



THE RORSCHACH AS A STIMULUS FOR
HYPNOTIC DREAMS:
A STUDY OF UNCONSCIOUS PROCESSES

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ABSTRACT

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by Richard J. Wiseman

A procedure for the investigation of dreams was described which utilized hypnotically induced dreams to the Rorschach Inkblots. Based on Freudian dream theory, specific predictions were made regarding the effects such dreaming would have on future Rorschach responses obtained in the standard manner. Theoretically, dreams are manifestations of anxiety-provoking impulses which, through the operation of the primary processes, find expression in the dream by utilizing "recent impressions" of the day. These impressions are thereby "drawn into the unconscious." Accordingly, it was hypothesized that the Rorschach, if used in the content of the dreams, would show evidence of having been drawn into the unconscious.

Two studies were conducted, the second a replication of the first, with additional controls. The experimental group was compared with a group that had no dream experience as well as a second control group consisting of Ss who faked hypnosis and faked dreams to the cards.

Hypotheses were supported that post-dreaming Rorschachs would contain a higher proportion of responses scoreable for primary process; that this increase would manifest itself in all scoring categories; and that the expressions would be more blatant or unsocialized. Furthermore, partial support was given to the hypothesis that there would be greater anxiety associated with the cards and that this would be manifested by a decrease in defense effectiveness and weakened ego controls. While the

experimental group had a lower Defense Effectiveness score, the effect on other ego functions (accuracy of form perception) was equivocal. These variables were evaluated by Holt's primary process scoring procedure.

An additional hypothesis was concerned with the differential effects of the cognitive and the dynamic aspects of the dream experience. It was found that relatively little of the effects could be accounted for on the basis of cognitive aspects.

It was concluded that the "Rorschach dream" procedure is a useful technique for the laboratory investigation of dreams. The present study is consistent with Freud's theory of the Dream-Work and specifically supports that aspect of the theory which formulates the relationship between the drive-dominated thought processes (primary process), which are characteristic of dreaming, and the dreamer's use of "recent impressions" as tools for the expression of unconscious wishes.

A relative lack of differences on the standard Rorschach categories as compared to the wide differences on the primary process variables was interpreted as evidence of the value of utilizing scoring procedures, such as Holt's, which are based on direct theoretical grounds.

Although the specific "Rorschach dream" material was not analyzed in detail for the present study, a section was included which discussed and described the nature of such dreams.

Approved Joseph Rayher
Committee Chairman

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The Rorschach as a Stimulus for Hypnotic Dreams:

A Study of Unconscious Processes

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Although psychoanalytic theory has been of unrivaled heuristic value in the area of personality, laboratory methods have not been developed for its proper evaluation. This is particularly true in regard to the investigation of dreams. Since the psychoanalytic theory of dreams is the primary embodiment of Freud's theory of unconscious processes, this situation is particularly unfortunate. It is the purpose of this study, therefore, to investigate the feasibility and applicability of hypnotically inducing dreams, using known stimuli (Rorschach Inkblots) as the dream material; to describe theoretically and empirically the nature of such dreams; and, to investigate specific hypotheses regarding the effect such dreams will have on future response processes to the Rorschach test.

Should dreams elicited in this way prove to be meaningful psychic productions which, in important ways, duplicate the spontaneous night dream, and behave in ways predictable from dream theory, then a potentially valuable tool is available for the investigation of unconscious processes.

One of the central assumptions regarding dreams is that they are manifestations of anxiety-provoking processes which, through the operation of a more primitive mode of thought (primary processes), are able to find expression by utilizing "recent impressions" of the day (Freud, 1938).

This basic assumption contains three separate, but interwoven postulates: 1) the dream is a manifestation of anxiety-provoking material; 2) the mode of thought characteristic of dreaming is the more

primitive "primary process"; and, 3) "recent impressions" or "residues of the day" are utilized as a tool for expression of the anxiety-provoking material. The subject matter and the hypotheses for the present study are drawn from this assumption.

Briefly, the Freudian theory of dreams states that an unconscious wish striving for expression is able, due to the mobility of its "cathectic energy" and through the operation of the primary processes, to transfer its energy to those day residues which have been "neglected, " "rejected" or "suppressed" and which, because of a "common element" become the most suitable for the symbolic representation of the particular dream thought. Thus "the hitherto preconscious train of thought has been drawn into the unconscious" (Freud, 1938, p530). These "recent impressions" thereby serve as the manifest content of the dream, having been drawn into the unconscious through association and thereby permit anxiety-free expression to the unconscious wish. In this sense the dream "relieves the mind, like a safety-valve" (p527). If the precise stimulus which served as the manifest content for the dream were known, post-dreaming measurement of the waking response to that stimulus could be obtained. It would follow from the above that future response to that stimulus would reflect evidence that it has been "drawn into the unconscious." Thus, future response to that stimulus would reflect the operation of the primary mode of thought and the effects of the anxiety-provoking nature of the dream material.

For the present study, the Rorschach Inkblots were used as the dream stimuli. The rationale for this is based on a number of considerations: 1) because of the relatively ambiguous nature of the blots, they are ideally suited to provide material which can be readily associated with unconscious impulses. As Schafer (1953, 1954) points out, the Rorschach response is like the dream process in that it, too, brings forth images from the unconscious; 2) the Rorschach scoring procedure

recently developed by Holt (1956, 1960a, 1960b, and Holt and Havel, 1960) provides a quantitative method for assessing the extent of primary process intrusion in the responses; and, 3) as a tool for measuring the anxiety-provoking aspects of the dream.

Specifically, therefore, if an individual were to dream about the Rorschach Inkblots, future response to the cards would be characterized by: 1) a high degree of primary process intrusion in the responses; and, 2) a greater degree of anxiety associated with the cards. Thus, the general hypothetical formulation is seen to be as follows: various aspects of the Rorschach Inkblots, because of their facility for bringing forth images from the unconscious, will be utilized as dream stimuli. In doing so, these stimuli become intimately associated with the mode of thought characteristic of dreaming and simultaneously associated with anxiety-producing material. Thus, in future response to these cards, this complex associative process will become reactivated such that the responses will be more drive-dominated and show other evidence of primary process intrusion. Furthermore, there will be greater evidence of anxiety and defenses against it. The expected manifestations of primary process and anxiety are discussed separately.

Primary process manifestations

Going on the assumption that all thought and perception is organized by drives to some extent, Holt (1960b) has devised a procedure for scoring the extent to which evidence of primary process is manifest on the Rorschach. Primary process responses are classified into two categories, Content Deviations and Formal Deviations, which are further subdivided into two levels depending upon the blatancy or social acceptability of the response. A response scored Level 1 implies that it is closer to the primary process end of the continuum. Whether primary process intrusion in a response is blatant or socialized depends to some extent on the adequacy of the control functions of the ego. Thus, previous

research has shown that schizophrenics and normals did not differ in amount of primary process but the schizophrenic responses were more blatant while normals were predominantly of the Level 2 variety (Zukowsky, 1961). Similarly, Ackman (1960) found that hypnotic and waking conditions differed most significantly in terms of Level 1 - Level 2 proportions with the latter characteristic of the waking state. Also, in both of these studies it was found that the greatest differences between the groups studied were found in the Formal Deviations category (see also Silverman, Lapkin, Rosenbaum, 1962). In other words, it appears that over-all content remains relatively constant and differences are found in the way it is defensively and adaptively modulated, controlled and structured.

In the present study, however, it would be expected that the increase in primary process will be reflected both in the formal and content aspects since dreaming to the Rorschach theoretically represents an activation of libidinal and/or aggressive content and does so through primitive formal mechanisms of thought. Also, since dreaming is considered to be a psychic phenomenon closest to the primary-process pole of the continuum we might expect that future responses to the cards would be predominantly of the Level 1 variety. However, since all Ss are presumed to be "normal" it is likely that many of the responses will be modified by secondary process such that they will be more socialized, i. e., more Level 2 responses.

The specific hypotheses regarding manifestations of primary process are as follows:

Hypothesis I: In comparison with a control group that has not had previous dream experience with the Rorschach, post-dreaming Rorschachs will contain:

A. A greater proportion of responses scoreable for primary process.

B. A greater proportion of Content Deviations.

C. A greater proportion of Formal Deviations.

D. A greater proportion of both Level 1 and Level 2 responses, although the majority will be of the Level 2 variety.

Anxiety manifestations

"Anxiety" is used in this paper in the strict psychoanalytic sense and refers to the results of the activation of an internal threat. It is defined as "the psychological mechanism whereby the current intensification of a dangerous drive results in the elicitation of defenses" (Rosenwald, 1961, p666). This definition does not presuppose an experience of anxiety. Rather, such an experience implies a failure of defense. Thus, anxiety and defense are inextricably bound and evidence of the latter is a reflection of the former.

Since, again, all Ss are presumed to be normal it is assumed that their defensive structure is adequate to guard against the induced arousal of anxiety-provoking material. However, such an increase in intensification of dangerous drives will, by definition, require the intensification of defensive measures. If, therefore, the hypnotically induced dreams do, in fact, activate or intensify drives there should be a corresponding intensification of defensive measures. Also, according to the economic aspect of Freudian theory of psychoanalysis, such an intensification of defenses would require an increased expenditure of energy leaving less available for other ego functions (Freud, 1949). Klopfer, Ainsworth, Klopfer, & Holt (1956), for example, attempt to graphically demonstrate that as the energy invested in ego-defense increases there is a corresponding decrease in the capacity for reality testing, until a point is reached where the ego has become so weakened that the defenses are no longer effective.

Eriksen (1954) has reported that people who are defensive characteristically distort their perception of stimuli which are associated

with the arousal of dangerous drives, and Schafer (1954) adds that the greater the danger, the greater is the distortion. Rosenwald (1961), utilizing this frame of reference, assessed the degree of anxiety about aggression by noting S's extremity of defensive distortion in response to an aggressive assessment stimulus.

On the basis of the foregoing, two further hypotheses are suggested:

Hypothesis II: In comparison with a control group that has not had previous dream experience with the Rorschach, post-dreaming Rorschachs will contain:

A. A greater distortion of form perception as reflected in the Form Level rating of each response. This will be particularly true in responses scoreable for primary process.

B. Less "effectiveness" of attempts at control and defense of primary process.

Holt's scoring system, in conjunction with Mayman's (1960) Form Level manual, provide a means for measuring these variables.

Method

The study is in two parts, consisting of a pilot and a replication study. The pilot study was undertaken for three reasons: 1) to investigate the feasibility of the procedure; 2) to test the basic hypothesis that hypnotically induced dreams to the Rorschach will result in an increment of primary process responses; and, 3) to develop further hypotheses.

A Pilot Study

Subjects and groups

Thirteen Ss who have had extensive, and approximately equal, hypnotic training with the investigator, were randomly divided into two groups. The experimental group consisted of six Ss, three male and

three female, who were given the Rorschach, under standard waking conditions, approximately one week after they had hypnotically produced dreams to each of the cards. The control group consisted of seven Ss, two male and five female, who were given the Rorschach, under standard waking conditions, prior to their dream productions. The ages ranged from 18 to 26 for the control group, and from 20 to 29 for the experimental group. The mean ages of 21.0 and 23.8, respectively, are not significantly different.

The only hypnotic criterion utilized for including an S in the study is his own subjective report that he is able to experience what he believes to be a dream. Most of the Ss were able to experience a total hypnotic amnesia, but it was necessary to include some in whom the amnesia had broken down to some extent. Since amnesia is often considered a criterion of depth of hypnosis, this means that all Ss were not equally deeply hypnotized. However, a careful check was maintained so that an equal number of each was assigned to each of the hypnotic conditions. These considerations were based solely on the practical difficulty of obtaining a sizeable number of persons who can experience total hypnotic amnesia. Since the more deeply hypnotized an individual is, the more likely his dreams will take on a symbolic quality (Mazer, 1951; Brenman, Gill & Knight, 1952), and consequently more use of primary process, the use of non-amnesic Ss would tend to work against the hypotheses of the study. Also, since suggestions for amnesia were not utilized in this study it was not considered an essential criterion.

Pre-experimental Hypnotic Training

During the pre-experimental hypnotic conditioning sessions, each hypnotic S was given extensive experience with dream production. A technique developed by Wiseman and Reyher (1962), which utilizes a series of dreams to deepen the hypnotic trance, was used for this purpose.¹

Experimental Procedure

For the experimental session in which dreams were induced, the following procedure was followed: after S was hypnotized the suggestion was given to have three dreams. He was then given the following instructions:

Now you are going to have another series of dreams. This time I am going to help you with your dreams in this way: I am going to tell you to open your eyes and you will be able to do so without awakening in the slightest (Ss will have had considerable experience in performing various tasks under hypnosis with their eyes open). When your eyes are open I am going to show you a card on which is a design made out of ink blots. I'll let you look at it for about five seconds and when I say 'close your eyes' that will be a signal for you to close your eyes and have a dream about that card. You will find that you won't have to think about it because the dream will occur spontaneously. Also, the dream will be very vivid so that you can recall it and tell me about it. You may either tell me about it as it occurs, or you may wait until the dream is over. In either case you will be able to do so without awakening in the slightest. Each time you experience a dream, you will raise your right hand, leaving it raised until the dream is over. Also, after you have reported each dream I will say 'relax for a moment' and you will be able to return to a deep sleep and enjoy the opportunity to relax while your mind will seem to go blank.

Following the verbal report of the dream, which was recorded on tape, S was told to 'relax for a moment' and 'sleep deeply' until the next card.

During another session, approximately one week later, the experimental Ss were administered the Rorschach in the standard manner

described by Beck (1950). No attempt was made to follow the extensive inquiry procedure suggested by Holt (1960b) for eliciting further primary process manifestations.

Results

Analysis of the data. The Rorschach protocols were first scored in accordance with Beck's (1950) tables. All responses were then given a Form Level rating in accordance with the manual organized by Mayman (1960). In addition, all protocols were rescored for animal movement (FM) and inanimate movement (m) as described by Klopfer, et al (1954). Finally each response was evaluated for the intrusion of primary process in accordance with Holt's (1960b) manual.

The best published account of Holt's procedure can be found in Rickers-Oversiankina (1960). Briefly, however, evidence of primary process thinking may be found in either the content of a response or in its formal qualities. The content of a response is concerned with ideational drive representations which may reflect drives with libidinal aims (oral, anal, sexual, exhibitionistic-voyeuristic, and homosexual) and/or drives with aggressive aims (potential, active, or results). Each of these is further subdivided into two levels depending upon the blatancy or social acceptability of the response. Thus, Level 1 responses include unsocialized, relatively blatant expressions while Level 2 are the more socialized, less extreme, relatively mild or acceptable responses that are still tinged with primary process. An over-all Defense Demand (DD) is also given for each response with primary process elements. This rating represents an extension of the "blatancy" dimension and is an estimate of the need for some defenses or controls to make the response an acceptable communication. The rating is from one to six with the higher the rating, the greater is the need for controls. Some examples of the scoring are as follows:

Level 1 Sexual: "Female organs" (DD: 4)

Level 2 Sexual: "Two people kissing" (DD: 1)

Level 1 Aggressive: "A murdered man, blood all over." (DD: 4)

Level 2 Aggressive: "Two people fighting" (DD: 2)

The formal qualities refer to the perceptual organization of the response; to the thought processes underlying it; and to the language in which it is verbalized. Examples of these include: use of autistic logic, condensation, affective or logical contradiction, and symbolism. In addition to scoring for expressions of primary process, the system also provides a means of assessing the adequacy or inadequacy of various attempts at control and defense. Thus, an over-all measure of Defense Effectiveness (DE) is obtained.

Although Holt defines a primary process response as any response containing one or more aspects scoreable for primary process, the present study has adapted the procedure utilized by Ackman (1960) in which a ratio is found by dividing the total number of primary process scores by the total number of Rorschach responses (R). Thus, a single Rorschach response may contain a number of scoreable elements. Each element thus contributes to the final score. The following primary process scores for each group were compared:

Form Level: A quantitative rating on form accuracy. This system, devised by Mayman (1960), breaks down perceptual accuracy into eight categories, ranging from well elaborated and integrated perceptions (F+), to the more arbitrary forms (F-). Holt (1960b) has quantified these categories. The scores may range from +4 (F+) to -3 (F-). The Total Form Level score is the ratio of the sum of the positive values to the total sum of the values.

Primary Process Form Level: The same as above; only for responses scoreable for primary process.

Total Primary Process: The number of scores given for either content or formal aspects of primary process, divided by the number of responses (R).

Content: The total of all elements given a libidinal or aggressive content score, divided by R.

Formal: The total of all elements scoreable for formal deviations, divided by R.

Libidinal: The total of all elements scored for libidinal content, divided by R.

Aggressive: The total of all elements scored for aggressive content, divided by R.

Level 1: The total of all elements, either in content or in formal aspects, rated as relatively extreme in blatancy of expression.

Level 2: The total of all elements, either in content or in formal aspects, rated as less extreme or relatively mild and acceptable expressions of primary process.

Mean Defense Demand (\overline{DD}): The average score for Defense-Demand; a quantitative rating of the social unacceptability of a response as a communication, and thus of need for some defenses or controls to be used. The higher the score, the greater is the need for controls.

Mean Defense Effectiveness (\overline{DE}): The average rating of Effectiveness of Defense; the adequacy with which Defense-Demand is met by control of the primary process elements of a response. The higher the score, the less effective are the controls.

Scorer reliability for primary process variables. All 13 protocols were rescored by a second rater.² Three of these were used for training purposes and the remaining 10 were scored independently. The Spearman Rank-difference Correlation method (Guilford, 1956) was used to assess scorer reliability. The following reliability correlations were found for the various primary process variables: Total Primary Process (.99);

Content (.97); Formal (.79); Libidinal (.99); Aggressive (.89); Level 1 (.54); Level 2 (.98); Mean DD (.91); and Mean DE (.61). Only Level 1 does not meet the requirement of significance at the .05 level. This score is based on relatively few elements and thus small differences are highly magnified. Since Defense Demand is a further refinement of the Level 1 - Level 2 dimension, and is scored for all primary process elements, it may be considered as a more accurate estimate of the relative "blatancy" of the responses.

Analysis of the results. The Mann-Whitney U Test (Siegel, 1956) was applied to the obtained primary process scores and form level ratings. The group means and exact probabilities for the differences between the experimental and control groups, on each of the variables, are reported in Table 1.

 Insert Table 1 about here

An inspection of Table 1 clearly reveals that the Rorschach protocols administered following the hypnotic dreams contain a significantly higher proportion of primary process manifestations than the control group. This substantial increase manifests itself in all scoring categories, with the possible exception of Formal Deviations, and thus gives support to hypotheses IA, IB, and ID. Hypothesis IC, relative to the formal category, is not supported by the data. In addition, the Mean Defense Demand (\overline{DD}) is significantly higher for the experimental group, indicating that the increased primary process intrusion is also more blatant.

Since the extent of primary process on the Rorschach is considered to be a measure of the degree to which thinking is organized and compelled by libidinal and/or aggressive drives (Holt, 1960b), there is support for the hypothesis that hypnotically induced dreams activate drive material.

These encouraging results take on added significance in view of the findings of other investigators who found little differences in terms of Total Primary Process when comparing schizophrenics vs. normals (Zukowsky, 1961), highly creative vs. randomly selected art students (Cohen, 1960), hypnotized vs. waking conditions (Ackman, 1960), and protocols given before and after Thorazine treatment of schizophrenics (Saretsky, 1961).

According to the second major hypothesis, it was expected that defensive efforts to control the intrusion of primary process would be less effective, i. e., higher mean DE, for the experimental group. This hypothesis (HIIB) is again strongly supported by the data (Table 1). On the other hand, hypothesis HIIA, relative to Form Level, is not supported by the data.

In view of the many significant differences in primary process manifestations, it is reasonable to expect that some of the standard Rorschach categories would also reflect the influence of the dream experience. Thus, the Mann-Whitney U Test was also applied to most of the major Rorschach scoring categories. These included:³ W%, F+%, Extended F+%, M%, FM + m%, S%, A%, H%, R, P%? L, Y%, and T/lr. Table 2 presents the group means as well as the exact probabilities for each of these variables, when comparing the experimental and control groups. Since specific hypotheses were not made, all probabilities listed are for a two-tailed test.

 Insert Table 2 about here

It can be seen that the experimental group has a significant lower F + %, a higher FM + m%, a higher M%, and a higher S%. No other standard Rorschach variable was found to differentiate the groups.

Discussion

It was one of the stated purposes of the pilot study to investigate the feasibility and applicability of hypnotically inducing dreams to the Rorschach Inkblots. The feasibility of this technique was established beyond doubt, for in no case did a hypnotized S indicate that he was unable to experience a dream to all of the Rorschach cards. The nature of this experience, when compared to normal, spontaneous dreaming, varied from subject to subject. Some Ss, in describing their experience, reported consciously forming an image suggested by the blot, and then passively observing that image's activity. Others described it as "like watching a movie," while still others considered it to be a very real dream-like experience in which S was actively involved. A more detailed description of these experiences will be given in the final discussion section. For the present, however, a few examples will suffice to acquaint the reader with the nature of the dream material.

1). Female, age 22, Card IV: I see these thousands and thousands of ants crawling over the whole earth. They are eating up everything and everyone in their path. I'm just kind of standing by watching it--as if I'm looking down on the earth. I don't feel frightened--but just pity; all that destruction and everything.

2). Female, age 22, Card I: Well--it was there--there were a lot of people--and we were having a picnic. There's a fire there--and--we can hear the waves--and there's a fire going and we're trying to cook. And there's these birds that come and they come in on us while we're there--with their wings--their wings are beating and they just won't go away. Somehow or other there's no one there but myself now. I keep trying to fight the birds off--the bird--there's only one. It keeps coming in. His wings are spread out and--he keeps coming back. He won't go away. I keep trying to--to push him away, chase him away, but he won't--

and there's more birds that come and they keep coming in.

I finally just run away--crying.

3). Male, age 20, Card VI: This is the skin of an animal.

I'm nailing it on a board. It has a funny projection on it up front.

Cutting it off. Must be a fur animal cause I'm nailing it to a board

as if I want to keep it. Hanging it on the side of the house. Seems

to be a catskin though. But why would I want to skin a cat? I don't

like cats! Oh, I remember now! I killed it--and I skinned it.

The hypothesis that having experienced such 'dreams' prior to their standard Rorschach administration would heighten the intrusion of primary process on subsequent testing, was clearly supported by the data. It would appear, therefore, that the 'dreams' were meaningful psychic phenomena and, as suggested by Freudian theory, utilized the blot elements in a manner similar to the function of "day residues."

Any interpretations of the present data, however, must be considered highly tentative, for other explanations are possible. Since these data were collected by the author it raises the question of possible cues given to Ss to respond in a way pleasing to the investigator. Orne (1959) and Weitzenhoffer (1960a, 1960b) have presented evidence that hypnotic Ss are particularly 'cooperative' in this respect. Even the dreams themselves must be suspect. Various authors (Alexander & Wilson, 1935; Ehrenwald, 1950; Stekel, 1943) have suggested that an S's dreams very often reflect the favorite hypothesis of the therapist. That such factors may have influenced the present findings is quite possible. It is necessary, therefore, to take all possible precautions to prevent such an occurrence. An alternative procedure would be to have a second experimenter do the standard Rorschach administration. This, however, presents a dilemma, for in all probability, this would so alter the dream-stimulus situation as to wash out many of the predicted effects. That is, it is entirely likely that when asked to dream to each of the cards, aspects of the total

environmental milieu will play some part. Not only the Rorschach card, but various stimuli in the room including the examiner and his relationship to S may well be part of the "residue" influencing the dream. Thus, keeping the total stimulus complex the same for both sessions would tend to maximize the effects of the dream experience. Also, as Farber and Fisher (1943) have found, S's interpretations of their hypnotic dreams were much more conventional when given to an investigator other than the hypnotist. This would suggest that if post-dreaming Rorschachs were given by another E, S would be less inclined to report libidinal or aggressive associations.

To guard against unwittingly influencing S's responses, therefore, the following precautions were observed for the replication study:

1) group assignment was made immediately prior to the first experimental session. Thus, any conversation between E and S during the hypnotic conditioning sessions would have a random effect; 2) each session was tape recorded and such recordings submitted to judges to evaluate the extent to which E's instructions, tone of voice, and manner may differentially influence S. Such a 'superego' also tended to keep E on guard in providing comparable sessions for the experimental and control groups.

Another possible explanation of the present findings may be found in the nature of the experimental instructions. Ackman (1960) instructed her Ss to give "fantastic" responses to the Rorschach with the result that there was an increase in responses scoreable for Formal Deviations. The instructions to "dream" to the cards has a similar cognitive implication which might induce a "set" to give more deviant responses. In order to control for this possibility, a second control group would be necessary consisting of Ss who, like the experimental group, would be asked to "dream" to each of the cards but who would be simulating hypnosis.

The results of the analysis of the standard Rorschach variables again indicates that the prior dream experience significantly influenced Ss' response to the Rorschach cards. The question may still be raised, however, as to what aspects of the dream experience can these differences be attributed. Two possibilities suggest themselves: 1) If, as hypothesized, the dreams activated drive material in association to the cards, the differences may be attributed to an increase in anxiety or defenses against it. 2) On the other hand, certain categories may be expected to differ between the groups simply because one group had previously responded to the cards in a rather unique way while the other group had no previous experience to the cards. That is, the dream may be considered as a cognitive activity (Hall, 1953a, 1953b, 1953c) and the differences attributed to the given "set" to respond to the blot as a whole and in a more 'active' mode. The increase in M as well as the tendency for an increase in R and W% support this possibility.

On the basis of the data from the pilot study, however, it is impossible to determine, with any confidence, which of these possibilities contributes to the differences. The "faking" control group mentioned above would provide the possibility of assessing the differential effects of the cognitive and dynamic aspects of dreaming.

Summary

The feasibility of hypnotically inducing dreams to the Rorschach Inkblots was established and the hypothesis was supported that such an experience significantly heightened the intrusion of the primary mode of thought on later Rorschach protocols. Possible explanations were offered and appropriate controls suggested, but conclusions were reserved for further research. The replication study which follows contains these controls.

The Replication Study

In addition to obtaining cross-validation data, a second control group was included consisting of Ss who were instructed by a second E to fake hypnosis. This group received the same treatment as the experimental group. All hypotheses of the pilot study were retained and were considered relevant to the faking control group. Because of the wide differences on the standard Rorschach categories found in the pilot study, and for the reasons previously mentioned, the faking control group was expected to further differentiate those aspects of the prior dream experience which can be attributed to dynamic factors from those attributed to cognitive factors. Specifically, the following additional hypotheses were investigated:

Hypothesis III:

A. Due to the anxiety-provoking nature of the dreams, certain Rorschach categories will differentiate the experimental group from either of the control groups.

B. Due to the cognitive aspects of the dream, certain Rorschach categories will show no difference between the experimental and faking control groups but both will differ from the non-dreaming control group.

Subjects and groups

Twenty one persons who had volunteered for research involving hypnosis were used in the present sample. A third of these Ss were selected randomly to 'fake' hypnosis and "try to fool" the investigator by "doing whatever you think you would do if you were hypnotized." The 14 remaining Ss who actually underwent hypnosis were again randomly divided into the experimental and control groups as in the pilot study. The ages ranged from 18 to 35 for the experimental group, 19 to 33 for the first control group, and from 18 to 26 for the faking control group. The mean ages of the groups are not significantly different.

In a previous experiment utilizing 'faking' Ss as controls (Reyher, 1960), Ss were used who had previously been hypnotized by the present author. At a given point in the proceedings the experimenter left the room and a co-experimenter entered and instructed S, unknown to the experimenter, to either (1) awaken from the hypnotic trance and continue the experiment by 'faking' hypnosis; or (2) continue 'sleeping'. When the original experimenter returned and continued with the experimental instructions, some of the 'faking' Ss spontaneously returned to the hypnotic state. For this reason it was felt that it was necessary to use Ss who had not previously been hypnotized by the experimenter.

The ideal procedure, as suggested by Orne (1959), is the "double blind" design in which the experimenter does not know whether or not S is actually hypnotized or simulating hypnosis. Test results are similarly scored without knowledge of S's condition, and by a person other than E. Because of the unavailability of personnel qualified to perform the lengthy hypnotic training, or experienced in the Holt scoring system, this procedure was not feasible at the present time. However, an alternative solution, utilized in the present study, is as follows: As Ss volunteered for hypnotic research, certain ones were randomly contacted by a second E who gave S instructions for faking hypnosis. When S arrived in the experimental room at a future date, E simply said: 'I understand that you have been working with Dr. R. with hypnosis and that you have now become conditioned so that when I count to 10 you will be deeply hypnotized.' When S has acknowledged this a trial hypnosis was performed and S was told to "sleep" for a short while. Like the hypnotized Ss, the faking Ss then participated in four experimental sessions, of another unrelated experiment, of approximately one and a half hours each, after which Ss were asked to come back for two more sessions to participate in the present study. Since the author conducted all the hypnotic and experimental sessions for both of these studies there was

considerable contact with both faking and hypnotic Ss prior to the present study.

The question may be raised as to possible differences in 'hypnotizability' between the hypnotic and faking Ss, which may account for differences in experimental findings. However, in over two years of experience in hypnotic research with volunteer Ss, approximately 80-85% have been able to reach criterion necessary for this study. Thus, since faking Ss were chosen from these volunteers it is reasonable to assume that, if hypnotized, most of them would be able to reach criterion.

Experimental Procedure

The procedure followed was identical to that of the pilot study with the exception that each session was tape recorded for evaluation of possible verbal cues, or E's manner of presenting the instructions, which might bias the results. Instructions were standard and extraneous conversation was kept to a minimum. The inquiry section of the Rorschach, however, demands greater variability on the part of E, even though it was kept to a minimum necessary for clarification of the response. It is here that examiner bias is most likely to be expressed. In order to evaluate this possibility, three judges⁴ listened to the recordings of the inquiry and rated 50 different random verbal interactions between E and S. To make this rating, the judges were told to assume that E was trying to bias the results, wittingly or unwittingly, by encouraging more verbalization on the part of the experimental Ss, and consequently creating a greater probability of obtaining deviant responses; or by the tone of his voice trying to encourage or discourage aggressive or libidinal responses. Thus, each statement was rated as either positively influential or encouraging, neutral, or inhibitory. The judges did not know whether the recordings were of experimental or control Ss. A comparison of the ratings given to the experimental and control Ss revealed an almost identical pattern. The only difference, in fact, was that slightly more

inhibitory ratings were associated with experimental Ss. Each judge's over-all evaluation was that E was consistent in his treatment of all Ss.

During the testing, E sat to the side and slightly behind S, so as to minimize the possibility of giving visual cues.

Results

Again the Mann-Whitney U Test (Siegel, 1956) was used to compare the experimental and control groups on each of the variables investigated. Table 3 presents the results of this analysis on the primary process variables. Also included are the combined probabilities for independent samples as proposed by Jones and Fiske (1953).

 Insert Table 3 about here

As indicated in Table 3, the findings relevant to the primary process variables are in essential agreement with those of the pilot study. When the probabilities from each of the samples are combined, each of the primary process variables was found to differentiate significantly between the experimental and control groups. While in the pilot study it was in the Content categories that the increase in primary process was most evident, the Formal categories showed the major increase in the replication sample. In both cases, however, both Formal and Content scoring categories were proportionately higher on Rorschachs preceded by the dream experience. Thus, support is given to hypotheses IA, IB, IC, and ID.

The findings relative to hypotheses IIA and IIB are again consistent with those found in the pilot study. Strong support was given to the hypothesis that the experimental group would evidence less effectiveness in their defensive efforts to control the intrusion of primary process (IIB). Also, hypothesis IIA again failed to receive support in that Form Level did not differentiate the groups.

Thus far, the comparisons made have been between the experimental and first control group. It may still be argued that the differences found can be attributed to the fact that the experimental group had previously responded to the cards, with rather unique instructions, while the control group had no such opportunity. In order to evaluate this possibility, the experimental group was also compared with the faking control group who had been given the same prior instructions. The results of this analysis are presented in Table 4.

 Insert Table 4 about here

An inspection of Table 4 reveals that, although the results are in essential agreement with the previous findings, they are not as clear-cut. That is, while Total Primary Process is significantly higher for the experimental group, the differences do not obtain significance in all of the sub-categories. However, a comparison between the first control group and the faking control group (Table 5) indicates that the only significant difference is in the Level 1 category.⁵ It will be recalled that this particular category had a very low scorer reliability. In addition, the fact that Mean Defense Demand did not differentiate between the control groups would tend to vitiate this finding. The conclusion, therefore, is that the instructions and the fact of previous contact with the cards, only minimally effected the results and cannot alone account for the high proportion of primary process manifestations of the experimental group.

 Insert Table 5 about here

The results of the comparison between the experimental and first control group, on the standard Rorschach categories, is again consistent with the findings of the pilot study with one exception: the combined

probabilities indicate that the experimental group has a significantly lower F + %, a higher M%, and a higher FM + m%. The previous finding of a higher S% for the experimental group was not supported by the replication data. However, comparisons between the experimental and the faking control groups reveals no significant differences among any of the standard categories, nor are any differences found between the two control groups. Only M% and FM + m% showed a tendency to be higher for the faking control group over the first control group. It would appear, therefore, that the differences found cannot be solely attributed to the nature of the dream experience, nor to the instructional "set", but rather, to a combination of both. Thus, neither hypothesis IIIA nor IIIB were clearly supported by the data.

Discussion

The findings of the present study supports the hypothesis that use of hypnotically induced dreams to the Rorschach Inkblots is a meaningful laboratory procedure for the investigation of dream theory. The focus of the present study was primarily on the nature of the thought processes involved in dreaming. It was found that when Ss who had previously been instructed hypnotically to 'dream' to each of the cards, were later asked to respond to those cards in the standard manner, such responses contained a high degree of libidinal and aggressive connotations as well as numerous formal manifestations of primary process. When the protocols of these Ss were compared with protocols of Ss who did not have this previous dream experience, but who had had equal previous hypnotic experience, the differences were extreme. Thus, in the replication experimental group, the S with the lowest proportion of Total Primary Process was still higher than the highest of its comparable control group. That is, there was no overlap between the groups on this measure. This difference was maintained, moreover, though to a lesser extent, even when a second control group, whose members simulated hypnosis

and faked dreams to the cards, were given the identical instructions as the experimental group. It would appear, therefore, that the high degree of primary process in the experimental protocols, cannot be accounted for in the nature of the instructions, or 'hypnotizability', or on the conscious efforts of Ss to please the experimenter.

In addition to a greater degree of primary process manifestations, it was also found that such expressions were more blatant or less acceptable as a social communication.

These findings are in direct support of the first major hypothesis of this study which was derived from the Freudian theory of dreams. The importance of these findings lies in the fact that the concept of primary process plays a central role in the theory of dreams. In fact, it was in Freud's attempt to understand the language of the dream that the primary-secondary process formulation was developed. It was developed to describe the process by which the unconscious wish finds expression in the dream and it required a conceptualization of thought processes that differed from the logical, orderly manner of thinking of normal, waking life (secondary processes). Thus, the primary process was conceptualized as a primitive mode of thought, dominated by libidinal and aggressive drives, and characterized as alogical, timeless, with free mobility of cathexis, and whose aim was the immediate and direct gratification of the wish. It is through the operation of this primitive mode of thought that the unconscious wish is able to transfer its cathectic energy to "recent impressions" of the day which are associatively linked, and thereby give expression to the wish in the form of the dream. Thus, in dreaming to the Rorschach, various aspects of the blot are utilized to form the content of the dream. That later response to these blots showed evidence of a high degree of drive-related imagery and fantasy, earmarks of primary process, suggests that the blot elements have become "cathected" with the mobile energy of the unconscious drive, and thereby supports this aspect of the Freudian theory of dreams.

The second major hypothesis of this study was concerned with that aspect of the theory which states that the dream is a manifestation of anxiety-provoking material. Accordingly, it was hypothesized that post-dreaming Rorschach protocols would show evidence of the effects of anxiety-arousal in association to the cards. To evaluate these effects it is again necessary to note the high degree of primary process derivatives in the protocols of the experimental group. Such a domination by drive impulses implies either, "1) that there is a weakening of ego controls over impulses such that these impulses break through in ego alien and/or maladaptive ways, or 2) that drive energies have been sufficiently 'neutralized' to be used in productive ideational activity rather than solely in the direct pursuit of libidinal and aggressive aims" (Pine, 1960, p32). In order to evaluate which of these possibilities plays the more important role, it is necessary to look at the manner in which primary process is expressed and controlled. Thus, the question is asked: Is the heightened intrusion of primary process accompanied by relatively ineffective defensive activity and weakened ego control? If it is, then the first possibility is suggested, and the inference is made that the weakened ego controls are a result of increased anxiety in association to the cards. Hypotheses IIA and IIB are relevant to this question. An inspection of the data pertinent to these hypotheses, however, is equivocal. Hypothesis IIB is supported in that the experimental group did evidence a significantly lower mean DE score, indicating that the primary process was less effectively defended. Also, a lower F+% for the experimental group suggests a weakened ego control (Korchin, 1960; Rapaport, Gill & Schafer, 1946). However, when the quality of form level was measured by Mayman's more inclusive procedure, little appreciable difference was found between the groups. This was particularly true when only responses scored for primary process are considered. Yet, it was this latter variable which other investigators

(Cohen, 1960; Zukowsky, 1961) found most clearly to differentiate their groups.

A possible explanation for this discrepancy lies in another aspect of the psychoanalytic theory of dreams. On the one hand, dreams are manifestations of anxiety-provoking material. On the basis of this it was predicted that there would be evidence of a weakening of ego controls due to the intensification of defenses against anxiety. On the other hand, dreams serve to provide discharge of the instinctual drives and therefore represent a gratification or "wish fulfillment." Accordingly, the heightened intrusion of primary process in the protocols of the experimental group could be interpreted as indicating that the drive energies have been sufficiently neutralized by the dream experience so that they can be used for productive ideational activity. If this were the case, it could be expected that ego controls would remain adequate in the face of increased primary process intrusion. The non-differentiating primary process form level score supports this speculation.

To summarize the present argument: a heightened intrusion of primary process responses is predicted from the Freudian theory of thought mechanisms involved in dreaming. This prediction was given strong support by the data. The manner in which this intrusion is controlled would depend upon whether the dream neutralized the drive energies or whether the dream, in activating drive impulses, elicited anxiety to the cards. It was the latter possibility that was predicted for the present study (Hypotheses IIA and IIB). Although this hypothesis cannot be totally rejected by the data, neither does it give confident support. It is possible that both aspects of dreaming play some part, perhaps differentially from S to S. Thus, while all the experimental Ss gave a high proportion of primary process responses, the quality of their form level varied greatly. It could be that those Ss of the experimental groups who showed good ego control in the presence of primary process

experienced some gratification from their dreams, and were thus less threatened by the reassociations. Conversely, Ss who showed relatively poor ego control in the presence of primary process, could have experienced a partial failure of the dreamwork such that their dreams were more anxiety laden. Although no attempt was made, in the present study, to analyze the dream material, future research might well be aimed in that direction and possibly give clarification to the above questions.

In view of the highly significant differences on many of the primary process variables, the relative lack of differences on the standard categories is somewhat surprising. Only three, $F+\%$, $M\%$, and $FM + m\%$, significantly differentiated the experimental from the non-dreaming control groups. The differences on $F+\%$, moreover, are somewhat vitiated by the failure of the extended $F+\%$ and the over-all Form Level score, both of which take into account the form quality of all responses with a form element. While none of the standard categories differentiated between the experimental and the faking control group, the latter group also had a higher $M\%$ and $FM + m\%$ than the non-dreaming control groups. This finding is consistent with Hypothesis IIIB and suggests the influence of the instructional "set". The higher $M\%$, particularly, has reasonable face validity. As a cognitive experience, dreaming--as well as faked dreaming--involves the activity of persons and things. Having experienced this association to the cards, the most parsimonious explanation of the increase is that a 'movement set' has been elicited. Any other explanation, in terms of dynamic implications of the movement response, must be subsidiary to this.

The increase in $FM + m\%$, however, may be more dynamically significant. Klopfer, et al (1954) hypothesize that m "expresses an awareness of conflict which might exist either between different impulses within the personality, or between the impulses of the individual and some

frustrating forces in his environment. The awareness serves as a 'warning system' against seeking immediate gratification for such impulses" (p579). Also, FM is hypothesized as indicating the presence of instinctual "impulses for immediate need gratification" (p578).

On the basis of these hypotheses, the greater percentage of FM and m responses in the experimental groups would support the hypothesis that dreaming to the cards has activated drive impulses and conflict regarding the need for gratification. The fact that the faking control group also had a greater percentage (although not significant) of FM and m responses would indicate that, to a lesser extent, the faked dreams had a similar effect.

This latter assumption is further supported by the fact that, although the faking group was significantly lower in over-all primary process, it was more similar, in all respects, to the experimental groups than was the non-dreaming control groups. This is consistent with the notion of levels of psychic functioning expounded by Schafer (1954) and Bellak (1954) in which dreams are placed on the "primitive" end of a continuum with purposeful visualizing and then normal perceiving as more advanced levels. This continuum corresponds to the primary--secondary process continuum. Thus, faked dreams would fit somewhere in the middle of this continuum with dreaming and normal perceiving on the extremes. The point is again emphasized that dreaming hypnotically to the cards is a meaningful phenomenon, different in predictable ways from faked dreams, and consistent with expectations drawn from dream theory and the theory of thought processes.

The fact that hypnotic dreaming, while significantly heightening the intrusion of drive-related imagery and fantasy, resulted in relatively few differences on the standard Rorschach categories, raises a number of questions. If, as predicted, the dreaming resulted in anxiety-provoking associations to the blots, it could be expected that indices of

anxiety would be evidenced in the standard scoring categories. . But which standard Rorschach signs are evidence of anxiety? A review of the research literature is not much help mainly because of the vast differences in definition of 'anxiety' and the variety of criteria used to assess it. Some studies have attempted to experimentally induce anxiety by giving S an electric shock (Eichler, 1951), ego-threatening instructions (Kates & Schwartz, 1958), or hypnotic suggestions (Levitt & Grosz, 1960). . Numerous studies have attempted to find Rorschach correlates of manifest anxiety (Goodstein, 1954; Holtzman & Iscoe, 1954; Westrope, 1953), while others have utilized a real-life stress situation to assess anxiety, such as admission to a tuberculosis hospital (Berger, 1953), or patients about to receive gynecological surgery (Klatskin, 1952). . Rosenwald (1961) has criticized these approaches to the assessment of anxiety and, instead, used S's own "built-in" predisposition to become anxious as a result of drive arousal. This procedure was found to be very effective and consistent with theoretical expectations. Similarly, Reyher (1962) has criticized the use of direct hypnotic suggestion to induce anxiety and has recommended instead the induction of a process which is capable of producing spontaneously a variety of manifestations of anxiety.

It was felt that the present procedure could also be considered a 'built-in' anxiety-arousing situation. That is, to the extent that dreams are manifestations of anxiety-provoking material, differences on post-dreaming Rorschachs could be considered indices of anxiety. The general lack of consistent differences and the conflicting findings regarding form level, reflects the complexity of this problem. It was suggested earlier that perhaps an analysis of the dreams themselves may help throw light on this problem. If it were shown that the dreams which evidenced 'successful' dreamwork as compared to those evidencing a 'failure' of the dreamwork, differed with respect to various Rorschach signs, then such signs could be taken as evidence of 'anxiety signs' based on empirical

data. Should such research prove fruitful, a further step could be to analyze the resulting defenses against anxiety when dreams with aggressive connotations are compared with those with libidinal connotations.

A further question raised by the findings concerns the relative validity of each of the scoring systems used. As noted by many investigators (Beck, 1950; Lkopher, et al, 1954; Schafer, 1954), the scoring system for the Rorschach has no single theoretical basis. The confusing, frequently contradictory, often negative findings based on standard Rorschach signs, bears witness to this uncomfortable fact. The Holt primary process scoring system, on the other hand, is a direct outgrowth of psychoanalytic theory. Each operation, each scoring category, is based on specific theoretical grounds as well as clinical experience. It is not surprising, therefore, that even before his final draft has been completed, the system has gained impressive research support (Ackman, 1960; Cohen, 1960; Pine & Holt, 1960; Saretsky, 1961; Silverman, Lapkin & Rosenbaum, 1962; Zukowsky, 1961).

As mentioned earlier, a possible argument against the conclusions of the study could be made on the basis of examiner bias. An attempt to control this factor was made by submitting the taped recordings of the Rorschach inquiry and instructions to three judges. The judges agreed that, on the basis of verbal cues, tone of voice, and manner of presentation, there was no evidence of differential treatment to the groups. However, more subtle, non-verbal cues may still be considered influential. The possibility of such an influence was not fully controlled in the present study. It seems highly unlikely, however, that the wide differences and high consistency of the findings, particularly those relative to the primary process variables, could be accounted for on this basis. The fact that E sat to the side and slightly behind S during the testing, minimizes the possible effects of visual cues. Had E attempted to influence S, it is still not likely that Ss would have responded in the consistent manner

found in this study. Carp and Shavzin (1950) did attempt to influence their Ss. They found that Ss were clearly influenced, but in such an inconsistent manner that the effects balanced out in statistical analysis.

Dreaming, Rorschach Response Processes, and Hypnotically Induced Dreams to the Rorschach

Although it is not the purpose of this study to analyze intensively the hypnotic dream material obtained, a brief description of the nature of this rather unique kind of response to the Rorschach would be appropriate. Possibly the best way to describe the 'Rorschach dreams' would be to compare them with the dream process and the Rorschach response process, using examples whenever possible. It will be the purpose to attempt to demonstrate that the 'Rorschach dreams', while differing from either of these processes, maintains certain important features of both.

In an extensive analysis of the similarities and differences between dreams and Rorschach responses, Schafer (1954) concludes that: "by virtue of its spread along the dreaming-perceiving continuum, the Rorschach response may and often does simultaneously bear the imprint of primitive, unrealistic, unconscious processes and articulated, realistic conscious processes. In the former respect, Rorschach responses may depart greatly from ordinary percepts, and in the latter respect from usual dream images" (p92).

Rose Palm (1956) makes a similar comparison between the Rorschach response and the dream. She argues that in the dream the ego relaxes its process of thinking and reality appraisal and the individual regresses to a level of psychic functioning which is governed by repressed wishes striving for expression. With the reality-principle suspended, the ego abandons all thought-relations, logical connections, etc. and expresses itself in "archaic sign language"; that is, in visual images in which one picture may connote a whole range of related ideas. She goes on to point

out, in agreement with Freud, that recent memory images, or "day residues", are utilized as the tools of expression out of which the dream is fashioned. Those day residues that are used are ". . . those memory images which, because of a 'common element', and 'intermediary link', become the most suitable for the symbolic representation of the particular dream thought" (p248). It is her contention that the response to the Rorschach is the same kind of regression: there is an abandonment of dependence upon reality with a regression from conceptual thinking through visual perception to imaginative creation. The author makes a further comparison between the dream-work and what she refers to as the "Rorschach-work": "It is our contention that the testee uses the ready supply of pictorial images as expressive signs in the service of the regressed ego in the same way as the sleeper uses the memory images" (p249). Thus, "in the same way that the dreamer transforms meaningless memory images into a language sign of the unconscious, so the testee restructures an amorphous blot into a visual symbol" (p249). Whether or not we accept such a generalization, the evidence suggests that the Rorschach situation, like the dream, facilitates the emergence of primary process activity. Holt goes so far as to say: "We have (in the Rorschach) a situation that is about as conducive to primary-process visual thinking as anything could be--granted the state of full waking consciousness, which in healthy persons tends strongly to maximize the secondary process components of thought" (in Klopfer, et al, 1954, p544).

Another comparison that is frequently made between dreams and Rorschach responses is that both represent evidence of "regression in the service of the ego." This point is made above by Palm and given extensive coverage by Schafer (1954). Thus, both the dream-work and some regressive aspects of the Rorschach response are seen as a kind of creative regression in which the ego uses the primary process for its own benefit.

Thus far, the discussion has centered around the relationship between dream processes and Rorschach response processes. However, since the present study deals not with spontaneous night dreams, but rather with hypnotically induced dreams, it is necessary to evaluate to what extent the latter are comparable to a spontaneous dream. Particularly, to what extent are the thought processes involved similar and different from those involved in night dreams.

Brenman (1949) has questioned the assumption that the hypnotic dream is a psychic production which duplicates, either in function or structure, the spontaneous night dream. She suggests that there is a wide range of response to the hypnotic suggestion to dream and that the average production is in between the daydream and the spontaneous dream, in that primary processes are used more than in the daydream but less than in the spontaneous dream. Spontaneous dreams too, however, vary with regard to the relative contribution of primary process. Thus, it would seem, the most that could be said is that the 'average' hypnotic dream uses less primary process than does the 'average' spontaneous dream. Another major difference pointed out by Brenman is related to the motivation for each of these phenomena. Whereas the night dream is motivated by the attempt to master residual tensions and unconscious infantile wishes striving for expression in order to guard and maintain sleep, the hypnotic dream is motivated by the wish to comply with the hypnotist's suggestion.

Kanzer (1953) argues further that hypnotic dreams show evidence of greater censorship than do spontaneous dreams. They are usually briefer, more straightforward, and show a lack of associations. He also suggests that the form and imagery of hypnotic dreams indicate the primary influence of preconscious rather than unconscious activity. However, in an earlier article (Kanzer, 1945), he points out that typical "day residues" and evidence of transference are to be found in hypnotic as well as in spontaneous dreams.

On the other side of the controversy, Mazer (1951) presents an intensive analysis of hypnotic dreams and concludes by arguing for the similarity between spontaneous night dreams and hypnotic dreams. In support of this he presents five points of similarity: 1) Both are hallucinatory experiences taking place in non-psychotic individuals and in conjunction with certain states of altered awareness; 2) both are produced below the level of awareness; 3) both reveal information about the subject's personality; 4) both can express these revelations in a symbolic language; and, 5) both contain the same "Freudian" distortions. He concludes that hypnotic dreams are not precise duplications of natural dreams in regard to function and structure, but the differences between them are primarily quantitative and not qualitative. Weitzenhoffer (1957), after evaluating the studies of Brenman and of Mazer, feels that the latter has presented the best case, although neither could be considered conclusive. More recently, however, Weitzenhoffer (1960b) has stressed the differences, suggesting that hypnotic dreams "have much more the characteristics of a highly structured hallucination than of a dream" (p191).

Granting the above differences, it is yet necessary to make additional distinctions between spontaneous night dreams, Rorschach response processes, and the particular nature of the hypnotically induced dreams utilized in this study. In the present case, the instructions specifically direct S to dream about the Rorschach cards. We are thus given a rather unique kind of response to the Rorschach which, at the same time, contains characteristics of the dream and characteristics of the usual Rorschach response, bringing these two processes closer together.

Schafer (1954, pp 94-110), as mentioned earlier, has compared the dream process with the Rorschach response process. Regarding the role of the external stimulus, he says: "Both the Rorschach response and the dream depend for their content on accumulated images and their

modifications, but the Rorschach response depends at the same time on an immediate, external inkblot stimulus" (p94). Thus, responding to the Rorschach requires a combination of finding meaning and giving meaning to ambiguous stimuli. This is not a requirement of dreaming. For the hypnotically induced dreams, however, this requirement is again imposed. Also, while the dream is only minimally committed to reality, the Rorschach response must stand in some objective relationship to the inkblot. A few examples of dreams to Card I will show how the blot elements are utilized in the formation of the dream:

1). Female, age 19. It was a huge animal--bird, bat--and it sounded like a jet. And it came swooping down out of the sky. All the people just turned white and they started to run. And then it came toward me and it got so close I could even see its eyes--and they were red.

2). Female, age 18. It was a bat and in the dream he was flying around among the rafters in a tall old barn--and something apparently went wrong with his--system--for he flew into one of the rafters and fell down on the hay below.

3). Male, age 20. A bat--it was loose in our house and flying around. I was supposed to catch it. It had great big teeth and it stopped first on the curtain, then flew around and stopped on a dress in a corner. I finally went and put a suit over it and put it outside.

In each of these examples a bat, a popular response to this card, formed the central figure of the dream.

The second distinction Schafer makes between dreams and Rorschach responses is that the former frequently have narrative content and sequence and often deal with specific objects and persons out of S's real life experience. The rarity of such an occurrence in response to the Rorschach, however, gives justification for considering it a pathological sign--an

indication that "autism of self-absorption is overwhelming logical thought and concern with reality" (p95). Again, to the extent that hypnotic dreams are similar to spontaneous dreams, the 'Rorschach dreams' will be a personalized narration--but one whose associations are stimulated by the characteristics of the blot. Again, a few examples, also to Card I, will illustrate this point:

4). Female, age 19. There was a room--dimly lit. On the left-hand side was my mother. She was doing something. I was on the right-hand side and I came running up. I was little--much younger. I just wanted to see what she was doing. I was laughing.

5). Female, age 22. Well--it was--there were a lot of people--and we were having a picnic. There's a fire there--and--we can hear the waves. And there's a fire going and we're trying to cook. And there's these birds that come--and they come in on us while we're there--with their wings. Their wings are beating--and they just won't go away. Somehow or other there's no one there but myself then. I keep trying to fight the birds off--the bird--there's only one. It keeps coming back. He won't go away. I keep trying to--to push him away, chase him away, but he won't. And there's more birds that come and they keep coming in. I finally just run away--crying.

6). Female, age 20. It was a face of a dog or a wolf and I was afraid. I was walking through a woods near home and I saw it--and I started to run and I ran, and I ran, and I ran. I found a car and I ran inside the car and I sat there. And then this--thing--just sat on the hood just looking in.

In each of these dream reports, the personalized aspect is clear and, as verified by S post-hypnotically, was accompanied by appropriate affect.

In regards to the role of interpersonal communication, Schafer points out that while dreams, unlike Rorschach responses, typically are not verbalized and do not occur in the context of an immediate interpersonal relationship, those dreams we know most about have been dreamt in the context of a psychoanalytic relationship and therefore have a communication aspect. While Rorschach images must be verbalized as they develop, dreams do not carry such an obligation. This requirement again demands a subordination of the response to reality in that it must be put into more or less conventional forms. Although there are situations of overlap (e.g., dream images that are clearly formed and named; Rorschach responses which are relatively formless and impressionistic), the "immediacy and transiency of the Rorschach relationship tend to limit regressive forms of communication, while the dream is a prime example of free regressive communication" (Schafer, 1954, p100). Again it can be seen that the hypnotic dreams bring into closer relationship these two phenomena. While they contain many similarities to the spontaneous dream, they occur and are verbalized in an immediate interpersonal relationship and are thus subject, to some extent, to the same social requirements as in the usual Rorschach. The fact that S is under hypnosis at the time they are verbalized, however, tends to reduce these demands.

A fourth major distinction discussed by Schafer relates to the levels of psychic functioning represented by each. That the dream is a regressive phenomenon which occurs on a relatively primitive level of psychic functioning is evidenced by the following:

(1) by the dream's hallucinatory quality, the distinction between self and not-self usually being lost, (2) by the dream's relative openness to expressions of normally unconscious, infantile, rejected tendencies and their derivatives, this openness reflecting relaxation of defensive and synthesizing ego functions, and (3) by the dominance of the archaic, fluid, drive-oriented primary process mode of thinking. (Schafer, 1954, p100).

The Rorschach response, on the other hand, is not hallucinatory; occurs in the waking state when defensive functions are ordinarily fully mobilized and when expressions of unconscious tendencies are carefully restricted; and, is controlled by secondary processes. The hypnotic dream to the Rorschach cards would again appear to fit somewhere in-between these contrasts: it is hallucinatory (cf. Mazer, 1951); it occurs under conditions of relaxed ego functioning; and, it is more highly dominated by primary process thinking. The above comparisons represent median points along the continuum of psychic levels for in actuality each phenomenon is characterized by shifts in levels from a more progressive to a relatively regressive level and vice versa. This can be demonstrated by a few examples of 'Rorschach dreams', illustrating the wide variety of such dreams in terms of levels of psychic functioning. The following is a dream to Card IX:

7). Male, age 22. This screaming woman, a blond woman, running very quickly. One of those men--with the gowns (in previous standard Rorschach, S had identified an area as 'Klu Klux Klanners in long, white gowns') running after her. Catches her. She yells 'I can't talk--I can't talk to you now.' She shakes. 'Crapped on me' he says. 'You hurt me', he says. He sets her down on the bench. They change--change to two people sitting on a park bench. She's got a dress on. Looks like they were in the 20's. He has a suit on--like my father. Mustache on. Looks much younger than he is. They went out to the park and he has a characteristic line of baloney like my father would. (suddenly turns head, hands to face, and groans deeply). She's turned into a skeleton! Clothes are all rotting off her. She's just standing there. The monster comes up (previous response). Wide eyes. Looks on the scene, over the ridge. Goes down again. See his fingers disappearing over the edge of the red rindge. Big void. I'm

standing, looking out--on mountains--of whiteness. (E: where?)
 Back home. But it's pleasant. Cool, crisp air. Cool wind.
 Got my hands on my hips and I'm standing there. It's pleasant.
 But I can't look around.

Contrast this dream, highly dominated by drive-related impulses and formal manifestations of primary process thinking, to the following dream to the same card:

8). Female, age 19. This painter was painting a picture on the side of a river. It was just three colors--three big blotches. He was so overjoyed with it and tried to sell it. No one would buy it so he just walked home with it.

While evidence of primary process thinking is still manifest, it appears, in this dream, to be much more highly controlled and dominated by the secondary process.

From the few examples thus cited, it can be seen that the 'Rorschach dreams' cannot be defined or described by one example, but rather, would seem to cover the entire range from a true dream experience to a normal Rorschach response. Many characteristics of the dream are seen to be reflected also in the 'Rorschach dream' and many characteristics of the usual Rorschach response are similarly evident. A fact which stands out is the major finding of this study that the experience significantly heightens the intrusion of primary process thinking on later Rorschach responses. The inference, therefore, is that the 'Rorschach dreams' activated drive-related impulses in a manner consistent with what could be expected from true dreams.

Further Applications of the 'Rorschach dream' Procedure

An area of dream investigation that has received much attention has been Freud's observation that much of the manifest content of dreams is drawn from "day residues." This has led many investigators (Fisher, 1956, 1957, 1960; Fisher & Paul, 1959; Luborsky & Shevrin, 1956;

Malumud & Linder, 1931; Shevrin & Luborsky, 1958) to follow the lead of Poetzl (1917) in studying the effects of "day residues" or "incidental" stimulation on subsequent dreams or fantasy expressions. Johnson and Eriksen (1961) have recently criticized these studies on grounds of inadequacy of control measures. A further criticism, or limitation, of these studies is that the dream reports are collected the day following the stimulus presentation and depend upon individual selective factors in recall. By utilizing the 'Rorschach dreams' procedure these limitations are minimized and may therefore provide a fruitful approach to the problem.

From the standpoint of the Rorschach test itself, this procedure again offers interesting possibilities. The "stimulus value" of the Rorschach has received a great deal of attention in recent years along with the increased emphasis on content analysis. In order to get at the "meaning" of the cards, investigators have used the semantic differential (Davis, 1961; Little, 1959; Rabin, 1959; Sines, 1960), an adjective check list (Schleifer & Hire, 1960), and forced associations between constructs and "meanings" (Rychlak, 1959). Although these procedures have proved fruitful, the present procedure offers the opportunity to investigate commonalities in dream themes, symbol formation, and affective reactions to each of the cards. In addition to this data it may be worthwhile to administer the semantic differential following the dream productions. Thus, when S responds to the polar concepts he would be drawing upon associations to the blot from a more regressed level of psychic functioning. Consequently, the "meaning" of the blot, for the individual, is likely to be clearer.

Summary

A procedure for the investigation of dreams was described which utilized hypnotically induced dreams to the Rorschach Inkblots. It was assumed that should the use of such 'Rorschach dreams' support

hypotheses derived from dream theory, then to that extent such material may serve as a meaningful research substitute for spontaneous dreams.

The specific hypotheses of the study were derived from the Freudian theory of dreams. According to this theory, the manifest content of dreams is drawn from "recent impressions" or "day residues" which are associatively linked to unconscious, anxiety-provoking, drive-related thoughts or impulses. Through the operation of the primary process, such thoughts thereby find anxiety-free expression in the dream by utilizing the previously neutral impressions. These impressions, therefore, serve as tools for the expression of the unconscious wish and are thereby "drawn into the unconscious." By experimentally defining the stimulus for the manifest content of the dreams, post-dreaming measurement of that stimulus would be expected to show evidence for its being "drawn into the unconscious." Accordingly, it was hypothesized that if the Rorschach Inkblots were used as the stimuli for dreams, post-dreaming Rorschachs would contain a high degree of primary process intrusion in the responses as well as evidence of the effects of anxiety-arousal in association to the cards.

In order to test this basic hypothesis and to evaluate the feasibility of the technique, a pilot study was undertaken consisting of six Ss who were instructed hypnotically to "dream" to each of the Rorschach cards. A week later S was given the Rorschach in the standard manner. A control group of seven Ss, with equal previous hypnotic experience, were given the standard Rorschach first. The Rorschach protocols were then evaluated for the extent of primary process, using Holt's manual for this purpose. It was found that the experimental group had a significantly high proportion of responses scoreable for primary process than the control group, thus supporting the hypothesis of the study. In addition, a number of standard Rorschach categories reflected the difference between the groups. Possible alternative explanations of these findings were

offered which suggested the need for additional controls. It was concluded, however, that the procedure was feasible and offered the possibility of a meaningful test of the Freudian theory of dreams. Accordingly, a second study was undertaken which consisted of a replication of the pilot study with the addition of the suggested controls.

The replication sample consisted of three groups of seven Ss each. The experimental and first control groups were comparable to the groups of the pilot study. A second control group consisted of Ss who were given the same experimental instructions as the experimental group but who were simulating hypnosis. That is, prior to the experimental session they were instructed, by a second E, to "fake hypnosis" and "do whatever you think a hypnotized person would do." This group served the following purposes: 1) to control for the possibility that the nature of the instructions was instrumental in producing an increase in primary process; and 2) to assess which of the group differences may be attributable to specific cognitive aspects of the dream experience.

The first major hypothesis dealt with the expression of primary process. It was hypothesized that the experimental group would have a higher proportion of primary process elements in their responses, and that this would be manifested in both the content and formal aspects. In addition, it was hypothesized that the expressions would also be more blatant. Each of these sub-hypotheses was supported by the data. This finding was interpreted as supporting that aspect of Freudian dream theory which formulates the relationship between the drive-dominated thought processes (primary process) characteristic of dreaming, and the dream's use of "recent impressions" as tools for the expression of the unconscious wish.

The second major hypothesis dealt with that aspect of the theory which suggests that the dream is a manifestation of anxiety-provoking material. Accordingly, it was hypothesized that the Rorschach cards,

having been utilized in the dreams and thereby "drawn into the unconscious" by means of the primary process, would become associated with anxiety-arousal potential. It was further hypothesized that in S's attempt to defend against such anxiety, there would be a corresponding weakening of the ego functions of control and defense. Specifically, it was hypothesized that the experimental Ss would show poorer form quality, particularly in responses scoreable for primary process, and would evidence less effectiveness in their attempts at control of the primary process expression. Form level was assessed both by Mayman's Form Level scoring and by the standard $F + \%$ of Beck. Defense Effectiveness (DE) was evaluated by Holt's procedure.

The findings relative to these hypotheses was equivocal. On the one hand, the experimental group had a significantly higher mean DE score, indicating that they were less effective in defending against the primary process expression. Also, the $F + \%$ score tended to be lower for the experimental group. On the other hand, however, the more comprehensive form level scoring of Mayman and the extended $F + \%$ did not differentiate the groups.

A possible explanation of these results was drawn from another aspect of the psychoanalytic theory of dreams. In addition to being expressions of anxiety-provoking material, the dream represents the fulfillment of the wish and is in this sense a gratifying experience. Thus, instead of being anxious in reassociation to the cards, it may be perceived as a pleasurable experience. Which reaction occurs, therefore, would depend upon whether or not the dream functioned to arouse anxiety or to satisfy the wish. It was suggested that future research might be directed at analyzing the 'Rorschach dreams' for this function and comparing the subsequent protocols from each group.

The third major hypothesis of the study dealt with the standard Rorschach categories. It was hypothesized that certain categories would

differentiate the experimental from either of the control groups. Such categories would thereby reflect the dynamic effects of the dream experience. It was further hypothesized that other categories would show no difference between the experimental and the faking control group, but both would differ from the first control group. Such categories would thereby reflect the effects of the cognitive aspects of the dream experience.

The findings relative to these hypotheses were as follows:

1) no standard Rorschach categories differentiated between the experimental and the faking control groups; 2) the experimental group had a significantly lower F+%, a higher M%, and a higher FM + m% than the non-dreaming control group; and 3) the faking control group also tended to have a higher M% and a higher FM + m% than the non-dreaming control group. It was concluded that the hypotheses were not clearly supported. The somewhat higher M%, however, was interpreted as indicating a "movement set" produced by the dream instructions. The higher FM + m% for the experimental group was taken as evidence of drive arousal resulting from the dream experience. That this category was also higher, though not as pronounced, for the faking control group, would indicate a similar effect produced by faked dreams.

The relative lack of differences on the standard categories as compared to the wide differences on the primary process variables was interpreted as evidence of the value of utilizing scoring procedures which are based on direct theoretical grounds.

Although the specific 'Rorschach dreams' were not analyzed in detail for the present study, a section was included describing theoretically and empirically the nature of such dreams.

Suggestions for future research, utilizing the 'Rorschach dream' technique, were made, relative to the investigation of the "stimulus value" of the Rorschach and for further investigation of the "day residue" effects on dreams. Also, suggestions for further clarification of the present data were made.

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Footnotes

¹This procedure utilizes a natural phenomenon: the relationship between fluctuations in depth of sleep and dreaming. Dreaming occurs at a light level of sleep and is followed by a return to a deep level. This phenomenon is explained to S who is then told to have three dreams, each followed by a deeper level of hypnotic 'sleep'.

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³Explanation of Rorschach symbols: W--a unified response in which all of the blot elements are taken into account; F+%--the ratio of all "good" form-determined responses to all form-determined responses; Extended F+%--the ratio of all responses with a "good" form element to all responses containing a form element; M--a percept involving human or human-like movement; FM--animal movement; m--inanimate movement (the latter two categories have been combined in this study because of the relatively low occurrence of such elements, and the conceptual similarity and relationship between them--see pages 27-28); S--response to the white space area; A--animal content; H--human content; R--total number of responses; P--a common percept seen by most people; L--The ratio of all scorings involving any determinant other than F, to the total number of F responses; Y--responses determined by the shading of the blot; and, T/1R--the mean time taken to give the first response per card.

⁴Ronald V. Singer, John T. Goodman, and Morton Perlmutter.

⁵In order to make a fair comparison, the hypothesis was tested that the faking control group manifests a significantly higher proportion of primary process responses, in all its aspects, than the first control group. Thus, a one-tailed test was made as was the case in comparing the experimental and first control group.

Table 1

Group Means and Exact Probabilities (one-tailed test) of
Differences between Experimental and Control Group
on Primary Process Variables

Variable	Experimental Group Mean	Control Group Mean	Exact p
Total Primary Process	.92	.37	.004
Total Content	.71	.26	.002
Total Libidinal	.32	.10	.026
Total Aggressive	.39	.16	.004
Total Formal	.21	.11	.130
Total Level 1	.18	.05	.027
Total Level 11	.74	.35	.002
Mean Defense Demand	2.45	2.06	.051
Mean Defense Effectiveness	2.39	1.82	.026
Total Form Level	.55	.69	.069
Primary Process Form Level	.50	.69	.069

Table 2

Group Means and Exact Probabilities (two-tailed test) of
Differences between Experimental and Control Group
on Standard Rorschach Categories

Variable	Experimental Group Means	Control Group Means	Exact p
F+%	.66	.83	.008
Extended F+%	.69	.80	.102
M%	.18	.11	.014
FM + m%	.27	.16	.034
S%	.15	.04	.034
W%	.43	.30	.180
A%	.39	.38	.946
H%	.29	.19	.102
R	34.67	26.50	.366
P%	.23	.23	.836
L	1.61	1.76	.294
Y%	.08	.08	.294
T/1R	11.83"	16.22"	.242

Table 3

Group Means, Exact Probabilities (one-tailed test) and Combined Probabilities of Differences Between Experimental and Control Groups on Primary Process Variables

Variable	Experimental Group Mean	Control Group Mean	Exact p	Combined p
Primary Process	.90	.58	.000	.01
Content	.52	.41	.027	.01
Libidinal	.15	.11	.191	.05
Aggressive	.36	.30	.104	.01
Formal	.38	.17	.006	.01
Level 1	.30	.06	.003	.01
Level 11	.60	.52	.064	.01
Mean DD	2.89	2.34	.009	.01
Mean DE	2.69	2.06	.003	.01
Form Level	.59	.60	.500	N.S.
Primary Process Form Level	.55	.54	.549	N.S.

Table 4

Group Means and Exact Probabilities (one-tailed test) of
Differences Between Experimental and Faking Control
Group on Primary Process Variables

Variable	Experimental Group Mean	Control Faking Mean	Exact p
Primary Process	.90	.60	.006
Content	.52	.37	.006
Libidinal	.15	.09	.104
Aggressive	.36	.28	.104
Formal	.38	.24	.130
Level 1	.30	.14	.104
Level 2	.60	.47	.009
Mean DD	2.89	2.31	.009
Mean DE	2.69	2.05	.002
Form Level	.55	.64	.104
Primary Process Form Level	.63	.75	.159

Table 5

Group Means and Exact Probabilities (one-tailed test) of
Differences between the Faking Control Group and
First Control Group on Primary Process Variables

Variables	Control First Mean	Faking Control Mean	Exact p
Primary Process	.58	.60	.355
Content	.41	.37	.191
Libidinal	.11	.09	.355
Aggressive	.30	.28	.541
Formal	.17	.24	.130
Level 1	.06	.14	.049
Level 2	.52	.47	.130
Mean DD	2.34	2.31	.500
Mean DE	2.06	2.05	.549
Form Level	.60	.68	.130
Primary Process Form Level	.54	.64	.130

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