

ON THE SIMILARITY BETWEEN HYPNOTIC AND Mescaline HALLUCINATIONS

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The origins and symbolic significance of hallucinations have stimulated speculation for a long time. It is generally agreed that hallucination is a centrally initiated process manifesting neurological changes whose origins are not clearly established. The content of hallucinatory experience is sometimes devoid of symbolism, sometimes highly symbolic and just as often ambiguous with respect to symbolic meaning (Landis, 1950).

It has been reported that three prevalent tendencies characterize mescaline hallucinations: the appearance of (a) certain constant forms of which lattices, spirals, fretwork and arabesques seemed to be outstanding; (b) alterations in the number, size and shapes of the figures seen; and (c) changes in spatial and temporal relations of the content (Klüver, 1942).

During explorations of hypnotic phenomena several subjects reported visual images suggestive of those reported to occur in mescaline-induced hallucinations. One subject was able to render expression of her hypnotically-induced hallucinations in graphic form which, together with her related associations, formed the nucleus of this communication. It is believed that hypnotically-induced visual perceptions may be subsumed under the category of hallucination.

After the presentation of experimental methods, the findings which have been incorporated in a general outline of perception are offered in the discussion.

Procedure

Description of Subject: *S* was a young female about twenty-three years of age. She was 5'7" and her weight was 115 lbs. On the basis of her personality problems she might be considered moderately neurotic. She was subject to periodic headaches which she named "migrainous;" her description of them seemed to warrant the designation. She also complained of a general dissatisfaction with her interpersonal relationships, but seemed to be successful in striving to complete her college education and in finding employment to augment her meager allowances. At the

time of this study she was a college senior. She was above average in intelligence.

Subject bore a dual relationship to *E*, both a patient and a subject. She had been apprised of the nature of the research and agreed to cooperate in the investigation of hypnosis. Of all the participants, she was the only one who received psychotherapeutic help.

S was initially ambivalent towards hypnosis but during every trial she responded to the point of experiencing a moderate "trance state" characterized by facilitation of the associative process and visual imagery, usually polychromatic and sharply defined. *S*'s attitude towards *E* at the time of this study was positive and it was quite clear that she wholly accepted *E* as an authority.

Method of Hypnotic Induction: *S*, seated in an armchair, was asked to close her eyes and visualize herself. When she announced that she had achieved an image of herself, she was instructed to begin to feel a heaviness in her arms and legs. This procedure usually resulted in the induction of a light hypnotic state which was found to be generally adequate for the purpose of recall of dreams and the evocation of visual imagery or perceptions. Her instructions were: "You will begin to feel completely relaxed and just as soon as you are, images and thoughts will present themselves to your mind."

Report of Hypnotic Perceptions during Hypnosis: "At first I saw an eye and now a tack. At first the tack was on a side and now it's standing up straight. There's a bright blue light; it sort of keeps jumping all around; it keeps on smashing against me. Like I'm looking through a cyclone or eye of a tornado. A beautiful flower, it's all red and shiny and sparkly; it's a fountain, and the fountain has such a spray."

S was then instructed to open her eyes and was asked whether she saw anything else. She replied, "I'm not sure, but I think I saw an acorn." She was then asked if she had any bodily sensations (*E* noticed during the hypnotic interlude, that *S*'s cheeks at the cheekbone reddened). *S* replied that her cheeks felt as if she were forcing a smile and that it felt as if all the blood had left her arms, especially her hands. "Like when you wake up in the morning and you can't make a fist. Right now I can't make a fist." *S* was asked which of the images was most vivid. She replied, "Flower, it looked like it was radiating its color." *S* was then asked to draw the images, using the appropriate colors and to write a complete account of her hypnotic experience including an interpretation of her imagery. She was asked whether she had any notions concerning the symbolism of eyes and answered vaguely that they might indicate her searching. However, inasmuch as in an earlier session she had reported visual imagery in which her eyes were emitting bullets, *E* offered

the hypothesis that eyes might symbolize aggression for her. (It might be noted that the essence of "searching" is also aggressive. With respect to *S*'s aggression, see footnote at the bottom of page 144). When seen a week later, she brought her paintings of the hypnotic images and a com-

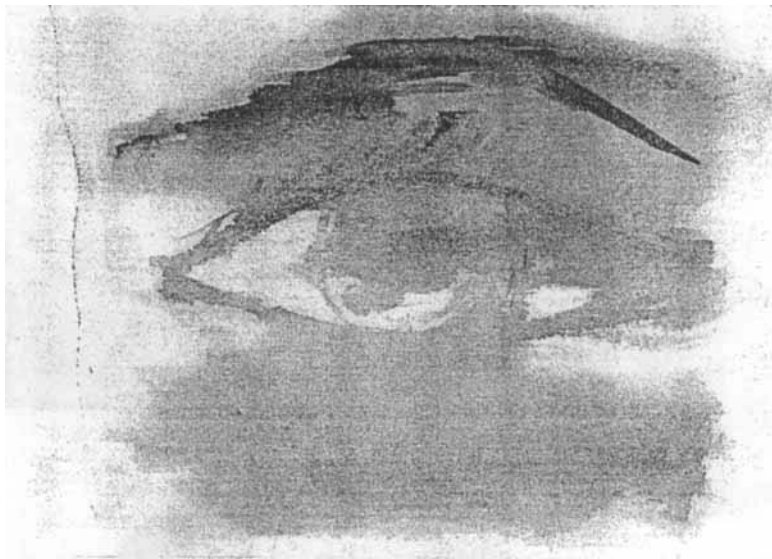


FIG. 1. One of the eyes which materialized out of the gray mist

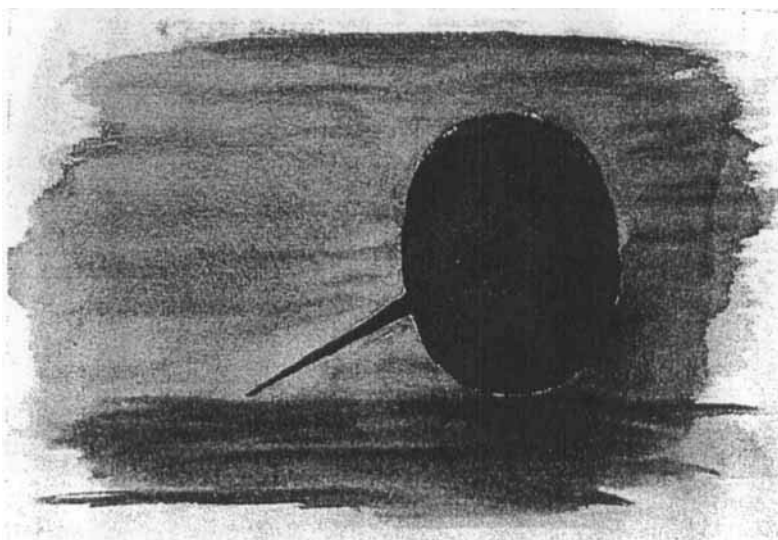


FIG. 2. Brown tack



FIG. 3. Blue light preceding the crystallization of figures 4, 5 & 6

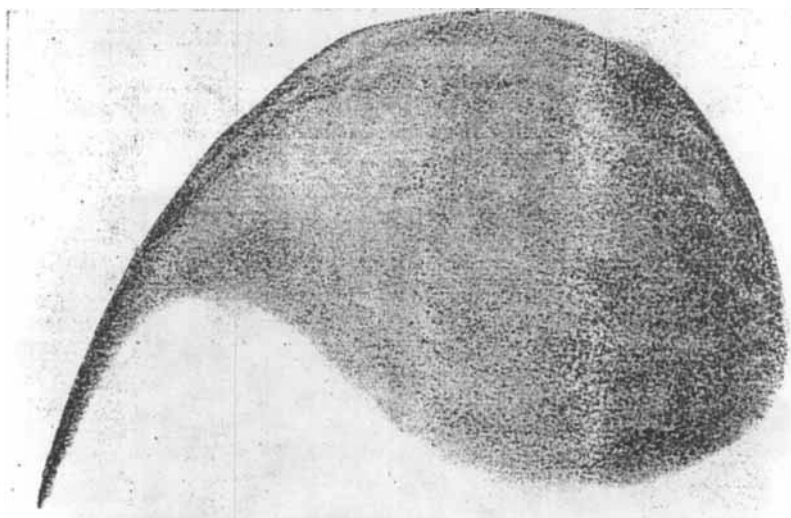


FIG. 4. Sun-shaped blue light with tail

plete introspective account, including her interpretations. (See figures 1 through 6).

S's Immediate Recollections of her Hypnotic Perceptions

"I searched a grey mist for images to appear. Suddenly misty forms became visible and I was able to see vague shapes of eyes. They seemed

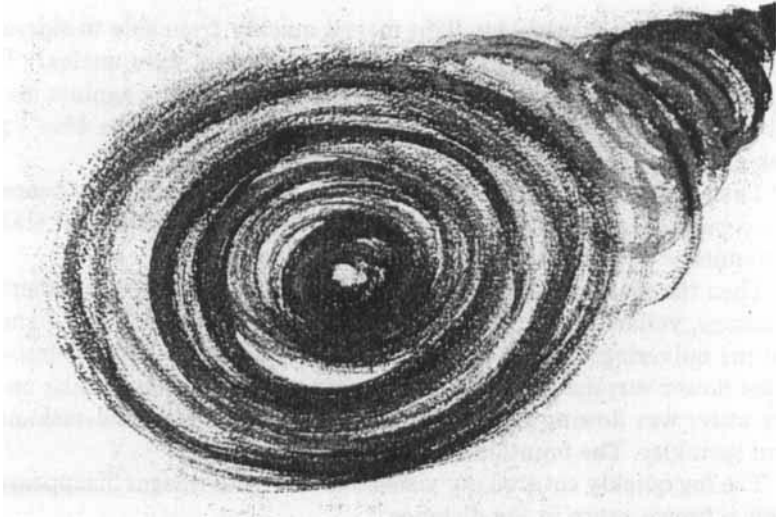


FIG. 5. Eye of tornado

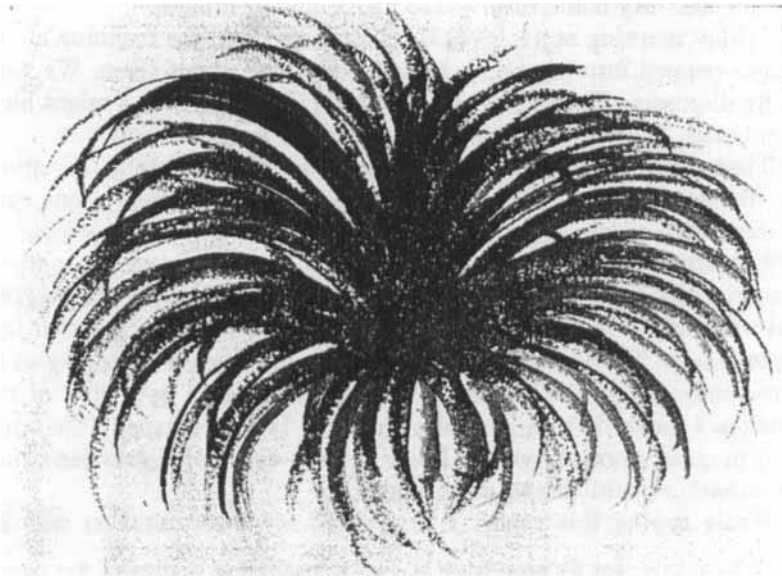


FIG. 6. Flower-Fountain

to float in space across my path of vision. These grey-colored visions of eyes were side views, but there was at least one full-face eye. They were never clear. The second image was fuzzy but slightly sharper. A brown tack lay in a horizontal position. The point faced to my left.

"A bright sun-shaped blue light moved quickly from side to side and out of my field of vision. It was so bright the edges were unclear. The light went at great speed when suddenly it began dashing against me as if I were a wall. While it pounded me again and again, the blue light took a comet shape (a long blue tail of light).

"Then suddenly I was looking at the eye of a hurricane from beneath it and beside it, simultaneously. It seemed very calm and almost static. Motionless except for a spiraling upward movement.

"Then the most beautiful thing happened. I saw a flower shimmering in orange, yellow and red iridescence. The petals were long and slender and the quivering made the iridescent quality more distinct. A close-up of the flower surprised me. It was a fountain with the sun shining on it. The water was flowing in very thin streams like a round, old-fashioned lawn sprinkler. The fountain turned light aqua blue.

"The fog quickly covered my vision but before all images disappeared, I saw a brown acorn in the distance."

S's subsequent interpretations: "Afterward, Dr. Halpern discussed with me the meaning of the eyes. They seem to be a symbol of aggression for me.¹ My homework was to figure out the images.

"Friday morning at 11:00 A.M. in English class, the meaning of the images popped into my mind. I wasn't thinking about them. We were busily discussing Turgenev's short story, 'The Live Relic'. I might have been bored. I jotted down what I thought the images meant.

"That night I went out to dinner with my fiancé. I told him about the images and what I thought they meant.² This made them even clearer in my mind.

"I started with eyes meaning aggression and followed the pattern along these lines. I decided the tack, a sharp object, meant that aggression was painful to me. The blue light revealed pent-up aggression trying to escape. The hurricane appeared to be my aggression trying to be forced into a controlled form. The flower unfolded a new kind of aggression. I gave birth to normal aggression. It now escaped (the fountain) in quiet, normal rivulets. I now have an acorn of aggression which is compact, controlled and of normal size.

"While typing this report I discovered my interpretation was in-

¹ It is unlikely that *S's* acceptance of eyes as symbols of aggression was merely intended to please the therapist. Note the phraseology, "They seem to be a symbol of aggression for me." She did not assert that they are symbols of aggression. *S* was well aware of being quite a competitive individual and there is no question but that the wholesome channeling of her aggressive impulses was one of her major problems.

² It is possible that the recounting of her hallucinatory experience to her fiancé was an expression of resistance to a larger insight.

correct. Let's say I'm aware of an alternate meaning. The hurricane was the clue. Despite the fact that my image was motionless, hurricanes are uncontrollable winds. Therefore, it must mean my aggression became so wild it was uncontrollable. The flower meant a new thing happened to the aggression. It escaped (the fountain) even though I tried to keep it inside. This disturbed me so I tried to control it and hid it deeper. I drew a tighter rein on it (acorn)."

Discussion

It would appear that the neurophysiological bias of some investigators with regard to hallucination often precludes or minimizes the role of psychodynamic processes (Landis, 1950). If perception is considered a function of consciousness it follows that a disturbance or alteration in consciousness would engender concomitant changes in perception and its corollary that a disturbance in perception would bring about a corresponding change in consciousness. Consciousness may be influenced psychologically as well as neurologically. It is well known that both drugs and psychodynamic processes, including hypnosis, produce alterations in consciousness. An investigation of the phenomena of hallucination as a special problem in perception has significant neuropsychological implications and should contribute to the clarification of the psychosomatic question. The contributions of both neurophysiology and psychology must be considered if an adequate understanding of hallucination is to be achieved. The argument may be analyzed according to the principles of form and content. The data of neurophysiology answers questions of form whereas the data of psychodynamics answers questions of content. To resolve the riddle of form and content by reducing one to the other would seem to provide an absurd solution. It is hoped that this discussion will serve to balance the biochemical evidence with pertinent psychological findings and elucidate the nature of this riddle.

An examination of *S*'s drawings showed the kaleidoscopic nature of her hypnotic percepts (hallucinations). Furthermore, they bore a marked similarity to mescaline hallucinations with respect to their geometric, chromatic and spatiotemporal qualities (Klüver, 1942). Klüver has adduced evidence to support his contention that mescaline hallucinations are qualitatively different from psychically-induced hallucinations and argues against a psychodynamic interpretation. While he does not deny the possibility of symbolic meaning, the consistent appearance of forms such as lattices, spirals, fretwork and arabesques, varying in number, size and shape and changing in spatiotemporal sequences is construed by him to indicate the workings of specific biochemical proc-

esses. What Klüver considers specific for mescaline hallucinations appears to occur in varying degrees in non-mescaline induced hallucinations. Klüver's descriptions of mescaline states suggest impairment of body image. More specifically, some subjects report the feeling of merging with and emerging from the hallucinatory images. It is likely that the effect of the drug is to interrupt the orderly integration of the various sensory processes.

The body image is considered by some theorists as a nuclear component of ego (Schilder, 1935). It is well known that intense and prolonged hypnotic states can produce varying degrees of body image disturbances rivalling those produced more rapidly by such toxic agents as mescaline. In other words, two avenues for inducing changes in perceptual processes via disturbance of ego functions (body image) are possible—the biochemical and psychological.

With respect to content, the psychodynamic nature of *S*'s hallucinations was corroborated by the coherent symbolic interpretation which she presented. While it is not within the purview of this communication to digress into speculations about the psychodynamic aspects of these percepts, some comments are noteworthy. An evaluation of her accounts reveals an unfolding of insight into the nature of her conflicts which were perceptualized during hypnosis. Her interpretations apparently stopped short of a fuller understanding, which might be explained as being due to her resistance. It will be recalled that *S*'s interpretations centered about her difficulty in expressing aggression. With respect to her eyes being a symbol of aggression it should be noted that during previous hypnotic perceptions her visual imagery included percepts of herself in which bullets were emanating from her eyes. This, incidentally, is consistent with the folklore concerning eyes as being instruments of aggression. It was felt that her hypnotic percepts were a perceptual expression of her oedipal conflict. This interpretation represents an analytic evaluation of the cumulative therapeutic interviews.

Two weeks later *S* announced that she had associated the blue oval light with her father's eyes, thus corroborating the psychodynamic interpretation of her percepts. It will be further recalled that *S*'s descriptions of her hypnotic percepts underwent successive elaborations. Her account during hypnosis was relatively brief and her successive accounts were increasingly detailed, which would imply that changes in ego functioning are sustained during hypnosis. As an individual oscillates between wakefulness and sleep, the perceptual functions of ego fluctuate concomitantly. Hypnosis as a modified conscious state also produces changes in perceptual process which are complicated by the hypnotic interaction. The same pattern of mnemonic restructuring, pro-

ceeding from a nuclear account during hypnosis to an elaborate account during the waking state, has been noted by the author in previous studies. This problem of memory has been of historic interest to psychologists and has recently received systematic attention with respect to hypnosis (Reiff and Scheerer, 1959).

The question is raised whether *S*'s successive accounts designate veridical experiences or represent post-hoc associative embellishments. It is felt that this question may only be answered with respect to the particular subject. The hypnotic interaction, as interpreted by the hypnotist, provides the only basis for deriving a valid answer. It is felt that *S*'s hypermnesia was for her hypnotic perceptions and did not entail related pre- or post-hypnotic experiences.

Kline (1958) postulated that the hypnotic state represents a regression to a more simple and basic form of perceptual organization and response. Brain (1951) asserted that perceptions are symbolic transformations of sensory events which are appropriately projected on to the environment (intra and extra organismic). Percepts are subsequently transformed into concepts. If the views of both Kline and Brain are accepted, a generalization concerning perception which will embrace hypnosis may be accomplished.

Let us posit a perceptual-conceptual reciprocity; sensory symbols of the first order (percepts) interact with non-sensory symbols of the second order (concepts)—developmentally perception always precedes conception. Let us further posit this reciprocity as a dependent neuropsychological function of consciousness. Psychodynamic theory conceives consciousness as a function or apparatus in the service of the ego which permits the ego to view objectively internal as well as external events (Rapaport, 1951). Consciousness may be further construed as an adaptive process subserving the purposiveness of the ego. In Rapaport's analogy, consciousness as a superordinate sensory organ would coordinate the perceptual-conceptual reciprocity which may be considered as the cognitive process of the ego. Consciousness is also postulated as a precondition for being (Jung, 1959). Without consciousness man is reduced to a reflex apparatus. Thus the neurological and psychodynamic postulates may be synthesized into a larger conceptualization. In terms of our postulates, the process of perceptualization during hypnosis may be understood as designating a transformation of second order non-sensory symbols (concepts) into first order sensory symbols (percepts) achieved as a consequence of the alteration of consciousness and permitting, through the discharge of appropriate affect, a fuller integrated response. This hypothetical capacity of the ego to selectively suspend perceptual functions (regression in the service of the ego) has been re-

viewed and advanced as a contribution to the theory of hypnosis (Bellak, 1955).

In the light of our assumptions concerning the symbolic nature of the perceptual-conceptual reciprocity, the question whether hallucinations, which after all are percepts, have symbolic significance seems meaningless. The question might be more adequately framed as follows: What are the conative and affective components of hallucinations? If the purposive nature of the human organism is accepted, it must follow that conative and affective components exert determinative influences in perception.

What has been stated above about perception in general and hallucination in particular may easily be extended to include other modes of perceiving, such as dreaming and imagining. All of these processes subserve reality testing and share in common a perceptual-conceptual reciprocity. They are differentiated by the perceiver on the basis of the concomitant activity of consciousness and determined by appropriate psychodynamic processes.

Summary and Conclusions

This communication presented and discussed a series of related hypnotically-induced visual percepts experienced and drawn by one subject. The percepts were chromatic, abstract, and bore a close resemblance to mescaline hallucinations. They were given a psychodynamic interpretation by the subject. It was further argued that there is no essential qualitative difference between psychogenic and toxicogenic hallucinations. The major difference was resolved in terms of extent of impairment of body image which was considered as a nuclear ego function. Alterations in perceptual processes, exemplified by hallucinations, were explained in terms of perceptual-conceptual reciprocity understood as a neuropsychological function of consciousness. It was hypothesized that all perceptions including dreaming, hallucinating, imagining and hypnotic perceiving may be likewise explained.

The relationship between toxicogenic and psychogenic perceptual problems may be clarified by further studies of subjects under conditions of hypnosis and hallucinogenic drugs.

REFERENCES

- BELLAK, L. An Ego-Psychological Theory of Hypnosis, *Int. J. Psychoanal.* 1955, 36, 1-4.
BRAIN, W. R. *Mind, Perception and Science*, Springfield, Ill.: Charles C Thomas, 1951.
JUNG, C. G. *The Undiscovered Self*, New York: New American Library of World Literature, Inc., 1959.

- KLINE, M. V. *Freud and Hypnosis*, New York: Julian Press, 1958.
- KLÜVER, H. Mechanisms of Hallucinations, Chap. 10 in: *Studies in Personality*, contributed in honor of L. M. Terman, New York: McGraw Hill, 1942: 175-207.
- LANDIS, C. AND BOLLES, M. M. *Textbook of Abnormal Psychology*, New York: Macmillan, 1950.
- RAPAPORT, D. Consciousness: A Psychopathological and Psychodynamic View, in Abramson, H. A., editor: *Problems of Consciousness, Trans. Second Conference*, Josiah Macy Jr. Foundation, New York, 1951.
- REIFF, R. AND SCHEERER, M. *Memory and Hypnotic Age Regression*, New York: International Universities Press, 1959.
- SCHILDER, PAUL. The Image and Appearance of the Human Body, *Psyche Monographs* No. 4, London: Kegan, Paul, Trench & Trubner, 1935.