

FOOTNOTES

1. Part of the research involved in this paper was funded by the National Institute of Education, U. S. Department of Health, Education, and Welfare (Contract No. Ne-C-00-300061) while the first author was at Stanford University. Certain sections of the enclosed manuscript were presented at the 1st Annual Awareness Symposium on Clinical Problems, Stanford Center for Research and Development in Teaching, Stanford University (1973); at the annual meeting of the American Psychological Association, Montreal, 1973; and the American Educational Research Association, Washington, D. C., 1975. The authors would like to express special thanks to Carl E. Thoresen and Johanna Shapiro for comments on previous drafts of the manuscript.

2. This manuscript does not deal with the self-control applications of biofeedback. For a detailed study of biofeedback, see Barber, T., DiCara, L. V., Kamiya, J., Miller, N. E., Shapiro, D., and Stoyva, J., 1970; and Kamiya, J., Barber, T., DiCara, L. V., Miller, N. E., Shapiro, D., & Stoyva, J., 1971. For a discussion of the relationship between biofeedback and meditation, see Ornstein, 1971, 1972; and Shapiro, 1973.

3. It is important to clarify any confusion about what is referred to by formal Zen meditation. For example, the Koan, an illogical verbal sentence, is a type of meditation practiced by the Zen Rinzai school. It is not what is being referred to in this paper as formal Zen meditation. The paper deals only with formal Zen breath meditation. Further, there may be some confusion about whether Zen breath meditation should be referred to as a concentrative or opening up meditation (after Ornstein, 1971). For example, Rahula (1959) says in his instructions for Zen meditation:

"Let your mind watch and observe your breathing in and out...forget all other things: your surroundings, your environment; do not raise your eyes and look at anything so that eventually you can be fully conscious of your breathing...when you will not even hear sounds nearby, when no external world exists for you...you are so fully concentrating on your breathing." (Rahula, 1959, p. 70.)

However, the sitting meditation (Zazen) practiced by the Zen monks in Kasamatsu and Hirari's study (1966) would not fit into Rahula's paradigm. In that study, the meditating monks were able to hear an external clicking sound every time it occurred. Nor would Rahula's concept of breath meditation fit into Watts' view of Zen meditation as "watching everything that is happening, including your own thoughts and your breathing," (Watts, 1972, p. 220). In the above two examples, it is apparent that Zen breath meditation is being conceptualized and practiced as an "opening up meditation" in which the meditator not only sees each breath afresh, but also maintains receptivity to environmental stimuli (e.g., the clicks in Kasamatsu and Hirari's study, 1966).

The apparent confusion between the Rahula paradigm of concentrative Zen meditation, and the Watts-Kasamatsu paradigm of "opening up" Zen meditation can be clarified by the experimental analysis of Zen meditation in Figure One. At first, the beginning meditator has to learn to shut out external stimuli in order to maintain focus on his breathing (Figure One, Steps One, Two; cmp. Rahula, 1959). However, once he has learned to focus on his breathing (Figure One, Step Three), he is then able to open up to both internal and external stimuli (Figure One, Steps Four, Five; cmp. Watts, 1972; Kasamatsu and Hirari, 1966).

Thus, whereas the goal of concentrative meditation is to shut out external stimuli so that the meditator can later return to the world afresh, the goal of Zen meditation is to learn to concentrate one's focus on breathing so that eventually, during the act of meditation itself, the individual

can perceive both internal and external stimuli. Eventually, the meditator no longer needs to focus on counting of breaths. For example, in the Soto Zen sect, there is a type of opening-up meditation referred to as Shikan-taza. (Shikan means "nothing but," or "just"; ta means "to hit"; and za means to "sit.") Shikan-taza is a practice in which the mind is intensely involved in just sitting, "not supported by aids as counting the breath or by a Koan." (Yasutani Roshi, in Kapleau, 1967, p. 53.)

For a further discussion of concentrative and opening-up meditation, see Ornstein, 1971; Shapiro, 1973.

4. These five steps are not meant to be considered as discrete, non-overlapping stages. Rather, there is the possibility of a great deal of fluidity and movement between steps. The division of meditation into different steps is used here only as a heuristic device to help understand the "process" that makes up meditation.

5. In behavioral terms, the individual is being told to "discriminate when he is not discriminating, and to make that discrimination a cue to return to the task."

6. The "practice" with "focus" should not be an intense concentrative effort, but rather, a "relaxed awareness." Breathing is a particularly focal action, for it can be controlled voluntarily: i.e., the individual drawing in air; or it can be brought under autonomic control: i.e., the individual lets the air come in "spontaneously."

Through practice, the meditator learns to have the self-control to "let go" of his breathing processes while at the same time maintaining awareness of that process. (For a more detailed discussion of breathing, and its relationship to meditation, see B. Timmons, 1972; for a more theoretical discussion of the relationship between self-control and spontaneity, see Shapiro and Shapiro, 1973.)

7. Unstressing is a term borrowed from Goleman (1971). Although Goleman used the term in relation to Transcendental meditation, it also is useful when discussing formal Zen meditation.

8. The term detached self-observation was selected only after a great deal of deliberation. It was important not to add another term to the literature, unless, in fact, there was a phenomenon that was not being adequately described by existing terminology. However, it was decided that the term "self-observation," as used by behavior therapists, was quite limited. Behavioral self-observation refers to an individual monitoring or observing some action of his own behavior: e.g., positive self-statements; weight; number of cigarettes smoked; feelings of anxiety. The phenomenon discussed here differs from this definition in two respects: First, the individual is observing himself in his totality, i.e., it is a self-observation of the self and all the self's behaviors. Second, the individual is instructed to try to observe himself without evaluation and without comment, like the concept of the Witness described by Spiegelberg: "The Witness does not judge or initiate action, but simply observes. One may do what he will so long as he is clearly aware of what he is doing." (Spiegelberg, 1962; cmp. Skinner, 1969, "rule governed behavior.") Jacobsen has discussed a similar phenomenon in relationship to relaxation training. He notes that the individual must learn to "distinguish between the issue, problem or difficulty which needs to be met, and his subjective response or representation thereof. This improves the clarity of thinking objectively." (Jacobson, 1971, p. 479; underlining mine.) The existentialists have referred to this process as "bracketing" in which the person "steps back" from his phenomenological world and views himself and that world as if from an outsider's (third person's) perspective. In this "bracketing" the individual observes from a distance, but does not comment (cf. Kostenbaum, 1967).

The concepts "Witness," "bracketing," "objectivity" all come close to accurately describing this phenomenon. This term "detached" was chosen to convey this feeling of distance from the self, as if a third party were observing without comment. Self-observation was chosen to show that his process is nothing mysterious or difficult, and can be conceptualized within a behavioral framework as merely the act of observing one's self in every action (even in the action of self-observation), without comment or evaluation. Even though it may be called by different names, this "detached self-observation" occurs in most psychotherapeutic approaches. For example, in client-centered therapy, when the therapist accurately reflects the client's concerns in a non-judgmental manner, he is in effect teaching the client to observe himself "with detachment." As Rogers noted: in this way "the client can see his own attitudes, confusions, ambivalences accurately expressed by another, but stripped away of their complications of emotion." (Rogers, 1961). Freud noted the importance of this phenomenon in his work, Studies in Hysteria. He stated that to help the patient overcome resistance, the therapist must help the patient assume objectivity to his own dilemma "a crystal ball attitude by the patient toward himself." (Breuer and Freud, 1895.) Behaviorally, this detached self-observation is effected by a type of discrimination training in which the individual learns to "discriminate between the problem, and his subjective reaction to that problem" (cf. Jacobson, 1971); and then through relaxation and systematic desensitization, to see himself acting in certain situations without feeling tense and anxious.

Thus, all the above techniques teach an observation of the self, without concomitant emotional attachment or emotional evaluation. In those cases in which evaluation does occur, it is done calmly and "with detachment."

9. A story of the tea master Nan-in is instructive in illustrating the "virtue of emptiness" and absence of preconceptions. Nan-in, a Japanese tea master during the Meiji era (1868-1912) received a university professor who came to inquire about Zen. Nan-in served tea. He poured the visitor's cup full and then kept pouring.

The professor watched the cup overflow until he could restrain himself no longer: "It is overfull; no more will go in."

"Like this cup," Nan-in responded, "you are full of your own opinions and speculations. How can I show you Zen unless you first empty your cup?" (Reps, 1958.)

10. A distinction must be made between being receptive to stimuli, and responding to those stimuli. For example, Kasamatsu and Hirari note that although the Zen monks in their study "precisely perceived inner and outer stimuli, they were not disturbed or affected by those stimuli." (Kasamatsu and Hirari, 1966.) Because the monks were aware of their environment, and because they were in relaxed, physically centered position, they were able at every moment to choose whether or not they wished to respond to the environment, thereby unconditioning themselves to reflex responses. As Naranjo put it: "Meditation is a persistent effort to detect and become free from all conditioning, compulsive functioning of mind and body, habitual emotional responses." (Naranjo, 1971.)

11. In behavioral self-observation, one of the generalizations is that self-observation is considered to have a reactive effect depending upon the valence of the stimuli observed: when the valence is positive, the behavior increases; when the valence is negative, the behavior decreases (cf. Kazdin, 1974; Thoresen and Mahoney, 1974). However, in Step One of meditation when the person focuses on breathing, there is also a reactive effect, even though

presumably the behavior of breathing does not have any particular valence. (The principle is humorously illustrated by the story of Freddy the caterpillar. Freddy, when asked by the butterfly how he was able to so beautifully coordinate all one hundred legs, looked down at his legs and tripped.) It seems that when a person observes certain of his own actions which he is accustomed to perform automatically, there is a kind of stumbling, a self-conscious reactive effect, which affects the occurrence of the behavior, even though the behavior may be of a neutral valence. Thus, although the effects of reactivity seem similar in meditation and behavioral self-observation, the causes of this reactive effect seem slightly different.

12. In a Zen monastery, there is a special room set aside for the practice of meditation (Zendo). During the task of formal meditation, the beginning meditator is aided by the Master, who walks around the meditation hall, literally carrying a big stick. He watches each of the meditators to make sure they are alert and receptive. Since sleepiness (Kanchin) is considered undesirable in Zen training, if the Zen Master sees one of the students sagging, or not concentrating, he will walk over to that student and bow. After the student bows back, the Master raises the stick and gives a blow (Kwat) which "awakens" the student and brings him back to the ongoing present in a "non-verbal, non-reflective manner." *Within a behavioral framework, the Kwat represents environmental planning, in that there is a preprogramming of physical punishment for non-alert behavior.*

13. Thus, from one perspective, Zen is using behavioral techniques for nonbehavioral goals. However, from another perspective, there is really no such thing as a nonbehavioral goal (as long as the goal can be discriminated and counted). Traditionally, behavioral goals have involved rehabilitative concerns (cf. Ullman and Krasner, 1969). However, there is no reason why behavioral goals can't include positive, health-giving types of goals (cf. Thoresen, 1974; Homme & Tosti, 1971).

14. An operant is a term first used by Skinner (1938) in The Behavior of Organisms. It refers to a response which operates on the environment.

15. The Premack principle states that a high probability behavior will increase the likelihood of the occurrence of the low probability behavior which it follows (Premack, 1965).

16. Schacter's studies suggested that an individual who became aware of internal physiological arousal, but was not sure of its cause, would interpret that physiological arousal in terms of environmental cues (Schacter, 1964; Schacter and Singer, 1962. See also, Bem, 1972 for a more detailed discussion of self-perception; and Zimbardo, Maslach, and Marshall, 1972 for a discussion of methodological problems with Schacter's study).

17. This synthesis of behavioral self-management skills (functional analysis, covert imagery, and self-statements) coupled with informal Zen breath meditation (focused breathing, "detached" observation) has been referred to as contingent informal meditation. It is functionally quite similar to the technique of "active coping" described by some behaviorists (e.g., Goldfried, 1973).

18. Making informal meditation contingent upon certain cues seems to make it a more effective clinical intervention strategy for an immediate problem. This is no way meant to suggest, however, that the combination of behavioral self-management skills with informal meditation makes informal meditation more effective for the goal for which it was originally intended: "ongoing awareness of all cues."

19. There are three important variables that must be taken into consideration when discussing any self-management strategy. The first involves making a differentiation between willpower (i.e., self-management skills) and

motivation. A self-management strategy's success depends in large part upon the motivation of the client. Motivation is not seen as an innate variable, but rather influenced by social variables, cultural stereotypes, models, and other conditioning factors. Secondly, the individual must be willing to use the technique given to him by the therapist, and must see the technique as truly a self-management strategy, and not coercion by the therapist (cf. Davison, 1973, for a discussion of "countercontrol" in the counseling process). Finally, the individual must believe that he is in fact in control of his own life, or at least can take greater control of his life. Other therapies (e.g., Gestalt, Psychosynthesis) put major emphasis on getting the client to "own" the problem. Behavioral approaches have traditionally neglected this area, and have focused on giving the client self-management strategies, once he is willing to change. (A notable exception in behavioral strategies occurs in Jacobson's relaxation training, in which Jacobson repeatedly emphasizes that the client himself is in control, both of making himself tense and of making himself relax: "Anxiety tensions are part of your own doing, and can be decreased if you identify the anxiety tension patterns and relax them." (Jacobson, 1971, p. 475.) Thus, the counselor using self-management techniques, whether of Eastern or Western origin, must assess the client's desire to change; must use certain cues, statements, and consequences, to shape the client to feel he is in control of his own life, and must insure that the client agrees with the goals of the self-management strategy.

20. There have been several methodological considerations raised concerning these studies, including lack of control group, biased population sample and retrospective questionnaire (e.g., Benson and Wallace, 1971); unclear dependent variables (e.g., Brautigam, 1971); experimenter bias (e.g., Wallace, 1972). For a further discussion of methodological problems in meditation research, see Shapiro, 1973; Schwartz, 1974.

21. This paper does not intend to give the impression that because the technique of Zen meditation appears to be effective as an intervention strategy for certain clinical problems, that this was the original intent of the technique. From a Western perspective, Zen meditation is seen merely as a technique which is useful when applied to certain clinical problems. However, from an Eastern perspective, Zen meditation is a way of being in the world, a total awareness of oneself, of nature, of others. Thus, it is important to note that the technique may be being used for goals other than those for which it was originally intended. For a further discussion of the philosophical differences between Zen Buddhism and Social Learning Theory, as well as a more in-depth discussion of the goals of Zen Buddhism, see Shapiro and Shapiro (1974) and Shapiro, 1972.