

LEARNING TO REMEMBER DREAMS¹



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Virginia Beach, on a transpersonalized ritual for parapsychological research. Besides talking to plants and animals, his greatest joy is to fly on his bicycle, and whenever possible, on foot. This paper is dedicated to Gayle, whose loving reminders have helped Henry recognize what he knows.

ABSTRACT

The possibility of learning to remember dreams was explored with the cooperation of a group of participant-observers who maintained dream diaries for 12 weeks and were selected on the basis of their desire to experience improved dream recall. A self-administered dream recall rating scale was devised which provided measures of several aspects of memory for dreams. The participants apparently increased their ability to retrieve dream memories, but their actual level of dream recall performance was subject to motivational fluctuations. On the other hand, although the participants claimed to have developed no control over the vividness of their memory for dreams, this aspect of their dream recall nevertheless evidenced substantial improvement. The possibility of improving memory for dreams being confirmed, future research should provide (a) more information concerning the control processes governing dream recall, and (b) information concerning how to increase volitional access to these processes.

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INTRODUCTION

As the potential value of dreams receives renewed recognition (Krippner & Hughes, 1970; Rossi, 1971), there naturally arises a consequent interest in remembering dreams. Research could be helpful, but the choreography of the complex interpersonal relations involved in conducting such research will influence our resulting perspective on the nature of memory for dreams. For example, a volunteer dreamer may be intentionally kept ignorant of the purpose of the experiment so that he will be necessarily subject to the experimental variables. This approach has provided controlled observations revealing the functional relations between such experimental variables and the probability that the dreamer will recall a dream (Cohen, 1970; Goodenough, 1968). However, in this interpersonal context, the dreamer's own concern for actually remembering his dreams is problematical, and our perspective becomes limited to viewing memory for dreams as a phenomenon beyond the dreamer's personal control. Alternatively, volunteers specifically desiring to improve their dream recall may be informed of all variables which may affect their memory for dreams. In such an informed context, it may be possible to investigate the dreamer's potential capacity to transcend determination by these variables and develop some personal control over his memory for dreams. This paper is a report of such an experiment.

METHOD

Forming the Contractual Group of Participant-Observers

The proposed experiment was offered as a seminar for academic credit. The only prerequisites were the signing of a contractual pledge of participation and a donation of five dollars toward the cost of the research materials. To assure that prospective participants had an informed interest, I first interviewed each one concerning his current dream life, his willingness to discuss his dreams in a group setting, and his expectations for the seminar. There were three contraindications for admission to the seminar: (a) reporting being disturbed by dreams or otherwise indicating a desire for therapy, (b) being already such a prolific or sophisticated dreamer that the seminar's introductory level might be boring, and (c) suggesting either a desire to play a passive role in a nondemanding course or an attitude toward dreams incompatible with the seminar's scientific

orientation. I invited 20 of the approximately 40 students who were interviewed to attend the introductory group session, where we discussed further the nature and intent of the proposed experimental seminar.

The contractual pledge of participation required each participant to: (a) maintain a dream diary entering an observation each day and to submit a photostatic copy of this diary at biweekly intervals, (b) attend each session of the seminar having read the appropriate material, (c) submit a final evaluation of the experiment providing a descriptive analysis of his attempt to learn to remember dreams. I explained that the purpose of the contract was to provide an explicit recognition of expectations and to serve as a symbolic and behavioral indication of the degree of the participant's commitment to his fellow participants and to the seminar's objectives.

Concerning the five-dollar donation, I expressed my view that when a volunteer was paid for his service in an experiment, such payment implicitly created an interpersonal situation in which the person submitted himself to be the subject of the experimenter's demands and manipulations (cf. Rosenthal & Rosnow, 1969). In the present experiment, however, since the participants would share the responsibility for the conduct of the research, it seemed appropriate that they share responsibility for the financial aspect of the research as well. Of the 20 people invited to the introductory session, 19 signed the pledge of participation, including 11 men and 8 women.

Observation and Recording of Dreams

The participants received special notebooks to serve as dream diaries. An idealized approach to the observation of dreams was described (see Calkins, 1893): all dream memories would be fully recorded immediately upon awakening, whether in the middle of the night or in the morning. Before these memories were organized into coherent narratives, each would be recorded in the order in which it was recalled. It was conceded that this idealized approach could not be realistically maintained but should serve as a model. The contracted minimal requirement was to make some form of entry each day. It was stressed, however, that in order to be most effective, the notebooks should not be merely a record of recalled dream narratives. The participants were challenged to observe and record anything which might facilitate an understanding of the process of learning to remember dreams.

To assure confidentiality, the participants were asked to edit their photocopied diaries where necessary and to submit all material in a closed envelope, which contained the secret code name each participant had invented for his use. Assuming that the submission of dreams would create anxiety, we discussed fantasies of self-exposure. It was agreed that in the eventuality that a participant should recall a dream which he did not wish to record, he would simply record that fact, rather than enter "no recall."

The participants began their observations that night following the introductory session. Neither instructions nor suggestions concerning how to recall dreams were initially provided.

Group Sessions

We met together for two 90-minute sessions a week for 12 consecutive weeks. Each session focussed on some aspect of the study of dreams and usually included the sharing of personal observations, evaluation of the progress and conduct of the research, and discussion of related reading material. The reading material was not regarded "academically," but rather in a manner suited to the development of well-informed participant-observers engaged in an empirical investigation of dreams.

We began by assessing the possible sources of motivation to learn to remember dreams, each of us relating the basis of our own interest. In addition to curiosity, the most frequently mentioned sources of interest were intense dream experiences, recurring dreams, and especially, instances of increased self-awareness through dreams. Reading material describing the history of the use of dreams (deBecker, 1968; Krippner & Hughes, 1970) was discussed. The participants evidenced a clear *a priori* expectation that the value of dreams was to be found by interpreting them for self-insight. I responded with caution to this expectation and expressed my concern that approaching dreams initially with an interpretive attitude might create inhibitions to the full development of dream recall. After discussing the possible risk of intensifying existing anxieties by giving attention to dreams, it was agreed that there was sufficient evidence of the possible value and use of dreams to warrant learning how to remember them. It was also agreed, however, that a tentative and open attitude would be required when observing dreams in order to minimize the risk of misapprehension.

In subsequent sessions, the participants shared their experiences trying to remember dreams. I related my own experience and distributed copies

of an essay portraying the process of learning to remember dreams as an intriguing challenge of value in itself (Reed, 1971). The reading material on memory for dreams (Cohen, 1970; Freud, 1954; Jones, 1970; Krippner & Hughes, 1970; Schachtel, 1947) was given extensive discussion to provide potentially useful knowledge of the factors which had been previously implicated, either theoretically or empirically, in dream recall. These discussions also created an appreciation of the scientific context to which our research efforts might be responsive.

As the participants accumulated observations of their dreams, they began to share them in class. By my own example, I tried to encourage focusing on the phenomenological aspects of dream experiences as recalled, rather than merely reporting the reconstructed dream narrative. The diversity of dream experience, both those related in the sessions and those presented in the reading material (deBecker, 1968; Freud, 1954) provided a perspective on dream phenomena. The discussions served to assure the participants that other people also had strange dream experiences, and the sharing of dreams supported the observers' intent to pay more attention to their dreams. Freud's (1954) theory of dreaming and dream interpretation was discussed and with the aid of Jones' (1970) analysis, was contrasted with other approaches to the dream. The participants were intrigued by the variety of alternative approaches. To accommodate their desire for more opportunity to share and explore personal dream interpretations, the group was divided into two sections for six of the sessions.

Near the end of the seminar, the participants decided to compare themselves with a group of observers who had not participated in the seminar. Each participant invited one or two friends to keep a dream diary and instructed them in the recording procedures. The participants explained to their counterpart observers that the purpose of this experiment was to determine if the participants, who had been recording dreams for 70 days, had improved their dream recall relative to unpracticed observers. On the evening prior to the seventh and final morning of this experiment, all observers received envelopes, to be opened at bedtime, which contained a brief essay on the possibility that dreaming could facilitate creative problem solving. A problem was presented, and it was suggested that the observer "sleep on it," and then observe his dreams the following morning for clues to the solution.

Finally, a summary of the statistical results of the research were presented for discussion. The participants then adjourned to prepare their written evaluations.

Measuring Memory for Dreams

Research on dream recall has been limited by the fact that the remembered dream cannot be directly compared with the original dream experience. In past research, therefore, the assessment of dream recall has been oriented toward some absolute measure of the dream report itself (Cohen, 1970). After discussion of previous methods, we agreed to take advantage of the opportunity to employ certain subjective phenomena observed by the participants to construct a dream recall rating method which would reflect the participants' informed value judgment concerning what would constitute improved memory for dreams.

The observers claimed the ability to judge whether the material recalled on a given occasion was from the same dream or from different dreams. The most commonly expressed basis for such judgments was continuity or disjunction in the mood or atmosphere of the dream, rather than merely in the narrative. Since a gross body movement during dreaming often produces disjunctions, and also frequently impairs dream recall (Dement & Wolpert, 1958), it seemed appropriate to recognize an observer's ability to retrieve dream material across such disruptive body movements. Observers therefore segregated each day's material into separate dreams, with the established rule that when in doubt, the material was assumed to have been from the same dream.

Each separate dream was then rated for the degree of recall, based on the observer's evaluation of the extent of his memory for the dream. Although it was rare to experience the subjective certainty that a dream had been recalled in its entirety, there was a common experience of a subjective certainty that some of the dream had been forgotten. Frustration was the most frequently expressed component of this experience. Regardless of the actual source of this experience, such as resistance to the dream (Freud, 1954), the participants agreed that a dream recalled without the frustrating feeling of having forgotten some of it represented an improvement over the recall of a dream with such a feeling. Five categories of dream recall were then developed from discussion of the typical patterns observed:

1. Indistinct (I) referred to the vague recall of dream residues or the awareness of dreaming without the ability to recall any content (Goodenough, 1968).

2. Fragmentary (F) referred to minimal recall of the narrative itself, which conveyed some sense of the dream but which lacked flux or transitions.

3-4. Partial (P–, P+) referred to the incomplete recall of a dream, which included at least one clear example of a transition to indicate the flow of the narrative. The observer, however, felt that there were definite gaps in his memory for the dream which were experienced as frustrating impediments. The P– category was used for recall which only minimally qualified as partial. The P+ Category was used for recall which subjectively represented a substantial portion of the dream.

5. Whole (W) referred to the fairly complete recall of a dream with no frustrating gaps to indicate that knowledge of the dream might be significantly improved.

Finally, observers had expressed the ability to discriminate between remembering the actual experience of a qualitative aspect of a dream and remembering only the content of that qualitative aspect. For example, observers could distinguish between remembering the visual experience of an object's color and remembering only the color of the object. These subjective distinctions seemed related to the vividness of memory for a dream. Therefore, each dream memory was scored for the presence of any of seven qualitative aspects: (a) clear visual memory for the dream; (b) recall of the visual experience of color; (c) recall of the auditory experience of sounds; (d) recall of voices; (e) sensory recall in other modalities such as taste, touch, smell, or kinesthesia; (f) recall of the experience of positive emotion; and (g) recall of negative emotion.

The resulting method of assessing memory for dreams differed from previous methods in that the observer's own evaluation was used. An attempt was thus made to compare the memory for a dream to some subjective impression of the original dream experience. A tally sheet was designed for the quick recording of the dream ratings. These sheets were then submitted with the copied dream diaries.

RESULTS

In spite of the careful selection procedures, two participants found the seminar to be inconsistent with their personal objectives. Because they missed several class sessions and kept irregular dream diaries, their data was removed from the analysis.

Assessing Improvement in Quantitative Dream Recall

The 17 participants who fulfilled the pledge of participation tallied dreams

for 84 consecutive days, totalling 1,428 observations. Consider the following three independent indices of quantitative dream recall. (a) The proportion of days for which there was awareness of dreaming. Overall, 77% of the observations provided awareness of dreaming. (b) The number of separate dreams tallied on days when there was awareness of dreaming. Overall, 64% of such observations yielded recall of a single dream, 21% yielded recall of two dreams, 10% yielded three dreams, and 5% yielded four dreams or more. (c) The median rating given to each dream. Overall, 20% were rated I, 21% were rated F, 23% were rated P-, 20% were rated P+, and 16% were rated W.

When a series of comparisons were made, for each of these three recall indices, over various time periods, the majority were in the direction of improvement. However, the only statistically significant improvement occurred between the first and second week, which yielded an increase in the median number of dreams recalled on days with awareness of dreaming ($p < .01$).

On the basis of the observers' average rank on the indices of quantitative dream recall, the top six observers were designated high recallers, and the bottom six observers were designated low recallers. When the same series of comparisons were repeated separately for these two groups, the high recallers showed no evidence of significant improvement, but the low recallers showed significant improvement—again in the median number of dreams recalled on days with awareness of dreaming—over several comparison periods (in each case, $p < .025$). Finally, when the percentage increase on each of the three recall indices was compared between the high and low recallers over three independent time periods (the first and second 1-week, 2-week, and 4-week periods), on all nine comparisons the low recallers showed a greater relative improvement than the high recallers ($p < .01$).

Assessing Improvement in Qualitative Dream Recall

From the first half of the experiment, in which 925 dreams were tallied, to the second half, in which 975 dreams were tallied, the following proportion of the dreams recalled included memory for: (a) visual detail, from 58% to 73% ($p < .01$); (b) the visual experience of color, from 33% to 52% ($p < .01$); (c) auditory experience, from 9% to 14% ($p = .025$); (d) hearing voices, constant at 20%; (e) sensations in other modalities, from 10% to 20% ($p < .01$); (f) positive emotion, from 15% to 20% ($p < .01$); (g) negative emotion, from 26% to 31%. Between the first and second half,

there was a significant increase in the ratio of dreams recalled with memory for positive emotion to those recalled with memory for negative emotion ($p < .025$). High recallers had greater recall for each of the qualitative aspects and evidenced a greater percentage improvement on each of these aspects than the low recallers (in each case $p < .01$).

Comparison with the Counterpart Observers

To provide a standard basis of comparison, three sets of dreams (the participants' first week of dreams, their dreams during the 7-day competition and the dreams of their counterpart observers) were transcribed and rated for recall using the original five-category scale. But whether the analysis was based on the observers' own ratings or the independent ratings the results were the same. Comparisons between the participants and their counterparts were made on the three indices of quantitative recall and on an index of "total" dream recall. Total dream recall was derived by assigning numerical values to the five recall rating categories (using the geometrical factors 1, 2, 4, 8, and 16, approximating the proportional number of dream elements observed in dreams of each category) and then calculating total recall as the weighted sum of the dream ratings obtained.

None of the comparisons between the participants' first week of dream recall and their counterparts' dream recall revealed significant differences. Thus it seemed fair to conclude that the initial level of dream recall of the two groups was equivalent. Nor were there any significant differences in dream recall performance during the first six days of the competition. However, on the seventh morning, the participants averaged approximately four times as much total dream recall as their counterparts ($p = .001$). Relative to their average performance during the first six days, the participants increased their total dream recall in their attempt to solve the creativity task more so than did their counterparts ($p = .05$).

Observations of the Participants

All observers noted the variability of their dream recall, puzzled over possible sources of this variability (e.g., factors resembling those identified by previous research), but invariably concluded that motivation was definitely one factor affecting their memory for dreams. Having interesting dreams, stimulating seminar sessions, and especially, opportunities to share dreams on a personal level were frequently mentioned as sources of

incentive to remember dreams. Depression, illness, and burdening outside concerns were common sources of apathy concerning dreams. All observers reported that on one or more occasions recording dreams became boring, especially when there was little opportunity to make use of the dreams. One observer speculated that ignoring dreams tended to become habitual. Indeed, analysis revealed that 14 of the 17 observers showed dream recall below their individual median level on proportionately more days following a day on which there had been no awareness of dreaming than following a day on which there had been at least some dream recall ($p < .001$).² Often only the commitment to the seminar would motivate an observer to renew his attempt to remember his dreams.

To appreciate the manner in which, according to the participants' observations, motivation affected their dream recall, consider the degree of control which the participants claimed over certain aspects of their memory for dreams. First, not a single observer suggested that he had any control over the vividness of his memory for dreams; control was restricted to quantitative aspects. Second, observers felt unable to exert much influence in advance on their dream recall, such as at bedtime. Although some observers suspected that the quality of their concentration upon falling asleep affected their subsequent ability to remember their dreams, all observers claimed that it was primarily their behavior in the morning that determined their memory for dreams. Finally, observers distinguished between dream material that was simply present upon awakening and additional material that was obtained by intentional retrieval subsequent to awakening. Whether or not a dream would be initially available upon awakening seemed beyond the observers' control, although they did claim responsibility for the attention they paid to this material. They especially claimed an increased ability to retrieve initially unavailable dream memories. Remaining still and relaxed, letting the mind float, and rehearsing previously recalled dream images were the most frequently mentioned components of this skill. A particular desire for their dreams would often prompt the observers to devote special effort to their retrieval. On the other hand, many observers reported catching themselves subtly chasing their dreams away when, for one reason or another, they did not wish to remember them. Busy schedules and pressing concerns

² At the suggestion of several observers, I attempted to relate variations in dream recall to the lunar cycle. I found sufficient evidence suggesting that dream recall is especially good during the period of the full moon to encourage me to offer the raw data from this experiment to the interested reader with the facilities necessary for a competent analysis of this phenomenon.

were often reported to have interfered with the state of mind necessary to retrieve dreams. Thus, it was the morning practice of retrieving dream memories which all observers claimed to have been directly affected by motivational factors.

Finally, most observers claimed to have benefited from their attempt to remember their dreams. It was frequently contended that an increased acceptance of dream experiences was accompanied by an increased self-acceptance in general, by changes in self-awareness or in attitudes about the self. The participants found that discussing dreams with others was particularly helpful in increasing the acceptance of dream experiences. Many expressed an appreciation of the satisfaction obtained by learning the meditative art of recapturing lost dream memories. The dreams themselves became a source of satisfaction to many. In fact, three months after the conclusion of the seminar, 12 participants were still maintaining their dream diaries.

DISCUSSION

The contrasting pattern of results obtained with regard to the quantitative and qualitative aspects of the participants' dream recall may be the most revealing finding of this study.

Although the quantitative level of their dream recall evidenced little improvement, the only aspect of dream recall over which the participants did claim to have developed any control was the amount of dream material they retrieved upon awakening. However, the participants observed that the exercise of this control was subject to their motivation to remember their dreams. That the quantitative improvement was primarily restricted to the first two weeks probably reflects, therefore, the decline in the participants' initial enthusiasm about increasing the amount of dream material they remembered. That low recallers evidenced more improvement in quantitative recall, and sustained this improvement over a relatively longer period of time than the high recallers undoubtedly reflects the difference in motivation of these two groups to realize increasingly greater amounts of dream recall. Finally, when competing with their counterpart observers, the participants were not necessarily more productive in dream recall, but when the creativity task provided a special purpose for remembering dreams, the participants appeared more capable than their counterparts to retrieve an increased amount of dream material. Thus it seems reasonable to conclude that the participants were

indeed learning how to remember their dreams. Since the retrieval of their dreams was within their volitional control, however, the actual level of their dream recall performance was dependent upon motivational factors. The result was that their increased ability to remember their dreams was hidden behind motivational fluctuations.

On the other hand, although the qualitative aspects of their dream recall evidenced substantial improvement over the duration of the experiment, the participants nevertheless claimed to have had no control over the vividness of their memory for dreams. That those observers with the highest level of quantitative recall, the high recallers, also had better qualitative recall is a manifestation of what may be an inherent relationship between the typical level of an observer's quantitative dream recall and the vividness with which his dreams are available upon awakening. One factor possibly mediating this relationship may be the observer's degree of self-acceptance (Cohen, 1970). The participants' observation that an acceptance of dream experiences seemed related to an increase in self-acceptance suggests that the attention given to their dreams, in itself a form of self-acceptance, was naturally accompanied by an increased vividness of their memory for dreams. That the high recallers also evidenced a greater relative improvement in qualitative recall (which was not the case with quantitative recall) probably reflects, therefore, not only their more frequent opportunity to practice improving their qualitative recall, but also their greater self-acceptance. This allowed them more receptivity to experience a still further intensification of the vividness of their memory for dreams.

Thus it was the vividness of memory for dreams, rather than the amount of dream material recalled, which so eluded volitional control and which increasingly differentiated the high and low recallers. This finding suggests that although much of the nature of memory for dreams may be understood through appropriate application of more general principles of memory, something of fundamental significance may nevertheless exist in the relationship between waking consciousness and dream consciousness (cf. Evans-Wentz, 1958; Schachtel, 1947).

A causal interpretation of the results, however, is not genuinely consistent with the conduct of this experiment. The interpretation which I prefer is that attention to dreams, acceptance of dream experiences, the ability to retrieve dream memories, and the vividness of these memories all increase in a mutually facilitating manner during the process of learning how to remember dreams. This interpretation is consistent with anthropological observation (Devereux, 1969) that memory for dreams is

more frequent, vivid, detailed, and coherent in cultures which not only accord dreams reality status but also behave accordingly.

What is important is that the results of this research provide a hopeful perspective on the problem of remembering dreams, suggesting that memory for dreams is potentially within personal control.

Implications for Future Research

Future research should provide more information concerning the functioning of the processes potentially available to control our memory for dreams. To begin, an observer's typical level of dream recall must be distinguished from his ability to influence his memory for dreams. For example, Cohen (1972) found that exposure to stress had the effect of still further increasing the difference in dream recall performance between high and low recallers. His study suggests that both groups of observers may have had some control, albeit unconscious, over their dream recall, but that, under stress at least, they exercised this control toward different aims. Perhaps the capacity to control dream recall can be further clarified by research involving positive incentives. For example, it has already been found that monetary incentive can affect the amount of time that a person spends in REM sleep (Rechtschaffen & Verdone, 1964). Furthermore, this effect has been achieved with hypnotic suggestion (Tart, 1966). Hypnosis has also been used to increase the probability that a person will spontaneously awaken from REM sleep (Tart, 1966), or that he will dream about a preselected topic (Tart, 1970). The results of these studies suggest that there may exist control processes for the selective consolidation of dream memories. Clearly, the storage and retrieval mechanisms involved in memory for dreams deserve separate and explicit investigation. Furthermore, it should be evident from the results of the present experiment that the manipulation of motivational factors will more likely reveal how these mechanisms are actually employed than if motivational factors are ignored. Why did the participants find it much more difficult, if possible at all, to exert influence in advance on their dream recall than to subsequently influence it at the time of retrieval? This question represents a paradoxical aspect of memory for dreams because, with regard to memory for most other events, it is much easier to influence the probability that the event can be later recalled by appropriate behavior before or during that event than it is afterwards. The retrieval process itself seems to operate somewhat uniquely with respect to memory for dreams. Granted that remaining physically relaxed and reviewing previously

recalled dream images resemble the use of associative processes similar to recalling most other events. When we attempt to recall such other events, however, we usually have some information concerning that which we are searching. When retrieving dreams, however, we typically feel incapable of predicting what our search might yield, so that even though we respond with an immediate and intimate recognition to the recaptured dream memories, their content always comes as a surprise. These phenomena seemed related to the amnesic relationship often believed to exist between waking consciousness and dissociative states like dreaming (Prince, 1910; Schachtel, 1947).

The states-of-consciousness approach may be a rewarding method for exploring memory for dreams. For example, the hypothesis that meditation may increase the accessibility of the control processes governing memory for dreams (Bro, 1968; Evans-Wentz, 1958; Goleman, 1971; Heider, 1969) deserves empirical investigation. On the one hand, as described in the Tibetan yogic literature (see Evans-Wentz, 1958, pp. 217-218), meditation may increase the accessibility to the subcortical centers controlling the degree of arousal during the REM state (Jones, 1970), thereby providing a possible means to increase the vividness of dreams and their consolidation for later recall (Goleman, 1971). On the other hand, the relation between kinesthesia and the retrieval of dreams (Lerner, 1967; Schachtel, 1947), the higher incidence of Rorschach movement responses among frequent dream recallers (Orlinsky, 1966), and the facilitative effect of meditation on the production of such Rorschach responses (Heider, 1969) suggest that meditation might increase accessibility to the control processes relating to the retrieval of dream memories.

Discovering methods of gaining access to the control processes governing memory for dreams, however, will in itself be insufficient. Learning to remember dreams ultimately requires that we take an active stance toward our dreams in our daily life. Only when we encourage our conscious and unconscious existences to engage in meaningful dialogue (e.g., Jung, 1969; Perls, 1969) can we expect our memory for dreams to come to full fruition.

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