

INITIAL MEDITATIVE EXPERIENCES: PART II

Roger N. Walsh
University of California Medical School—Irvine
Orange, California
and
Mill Valley, California

Part II of this article concludes the author's report on his experiences and reflections during and after a series of Vipassana (insight) meditation retreats. Part I of this article appeared in Volume 9, Number 2 of the Journal—Editor.

It is the mind that maketh good or ill
That maketh wretch or happy, rich or poor.

Edmund Spencer

Mind control is not your birthright. Those who succeed owe their liberation to perseverance.

Ramana Maharshi

SUBPERSONALITIES

During the meditation retreats, another major unexpected recognition was the existence of an identifiable subpersonality. This seems to have evolved from an initially powerful and integral component of my total personality into a weaker, dissociated, and partially autonomous subpersonality—an evolution which is still in progress. The recognition of a subpersonality arose through a powerful self-anger and hatred with which I judged myself whenever I failed to meet certain

*evolution
of a
subpersonality*

The author wishes to thank the Foundations Fund for Research in Psychiatry which supported him with a fellowship during the period in which this paper was written.

*early
subpersonality
characteristics*

standards, and which I also employed to motivate myself to perform. In my teens I had deliberately cultivated it as an aid to performance and achievement, and it certainly provided powerful energy for these purposes. However, during therapy it became apparent that this subpersonality had become partially autonomous—it was running me as much as I was governing and utilizing it. This situation manifested itself in a variety of ways, through overwork and a limited willingness to allow myself to enjoy daily life. When it first began to erupt in therapy, I would find myself livid with rage, swearing and berating myself. At other times I would experience feelings of an uncertain fearful nature, accompanied by images of being beaten, mauled, smothered with feces, and stabbed, etc., by a powerful authority figure. Some months after I had left therapy, it became apparent that these images expressed a conflict between a punitive component and my remaining personality.

In time, I began to feel less identified with this anger. When it erupted into awareness during meditation, I found myself able to watch it, rather than always being caught up in it. Concomitantly, the images changed and mirrored this evolution. The attacker was now a vague, shadowy figure, which in turn became an image of me. Over the months this image became smaller, less forceful, less sadistic, and even distraught at the damage it was doing. At the next stage, the image became a small, black, frightened boy whose black coating readily came off when rubbed gently.

*transformation
of
subpersonality*

At about this time there suddenly appeared in the images a huge angel carrying an even larger spear of light. For some months the angel remained as a silent bystander, who was simply present while the small devil-boy continued to grow less offensive and even friendly. Eventually the boy disappeared from the scene for short intervals, though periodically returning to goad or threaten me. Finally it became apparent that the devil-boy was going to be absent as much as present, but he assured me that he would be keeping an eye on me and would "get me if I got out of hand." At this stage the angel broke silence, saying, "You don't need me anymore," handed me his spear and disappeared into the sky leaving me with a feeling of loneliness and bewilderment. The bewilderment was compounded when a few days later there appeared on the imaginal horizon a huge body of horsemen representing all the armies of the world, who galloped up and announced that they were at my service. More than a little surprised and puzzled, I watched myself procrastinate, and dismissed them saying that I was not yet ready to use them, and then, weary from the strain of psychological processing and responsibility, walked into my family's house to play.

There followed a gap of some six months, until one meditation where I deliberately chose to experience the angry personality again. This time there erupted an image of a small, jet-black, demonic figure with blazing cat's eyes who maliciously informed me that it was going to kill me if it was the last thing it did, and that I was never going to be rid of it. The demon seemed to epitomize evil, and it remained unchanged until the thought arose, "That's me." In that instant it became apparent that this figure represented all the aspects of myself which I judged negatively and wanted to deny. Immediately the role relationship between the images of the demon and myself changed and I became the dominant figure. Instantly there began an imaginal orgy of angry retribution in which I gleefully tortured it. Subsequently this image disappeared and to date has only occasionally returned, and then in fragmentary fashion. These fragments have suggested that while the process is not entirely complete, much of the energy tied up in this system seems to have become functionally available, providing an increased sense of strength, energy, and will.

*changes
in
available
energy*

Paralleling these imagery changes there was an evolution in the relationship between the angry component and my remaining personality. Initially the anger had dominated, instructing and berating the total personality—"You hopeless cretin, what have you done to feel good about? I'm not going to let you feel happy," etc. This gradually changed in both tone and content, from demanding to pleading, and then to a desperate entreaty in which it seemed that this subpersonality was fighting for its very existence—"Please don't enjoy this. If you keep on meditating like this, I'll die. I don't want to die. Please don't." Meditation itself became terrifying, as did other growth experiences, since they were all apparently perceived as ultimately leading to its death. The extent to which this angry, punitive component was seen as a separate personality can be judged from the fact that I began referring to it as "he" and feeling quite compassionate for his terror.

The evolution of this process, which now spans some four years, has been multidimensional. Projection onto authority figures has given way to a recognition of them as a part of myself, followed by a disidentification, with the apparent formation of an autonomous subpersonality. This subpersonality was initially dominant, but has become weaker, less frequent, and more subtle. It is less controlling, more fearful, fighting for its survival. Most recently, this sense of enmity seems to be decreasing, and is being replaced by acceptance, and even loving coexistence.

*weakening
of
subpersonality*

conceptions
of
subpersonalities

These experiences raise a number of fascinating questions regarding the nature and genesis of subpersonalities. A variety of disciplines have recognized their existence, although they have been named in different ways. Thus while Assagioli (1965) named them "subpersonalities," Jung (1961) labeled them as "complexes" and Gurdjieff considered them as "separate and distinct 'I's'" (Speeth, 1975), and stated that "Man has no permanent and unchangeable I" (Ouspensky, 1949, p. 59). Lilly (1972), using a computer analogy, considers them subprograms, while Tart (1975a), using an altered states of consciousness paradigm, might describe them as "identity states" and considers them as practically universal, though unrecognizable by the individual except when trained in self-observation.

These descriptions raise the question of whether we may not all have subpersonalities of varying strengths and salience, and whether there may not be a continuum of subpersonalities, with clinical cases of multiple personalities representing only an extreme example. Interestingly, the secondary personality in these cases usually possesses features which are quite unacceptable to and repressed by the first (Nemiah, 1975). Thus, for example, in *The Three Faces of Eve* (Thigpen & Clekley, 1957), a highly voluptuous and psychopathic Eve Black would periodically erupt out of the very prim and proper Eve White. It is also characteristic of these cases that the primary personality is usually unaware of subsequent ones, but the reverse is not true. Furthermore, there seems to be a rapid all-or-none transition between personalities as though there were some type of threshold phenomenon operating. Therefore, strong subpersonalities may develop, but awareness of them and their emergence is strongly repressed until they are sufficiently strong enough to overwhelm the repression and become, at least temporarily, dominant. This raises the question of whether dissociation and repression may represent the essential features for the development of subpersonalities.

a
tentative
model

The question of how best to conceptualize the nature and genesis of subpersonalities is a difficult one, but the following may afford a tentative but heuristically useful model. The essential feature of the model is its hierarchical organization of components. These components may be considered to be "programs" and "metaprograms" if one uses Lilly's (1972) analogue for the human biocomputer, or of "behavior habits" if one uses a social learning theory of behavior modification (Bandura, 1969). A personality would be constituted by a higher order component, such as a metaprogram capable of activating and programming components subordinate to it in the hierarchy. A program which had either less power or was

slightly lower in the hierarchy might thus constitute the basis for a subpersonality, while programs of approximately equal strength and level, and which exerted a dissociative inhibition on the other, might constitute the basis for multiple personality.

The process described above, in which an initially powerful and sometimes dominant subpersonality weakened and seemed to feel its survival threatened, might be represented by a program whose lessening power reduced its influence on higher levels yet still left it able to function relatively autonomously and activate lower programs, such as survival. (It may be that programs such as this are structured to maintain their own survival.) Thus the evolution of a subpersonality may offer an analogue for the evolutionary changes that the ego as a whole undergoes during meditation. If "ego" is synonymous with "defensive doing" as opposed to simply "being" (see Walsh, 1977; Globus, 1977, 1978; Walsh & Shapiro, 1978), then the ego would represent the highest order of defense or emergency metaprogram.

*subpersonality
and
ego*

The subpersonality described here as well as the examples of multiple personality would seem to fit well with the Jungian "shadow" which represents some of the unacceptable aspects and components of the psyche. Although clearly incomplete, the above description does suggest that meditation may speed the integration of the shadow, a process which is usually not complete until well into the second half of life (Elkind, 1975).

FATIGUE

One of the most clearly marked effects of an intensive meditation retreat shows in altered sleep needs and arousal levels. Usually for the first two or three days, I find myself feeling considerable fatigue, but after that there is a dramatic drop in sleep needs. At this stage usually about four hours suffice, and even then I sometimes find myself going to sleep simply to escape awareness. A similar but slower trend towards less sleep has also been occurring in my daily life and has resulted in the reduction of some three hours a night over the last three years. At the same time my response to the experience of fatigue has also changed. When I first observed fatigue closely, I found myself reacting with discomfort, agitation, and avoidance. My fears of sleep deprivation proved to be surprisingly strong, and included beliefs that I wouldn't be able to function, couldn't concentrate, would lose control and go crazy, and experience extreme discomfort. While these fears still partially control me,

*reduced
sleep
needs*

they are no longer as strong as they were, and my reactions to fatigue have changed considerably. Now there is less avoidance, agitation, and discomfort, and fatigue is beginning to feel like just another altered state in which I can learn to experience and function as in any other state. This is consistent with studies showing that short sleepers are less prone to worry, and are less upset by sleep deprivation (Hartmann *et al.*, 1972; Meddis, 1977).

SPIRITUAL MATERIALISM

*"using"
meditative
experiences*

Although I have experienced many beneficial effects of meditation, there have also been some deleterious consequences or, perhaps more precisely, it is obvious that I have at times misused the process for ego-gratification. Such a misuse is a commonly recognized trap inherent in all meditation-yogic traditions and probably in all growth disciplines. It has been well described by Trungpa (1975) who labels it "spiritual materialism," and who states that any and all techniques, experiences, and insights are likely to be used by the ego for defensive purposes wherever possible. Certainly my own experience would seem to bear this out. I have seen myself—and others have seen me—using meditative experiences for personal achievement, social prestige and manipulation, and as a way of avoiding unpleasant experiences. Most amazing of all is the rapidity with which a phenomenon may be subverted. Thus, for example, I may have a valuable insight, and within seconds find myself scheming how I can best use it for egocentric purposes. A special variant of this has developed since I began writing this paper. Now I sometimes find myself judging insights and experiences for their potential literary impact, and this seems to increase my attachment to "insights," with a consequent occasional agitation and disruption of meditation. Certainly there is always available the potential for "the awful smell of enlightenment" (Kapleau, 1967), an exaggerated regard for an experience. Thus, meditation is a tool which can be put to a variety of uses, but the intention of the meditator may be a prime determinant of the outcome.

IDENTITY

Undoubtedly the most fundamental question raised by the practice of meditation is that of identity. Most commonly in the West this question is framed in the form of "Who am I?", meaning, what kind of person am I? During the last six months it has become apparent that intensive meditation raises the much more fundamental question of "What am I?" Since

the experiences that arise within meditation are so inconsistent with the concepts of identity which we usually hold, they call into question our usually unquestioned beliefs and assumptions about who and what we are. The following paragraphs, then, represent an attempt first to describe some of my experiences and then to examine some of their implications for different models of man.

The following experiences are described in the order in which they occurred over a period of some six months, most often while in meditation retreats. There is no clear progression, nor is their precise relationship to one another clear.

The first experience occurred during a moment or two of special clarity in which I was observing—in what I thought to be a non-identified manner—the rising of thoughts. However, I suddenly noticed that I was in fact identifying with, and hence unaware of, certain thoughts, mainly “I” thoughts, e.g., “I’m not identified with any of these thoughts.” Having seen this process, I was able to observe without identification at least some of these “I” thoughts, although obviously I cannot say what percentage of them, since identification with them renders them impossible to observe. At this point there was a moment of heightened clarity, and I saw that “I” thoughts were somehow differentiated from others; they were somehow grabbed by and absorbed into consciousness. It seemed as though the “I” thoughts were recognized as belonging to a special category and were then somehow grasped and incorporated by the awareness which had been watching them. In the instant of recognizing this, the “I” thoughts ceased to be differentiated and grasped, and then existed as “just thoughts” without their former significance. Immediately there followed a powerful awareness accompanied by intense emotion that “I” did not exist, and all that existed were “I” thoughts following rapidly one after another. Almost simultaneously the thought, “My God, there’s no one there!” arose, and my consciousness reverted back to its accustomed state. It is difficult to convey the power of these seconds of experience, but it was sufficient to activate “the awful smell of enlightenment” and to disrupt my meditation for the next two days.

*identifying
with
“I” thoughts*

A further sense of the non-existence of the observer or “I” has come from attempting to focus awareness on the observer. In this procedure, concentration on objects, such as the breath, is developed first, and then turned back on the observer. Due to the limits of my concentration, my attempts have seldom lasted more than a few seconds, but the experiences have all been somewhat similar. Often there is identification with that which is looking for the observer, the latter apparently having simply

*non-existence
of
the
observer*

switched positions. However, on those occasions when I have been able to avoid this identification, I have had the experience of looking into darkness and sensing that there is no one there.

Another, more frequent experience has arisen within the last few months as a result of a change in technique in which percepts and mental objects are named (as previously described in Part I), e.g., thought thought, anger anger, etc. The process of naming objects seems to reduce the risk of identifying with them. Thus there have been periods lasting several minutes in which I have had the experience of being a point in a vast space constituted by my awareness, in which thoughts, feelings, and percepts occurred, but which were separate from and did not necessarily influence me. During and after these states there is the feeling that what I usually identify with is the mental content, e.g., thoughts and feelings, and that this "I" represents a very narrowed, limited, and driven portion of awareness which has lost sight of that which is much larger. This progression from lesser to greater awareness seems to begin with an initial identification with and a failure to recognize thoughts, then a recognition of some thoughts and a beginning awareness of the space between them which usually had an affective quality attached to it, and finally a sense of vast space or context within which these phenomena occur.

*interspaces
between
thoughts*

These interspaces between thoughts may represent the "transitive parts" of the stream of consciousness described by William James (1890). He commented that "The great blunder to which all schools are liable must be the failure to register them (transitive parts), and the undue emphasizing of the more substantive parts of the stream." These interspaces often possess an affective quality which may correspond to Welwood's (1976) "felt meaning," which he describes as "yet undifferentiated and unarticulated meaning." In my experience, this felt meaning corresponds to emotion, which, as previously described, is not totally distinct from thought, but rather appears to lie on one end of a continuum and to possess a high ratio of affect to information. Both thought and felt meaning appear to occur within the context of the vast space which may correspond to the "big, big mind" described by Suzuki Roshi (1970).

One particularly powerful experience occurred during a meditation in which I was having great difficulty extricating myself from identification with numerous fantasies. I would realize that I was lost in a fantasy, bring my attention back to the breath, and then rapidly get lost in yet another fantasy with which I would stay identified for varying periods of time before recognizing what was happening, and beginning the cycle

again. Over the course of a sitting, this process of disidentification became more rapid. Eventually there came a point at which I seemed to be recognizing the fantasies for what they were almost as soon as they appeared, and I had a sense of sitting behind them, letting go of one after another at a faster and faster rate. This process seemed to speed up more and more until at one instant I found myself looking at what appeared to be another fantasy, and that fantasy was what I thought I was. That is, I felt that my sense of identity—e.g., the person, the striver, psychiatrist, writer, worrier, achiever, player, etc.—was just another fantasy, a creation of mine whose illusion of continuity and permanence was derived from the piecing together of salient patterns and behaviors, and that who I really was was the awareness which had created—and was now watching—this fantasy. In the next instant there arose a visual image of a huge sphere of consciousness, on one side of which was a small mask of a face called “Roger.” “I,” a sphere of consciousness, was looking at the world through the eyes of the mask, identifying with the mask, and forgetting everything else that I was. Immediately there appeared a sense of awe, followed by two thoughts: “Now I understand what they mean when they say, ‘You are not who you think you are.’” And, “I already am everything I am striving to be—I just don’t recognize it.”

*identity
and
disidentification*

A somewhat similar image arose during an experience of “big mind,” as described earlier in Part I. The image was comprised of a large clear sphere representing a consciousness overlaid by an incredibly complex superstructure made up of desires, fears, and anxieties, together with plans, doings, and strivings aimed at fulfilling the desires. This superstructure was in ceaseless activity and of such incredible complexity that it was impossible to figure it out or work one’s way out of it, especially since any effort to modify it only fed more energy into it and so was self-perpetuating and self-defeating. However, when this consciousness turned its attention towards itself—towards the big mind—and withdrew attention from the desires and merely allowed them to be, then the whole elaborate superstructure was drained of energy, collapsed, and disappeared. This image is especially interesting because of Tart’s (1975b) observation that states of consciousness are maintained and energized by focussing attention on them.

Assuming that these experiences are, at least, partially valid sources of information, what do they indicate about identity? *The one thing I am certain of is that I am not who and what I thought I was.* The following represents an attempt to conceptualize my experiences and current understanding of this process. Clearly these experiences and concepts lie close to the

limits of my present perception and understanding and, hence, must be regarded as highly tentative.

"I"
as
mental
content

What seems clear is that who I thought I was represented a product of identification with mental content: that is, I thought I was my mental content. By identifying myself solely in this way, I lost sight of the broader context which held this content. It seems that what I identify with runs me, and it provides the motivation and the context within which I interpret other content, determine my reality, and adopt a logic. Thus, identification with mental content transforms that content into the context which holds, interprets, attributes, and elicits other content in a manner which is congruent with and reinforces this context. For example, if the thought arises, "I'm scared," and I observe it as just another thought and do not identify with it, then it exerts little influence on me. However, if I identify with it, then the reality at that moment is that *I am scared*, and I am likely to identify with a whole series of fearful thoughts and to interpret any nondescript feelings as fear. Thus identification sets in train a self-fulfilling prophetic process. The thought "I'm scared," when identified with, constitutes a belief, or in behavioral terms, a self-attribution. In the light of this it is interesting to recall Lilly's (1972) statement that, "Within the province of the mind what I believe to be true is true within experimental and experiential limits."

"I"
as
illusion

It appears then that the two major (and to some extent mutually exclusive) factors determining the sense of who I am appear to be mindfulness and identification with mental contents. Mindfulness of an experience affords the potential for disidentification and for reducing context to content, and in so doing minimizes its motivational influence. Awareness thus becomes the ultimate context for experience. If the "I" or observer, which is what I usually think myself to be, is also an illusion of identification with mental content, then this leaves only awareness and content and both are effectively devoid of any "I"; that is, there remains just an impersonal flux of mental phenomena and the awareness of them. This concept seems analogous to the Buddhist doctrine of *anatta* or "not self," which states that both awareness and objects of awareness exist as automatic processes devoid of any "I." If this is true, and at this stage I am forced to agree that it probably is, then it provides an interesting solution to a long unanswered mystery of neurophysiology. Researchers have been able to follow the perception-induced train of neural excitation up the sensory pathways into the brain, but have long been puzzled as to how the excitation of the brain's sensory areas is "observed." Various types of observing homunculi, "the ghost in the machine" (Globus, 1977b), have been hypothesized, but none have pro-

duced particularly satisfying explanations. Now it would seem that the subjective experience of the observer is an illusion, and the question becomes one of explaining the illusion rather than explaining an observer. Presumably the illusion could be explained in terms similar to the "flicker-fusion threshold phenomenon" as described in Part I. The extremely rapid frequency of thoughts and percepts would produce a fusion effect and the illusion of continuity. Thus, this perception of continuity, when identified with, would constitute the "I."

In view of the above, it is interesting to speculate that one definition of ego might be, "That which comes into existence when consciousness identifies with anything other than itself." Since consciousness has the potential to encompass anything conceivable, it follows that, in identifying with anything other than consciousness, this potential will be limited. This limitation might include the loss of awareness of the original potential, the assumption of properties of the mental content with which it identifies, and control by this content. Thus, for example, the thought "I am angry," if not identified with, might be merely observed without reaction to it. On the other hand, with identification, one would, to all intents and purposes be angry, lose awareness of any part of consciousness which might remain unidentified and of the potential to disidentify at any moment, and be powerfully motivated by this anger. The individual would thus, through identification, have committed what is described in so many non-Western psychologies as the primary error, namely, forgetting who he really is and forgetting that he forgot.

*ego
as
limited
consciousness*

It is fascinating to speculate on the experience of an individual who has disidentified from all mental content. Presumably, if there is no identification, then there can be no dichotomy of identification:non-identification, or self:non-self. Such a being would presumably identify self with both nothing and everything. Thus, the process of disidentification may provide a mechanism which explains a variety of states of consciousness in which perception is described as nondualistic, and the individual may feel that he or she is connected with, one with, or is, the universe. Such states may be the goal of a variety of meditative disciplines (Goleman, 1977; Wilber, 1977) and are often described as "higher" states in the sense of Tart's (1972b) description of higher states as possessing the potentialities and functions of "lower" states as well as additional ones.

*disidentification
and
states
of
consciousness*

We are dominated by everything with which our self becomes identified. We can dominate and control everything from which we disidentify.

Assagioli, 1965

As long as we are identified with an object, that is bondage.

Wei Wu Wei, 1970

As awareness becomes focussed on the mental contents in meditation, identification and constriction of awareness are reduced and other states of consciousness are experienced. The sense of identity begins to shift from external to internal features of reference, and from more conscious to originally subliminal features of awareness, until ultimately disidentification is complete and there is no distinction between self and non-self. Personal meditative experience, plus a variety of meditative texts, suggest that unrecognized beliefs constitute the operators or algorithms which mediate, instruct, guide, and maintain the identificatory constriction of awareness. These beliefs must first be recognized and opened to possible disconfirmation in order to allow growth and ultimate transcendence. It may well be that beliefs are adopted as strategic defensive decisions about who and what we must be in order to survive and function optimally (see Walsh & Vaughan, 1978).

*identification
and
the goals
of
therapies*

If identification represents a fundamental differentiating feature between traditional Western psychologies and Eastern and transpersonal orientations, then it is interesting to compare the goals of the respective therapies and growth disciplines. In general, the Western therapies aim at changing the mental content with which we identify. Most commonly this involves changing negative self-attributions (thoughts) to positive ones. The Eastern and transpersonal psychologies, on the other hand, aim to foster self-awareness and to remove identification with any mental content, positive or negative. This difference might be conceptualized in terms of first versus second order change (Watzlawich *et al.*, 1974), content versus process, or content versus context change. Changing context automatically leads to changes in content, though the reverse may not necessarily be true (Erhard, 1977; 1978).

A person in the West, for example, with chronic recurrent thoughts such as, "I'm just no good. I don't deserve to feel any better than this." would be viewed as having low self-esteem, poor ego strength, or negative self-attributions, according to the psychotherapist's particular discipline. If a psychodynamic approach were employed, then the therapist might attempt to determine the genesis of these thoughts. A "reality" approach would have the client examine their reality, whereas a behavioral approach might attempt to modify thoughts directly by environmental change, differential reinforcement, and cognitive approaches (Mahoney, 1974; Thoresen & Mahoney, 1974; Rimm & Masters, 1975). Whatever the approach, the effective aim would be to reduce the number of such thoughts, to re-

place them with positive ones, and thus to modify the client's belief about *what type of person* he or she is.

An Eastern meditative approach, on the other hand, would view this problem as only one example of the many types of identification with which the client would be unwittingly involved. The distinguishing feature of this particular identification would be merely that it caused *discomfort of clinical proportions*. The meditative approach would involve training awareness with the aim of disidentifying from all thoughts, thus resulting not only in a different belief about what type of person he or she is, but an alteration in the even more fundamental perception of *what* he or she is. A transpersonal psychotherapist, *on the other hand, might well employ both approaches to varying degrees depending on the individual*. We might paraphrase Freud's classic statement on the aim of therapy: "Where *id* was, the ego shall be" as "Where context (identification) was, there content shall be." In practice, the distinction between the use of these two approaches may not be mutually exclusive, since a variety of meditation teachers recognize the usefulness and even the desirability of content changes as a sometimes necessary and facilitating preliminary to intensive meditative practices (Kennett Roshi, 1975). The two approaches may facilitate each other, at least in the early meditative stages, but it would seem that, ultimately, the goals of meditation extend far beyond and transcend those of traditional Western psychotherapy. This comparison is starkly outlined by Wilber (1977) who states that Western therapies help us prevent the dream from becoming a nightmare, while the Eastern approaches help us to awaken.

RE-ENTRY

At the completion of a retreat the re-entry into the world may provide quite an experience in its own right. In my case, for a day or so I am aware of a heightened sensitivity, and this is particularly apparent with regard to negative experiences. Indeed, not infrequently I am dismayed at the amount of pain and suffering in the world. On more than one occasion, I and other meditators with me have experienced marked discomfort during the first week. I can give one graphic illustration of this sensitivity by describing my reactions and those of a friend to a movie which we watched twenty-four hours after completing a retreat. We had decided to view the inflight movie on our return flight home and to watch it as mindfully as possible for half an hour as a type of meditation. However, we were unable to complete it since this unremarkable police drama left us both so shaken that by the end of twenty minutes both of us

*the
problem of
heightened
sensitivity*

were sweating, unwilling to continue, and felt the need to meditate to regain our equilibrium. Each picture of aggression, pain, and tension elicited strongly painful responses in us which, in addition to being highly uncomfortable, made it extremely difficult to remain mindful. With this degree of sensitivity, it is perhaps not surprising that, on another occasion when I left a retreat for one evening, this produced sufficient agitation to require almost a full day of meditation to return to the calm which I had previously experienced there. Recently Otis (1978) has suggested that a significant proportion of continuing TM practitioners experience negative consequences, including anxiety. Perceptual sensitivity might account for some of this.

*hypothesized
re-entry
process*

The re-entry process might be hypothesized to occur as follows. Meditation produces greater calm and perceptual sensitivity, so that on returning to a non-meditative environment one is effectively sensitized as in sensory deprivation (Walsh & Greenough, 1976; Walsh, 1978). Formerly habituated stimuli now elicit unaccustomedly large responses which, especially in the case of negativity, may reach painful proportions. This may be especially noticeable with negative stimuli which had formerly been defended against. Invariably, there seems to be some sort of asymptotic closing down or reduction of awareness and sensitivity over the next few days which may reflect both simple habituation as well as more complex mechanisms, such as defensive repression, reduced concentration, and a general reduction in mindfulness.

LIMITATIONS OF THIS PAPER

In evaluating any report of this nature it is essential to consider the general limitations which are inherent in the approach employed, as well as any limitations which are unique to the particular project. However, since most of the limitations appear to be general and are related to the use of an introspectionist approach, they will be considered only in summary form.

*a
summary
of
methodological
limitations*

It should be noted that this approach of in-depth phenomenological reporting by an individual is not without advantages. First, it allows an openness to unanticipated phenomena which is precluded by more objective questionnaire and nomothetic approaches. This is especially important in view of the finding that many of the major progressions represent discontinuous and unanticipated second-order changes. A subjective account such as this also affords the possibility of a finer sensitivity and

analysis of subtle perceptual shifts, for the essence of this process lies in developing greater sensitivity to more and more subtle phenomena. It also permits a study of the actual processes at work, both moment to moment and long term. The importance of examining the developmental process cannot be overemphasized, since even the more sophisticated studies of abstracted phenomena (Osis *et al.*, 1973) render them static, devitalized, and devoid of some of their significance. On a long-term basis, it allows a longitudinal picture of the meditative process. Finally, the use of such an approach by scientifically and clinically trained individuals allows the recognition and description of clinically relevant and heuristically valuable processes and potentially empirically testable implications.

The first and most crucial question concerns the validity of verbal reports on mental processes. This question is especially critical in light of a resurgence of anti-introspectionism by some cognitive psychologists who suggest that we may have almost no direct access to higher order mental processes. Indeed, there is no shortage of extreme statements. "It is the result of thinking, not the process of thinking, that appears spontaneously in consciousness" (Miller, 1962, p. 56). "Only the products of cognitive and mental activities are available to consciousness" (Mandler, 1975, p. 245). "The constructive processes (of encoding perceptual sensations) themselves never appear in consciousness, their products do" (Neisser, 1967, p. 301). Nisbett and Wilson (1977, p. 231) conclude,

*the
validity
of
verbal
reports
of
mental
processes*

There may be little or no direct introspective access to higher order cognitive processes. . . . It is proposed that when people attempt to report on their cognitive processes, that is, on the processes mediating the effects of a stimulus on a response, they do not do so on the basis of any true introspection. Indeed their reports are based on *a priori*, implicit causal theories, or judgments about the extent to which a particular stimulus is a plausible cause of a given response. This suggests that though people may not be able to observe directly their cognitive processes, they will sometimes be able to report accurately about them. Accurate reports will occur when influential stimuli are salient and are plausible causes of the responses they produce, and will not occur when stimuli are not salient or are not plausible causes.

On first sight this view seems to represent a serious, even crippling, challenge to the investigation of phenomenology in general, and meditative phenomenology in particular. However, closer examination suggests that the meditative experiences reported in the present paper are actually in close agreement with the conclusions of cognitive psychologists. In

addition they point to another possibility and solution to this problem, namely, they agree that access to mental processes is usually extremely poor and that the poverty and distortion of this access is rarely recognized. However, they add to this a strong suggestion that introspective sensitivity and validity may be enhanced by training (long and arduous though this may be) to levels not only unrecognized, but even unsuspected, by Western psychology. An excellent example of this is the superb cognitive psychological analysis by Dan Brown (1977, 1978) of the levels of concentrative meditation described in the Tibetan Mahamudra tradition. This possibility holds an implication of the greatest importance for cognitive psychology: the use of highly trained meditators as experimental subjects might provide a wealth of formerly inaccessible information.

Assuming, then, that introspective data have some validity as a source of knowledge, the factors which might limit this validity can be listed under the headings of distortion of experience, the limitations of memory, communication and generalization, and of underestimating the effects of other interventions.

*influence
of
expectation
and
belief*

Of the factors which limit the validity of the phenomenology itself, the strongest might well be expectation and belief (Smith, 1975). These are powerful influences on any perceptual process and might therefore be expected to exert a significant influence on the process of introspection, even when that introspection is highly trained, as it is in meditation. In light of this, I should mention that I did very little reading on meditation during the first eighteen months of practice, and so my expectations and beliefs, based on reading, were minimized during this period. Other possible distorting influences include the Rosenthal Effect (the expectations of others), and the self-conscious production of certain experiences to gratify ego needs. Also, the degree of conviction which accompanies an experience or belief is not necessarily a guide to its validity.

The nature of the visual imagery which forms the basis for some of the phenomenological part of this report deserves a brief mention. These images often seem to be exquisitely compact and detailed representations and projections of underlying mental contents, and are typical of autosymbolic phenomena (for a review, see Schacter, 1976). Some visual images, as reported by Zen meditators, are said to represent a hindrance to meditation (Kapleau, 1967; Deikman, 1977), but their status and degree of importance remain uncertain. It may well be that the attitude of the meditator is most important in determining the outcome of this phenomenon. It certainly seems reasonable that believing the images to be real in and of

themselves, becoming overly fascinated by them, or being out of touch with the cognitive affective state which projects them. could render them a hindrance to progress.

Another limiting factor is that of memory. Presumably, selective memory must operate, and this might be of two kinds: first, the category or nature of information which is remembered, and second, limitations of state-dependent memory. Subjectively, the things which are most easily remembered are phenomena which can be readily labeled, such as ideas, insights, and strong affects. On the other hand, nondiscrete and subliminal affect appears most difficult to remember. It is also apparent that there is limited recall across meditative states, and it is not uncommon to desire to memorize something while in a deep state, be unable to recall it during the nonmeditative state, and then to remember it during the next deep meditation. Subjectively, it seems that what is most easily recalled is that which is most readily labeled.

*limitations
of
memory*

Communication also presents certain limitations, and what gets communicated is that which is most easy to communicate. Those things which can be most readily labeled, such as the cognitive aspects of the experience, are emphasized, while the flavor of more subtle, affective experiences may be lost. Language also plays a role. By comparison with some languages (e.g., Pali), English is very poorly developed for the communication of inner experience (Tart, 1975a). This comment may illustrate the tenets of linguistic relativism: we create our language, and then our language creates us. This means that the paucity of language would tend to reduce the development of experiential sensitivity in the population. "We dissect nature along lines laid down by our native language" (Whorf, 1956, p. 213). Another major concern is that the states which meditation seeks are beyond verbal description, a claim that is made in numerous spiritual disciplines (Rajneesh, 1975b; Goleman, 1977).

*limitations
of
communication*

The receiver of the communication on the other hand may also be limited by state dependency (the limits of state-dependent communication have been well described by Tart, 1972a, b). In addition, communication may be further limited if the receiver has no personal experience of the phenomena being described.

The problems imposed by attempting to generalize the experiences of one subject are so obvious that they need no elaboration. On the other hand, single case studies are now recognized as an essential aspect of procedure in clinical psychology and psychiatry (Davidson & Costello, 1969; Barlow &

*influences
of
idiographic
and
nomothetic
approaches*

Hersen, 1973; Hersen & Barlow, 1976). The decades-old debate on the appropriateness for psychology of idiography (intensive investigation of, and attempts to understand, the individual) versus nomothesis (investigation arrived at determining general principles), still continues (Marceil, 1977). The implications of this debate include not only the appropriateness of different experimental approaches but touch on the very nature of man. As the distinguished psychologist Gordon Allport spent much of his life pointing out, our models of man influence perceptions and the type of scientific evidence that is gathered, in a self-reinforcing fashion (Allport, 1940, 1943). If we are not to commit the cardinal sin of avoiding "the first obligation of science (which) is to confront all of reality" (Wirth, 1966), then it is clear that for a full examination of meditation we need some form of synthesis of both the idiographic and nomothetic.

Idiography cannot do it alone. It must have a preceding groundwork by nomothesis. It is from the integrated use of the two methods that we will make progress.

Beck, 1953, p. 359

The history of science is rich in the example of the fruitfulness of bringing two sets of techniques, two sets of ideas, developed in separate contexts for the pursuit of new truth, into touch with each other.

Oppenheimer, 1954, p. 96

Indeed, the exploration of subjective experience may well become more central to Western psychology in light of recent trends, for example, the tendency to view the time-honored split between subjective and objective as reflecting different levels of a continuous hierarchy, rather than as a dichotomy. Similarly, general systems theory suggests that conscious experience may represent a higher order *emergent property* or system property of brain which might function as an active causal determinant of neural function (Sperry, 1976, 1977). Only further, intensive individual studies of subjective experience such as this, though more carefully controlled, plus objective studies of the implications that arise from them, will provide a firm empirical foundation for this area.

*additional
limitations*

Another difficulty with a report of this nature is that it tends to *emphasize progress and probably fails to convey a sense of the vastness of the conditioning, automaticity, fantasies, and mindlessness with which it is necessary to cope continuously*. In addition, it underestimates the impact of the many other inputs which tend to accompany a meditative life style. These include selective social groups, the adoption of advanced

practitioners as models, a variety of growth-oriented exercises and workshops, and related reading. These seem to operate in a continuously interactive and often synergistic fashion. Thus, for example, an insight gained in meditation may render a formerly incomprehensible teaching understandable, which in turn may provide more motivation to meditate. Thus, it is impossible to partial out the effects of any one component, although it should be noted that this is an acceptable and often necessary initial stage when a new field of investigation is being opened (Maslow, 1966; Walsh, 1978b).

CONCLUSIONS

In view of the limitations discussed above, it may be necessary to accept some of these conclusions with caution, but it seems possible to make the following brief statements based on the phenomena described in this paper.

If limited to a brief period each day, meditation is a slow but cumulative process whose effects are largely subliminal at first. However, with intensive practice, as in a retreat, the effects may be extraordinarily powerful.

*meditation
is a
cumulative
process*

The effects, which initially occur with brief daily meditation, appear not so much as *de novo* experiences, but rather as a gradually deepening awareness of formerly subliminal processes.

Initially, concentration is surprisingly limited, but trainable. William James (1962) stated at the turn of the century that concentration was limited to three or four seconds at the maximum, and Western psychology has more or less accepted this.

The extent to which consciousness is normally occupied by fantasy is enormous. That this gross encroachment on awareness has gone largely unnoticed, for example, by behavioral scientists, represents a significant hiatus in Western psychology. Meditation tends to reduce the amount of this fantasy, and initial fantasy-free episodes may elicit feelings of strangeness, unreality, and discomfort. Reduction in the amount of fantasy, therefore, may reduce the sense of separation from others. It may be impossible to think or work one's way out of these fantasies and, in fact, such attempts may even exacerbate them. However, withdrawing attention from them and concentratedly fixing the mind on a neutral object may collapse them.

*fantasy
encroaches
on awareness*

*perceptual
sensitivity
may be
developed*

It seems possible to develop perceptual sensitivity to limits far exceeding usually accepted norms; for example.

- Synesthesia across traditional sensory modalities may develop fairly rapidly, and, contrary to traditional assumptions, may be a widespread, but usually subliminal phenomenon.
- Synesthesia may also occur with thoughts, and individual thoughts may be seen in the form of visual imagery and as tactile sensation.
- Increasing perceptual sensitivity results in an awareness of the constant flux of changing perceptions.
- Mindfulness applied to judgments may result in the affective charge being recognized as separate from and following the percept which is judged, so that the percept itself may appear affectively neutral.

During the initial stages of intensive meditative practice, hallucinations of a presumably hypnagogic nature may reach psychotic proportions whenever the eyes are closed, and this state may persist for several days. This phenomenon lends support to Goleman's (1976) concept of global desensitization as one mediating mechanism for meditative effects. The induction of specific states and affects, e.g., love, may be used effectively for counterconditioning.

Attachments appear to at least partially determine the amount to which specific stimuli emerge into awareness. They also appear to produce a kind of stimulus boundness and to reduce mental flexibility. Intellectual analysis and the need (attachment) to "understand" experiences tend to result in manipulation and disruption of the flow of the stream of consciousness.

Fear of, and resistance to, a certain type of experience may effectively sensitize, exacerbate, and perpetuate it, whereas a willingness to allow the experience to be, may result in desensitization.

The sense of *doing*, as opposed to simply being, may be the result of a vigilant readiness to correct the ongoing experiential-behavioral process. Such doing may set in motion chains of reactive mental events which may in turn become the stimuli for further reactive attempts at correction. It may well be impossible to *do* anything other than be aware in order to extricate oneself from this process.

Efforting, or striving for achievement, may elicit a variety of counterproductive reactions including agitation, constricting models of what is right, and judgment.

Labeling an experience tends to result in reacting to the label and its connotations rather than to the experience itself. This process may be inversely proportional to the degree of mindfulness.

Emotions, when closely examined, may be found to be composed of stimuli which are largely or totally devoid of affective quality. For example, under customary conditions of mindfulness and perceptual sensitivity, responses to stimuli may be misinterpreted, and this misinterpretation may tend to be in the direction of one's expectations; e.g., a nonaffective arousal reaction may be interpreted as fear.

The mind may function in a radar-like fashion searching for stimuli of a predetermined type. This perceptual set may result in a number of false positives, an example of the saying that "The mind finds what it looks for" (Rajneesh, 1975). Where the stimulus being sought is an emotion, then the reaction to finding one may be a response to the same type of emotion. Thus, for example, if the mind is searching for fear, then the response to a positive finding, be it true or false, may be more fear, thus setting up a self-sustaining positive feedback loop. This may account in part for the relatively prolonged persistence of affects independent of external stimuli.

*the
mind
may
function
like
radar*

The perspective or attribution that each experience is functional and perfect for growth and learning appears to be a highly effective strategy, and contrary to popular expectation does not necessarily result in deficiencies of motivation.

Allowing the meditative process and experiences to be as they are, and to unfold naturally without attempting to change them, may result in desensitization of charged mental contents, surrender to the process, and greater congruity and alignment between different levels of consciousness.

Thoughts appear to be composed of both informational (cognitive) and affective components combined in a manner analogous to the signal and carrier waves of radio transmission. The demarcation between thoughts and feelings is not as clear as it initially seems.

The evolution and dissociation of a subpersonality may correspond to the Jungian "shadow." As this subpersonality weakens and loses effectiveness, it appears to activate survival programs.

Intensive meditation appears to produce marked reductions in sleep needs and affords the opportunity for the recognition of aversive responses to fatigue.

Lack of experiential knowledge may represent a major unrecognized limiting factor for the intellectual understanding of psychological processes and consciousness. Thus, accounts of meditative experiences, insights, and processes may be incomprehensible to one who has had no such experiences.

Intellectual understanding may be essentially inadequate for a comprehension of the range and processes of consciousness. The inner universe may not only be more than we think, it may be more than we *can* think.

*what
is
sought
will
probably
be
found*

The mind seems capable of creating an infinite amount of "relevant" mental content in response to any search for such content. This has important implications for psychodynamic theories and therapies, since any causative factor which is actively sought—e.g., sexual libido, power, striving—will probably be found. Such findings have an obviously limited validity for support of psychodynamic theories. Because of this, it may be that meditation, which does not seek any specific mental content, may be inherently less productive of artifactual material. It also supports the Zen concept of continually going beyond the current content, rather than getting caught up in and attached to it.

Our "normal" state of consciousness may actually represent a defensively contracted state in which awareness of the contraction and uncontracted potential are forgotten.

The process of judging and evaluating is extremely pervasive and gives an affective quality to the percepts being judged. This judging may hinder the meditative process.

The heightened perceptual sensitivity which occurs with meditation may be due to reduced neural and phenomenological "noise," thus raising the signal:noise ratio. As sensitivity increases, what was "noise" at one level of sensitivity may become comprehensible as "signal" at another. This raises the interesting question of whether there is in fact such a thing as noise, or whether all experience represents subliminal signals.

Deepening relaxation may be associated with reduced perceptual noise. This, and the resultant signal:noise ratio, may be the basis for the heightened perceptual sensitivity which occurs. The amplitude and variability of this noise may perhaps provide an index of neural activity and be used as a self-guiding neurocybernetic feedback signal for deepening relaxation.

Wronging others may result in their being negatively evaluated in a way which reduces feelings of guilt and cognitive dissonance. These negative evaluations may be accompanied by a variety of processes which impair meditation and distort perception. This cognitive dissonance and resultant psychological perturbations provide a rationale for the high emphasis placed on ethical behavior and "purification" in all meditative-yogic disciplines, and allow an understanding of the tendency to dehumanize and see as less than fully human those we victimize.

Perceptual sensitivity and ethical behavior appear to be mutually limiting factors for meditation. Increasing one seems to increase the other in a positive feedback manner. Cognitive models and expectancies may impair meditation, constrict awareness, and lead to judgment and all its complications.

Mantra appears to be an effective tool for increasing the amount of mindfulness in daily activities.

Re-entry into daily life after an intensive meditation retreat may be a traumatic and labile experience, apparently due to a partially transient hypersensitivity to normal daily levels of sensory input.

The outcome of meditation may depend at least partially on the intentions of the practitioner, and it is certainly possible to misuse meditation for egocentric purposes.

One of the major mechanisms mediating the effects of meditation may be a disidentification from mental content. Identification appears to transform mental content into the context from which other mental content is viewed, and to then set in train a self-perpetuating and self-fulfilling process. Identification with mental content may thus reduce awareness.

In addition to the question of who am I, meditative experiences raise the much more fundamental question of what am I, and it appears that our traditional identities are derived from unconscious identification with mental content. A variety of experiences suggest that the concept of an observer watching the experience is an illusion, and that both awareness and mental contents are devoid of any "I," that is, they are impersonal phenomena. It may be that the observer arises as a product of identification with "I" thoughts, and that total disidentification would result in transcendence of the me: not-me dichotomy. The absence of an observer removes a classic problem of neurophysiology, the inability to explain the neural

*the
observer
may be
an illusion*

nature of the observer. The flicker-fusion phenomenon may represent a possible mechanism accounting for the illusion of continuity of an observer.

*identification
demarcates
Western
and
Eastern
psychologies*

The recognition of the extent of identification represents a major demarcating feature between traditional Western psychologies and those of the East and transpersonal psychologies. In the West the recognition of identification has traditionally been limited to external phenomena, while the Eastern and transpersonal orientations emphasize identification with mental content as well as external phenomena.

Certain current limitations of Western psychology and psychiatry reflect the use of normal, but by comparison with meditative experiences, superficial, awareness of mental phenomena which leads to an illusory misinterpretation of mental processes. For example, Western behaviorism finds it impossible to explain such conditions as paranoia and obsessive-compulsive neurosis, since they apparently run counter to learning and reinforcement theory. However, a more discrete and finer analysis of mental processes, as allowed by meditation, shows that typical descriptions of pathological mental processes are, in at least some cases, erroneous, and a more adequate description may render these conditions explicable.

The laws of consciousness may be different from those of the physical universe. For example, efforting and striving may be effective in the world, yet quite counterproductive in the mind.

The range and depth of experiences and states of consciousness during meditation may far exceed those of untrained awareness and span the entire spectrum from pain to bliss. Though often uncomfortable, these states can at times confer such remarkable richness, depth, sensitivity, insight, and bliss to awareness, even while *not practicing*, that meditation may prove an inherently beautiful and rewarding process.

*as
research
paradigm
meditation
has
advantages
and
disadvantages*

The use of meditation by scientifically and psychologically trained participant-experimenters as a research paradigm has both advantages and disadvantages. However, it does have a potential for providing unique insights into a number of psychological processes which traditional methods have not been able to approach. If extended to include larger numbers of subjects, tighter controls, and empirical testing of hypothesized implications, the use of meditation may well prove an invaluable compliment to traditional paradigms. Certainly it is capable of providing testable hypotheses which are open to

disconfirmation, and this is the procedure by which science is advanced (Popper, 1972).

The reliability, validity, and generality of the principles enumerated throughout this paper are as yet unknown, but most are open to testing. Hopefully, in the not too distant future, more precise descriptions employing groups of subjects, will expand far beyond the limits of this account. However, if this paper spurs the production of these more advanced reports, it will have served its function as the preliminary testing and reporting of a novel—but perhaps essential—experimental paradigm. In addition to being only a beginning from a scientific perspective, the same seems true for me personally, since the more I learn, the more I sense that what I and many of us have assumed ourselves to be, represents but the merest glimpse of our true nature.

a
scientific
and
personal
beginning

REFERENCES

- ALLPORT, G. W. The psychologist's frame of reference. *Psychol. Bull.*, 1940, 37, 1-28.
- ALLPORT, G. W. The ego in contemporary psychology. *Psychol. Rev.*, 1943, 50, 451-478.
- ASSAGIOLI, R. *Psychosynthesis: A manual of principles and techniques*. New York: Hohles & Dorman, 1965.
- BANDURA, A. *Principles of behavior modification*. New York: Holt, Rinehart & Winston, 1969.
- BARLOW, D. H. & HERSEN, M. Single-case experimental designs. *Arch. Gen. Psychiat.*, 1973, 29, 319-25.
- BECK, S. The science of personality: Nomothetic or idiographic? *Psychol. Rev.*, 1953, 60, 353-59.
- BROWN, D. P. A model for the levels of concentrative meditation. *Internat. J. Clin. Exp. Hypnosis*, 1977, 25, 236-73.
- BROWN, D. P. Concentrative meditation. In D. Shapiro & R. Walsh (Eds.), *Meditation: Self-control strategy and altered states of consciousness*. Chicago: Aldine, 1978.
- DAVIDSON, P. O. COSTELLO, C. G. (Eds.). *Experimental studies of single cases*. New York: Van Nostrand, Reinhold, 1969.
- DEIKMAN, A. J. Comments on the GAP report on mysticism. *J. Nerv. Ment. Dis.*, 1977, 165, 213-17.
- ELKIND, D. Carl Jung. In Freedman, A. M., Kaplan, H. I., & Sadock, B. J. (Eds.), *Comprehensive textbook of psychiatry*. (Second ed.). Baltimore: Williams & Wilkins, 1975, pp. 632-36.
- ERHARD W. EST workshop for psychotherapists. San Francisco, April, 1972.

- ERHARD, W. Who is it who is healthy? In Walsh, R. & Shapiro, D. (Eds.). *Beyond health and normality*. New York: Van Nostrand, Reinhold, 1978.
- GLOBUS, G. A phenomenological approach to misery. U.C. Irvine Medical School, unpublished manuscript, 1977a.
- GLOBUS, G. Is there a 'ghost in the machine' after all? U.C. Irvine Medical School, unpublished manuscript, 1977b.
- GLOBUS, G. A general exposition on awareness. Unpublished manuscript, 1978.
- GOLEMAN, D. Meditation and unconscious: An Asian approach to mental health. *Amer. J. Psychother.*, 1976, 41-54.
- GOLEMAN, D. *The varieties of the meditative experience*. New York: Dutton, 1977.
- HARTMANN, E., BAEKELAND, F. & ZWILLING, G. R. Psychological differences between long and short sleepers. *Arch. Gen. Psychiat.*, 1972, 26, 463-68.
- HERSEN, M. & BARLOW, D. H. *Single-case experimental designs: Strategies for studying behavior change*. Elmsford, New York: Pergamon Press, 1976.
- JAMES, W. *Principles of psychology*. New York: Henry Holt, 1890.
- JUNG, C.G. *Memories, dreams, reflections*. New York: Vintage, 1961.
- KAPLEAU, P. *The three pillars of Zen*. Boston: Beacon Press, 1967.
- KENNETT, JIYU. ROSHI. Talk given to psychiatry department. Stanford, California, 1975.
- LILLY, J. *The centre of the cyclone*. New York: Julian Press, 1972.
- MAHONEY, M. *Cognition and behavior modification*. Cambridge, Mass.: Ballinger, 1974.
- MANDLER, G. Consciousness: Respectable, useful, and probably necessary. In R. Solso (Ed.), *Information processing and cognition: The Loyola symposium*. Hillsdale, New Jersey: Erlbaum, 1975.
- MARCEIL, J. C. Implicit dimensions of idiography and nomothesis: A reformulation. *Amer. Psychol.*, 1977, 32, 1046-55.
- MASLOW, A. H. *The psychology of science*. Chicago: Gateway, 1966.
- MEDDIS, R. *The sleep instinct*. Brisbane, Australia: Univ. of Queensland Press, 1977.
- MILLER, G. A. *Psychology: The science of mental life*. New York: Harper & Row, 1962.
- NEMIAH, J. C. Hysterical neurosis, dissociative type. In Freedman, A. M., Kaplan, H. I. & Sadock, B. J. (Eds.), *Comprehensive textbook of psychiatry* (Second ed.). Baltimore: Williams & Wilkins, 1975, pp. 1208-19.

- NEISSER U. *Cognitive psychology*. New York: Appleton Century Crofts, 1967.
- NISBETT, R. E. & WILSON, T. D. Telling more than we know: Verbal reports on mental processes. *Psychol. rev.*, 1977, 84, 231-59.
- OPPENHEIMER, J. R. *Science and the common understanding*. New York: Simon & Schuster, 1954.
- OSIS, K., BOKERT, E. & CARLSON, M. L. Dimensions of the meditative experience. *J. Transpersonal Psychol.*, 1973, 5, 109-35.
- OTIS, L. Adverse effects of transcendental meditation. In Shapiro, D. & Walsh, R. (Eds.). *Meditation*. Chicago: Aldine Press, 1978.
- OUSPENSKY, P. D. *In search of the miraculous*. New York: Harcourt, Brace & World, 1949.
- POPPER, K. *Objective knowledge*. Oxford: Oxford Univ. Press, 1972.
- RAJNEESH, B. S. *The way of the white cloud*. Poona, India: Rajneesh Center, 1975a.
- RAJNEESH, B. S. *Just like that*. Poona, India: Rajneesh Center, 1975b.
- RIMM, D. C. & MASTERS, J. C. *Behavior therapy*. New York: Academic Press, 1975.
- SCHACTER, D. L. The hypnagogic state: A critical review of the literature. *Psychol. Bull.*, 1976, 83, 452-81.
- SMITH, J. Meditation as psychotherapy: A review of the literature. *Psych. Bull.*, 1975, 82, 558-64.
- SPEETH, K. Gurdjieff. In C. Tart (Ed.). *Transpersonal psychologies*. New York: Harper & Row, 1975, pp. 281-328.
- SPERRY, R. W. Mental phenomena as causal determinants in brain function. *Process Studies*, 1976, 5, 247-56.
- SPERRY, R. W. Bridging science and values: A unifying view of brain and mind. *Amer. Psychol.*, 1977, 32, 237-45.
- SUZUKI, SHUNRYU, ROSHI. *Zen mind, beginner's mind*. New York, Tokyo: Weatherhill, 1970.
- TART, C. Scientific foundations for the study of altered states of consciousness. *J. Transpersonal Psychol.*, 1972a, 3, 93-124.
- TART, C. States of consciousness and state specific sciences. *Science*, 1972b, 176, 1203-10.
- TART, C. *States of consciousness*. New York: Dutton, 1975a.
- TART, C. (Ed.). *Transpersonal psychologies*. New York: Harper & Row, 1975b.
- THIGPEN, C. H. & CLEKLEY, H. M. *The three faces of Eve*. New York: McGraw Hill, 1957.
- THORESEN, C. E. & MAHONEY, M. *Behavioral self-control*. New York: Holt, Rinehart & Winston, 1974.
- TRUNGPA, C. *Cutting through spiritual materialism*. Boulder: Shambhala, 1975.

- WALSH, R. Initial meditative experiences: Part I. *J. Transpersonal Psychol.*, 1977, 9, 151-92.
- WALSH, R. N. Mechanisms mediating the effects of meditation. Unpublished manuscript, 1978a.
- WALSH, R. N. *Towards an ecology of brain*. New York: Spectrum Press, 1978b.
- WALSH, R. N. & GREENOUGH, W. T. (Eds.). *Environments as therapeutic agents for brain dysfunction*. New York: Plenum Press, 1976.
- WALSH, R. N. & SHAPIRO, D. Towards a behavioral model of mental health. In Walsh, R. N. & Shapiro, D. (Eds.). *Beyond health and normality: An exploration of extreme psychological well-being*. New York: Van Nostrand; Reinhold, 1978.
- WALSH, R. N. & VAUGHAN, F. Towards a transpersonal model of the person. In Walsh, R. N. & Shapiro, D. (Eds.). *Beyond health and normality: An exploration of extreme psychological well-being*. New York: Van Nostrand; Reinhold, 1978.
- WATZLAWICH, P., WEAKLAND, J. & FISCH, R. *Change: Principles of problem formation and problem resolution*. New York: Norton, 1974.
- WEI WU WEI. *All else is bondage*. Hong Kong: Hong Kong University Press, 1970.
- WELWOOD, J. Exploring mind: Form, emptiness, and beyond. *J. Transpersonal Psychol.*, 1976, 8, 89-99.
- WHORF, B. L. *Language, thought, and reality*. Cambridge, Mass.: MIT Press, 1956.
- WILBER, K. *The spectrum of consciousness*. Wheaton, Ill.: Theosophical Publishing House, 1977.
- WIRTH, A. G. Foreword. In A. H. Maslow, *The Psychology of Science*. Chicago: Gateway, 1976.

Communications with the author may be addressed to: Psychiatry Dept., Univ. Calif. Medical School—Irvine, 101 City Dr. South, Orange, CA 92668.