

SPECIAL ISSUE

State-Enlivening and Practice-Makes-Perfect Approaches to Meditation

Jonathan Shear, PhD

Richmond, VA

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Meditation procedures can have different types of effects and operate by very different mechanisms. Effects of Mindfulness and Vipassana procedures are often closely akin to what the meditators do in meditation and are understood as emerging via practice-makes-perfect mechanisms. Effects of major procedures from Zen and Transcendental Meditation (TM), by contrast, are often very different from what the meditators do in meditation and are traditionally understood as arising from states enlivened by the meditation techniques, rather than practice-makes-perfect mechanisms. Intensely concentrative γ -electroencephalogram (EEG)-related Zen koan work and effortless α -related use of mantras in TM are reported to produce the same basic state of pure consciousness/emptiness and types of out-of-meditation effects. These include enhancement of activities incompatible with, rather than expressions of, the activities of the procedures said to produce them. Numerous studies of the TM technique support these observations. They show, for example, enhancement of highly focused, concentrative activities (academic performance, reaction-time, etc.) that are so different from the effortless, explicitly focus-eschewing, α -associated activity of TM that they are regularly referred to as “ α -blocking.” Such effects do not appear to be explainable as practice-makes-perfect effects. Psychological, gross-physiological, and EEG-related mechanisms have been proposed to explain how state-enlivening procedures might produce their effects.

A Personal Journey

I first became interested in the subject of meditation when a friend dragged me to a lecture given by Alan Watts, a major early popularizer of Zen and Eastern thought, nearly 50 years ago. I was a senior at Brandeis University at the time, with a double major in philosophy and pure mathematics, and I had no interest in meditation. At the end of the lecture, I went to the back of the hall and threw out the philosophical manuscript I had been working on. It was the first thing I had ever written because I thought I had something to say. But the lecture made it clear to me that

Eastern meditation traditions had been analyzing the same topics for thousands of years, taking into account experiences that were entirely new to me and, it seemed, all of the Western philosophers I had been studying. So rather than wasting my time writing anything further, I resolved to look into what they had discovered as soon as I graduated.

A year later as a Fulbright Scholar in philosophy of science at the London School of Economics, I began a serious exploration of traditional Eastern meditation-related texts. I had already become aware of surprising congruencies between descriptions of transcendental experiences and procedures in the texts of Plato and Buddhist traditions. It quickly became apparent that a specific set of deep meditation-related experiences was described and emphasized in tradition after tradition (Buddhism, Taoism, Yoga, Vedanta, etc.) in different cultures and continents over the millennia. Their experiential accounts taken together seemed akin, in a rough and ready way, to a grand scientific experiment indicating that this set of experiences reflected universal, inborn potentials of human consciousness. For it seemed hard to imagine that so many different cultures, traditions, and different, often opposing beliefs would have produced the same set of unusual experiences simply by chance.

This observation whetted my desire both to understand the experiences intellectually and to gain them myself. What especially interested me were the many congruent descriptions of experiences describable as involving different states (rather than merely different objects) of consciousness said to be capable of transforming our everyday experience in highly fulfilling ways. The core ideas seemed to be that by removing all the contents of awareness, one could experience the pure, empty ground of consciousness itself and that enlivening this empty ground throughout daily life would have all sorts of beneficial subjective and objective effects.

The Ground State of Consciousness

This purported ground state of consciousness is easy to describe, but perhaps not so easy to understand. Consider,

for example, the following descriptions from modern practitioners of Zen and Transcendental Meditation (TM), respectively.

The time comes when no reflection appears at all. One comes to notice nothing, feel nothing, hear nothing, see nothing But it is not a vacant emptiness. Rather it is the purest condition of our existence. (K. S., quoted in Austin, 1998, p. 473)

My meditations are characterized by the experience of "no experience." ... I just remain in the Absolute for the entire sitting and nothing else seems to happen, other than the feeling of bliss. (P. B., quoted in Yogi, 1977, p. 80)

The experience, in other words, has absolutely nothing in it. This makes it easy to describe. But it also makes it unimaginable. For because it is devoid of all objects of experience whatsoever, anything one can imagine is external, and therefore irrelevant, to it. I remember clearly how totally stumped I was when I read, almost 50 years ago, Zen Master Hsu Yun's description of the experience in a lecture to a gathering of monks: "Nothing!" Why should the great Zen master, who unified all five of China's major Zen sects after centuries of rivalry, describe it in this way? For if it was nothing, what was the big deal? I puzzled over this repeatedly and finally put it away and continued my practice, because, after all, it was supposed to be a matter of experience rather than intellectualization.

The dilemma readily resolved itself once I had the experience myself (first occasionally during 5 years of Zen practice, then much more frequently through the practice of the TM technique). For it immediately became clear that although the experience cannot be imagined (the closest one can come is to imagine oneself as disembodied awareness in empty space, but this is misleading, for even phenomenological space is absent from the experience), one can have and remember it. The fact that one remembers it also clearly distinguished it from unconsciousness. What does one remember it as? Not as anything. Just as itself.

Different traditions conceptualize the experience in different ways depending on their own metaphysical predilections. Orthodox Indian traditions may call it pure "consciousness," "Being," or "Self." Buddhist traditions may refer to it as "emptiness," "non-being," "suchness," or "non-self." Zen and Sufism may use any or all of these contradictory expressions to emphasize both the experience itself and nonattachment to mere conceptualizations. There is, it seems to me, merit in all of these approaches. But philosophizing about the experience is one thing, and actually having it—and its promised effects—is quite another.

Meditative Procedures in Various Traditions

Different traditions have different approaches to meditation as well as to philosophy. Their meditation procedures are often very different, and produce different effects. (For accounts written by representatives of 10 major traditions now affecting the West, see Shear, 2006). The logic of the relation of procedures to effects is also often very different. Many mindfulness procedures, for example, involve sustained focused attention on particular mental objects in meditation, in order, among other things, to enhance the ability to focus attention steadily in daily activity. Other mindfulness procedures emphasize the attempt to sustain a nonevaluative, nonattached attitude to the experiential objects that arise in meditation in order to cultivate a disposition of nonattached objectivity in daily life. Put most generally, the aim is to cultivate dispositions held to be highly useful in daily life, important for mental health, and characteristic of enlightenment. The logic here is straightforward: Practice makes perfect. The mind/brain becomes trained to become better at doing outside of meditation the kinds of things it does in meditation. Research, not surprisingly, now indicates results of the expected type in connection with some of these procedures (see Grossman, Niemann, Schmidt, & Walach, 2004, and several chapters in Walach & Schmidt, in press).

Other types of meditation procedures, however, appear to function in a very different kind of way. Here the procedures are not generally thought of as a kind of practice for the intended results. They are intended instead to prompt the mind/brain to enliven specific global states of consciousness to produce diverse, seemingly unrelated kinds of results. This state approach includes practices as different as intense concentrative Zen koan work and the effortless use of mantras in TM, both of which, despite their internal differences, are intended to enliven and stabilize the pure consciousness/emptiness experience described above as the basis for spontaneous development of such things as enhanced perception, mind-body coordination, moral maturity, creativity, and self-actualization—and ultimately the state of enlightenment itself. This latter type of meditation, with its global results, is what captured my attention so long ago.

The difference between these two types of procedures is of course not absolute. Sometimes a procedure of one type can serve the function of, and even become transformed into, the other (Travis & Shear, 2010). Nevertheless, the distinction between meditation procedures intended to cultivate in daily life what one does in meditation and procedures intended to enliven specific states with their own effects is often very clear. For in the latter case, the effects

produced can be very different from, and even opposed to, what one actually does when one meditates. Consider, for example, Zen mantra work and the use of a mantra in TM, two state types of meditation. The former typically involves intense, even strenuous concentration; the latter explicitly eschews all concentration and effort. Yet both are described in the literature as capable of enhancing both concentration and relaxation in daily life. In other words, in both cases, the procedures are described as producing intended effects, some of which are opposite to their internal activities (concentrative Zen enhancing relaxation, effortless TM enhancing the ability to concentrate)—clearly not in accord with a practice-makes-perfect account.

All questions of external effects aside, even gaining the major internal state of pure consciousness/emptiness that both Zen and TM intend to enliven is not understandable on a practice-makes-perfect model. In both Zen koan work and TM, the meditator is of course actually doing something. Yet pure consciousness/emptiness is completely devoid of all perceptions, sensations, thought, will, and other identifiable phenomenal content, so there is no possibility of doing anything here at all. Thus, this state can hardly be thought of as involving what one was practicing in either Zen or TM (much less the opposed activities of both). This again is hardly compatible with a practice-makes-perfect model.

The TM Technique

Let us now examine these variables further with reference to the TM technique, the technique with which I am most familiar, having practiced and taught it for decades. According to Maharishi Mahesh Yogi, who brought the technique out from the Himalayas to the rest of India and the world, the technique works by “transcending its own activity.” This means that it is designed so that its activity, once started, automatically tends to diminish and disappear. This allows experience of subtler states of inner awareness including, when the activity of the technique has disappeared entirely, the deep state of pure consciousness/emptiness, pure wakeful silence, described earlier. The technique tends to transcend its own activity and disappear spontaneously. This is why it can be described as an “automatic self-transcending” procedure (Travis & Shear, 2010). Once one has learned it, the whole process is virtually automatic. All one does is start it and let it unfold by itself. Any effort to sustain or otherwise manipulate it only gets in the way. The whole process is so effortless and natural that when taught by expertly trained instructors, even new meditators usually taste the depths of inner silence very quickly, often within the first few days of beginning the practice.

TM is not the only technique that transcends its own activity to yield experience of pure consciousness/emptiness, of course. All of the major traditions report this experience, and any practice that produces it must at some point transcend its own activity, as we have seen. But the TM technique is by far the most widely practiced and researched technique designed to do this. Several factors have contributed to this. The technique is easy to learn, taking only an hour or two per day for several days; it is effortless to practice, and measurable results begin to be displayed very quickly. Certified teachers of the technique have all gone through an extensive training process roughly equivalent in terms of contact hours to a normal master’s degree program. As a result, for more than 50 years, the technique has been taught in the same systematic, step-by-step fashion all over the world, with highly consistent results. So in contrast with many other techniques that may be referred to by a single name, researchers here have had a reasonable expectation that subjects taught by certified teachers will be practicing the same procedure that other researchers have studied. And the research results are often directly relevant to our discussion of relationships between the phenomenology of meditation practices and effects they produce.

Studies of the electroencephalography (EEG) correlates of subjects practicing the TM technique, for example, regularly show increase of prefrontal α_1 (8–10 Hz) power and coherence, associated with restful alertness, and decrease of γ (10–30 Hz), associated with focus and concentration (Travis & Shear, 2010). This directly supports the claims of both teachers and meditating subjects that when practiced as taught, TM is effortless, rather than involving concentration.

Research on the effects of TM also show a wide spectrum of beneficial psychological, physiological, and behavioral effects, ranging from enhanced convergent thinking, moral maturity, and self-actualization to improved academic performance, reaction time, mind-body coordination, and overall physical health, to cite just a few. (For references to, and discussion of, several hundred representative studies, see Orme-Johnson, n.d.) These results are consistent with traditional claims that state-related forms of meditation can have such wide-ranging, seemingly unrelated effects. These results and the EEG results above together provide objective evidence supporting the conclusion drawn from subjective assessments of the amount of focus and concentration involved in different activities, that at least some of the major effects of the TM technique cannot be understood as practice-makes-perfect effects. For effortless α_1 -associated mind/brain activity can hardly be thought of as practice for improved performance

on tests of such things as convergent thinking and reaction time that are γ -associated and regularly referred to explicitly as “ α_1 -blocking.”

Identifying Mechanisms and Models for the Effects of Meditation

The results above are all consistent with the general outlines of state-related cause-and-effect theories of the kinds found in Yoga, Zen, TM, Taoism, and other traditions. Much more needs to be done, however, before such theories can be thought to be significantly corroborated. Studies of the external effects of TM generally examine correlations between these effects and the practice as a whole. Such studies need to be supplemented by research specifically examining correlations between the occurrence of experiences of pure consciousness/emptiness and externally observed effects. Comparable research also needs to be conducted on Zen and other traditions reporting the experience. Only then will we be able to distinguish what effects may follow from the experience itself, as distinct from idiosyncratic features of the individual practices. But it seems clear already that whatever the mechanics underlying the spectrum of effects of state-related meditation practices ultimately turn out to be, state based or otherwise, they are not simple practice-makes-perfect mechanisms.

Determining the precise mechanisms underlying the diverse effects of state-related practices may not be so easy, however. Pure consciousness/emptiness is not the only global state-like experience associated with state-related practices. Other well-known experiences described in the traditional literature and reported by TM meditators include one “pure individuality” where the meditator experiences himself or herself as a pure, seemingly disembodied consciousness in the midst of a vast, empty phenomenological space; another “pure bliss” involves experience of pure positive affect by itself, independent of any awareness of localized phenomenal objects. It seems to me that both of these experiences can be expected to contribute to the growth of moral maturity and self-actualization on purely phenomenological grounds, as I have discussed elsewhere (see, for example, Shear, 2002, 2009). Thus, it should not be surprising if effects of TM state-related practices at times turn out to be produced by more than one state-like phenomenological/psychological mechanism.

Various physiological models for the generation of state-like effects also need to be taken into consideration. One often proposed in connection with TM, for example, holds that the body gains a unique kind of physiological rest as mental activity settles down during the technique. Evidence for this includes the fact that the experience

of pure consciousness/emptiness has been highly correlated with cessation of perceptible respiration, with no change of O_2 and CO_2 pressure in the blood, consistent with traditional texts of Zen, Yoga, Taoism, and other state-related traditions. This settling process is thought to play a role in various types of enhancement of physiological functioning (autonomic stability, overall physical health, etc.) associated with TM. Changes in EEG functioning observed during TM are also theorized to play a role in the enhancements of various types of mental performance associated with the technique. Alpha coherence and synchrony, for example, are held to provide the large-scale neural communication and integration necessary for mental health, consciousness, and general cognitive processes (attention, semantic processing, memory, learning, etc.). (Compare the research reports of Palva & Palva [2007] and Sauseng & Klimesch [2008]). Both alpha coherence and alpha synchrony increase with TM (Travis et al., 2007).

The above sorts of theoretical models appear to me to be important beginnings. But a great deal more work is needed to fill out and test the details of these and other models, both for TM, the most well-researched state-type meditation technique, and, I would think, for Zen, Yoga, and other state-related traditions as well.

Conclusion

Sorting out all of the relationships between theory and observed effects here is a complex, ongoing task. Determining the effects themselves is a major part of this task. It is also to my way of thinking the most important part. Meditation traditions have always emphasized lived effects over mere theory. And for most people, it is such effects rather than theoretical questions that drew them to meditation in the first place. Indeed, if even a small percentage of the traditional meditation-related claims about the significance of meditation for the growth of such things as intelligence, creativity, moral maturity, and self-actualization turn out to be true, the effect on society as a whole, as well as on the individual meditators, could be enormous. How realistic is this prospect? The best way to find out would, I think, be for researchers affiliated with different traditions to come together and work cooperatively to determine which procedures produce precisely what effects on what populations over what time frames.

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References

- Austin, J. (1998). *Zen and the brain*. Cambridge, MA: MIT Press.
- Grossman, P., Niemann, L., Schmidt, S., & Walach, H. (2004). Mindfulness-based stress reduction and health benefits: A meta-analysis. *Journal of Psychosomatic Research*, 57, 35–53.
- Orme-Johnson, D. (n.d.). The truth about TM. Retrieved April 25, 2011, from <http://www.truthabouttm.org/truth/Home/index.cfm>
- Palva, S., & Palva, J. M. (2007). New vistas for alpha-frequency band oscillations. *Trends in Neurosciences*, 30, 150–158.
- Sauseng, P., & Klimesch, W. (2008). What does phase information of oscillatory brain activity tell us about cognitive processes? *Neuroscience and Biobehavioral Reviews*, 32, 1001–1013.
- Shear, J. (2002). Ethics and the experience of happiness. In G. W. Barnard & J. J. Kirpal (Eds.), *Crossing boundaries: Essays on the ethical status of mysticism* (pp. 361–380). New York: Seven Bridges Press.
- Shear, J. (Ed.). (2006). *The experience of meditation: Experts introduce the major traditions*. St. Paul, MN: Paragon House.
- Shear, J. (2009). Ethics, meditation and the development of consciousness. In *Understanding consciousness: Recent advances* (pp. 131–147). Kolkata, India: Vedanta Press/Ramakrishna Mission Institute of Culture.
- Travis, F., Haaga, D. A., Hagelin, J., Tanner, M., Arenander A., Nidich S., et al. (2007). A self-referential default brain state: Patterns of coherence, power and eLORETA sources during eyes-closed rest and Transcendental Meditation practice. *Cognitive Processing*, 11(1), 21–30.
- Travis, F., & Shear, J. (2010). Focused attention, open monitoring and automatic self-transcending: Categories to organize meditations from Vedic, Buddhist and Chinese traditions. *Consciousness and Cognition*, 19, 1110–1118.
- Walach, H., & Schmidt, S. (Eds.). (in press). *Meditation: Neuroscientific approaches and philosophical explanations*. New York: Springer.
- Yogi, M. M. (1977). *Creating an ideal society: A global undertaking*. Rheinweiler, West Germany: MERU Press.



Jonathan Shear

Correspondence: Jonathan Shear, PhD, Department of Philosophy, Virginia Commonwealth University, 7305 W. Franklin St., Richmond, VA 23226, email: jcs@infionline.net.