

Peak Experience, Trance, and Hypnosis

(in memory of Ronald E. Shor)

John F. Kihlstrom

University of Wisconsin

Note: Paper presented at the annual meeting of the Society for Clinical and Experimental Hypnosis, October 1983

Ron Shor is gone, and he will be sorely missed by all who tried to understand the phenomenon of hypnosis. As a historian, anthologist, experimentalist, and theorist, he shed light on dark areas over a career whose publications began in 1959, and continue to appear today. Ron's approach to hypnosis represented a marriage of two tendencies that have often come into conflict in our field: conviction in the reality of hypnotic phenomena on the one hand, and disciplined skepticism about some of the claims made for hypnosis on the other. He staunchly resisted the "either-or", "fact or fiction", debunking approach that characterizes so much of hypnosis research. But he resisted just as strongly the validating tendency that characterizes so much of hypnosis research. He drew much of his inspiration from the psychodynamic and humanistic traditions of Freud and Maslow. But as a researcher, and a colleague, he insisted on rigorous experimental methodology and detailed statistical documentation, and labored mightily over the writing of each paper.

An early case in point is his work on hypnotic analgesia (Shor, 1962a, 1962b, 1967), an outgrowth of his doctoral dissertation. Hypnosis had been used in the relief of pain for over a century, but the documentation of these effects was unsatisfactory for a variety of reasons. In a carefully designed study, comparing reals and simulators on both verbal reports and physiological indices of pain, with five counterbalanced conditions in an elegant analysis of variance design. The remarkable result was that everything worked. Physiological responses to electric shock were minimized, equally, in all conditions including the normal waking state. The conclusion was not that hypnosis does nothing, but that there was something wrong with the experiment. Electric shock is easy to measure quantitatively and apply reliably, but it may be more shocking than painful. More important, special steps taken to put subjects at ease were so effective that they felt very little pain to begin with! The experiment contributed to the introduction of more ecologically valid pain stimuli, and to systematic research on the relation between anxiety and the perception of pain.

A more positive contribution came in work with Randy Easton, now at Boston

College, on the Chevreul pendulum illusion (Easton & Shor, 1975, 1976, 1977). Here an analog of hypnosis was lifted out of the realm of spiritualism and parlor games and analyzed with the methodology of perceptual and cognitive psychology. It would have been easy to attribute the phenomenon to "suggestibility" and let it go at that. But Easton and Shor were interested in going beyond hand-waving to determine just how it is that ideas are translated into action. Subjects held the pendulum, and imagined it moving, in a variety of conditions designed to control the amount of visual and proprioceptive feedback; in other conditions, visual and auditory stimuli were employed as prompts; or subjects were engaged in distracting tasks. The illusion turns out to be a product of visual capture, and skilled perceptual activity. As a whole, the research provides a nice example of how the phenomena of hypnosis can be tamed and construed within the framework of modern cognitive psychology.

Without a doubt, Ron Shor's most prominent empirical contributions to hypnosis revolve around the assessment and prediction of individual differences in hypnotic susceptibility. Together with Emily Orne, he adapted the Stanford Hypnotic Susceptibility Scale, Forms A and B, for group testing (Shor & Orne, 1962, 1963). The resulting Harvard Group Scale of Hypnotic Susceptibility, which can be administered by tape-recording to even very large groups, with reliable self-scoring by objective behavioral criteria, has introduced substantial economies into hypnosis research. It was never intended to stand alone as a measurement of hypnotizability, though its correlation with the Stanford Form C is high enough that with large samples it can serve as a criterion in studies of personality correlates (Kihlstrom, Diaz, McClellan, Pistole, Ruskin, & Shor, 1980). And extreme scores are fairly reliable, so that -- again with large Ns -- it can be used for some kinds of formal research (Kihlstrom, Easton, & Shor, 1983; Kihlstrom & Shor, 1978). Its chief function, which it performs admirably well, is to serve as an introduction to hypnosis for naive subjects, and as a preliminary screening device to select subjects who are appropriate for later, more rigorous, individualized testing.

Ron showed remarkable ingenuity in adapting the Harvard Group Scale for various research purposes. There is, to begin with, the Inventory of Self Hypnosis (Shor, 1970a). A comparative study (Shor & Easton, 1973) found substantial test-retest reliability for the Inventory, and quite comparable distributions of responses on it and the Harvard Group Scale. However, the Inventory and the Group Scale correlated only modestly with each other, suggesting that self-hypnosis and hetero-hypnosis may involve somewhat different processes. There were also some variants of the Group Scale designed to assess the impact of various social-psychological variables on hypnotic responsiveness. In these procedures, the induction and test-suggestions of the Group Scale were described to subjects, and they estimated the difficulty levels of the various suggestions, or predicted their own performance. Subjects prove to be pretty good at the former task, in that there are substantial correlations between the item-difficulty levels derived from estimated and actual pass percents (Shor, 1964, 1971). The findings indicated that subjects have a fair amount of accurate knowledge concerning the requirements of various hypnotic suggestions. However, subjects

proved quite poor at predicting their own responses to hypnosis, even when they are given a great deal of preinformation concerning what they will be asked to do (Shor, 1971; Shor, Pistole, Easton, & Kihlstrom, 1984), but the amount of surprise and disappointment experienced by hypnotic subjects indicates that these preconceptions are far from self-fulfilling prophecies.

Ron conceived of hypnosis as a cognitive skill, and spent a great deal of time searching both for its correlates and for ways in which that skill might be enhanced. On the latter issue, he was quite pessimistic about producing meaningful enhancements in the subject's ability to respond to hypnotic suggestions. Observing the distinction between competence and performance that runs throughout the skill literature, he was quite certain that there were countless ways in which a person's responsiveness to hypnotic suggestions could be artificially suppressed, or in which subjects could be induced to go through the motions of responding. Such procedures did not have any effect on hypnotizability, in his view; nor were their outcomes representative of the subject's hypnotic ability (Shor & Schatz, 1960).

Ron was a forceful advocate of the concept of plateau hypnotizability. He argued that it took some time for an individual's response to hypnosis to stabilize at a level which represented his or her ability to respond to hypnotic suggestions. Such a plateau can be assessed only with a series of testing instruments such as those provided by the Stanford scales. These are not "training" sessions in any sense, but rather neutral assessment procedures. Once such a plateau was reached, it could serve as a baseline against which to measure changes in hypnotic responsiveness produced by various manipulations (Shor & Cobb, 1968), or as a criterion to be predicted by nonhypnotic personality measures (Shor, Orne, & O'Connell, 1966).

Perhaps Ron's most outstanding contribution to the field came when he tried to specify just what ability it is that allows subjects to respond to hypnotic suggestions. Out of this came a theory of hypnosis and the two most literate papers ever to have graced our field (Shor, 1959, 1962). The argument, as later revised (Shor, 1970b, 1979b), is that the hypnotic experience is the product of eight processes, of which three are essential and are characterized as the dimensions of hypnotic depth. For Ron, the essence of hypnosis lies in the suspension of the subject's normal generalized reality orientation, with the result that distal stimulation (whether exteroceptive or interoceptive) is not the principal determinant of subjective experience. This isolation of ongoing experience from external reality and critical self-appraisal is called trance (Ron was an unabashed state theorist) and the underlying cognitive skill tranceability. Tranceability is the aptitudinal component contributing to hypnotic responsiveness. In addition, there is an attitudinal component consisting of situational and interpersonal variables which determine whether a tranceable person will enter trance on a particular occasion.

Following induction, the experience of a tranceable individual will vary along a

number of different dimensions. There is, for example, a degree of drowsiness and of physical and mental relaxation; there is also some degree of mental imagery, and of absorption in the ongoing hypnotic experience; and there is the degree to which the person becomes aware of ideas and memories that are ordinarily repressed or passively excluded from consciousness. These experiences are interesting when they occur during hypnosis, but in Ron's view they were not essential features of the hypnotic state. The three essential features, also conceived as dimensions, at least somewhat independent of each other: trance, nonconscious involvement, and archaic involvement.

We have already discussed trance in terms of the fading of the generalized reality orientation. It consists in the loss or suspension of the cognitive framework which usually provides a context for the interpretation of experience and the organization of action. When it is eliminated or reduced, then the boundaries between imagination, illusion, and reality become blurred, and reflective self-awareness is diminished. At this point, however, the suggested experiences become subjectively real.

Ron notes, however, that tranceable people enter hypnosis only because they are motivated to do so. As he writes, "A hypnotized subject is not a will-less automaton. The hypnotist does not crawl inside a subject's body and take control of his brain and muscles". During hypnosis, the subject is actively creating the suggested experience for him- or herself; but this voluntary activity goes on outside of phenomenal awareness. The product of this nonconscious involvement is the experience of involuntariness and effortlessness.

The concepts of trance and nonconscious involvement together link Ron's theory to Hilgard's neodissociation theory of divided consciousness, and to cognitive psychology. The link to clinical psychology, and to psychoanalytic theory, is provided by the dimension of archaic involvement. This is a concept similar to transference, in which the hypnotist-subject interaction takes on the qualities of the parent-child relationship. Not all three of these features are present to the same degree in every hypnotic encounter. For example, there is very little archaic involvement in the sterile confines of the experimental laboratory. But some of these features must be present, from Ron's view, or it simply isn't hypnosis.

Ron noted that hypnosis, as defined by the traditional induction procedure and suggestions of the type found in the standardized scales, was not the only place where activity defined by these three dimensions could be found. For example, he noted that these were frequently qualities of the "peak experiences" described by his mentor, Abraham Maslow. Some of them, like trance and nonconscious involvement, are to be found in highway hypnosis (Shor & Thackray, 1970; Williams & Shor, 1970). All of them are to be found, more or less, in the book-reading fantasy and some cases of personal heterosuggestion (Shor, 1970b). Accordingly, when we look for personality correlates of hypnotizability we should look for dispositions to enter these sorts of states, rather than at individual differences in the

sorts of cognitive and social tendencies measured by the standard personality inventories. Along with Arvid As and Josephine Hilgard, Ron was the first to construct scales to measure such predispositions, and to use them successfully to predict hypnotizability (Shor, Orne, & O'Connell, 1962, 1966). Ron's questionnaires differed from other instruments for assessing absorption and imaginative involvement, however, in that he attempted to include nonhypnotic indices of trance, nonconscious involvement, and archaic involvement. He disliked the term "absorption", at least as applied to his construct, and insisted that his were scales of "hypnotic-like experience".

Ron's differences with his colleagues carried over to his proposals for measuring the criterion as well as the predictors. From his point of view, the standardized scales of hypnotic susceptibility, with their psychometric emphasis on difficulty levels and internal consistency, erred in ignoring the phenomenological aspects of the experience of hypnosis (Shor, 1979b). That is, there was no way to tell whether the subject's behavioral response to suggestions was accompanied by trance, nonconscious and archaic involvement, and the other subjective dimensions. At the same time, it is doubtful whether Ron would have favored throwing over the traditional standardized scales. But because hypnosis was defined by experience rather than suggestion, he preferred to think of the scales as vehicles for inducing, and assessing, experience.

Ron was well aware that the field of hypnosis, in both its clinical and experimental manifestations, had been harmed in the 18th and 19th centuries when investigators and practitioners moved off the center towards the right or the left. Mesmer, the Royal Commission, Charcot, Liebeault, Hull, and Erickson all, in their own ways, missed the boat. In proposing to do work on phenomenal experience, he knew he was entering dangerous territory. Yet he was also convinced that he had to try. Along with his theoretical papers, the final paragraphs of his historical essay (Shor, 1979a) may serve as his legacy to future generations.

In practical terms, the attitude of disciplined skepticism, so essential to building a realistic science, must not become such a blinding preoccupation that the investigator thereby becomes an inept hypnotist. But equally important, the hypnotist's exuding of confident persuasiveness, so essential for properly catalyzing the hypnotic processes, must not become such a blinding preoccupation that the investigator thereby loses his scientific objectivity. Thus, taking the "magic" out of hypnosis debilitates the phenomena but taking the "magic" too seriously deludes the investigator.

Investigators in the academic experimentalist's tradition have generally been most vulnerable to the danger of insufficient catalyst; investigators in the clinical practitioner's tradition have generally been most vulnerable to the danger of insufficient skepticism. The experimentalists have been mainly concerned with rigorous method and the practitioners mainly with improving their clinical skill and effectiveness. Attempts to understand and share each other's objectives and points of view unfortunately have been hampered by clannish loyalties and polemics. This itself is another manifestation

of the fundamental problem....

The questions that emerge from the past need to be pondered in relation to the present and the future. How well have modern investigators learned to sail between Scylla and Charybdis? [A]nswers will inevitably come as the verdict of out posterity.

References

Easton, R.D., & Shor, R.E. (1975). Information-processing analysis of the Chevreul pendulum illusion. Journal of Experimental Psychology: Human Perception and Performance, **1**, 231- 236.

Easton, R.D., & Shor, R.E. (1976). An experimental analysis of the Chevreul pendulum illusion. Journal of General Psychology, **95**, 111-125.

Easton, R.D., & Shor, R.E. (1977). Augmented and delayed feedback in the Chevreul pendulum illusion. Journal of General Psychology, **97**, 167-177.

Kihlstrom, J.F., Diaz, W.A., McClellan, G.E., Ruskin, P.M., Pistole, D.D., & Shor, R.E. (1980). Personality correlates of hypnotic susceptibility: Needs for achievement and autonomy, self-monitoring, and masculinity-femininity. American Journal of Clinical Hypnosis, **22**, 225-230.

Kihlstrom, J.F., Easton, R.D., & Shor, R.E. (1983). Spontaneous recovery of memory during posthypnotic amnesia. International Journal of Clinical and Experimental Hypnosis, **31**, 309-323.

Kihlstrom, J.F., & Shor, R.E. (1978). Recall and recognition during posthypnotic amnesia. International Journal of Clinical and Experimental Hypnosis, **26**, 330-349.

Shor, R.E. (1959). Hypnosis and the concept of the generalized reality orientation. American Journal of Psychotherapy, **13**, 582- 602.

Shor, R.E. (1962a). On the physiological effects of painful stimulation during hypnotic analgesia: Basic issues for further research. In G.H. Estabrooks (Ed.), Hypnosis: Current problems. New York: Harper & Row.

Shor, R.E. (1962b). Physiological effects of painful stimulation during hypnotic analgesia under conditions designed to minimize anxiety. International Journal of Clinical and Experimental Hypnosis, **10**, 183-202.

Shor, R.E. (1962c). Three dimensions of hypnotic depth. International Journal of Clinical and Experimental Hypnosis, **10**, 23-38.

Shor, R.E. (1964). The accuracy of estimating the relative difficulty of typical hypnotic phenomena. International Journal of Clinical and Experimental Hypnosis, **12**, 191-201.

Shor, R.E. (1967). Physiological effects of painful stimulation during hypnotic analgesia. In J.E. Gordon (Ed.), Handbook of clinical and experimental hypnosis. New York: Macmillan.

Shor, R.E. (1970a). Inventory Scale of Hypnotic Depth. Palo Alto, Ca.: Consulting Psychologists Press.

Shor, R.E. (1970b). The three-factor theory of hypnosis as applied to the book-reading fantasy and to the concept of suggestion. International Journal of Clinical and Experimental Hypnosis, **18**, 89-98.

Shor, R.E. (1971). Expectancies of being influenced and hypnotic performance. International Journal of Clinical and Experimental Hypnosis, **19**, 154-166.

Shor, R.E. (1979a). The fundamental problem in hypnosis research as viewed from historic perspectives. In E. Fromm & R.E. Shor (Eds.), Hypnosis: Developments in research and new perspectives. New York: Aldine.

Shor, R.E. (1979b). A phenomenological method for the measurement of variables important to an understanding of the nature of hypnosis. In E. Fromm & R.E. Shor (Eds.), Hypnosis: Developments in research and new perspectives. New York: Aldine.

Shor, R.E., & Cobb, J.E. (1968). An exploratory study of hypnotic training using the concept of plateau hypnotizability as a referent. American Journal of Clinical Hypnosis, **10**, 178-193.

Shor, R.E., & Easton, R.D. (1973). Preliminary report on research comparing self- and hetero-hypnosis. American Journal of Clinical Hypnosis, **16**, 37-44.

Shor, R.E., & Orne, E.C. (1962). Harvard Group Scale of Hypnotic Susceptibility, Form A. Palo Alto, Ca.: Consulting Psychologists Press.

Shor, R.E., & Orne, E.C. (1963). Norms on the Harvard Group Scale of Hypnotic Susceptibility, Form A. International Journal of Clinical and Experimental Hypnosis, **11**, 39-47.

Shor, R.E., Orne, M.T., & O'Connell, D.N. (1962). Validation and cross-validation of a scale of self-reported personal experiences which predicts hypnotizability. Journal of Psychology, **53**, 55-75.

Shor, R.E., Orne, M.T., & O'Connell, D.N. (1966). Psychological correlates of plateau hypnotizability in a special volunteer sample. Journal of Personality and Social Psychology, **3**, 80-95.

Shor, R.E., Pistole, D.D., Easton, R.D., & Kihlstrom, J.F. (1984). Relation of predicted to actual hypnotic responsiveness, with special reference to posthypnotic amnesia. International Journal of Clinical and Experimental Hypnosis, **32**, in press.

Shor, R.E. & Schatz, J. (1960). A critical note on Barber's case study on "Subject J". Journal of Psychology, **50**, 253-256.

Shor, R.E., & Thackray, R.I. (1970). A program of research on "highway hypnosis": A preliminary report. Accident Analysis and Prevention, **2**, 103-109.

Williams, G.W., & Shor, R.E. (1970). An historical note on highway hypnosis. Accident Analysis and Prevention, **2**, 223-225.

Author Notes

Paper presented at the 35th annual meeting of the Society for Clinical and Experimental Hypnosis, Boston, October 1983. Preparation of this paper was supported by Grant #MH-35856 from the National Institute of Mental Health. I thank Ellen Grigorian, William C. Heindel, Irene P. Hoyt, Patricia A. Register, and Jeanne Sumi Albright for their comments during the preparation of this paper. Ronald E. Shor died on January 26, 1982.