subjects only ($t = 2.53$, $p = .03$). Among males the Ag scale too approached statistical significance, while neither scale discriminated significantly between the famale subjects.

It is difficult to explain why sex differences appeared in relation to the Co-scale. One possibility is that the scale has less relevance and is less meaningful to female than to

male subjects since many of the scale items are referring to labor-management relations and to business and economic-political issues. This is a reflection of the scale's original purpose, namely to serve as a means of assisting supervisors in business and industry to single out potential "troublemakers" and 'maladjusted cases' among workers and employees. It is possible that the scale might gain in validity if these items are discarded, particularly if the scale is given to college students. It is even possible that the scale in this instance will discriminate among female subjects. With such an objective in mind we have gone over the scale and excluded 22 of the scale's original items. We don't know as yet whether the remaining 40 items will show a satisfactory reliability and discriminating power, but we have at least made a beginning in modifying the scale into a possible instrument for the recording of confidence and trust in people and nature.

We would like to note that the preliminary revised Co-scale is not evenly balanced between Yes and No responses. An acquiesence tendency will tend to increase a subject's scale score and make him look more defensive and suspicious than he really is. A similar lack of balance is present in the items comprising our tentative 'openness for non-intellectual experiences' scale referred to in the preceding chapter. With respect to this latter scale an acquiescence tendency will tend to push a person in the direction of higher openness than what may actually be the case. Consequently, as parallel

measures of inner freedom the imbalances being present in two scales may possibly cancel each other out, i.e., an acquiesence tendency in the one case pushing the subject toward a higher and in the other case, toward a lower inner freedom than he actually possesses. In conclusion, by combining the two scales, and by comparing a subject's relative position on both, we may possibly arrive at a relatively acquiescence-free estimate of his standing in terms of inner freedom. Such an estimate would in a way represent a secondary line of inquiry. Our principal hypothesis is that the two scales are significantly intercorrelated. This follows from our conception of the scales, namely that they do measure two interrelated attitudinal components of inner freedom.

Summary and Conclusion

The main objective of the present study has been to specify components of inner freedom and to describe methods by which they can be linked to behavioral observations under standardized conditions. We have emphasized the desirability of each component being linked to more than one method of measurement. This being the case, we would be in a better position to decide whether to reject a specific method or a conceptual hypotheses if empirical findings should go counter to our theoretical expectations. Altogether we have concentrated on eight components of inner freedom and suggested more than 20 methods for their empirical assessment.

We are postulating that the various components can be looked upon as "phenotypical" manifestations of inner freedom, that is to say, that they are all linked to a common hypothetical construct. We have not attempted to formulate any formal definition of inner freedom. We have dealt with the construct merely as an explanatory or 'bridging' term which connects measurable concepts but which is not in itself directly measureable. We do not believe this to be the final state of affairs. We believe further reductionistic explanations to be possible. On the other hand, we do also believe that inner freedom as a higher order principle of cognitive control or congnitive approach may serve an important function in its own right quite independent of more molecular levels of analysis. In any case, our theoretical discussion has provided a number of conceptual hypotheses which lend themselves to empirical study.

To summarize:

Conceptual component	Test	Response Characteristics
1. Ability to relax muscular attitudes and give in to bodily impulse	A. Kohnstamm reactivity test	a. An involuntary arm elevation on the basis of minimal prior reassurance and information.
	B. Respiratory movement test	a. Signs indicating unrestrained movements after the S has been asked to give in to spontaneous involuntary breathing
2. Ability to experience new and odd stimulus aspects contradicting conventional reality.	A. Aniseikonic lens test	a. Short recognition time for seeing distortions. b. Large amount of distortions seen.
	B. Apparent movement test.	a. Little reduction of alternation rate necessary before S sees alternations after having been familiarized with movements.
	C. Reversible figure test.	a. Short recognition time for seeing unconventional phase in reversible figures which differ markedly in terms of conventionality of their two phases.
	D. Concept constancy test	a. Short delay in disrupting one concept for another when attribute values are gradually altered

onceptual component	Test	Response Characteristics
3. Ability to cope with ambiguous stimuli	A. Rorschach Inkblot test	a. Rating scale based upon literalness of approach, concern of the reasonableness of responses, lack of variety of responses, and avoidance of associative elaborations (inverted scale) b. Sign scale based upon R, number of vague W, failures (neg.), FM, M, Sum C, F% (neg), W%, time spent with the cards, variety of determinants, reaction time generally and to the chromatic cards, and average time devoted to each response. c. High score on Holt's adaptive regression index: (DD x DE) /R where DD stands for defense demand, DE for defense effectiveness, and R for total number of responses; DD and DE being scored according to preestablished criteria. d. Answers to questions about how much the S enjoyed the test, how easy he found the test and how confident he felt toward his own responses.
	B. Free Association test	a. Large average length of response units. b. High productivity, many and large response units.
. Ability to tolerte unrealistic exeriences	A. Apparent movement test	a. High range of alternation rates giving rise to movement experiences in a situation where the S knows that no real movement takes place.
	B. Reversible figure test	a. High number of reversals seen when S is asked actively to hold back perceptual reversals.

nceptual component	Test	Response Characteristics
5. Ability to change mode of psychological functioning	A. Word association test	a. The number of unusual associations given under one condition(when such associations are called for) minus the number given under another condition (when unusual associations are discouraged)
	B. Apparent movement test	a. Large difference in alternation rate intervals giving rise to movement experiences when the S is instructed to assume a a passive vs. an active discriminating attitude toward the test
3. Ability to become hypnotized	A. Stanford Hypnotic Susceptibility Scale Form A	a. High scores on the scales as determined by standardized scoring criteria
	B. Stanford Hypnotic Susceptibility Seale Form C	a. High score on the scale as determined by standardized scoring criteria
'. Attitude of openness toward nonintellectual experiences	A. Experience inventory (40 item questionaire)	a. High scores on a newly constructed inventory based upon items developed by Shor, Aas and Lee
). Attitude of trust and confidence in eople and nature	A. Attitude scale (40 item questionnaire)	a. Low score on a shortened version of the Co-scale of the Guilford-Martin Personnel Inventory.

In our discussion of the different methods we have made several references to the results of earlier studies. Most of the methods have at least in one study been found to be significantly related to one or two of the other methods.

Consequently, a certain amount of empirical data do already exist as to the 'validity' of the methods and as to the interrelationship between the comceptual components delineated. On the other hand, the work being done so far in this area has been rather fragmentary and leaves a number of questions unanswered. Our survey has had as one of its objectives to point out some of these questions. In a broader perspective we have tried to develop a theoretical platform for further empirical inquiries concerning the concept of inner freedom.

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