HYPNOSIS, MOTIVATION AND COMPLIANCE

MARTIN T. ORNE, M.D., PH.D.

Recent research findings have indicated the need to reconsider what had appeared to be reasonable assumptions about the nature of hypnosis. At first sight, the implications of these studies seem to be at variance with clinical experience and common sense, but careful consideration actually allows us to reconcile clinical and experimental findings in a more satisfactory way than has been possible in the past.

It has been widely held that hypnosis alters the relationship between subject and hypnotist by changing the subject's motivation. One of the more extreme statements of this position was made by the present author (8, 9) in an extrapolation of the views of White (17, 18). It was assumed that the hypnotic state increases the subject's motivation to please the hypnotist; in other words, that it makes him unusually compliant. This assumption seems soundly based on the behavior of hypnotized individuals who certainly appear to do things that they would not do ordinarily. Nevertheless, a careful evaluation has failed to uncover any valid evidence for increased compliance in hypnosis, as the hypnotic state has usually been defined. To reconcile this finding with the effectiveness of hypnosis in clinical practice, it has been necessary to clarify the definition of hypnosis itself.

This paper will begin by reviewing the experimental evidence that has made it necessary to reject the usual concept of hypnosis in terms of motivation and compliance. This evidence suggests that hypnosis is not a change in the degree of compliance but rather, a change in the subjective experience of hypnotized individuals. The kinds of phenomena that are subsumed under the concept of hypnosis will be discussed in order to show that a definition in terms of subjective experience can encompass these adequately. Such a definition suggests that the observed compliance of hypnotized subjects and especially their responsiveness to therapeutic suggestions may not be an intrinsic part of hypnosis itself. From this point of view, the therapeutic effectiveness of hypnosis can be seen in a new light, and some previously puzzling clinical phenomena can be understood.

The motivational view of hypnosis seems compelling because hypnotized subjects are quick to comply with the hypnotist's requests even when unusual or bizarre behavior is suggested. However, the source of the subject's motivation in such cases need not be the hypnotic state itself. In lecturing to college students about hypnosis, I often illustrate this point with a simple demonstration. I ask a number of students to carry out certain actions--one will be asked to take off his right shoe, another to exchange his necktie with his neighbor, a third to give me his wallet and so on. After these things have been done, I point out that if the same behavior had been carried out after a hypnotic induction, it would have seemed that the students were under hypnotic control. The point is that while all the behaviors fell within the range of admissible requests in this situation, it is not common for lecturers to make such "unreasonable" requests. Therefore, one is tempted to assume, incorrectly, that only hypnotized persons would comply with them.


Dr. Orne is Director of the Unit for Experimental Psychiatry, Pennsylvania Hospital, 111 N. 49th Street, Philadelphia.

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An experimental demonstration of this point is provided by Orne and Evans' (11) replication of the work of Rowland (14) and Young (19), which appeared to prove that subjects can be compelled to carry out antisocial and self-destructive actions under hypnosis. The earlier investigations had shown that deeply hypnotized subjects can be compelled to pick up a rattlesnake, lift a penny out of fuming nitric acid and throw the acid at an assistant. We found that their results are indeed replicable but that this behavior could be obtained equally well from nonhypnotized individuals in the waking state. The waking subjects were fully aware that the behavior they were being asked to carry out would normally be highly self-destructive, antisocial and dangerous. However, in a postexperimental interview we learned that they were convinced (correctly) that appropriate safeguards would be taken to protect them and the assistant from any real harm.

In short, so far it has not been possible to find an aspect of behavior which subjects will perform in hypnosis but will not perform in the waking state. This does not entirely eliminate the possibility that hypnosis may actually increase the range of behaviors that people are willing to carry out. It merely demonstrates that subjects tend to do anything that might conceivably be required of them in an experimental setting. Any behavior that subjects might not carry out is well beyond the range that an experimenter could afford to request. Milgram's (7) recent studies with shock underline this point; he has shown that subjects continue to administer what seem to be extremely high and dangerous levels of electric shock to another person in the context of a learning experiment.

EFFECT ON PERFORMANCE OF DIFFICULT TASKS

Rather than examining the range of tasks that subjects will perform, one can study the effect of hypnosis on performance quantitatively by using difficult, fatiguing tasks. Such an approach requires considerable caution. If the subject is used as his own control, he may indeed perform much better in hypnosis than when awake. However, one must bear in mind that experimental subjects are extremely compliant even without being hypnotized. If they think the experimenter is attempting to prove that hypnosis increases performance, they may easily provide him with supporting data—not necessarily by increasing their hypnotic performance, but by decreasing their waking performance (4, 9). Moreover, studies by Orne (8, 9), Barber and Calverley (1) and Levitt and Brady (5) have shown that with proper motivation, waking subjects can surpass their own hypnosis performance. In these studies, however, no attempt was made to equate instructions in the two conditions, so that subjects were motivated very differently during waking and hypnosis. While the findings demonstrate that hypnosis does not lead to a transcendence of normal volitional capabilities, they shed no light on whether hypnosis alone increases the motivation of the subject to comply with requests of the hypnotist.

To investigate this question, one would need to give identical instructions in the waking state and in hypnosis; for example, asking the subject to hold a kilogram weight at arm's length as long as possible. Performance in such an experiment would be a measure of the degree of willingness to comply which is induced by identical instructions in different states. While some studies have used this approach, they have inevitably encountered a serious methodological problem. It is difficult, if not impossible, to give instructions to a hypnotized subject in the same way as to a waking subject. While the "lyrics" may remain constant, the "melody" is usually drastically altered and therefore the total communication is quite different. Consequent differences in performance are not surprising, but in this paradigm we cannot determine whether they are due to the way in which the instructions are given or to the presence of hypnosis.

A rather ingenious experimental design by London and Fuhrer (6) gets around this difficulty. A large number of subjects are given an initial test of susceptibility to hypnosis. From this sample, the extreme...
responders and nonresponders are selected.

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All selected subjects are told that they are sufficiently deeply hypnotizable for the purposes of the experiment. In the main part of the experiment a very neutral, relaxing form of trance induction is used and subjects are tested on a motor task. A comparison is then made between performance of good hypnotic subjects and individuals who are relatively insusceptible to hypnosis. If hypnosis makes subjects more compliant, the performance by the hypnotizable group should be greater than that by the insusceptible group. However, in several studies, London and Fuhrer (6) and Rosenhan and London (12, 13) did not find this result. If anything, insusceptible subjects perform better under hypnotic conditions than susceptible ones. In a detailed replication of this work, Evans and Orne (4) found no difference in performance between susceptible and insusceptible subjects. Nevertheless, their findings, while not confirming all of the earlier results, certainly do not suggest that the hypnotizable subjects were more motivated to comply with the wishes of the hypnotist than the others.

In another study in a different context, we tried to measure compliance by giving subjects a large stack of postcards and asking them to mail one back to the laboratory every day. The request was made while the subject was awake, but the experimenter had previously hypnotized each one to determine his degree of hypnotizability. If hypnosis significantly alters the hypnotist-subject relationship, one might expect that the good hypnotic subjects would send more postcards than those who were unable to enter hypnosis, even though the request itself was not given hypnotically. However, the correlation between the number of postcards sent and depth of hypnosis achieved on the test was essentially nil.

It is possible that the criterion used in the postcard study is inappropriate to the problem. We have also examined a less contrived measure which may well reflect level of motivation. Much of our experimental work has involved not only excellent hypnotic subjects, but also essentially unhypnotizable individuals used as controls. Retrospectively, it occurred to us that the number of cancelled appointments and actual drop-outs in the highly hypnotizable group was greater than in the nonhypnotizable individuals. Therefore, we began recording subjects' time of arrival for experimental sessions and correlated their punctuality with their hypnotic performance. We found a modest but significant negative relationship--the good subjects tended to arrive late for the experiment, while the relatively insusceptible subjects tended to arrive early. Undoubtedly there are many ways of explaining this finding, but it is certainly not what would be expected if good hypnotic subjects are especially motivated to please the hypnotist.

A further relevant finding emerged in a study conducted in our laboratory by Shor (15). Prior to an experiment involving electric shock, subjects were asked to choose the highest level of shock they would be willing to tolerate. The relatively insusceptible subjects chose to tolerate significantly higher levels of shock than the good somnambulists.

All these findings argue against the hypothesis that being found susceptible to hypnosis leads to a generalized tendency to comply with requests from the hypnotist. No such tendency appears when the requests are not directly relevant to the hypnotic situation. In other words, a subject who carries out hypnotic suggestions may not necessarily be more inclined to carry out other requests.

CRITERIA FOR HYPNOSIS

In order to understand these results, it is necessary to examine the definition of hypnosis itself. What criteria do we have in mind when we say that someone is hypnotized? It is true that observers watching a subject respond to suggestions usually agree on whether he is hypnotized, and how deeply. Moreover, an objective scale of hypnotic depth is employed in most of the empirical work done today. The Stanford Hypnotic Susceptibility Scale, Form C(16) is probably the most widely used. The scale scores agree very well with the judgment of trained observers.
Nevertheless, it is appropriate to ask what criterion the observers are actually using, or, conversely, what a subject must do to achieve a high score on a scale of hypnotic depth. It is clear that the critical variable is the subject's ability to respond to suggestions. The hypnotic suggestions, however, are not all of the same kind. They can be classified into four groups: 1) ideomotor suggestions, 2) challenge suggestions, 3) hallucinations and memory distortions (of which amnesia is a special example) and 4) posthypnotic behavior. Such a classification has received recent empirical support by the factor analytic results of Evans (3).

In a classic ideomotor suggestion such as the sway test, the subject is told that he is falling backward. He is told what to experience: "You are falling backward . . . you feel yourself falling further and further backward." The response is defined as positive by the extent to which the subject actually falls, but it is implicitly assumed that he is to fall because he feels himself drawn backward rather than because of the conscious volitional decision: "I will fall backward." To the degree that the actual falling depends on a volitional decision, it has failed to measure an ideomotor response. The experimenter is not attempting to measure behavioral compliance per se but rather the behavioral manifestations of a subjective experience. If one were measuring only behavioral compliance, one would use the simple instruction, "Fall backward now." In an experimental context at least, compliance would be almost total.

The challenge suggestion (exemplified by: "Your eyes are tightly glued together; you cannot open them. Try to open them. You cannot.") is also scored behaviorally, on the basis of the subject's failure to open his eyes. Here too, however, it is hoped that this behavior accurately reflects a subjective inability to open the eyes, rather than mere compliance with the hypnotist's wish. While these two possibilities are difficult to distinguish operationally, the response measures "depth of hypnosis" only insofar as it reflects an experienced inability on the part of the subject to open his eyes, i.e., the extent to which a subject cannot comply even when he is challenged to do so.

Items dealing with hallucination, amnesia or other memory distortions are also designed to produce responses which reflect a presumed change in the subjective experience. A subject is genuinely hypnotized not because he is willing to report certain things, but because his report really describes his personal subjective experience.

**POSTHYPNOTIC PHENOMENON**

The posthypnotic phenomenon is most difficult to deal with in this context because the usual criterion is purely behavioral: does the subject carry out the suggestion? Nevertheless, the response to posthypnotic suggestion is subjectively quite different from simple compliance. It is presumed that subjects experience a compulsion to carry out the suggested behavior, regardless of whether they actually recall the suggestion. In fact, Evans (3) has attempted to measure separately the compulsion and recall elements of typical posthypnotic suggestions and found them to be only moderately correlated. Elsewhere the author has summarized data on posthypnotic behavior (10, see also 2) showing that, despite this subjective compulsion, a posthypnotic suggestion is apt to be less effective than a simple request to carry out experimental behavior. These quantitative and qualitative differences provide convincing evidence that posthypnotic suggestion is not merely a matter of behavioral compliance.

In short, the criteria used to determine whether a subject is hypnotized do not focus primarily on whether he does what he is told. Rather, they are attempts to measure the extent to which distortions in his perception or memory can be induced by appropriate cues. If a wide range of distortions can easily be caused to appear, the subject is said to be deeply hypnotized; individuals in whom few, if any, distortions can be produced are considered not hypnotized. Thus the essence of hypnosis as it is often described in popular literature and patients' fantasy does not correspond to its actual definition. Hypnosis is not so much a way of manipulating behavior as of creating distortions of perception and memory. Thus we can
understand why it does

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not necessarily increase compliance or obedience per se, especially in experimental contexts which already predispose subjects to a very high degree of compliance.

If we adhere to the experiential definition that is actually employed by trained observers and objective scales alike, performance and behavior are not the criteria of hypnosis. It is for this reason that a simple motivational theory of hypnosis cannot be sustained and has been repeatedly contradicted by experimental findings. Tasks which could, in principle, be carried out by nonhypnotized individuals are not carried out better under hypnosis. The hypothetical "increased motivation to please the hypnotist," which ought to manifest itself in performance on such tasks, apparently does not occur.

In a clinical context, the therapist is often more interested in altering the patient's behavior than in studying his experience. So-called "hypnotic" therapy has been reported useful in altering habit patterns and in the suppression of a wide range of neurotic symptoms. Understandably, those using this method have often decided that a patient was successfully hypnotized whenever his behavior was altered by the therapist's suggestion. By this definition, a suggestion is "hypnotic" if it follows a trance induction procedure and has successful results, even without any attempt to evaluate depth of hypnosis by the usual means. It should be clear that this definition of "hypnosis" is quite different from the subjective criterion we have discussed here. It is entirely possible that patients fail to enter hypnosis in the experiential sense, and yet respond to a therapeutic suggestion. Conversely, other patients may be deeply hypnotized and fail to respond to such a suggestion. The clinical procedure which defines "hypnosis" post hoc would, by its nature, fail to recognize such a situation.

It is highly probable that hypnotizability in our sense does not correlate highly with response to therapeutic suggestion. This is indicated by a phenomenon that has long been recognized as puzzling: namely, that even a "light hypnotic trance" may be sufficient to produce therapeutically marked changes in behavior. I have been struck particularly by two recent patients who were totally unable to manifest hypnotic phenomena and did nothing more than close their eyes in response to a request to do so. By any of the usual criteria, one would have to conclude that they were not hypnotized at all. Nonetheless, therapeutic suggestions produced dramatic positive responses.

If we are to be consistent in our definitions, we must recognize the possibility that a hypnotic trance-induction procedure may fail to induce hypnosis itself and yet make the patient more responsive to therapeutic suggestions designed to alter his behavior. Two aspects of the therapeutic situation utilizing trance induction can be separated 1) the effect of suggestions made during a situation defined by doctor and patient as "hypnosis" and 2) the classic state of hypnosis in which the patient responds to appropriate suggestions from the hypnotist by distorting reality. Susceptibility to hypnosis itself may be different from susceptibility to therapeutically oriented requests which often involve no cognitive distortion.

The necessary and sufficient conditions for the classic subjective phenomena of hypnosis are as yet unclear, but the hypothesis that hypnosis is essentially a matter of compliance seems untenable. Even the more plausible hypothesis that hypnosis depends on an increased motivation to carry out any tasks requested by the hypnotist must be rejected, or at least restricted to apply only to tasks involving cognitive distortions. If this is true, how can we understand the clinical effectiveness of the hypnotic induction procedure? This procedure does, appear to change the existing transference relationship, and "hypnotic" suggestions do often alter symptoms which resisted other forms of suggestion.

EFFECT ON ROLE RELATIONSHIP

In terms of the present formulation, these effects may not be primarily a function of hypnosis itself. Rather, they may result from the altered relationship which exists when a therapist assumes the role of
"hypnotist" and shares with his patient the expectation that hypnosis involves unlimited compliance. This is certainly a different role relationship than the usual therapeutic one. Not only are magical powers ascribed to the therapist by the patient, but the therapist's behavior tends to reinforce these fantasies. Furthermore, therapists allow (in fact encourage) regressive behavior and permit an intense closeness which they might otherwise be unwilling to tolerate. These changes in the relationship between doctor and patient do not in themselves constitute the real hypnotic state, although they may indeed be among the sufficient conditions to evoke it. If one could devise a relationship where these accoutrements of the hypnotic relationship exist without hypnosis itself, there would be hope of separating the two empirically.

Perhaps the augmented response to suggestions usually ascribed to hypnosis relates more to these changes in doctor-patient relationship than to the hypnotic potentiality for distorted perceptions. This relationship helps to evoke hypnosis in some individuals. However, even if in other individuals it fails to do so, the relationship per se may still alter the motivation of the patient and dramatically affect his response to certain types of suggestion. If this were the case, it would help to explain many of the apparent contradictions about hypnosis, including not only the vastly differing reports by different hypnotists about the percentage of hypnotizable individuals in the population, but also the lack of correlation between hypnotizability and compliance.

REFERENCES


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