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The Sources of Higher States of Consciousness

Steve Taylor

In this paper, it is argued that “higher states of consciousness”—or mystical experiences—have two main sources: they can be caused by a disruption of the normal homeostasis of the human organism and also by an intensification of the “consciousness-energy” that constitutes our being. (These are termed HD and ICE states). The author investigates examples of both types of experience, and compares and contrasts them. It is concluded that the second type of experience is the only one which is truly positive and which can become a fully integrated and permanent higher state of consciousness.

The question of why and how higher states of consciousness occur has never received a clear answer. There are, of course, attempts to explain mystical experiences in neurological (or neuropsychological) terms. Persinger (1987) has linked mystical/religious experiences to stimulation of the temporal lobes, and even claimed to induce such experiences with a “helmet” which produces weak complex magnetic fields. D’Aquili and Newberg (2000) have suggested that mystical experiences of “oneness” correlate with decreased activity in the posterior superior parietal lobe of the brain, which is responsible for our awareness of boundaries. They have also linked mystical experiences with the autonomic nervous system, claiming that meditative experiences of serenity may stem from a high level of activity in the parasympathetic half of the autonomic nervous system, while ecstatic high-arousal states may be induced by increased activity in the sympathetic half. But as Wilber (e.g., 1996) has pointed out, we can just as easily see these brain states as *results* of higher states of consciousness rather than causes of them. These researchers may only be investigating the “footprints” of mystical and spiritual experience, rather than the experience itself. At the same time there is the difficulty of explaining subjective experience in purely objective terms. Physicalist theories of higher states of consciousness are subject to the same “explanatory gap” as theories which suggest how the brain might produce consciousness itself. The philosopher Colin McGinn (1993) has written that “You might as well assert that numbers emerge from biscuits or ethics from rhubarb” as suggest that the “soggy clump of matter” which is the brain produces consciousness (p. 160). And we can say the same for the suggestion that increased or

decreased activity in different parts of this soggy clump of matter might produce higher states of consciousness.

Alister Hardy’s research (1979) showed that, while they may sometimes seem purely to be a matter of chance—or “grace”—there are many potential triggers of spiritual/mystical experiences. These include nature, music, despair or depression, music, prayer, and quiet reflection. Alexander’s extensive research (e.g., 1990) has shown a clear link between the regular practice of transcendental meditation and such experiences. This research establishes an important link, but does not seek to explain the cause of the experiences. Tart’s “systems model” of consciousness (1983) provides a useful—if tentative—view of the problem. He suggested that states of consciousness are the result of the interaction of a large number of neurological and psychological processes—such as attention, perception, cognition, emotions—and that if any one process is altered sufficiently (e.g., if we concentrate our attention to an intense degree or if we experience intense emotion), an overall consciousness shift may result. This view applies to altered states of consciousness rather than to higher states in particular, but has some similarities with the explanation I am going to suggest. Ludwig’s model (1966) is also helpful. He suggested that there are five basic ways of producing alterations of consciousness: (1) by reducing exteroceptive stimulation and/or motor activity; (2) by increasing exteroceptive stimulation and/or motor activity and/or emotion; (3) by increasing alertness or mental involvement; (4) by decreasing alertness or relaxing the critical faculties; and (5) by changes in the body chemistry or neurophysiological functioning. This again applies to altered states rather than solely to higher states, and also has

similarities with my model.

Disrupting the Equilibrium

Fischer (1971) made an important distinction between “ergotropic” higher states of consciousness—that is, “high arousal” active or ecstatic states—and “trophotropic” higher states—that is, “low arousal” passive and serene experiences. High arousal states are associated with triggers such as drugs, dancing, fasting and breath-control, whereas low arousal states are associated with triggers such as meditation and relaxation. This distinction is valid, I will suggest, since these two types of mystical experience follow from the two distinct sources I intend to identify.

Scholars—and mystics and spiritual seekers themselves—generally agree that there are certain fundamental features of mystical/spiritual experience. These include: an intensified perception of the phenomenal world, a sense of inner peace and wholeness, a sense of oneness with the manifest world (or a sense of transcending boundaries), and a sense of becoming a deeper and truer Self (e.g., James, 1902/85; Underhill, 1911/60; Wilber, 2000b). However, as we will see, not all of these features are common to both types of higher states of consciousness from both sources.

Throughout history human beings have made a conscious effort to produce ergotropic high arousal states. This is actually fairly easy to do, even though there is no certainty that they will occur. Our bodies continually strive to maintain a state of homeostasis, the optimum condition of our biological functioning. This includes such factors as body temperature, blood sugar, salt concentration, and so on, which must remain at—or quickly return to—an optimum level. Maintaining homeostasis is both involuntary and voluntary. To a large extent our bodies maintain homeostasis automatically, by breathing, digesting food, sweating and shivering, for example. But we are also obliged to consciously aid the process by performing physical functions like eating, drinking and sleeping. When we do not manage to do this for some reason and suffer an internal imbalance, we are liable to illness and even death, especially if the imbalance continues for a long period (Green, 1987). But there is also a possibility that we will experience higher states of consciousness.

Disrupting homeostasis can be used as what Andresen and Forman (2000) refer to as a “technology of spiritual experience.” This may be, for example, the basis of the longstanding connection between fasting and both altered and higher states of consciousness. A prolonged lack of food—which disrupts homeostasis by

causing a lower level of blood glucose, higher levels of insulin and a lower body temperature—appears to make the hold which ordinary consciousness has over us much looser. The shamans of native cultures often use fasting and sleep deprivation as preparation for soul flights and vision quests, as also did the initiates of the Roman and Greek mystery cults as a preparation for rituals (Krippner, 2000; Burkert, 1987). Sleep deprivation can certainly cause altered states of consciousness. In Oswald’s experiments (1970), for example, participants who went without sleep for five days displayed symptoms identical to schizophrenia, with visual hallucinations and acute paranoia. But higher states of consciousness can result too, particularly a more intense perception of reality, an awareness of what Becker (1973) called the “raw experience” of the world. The following report was given me by a nurse who had been working night shifts without sleeping properly during the day. On the last morning she was “so tired that I was absolutely loaded with energy” and decided to walk home instead of getting the bus:

I was walking down a lane which had fields on either side of it. I walked past a tree and each leaf seemed to be coming out at me. They were all vivid, glowing, shining, and I felt a feeling of ecstasy. Each leaf seemed to be pulsating and growing. I’ve never seen anything as beautiful ever again.

This connection between physical deprivation and higher states of consciousness may partly explain the tradition of asceticism, the conscious effort to mortify their physical desires made by many—particularly Christian—saints and mystics. Asceticism is sometimes seen as a morbid and neurotic expression of the anti-physical dualistic ideology of monotheistic religions such as Christianity, and this is certainly true to some degree. But some ascetics were motivated by a desire to transcend ordinary consciousness and reach a higher state in which they experienced the presence of God (or Spirit) in the world and felt themselves one with the radiance of his being. We will see later that asceticism achieves this partly through a long term process of taming physical desires (thereby conserving “consciousness-energy”), but it is probable that ascetics also used pain and discomfort in a more short term way, as a means of inducing temporary higher states of consciousness. The 14th century German mystic, Henry de Suso, spent years wearing a hair shirt and an iron chain, as well as a leather belt containing 150 inward-facing sharp brass nails. He never had a bath in 25 years, never sheltered from the cold in the winter or

touched or scratched any part of his body apart from his hands and feet (James, 1902/1985). The Sufi mystic, al-Shebli, took a bundle of sticks with him into his cellar every day, with which he would beat himself whenever he found his attention wandering from contemplation of Allah. At the end of the day he would dash his hands and feet against the wall (Attar, 1990). It is likely that part of the motivation for these appalling practices was a discovery that by contravening their physical needs and thereby disrupting homeostasis, they were able to free themselves from ordinary consciousness.

By far the most direct way of disrupting the equilibrium, however, is by using drugs. As Huxley pointed out:

For an aspiring mystic to revert, in the present state of knowledge, to prolonged fasting and violent self-flagellation would be as senseless as it would be for an aspiring cook to behave like Charles Lamb's Chinaman, who burned down the house in order to roast a pig. Knowing as he does (or at least can know, if he so desires) what are the chemical conditions of transcendental experience, the aspiring mystic should turn for technical help to the specialists—in pharmacology, in physiology and neurology, in psychology and psychiatry and parapsychology (Huxley, 1977, p. 121).

Or as we might rephrase it: why bother with pain, hunger or sleep deprivation when it is possible to disrupt homeostasis more directly simply by ingesting certain chemicals? Of course, human beings have always used drugs for transcendental and ritualistic purposes, as a means of intensifying or altering consciousness. The Neolithic peoples of Europe smoked opium and cannabis for apparent religious or ritualistic purposes 5,000 years ago; the Native Americans ingested sacred plants such as fly-agaric mushrooms and peyote; the early Indo-European conquerors of India worshipped their drink Soma (probably made from "magic" mushrooms); while adepts of the Greek Eleusinian mysteries ingested kykeon (Rudgley, 1993; McKenna, 1993; Smith, 1964). All drugs alter the normal chemical balance of the human organism, and therefore disrupt homeostasis. Of course, not all drug experiences are transcendental experiences, but all drugs undoubtedly can generate them in the right circumstances. Even our one socially-sanctioned drug, alcohol, has transcendental properties. William James maintained that "The sway of alcohol over mankind is

unquestionably due to its power to stimulate the mystical faculties of human nature, usually crushed to earth by the cold facts and dry criticisms of the sober hour" (1902/1985, p. 387). By far the most powerful in terms of their transcendental effects, however, are psychedelic drugs. One acquaintance who experimented with magic mushrooms gave me the following report:

Everything I looked at, trees and stones and blades of grass, seemed to have a powerful presence, an identity and being. They seemed to have personalities or souls. At the same time they were all interconnected. I looked at a meadow which was full of wild plants and bushes and weeds and in some way—which I can't really describe—everything in it was one. They were all separate on one level but on another they were all just one thing. I lay down on the grass and looked around and when I sat up I felt like I was one of the blades of grass. Not in an "Oh my god, I'm a blade of grass!" kind of way, but because there wasn't this distinction between "me" and "it."

This experience features many of the characteristics of higher states of consciousness I mentioned previously: a heightened perception of the reality of the phenomenal world, an experience of oneness with the cosmos, and an awareness of the oneness of all phenomena. It might seem controversial to suggest that drug-induced spiritual experiences are essentially the same in kind as the above experiences of sleep-deprivation and lack of food, but I would maintain that the root of both types of experience is the same internal imbalance and that the only real difference is one of degree, in that drug experiences are likely to be much more powerful.

There are other methods of inducing higher states of consciousness through disrupting homeostasis, such as altering our normal breathing patterns. Normally we inhale and exhale at the same rate, and preserve a balance of carbon dioxide and oxygen levels. But if we inhale faster and more deeply than usual we build up a higher than usual concentration of oxygen, and if we exhale faster and more deeply than usual we build up a higher than usual concentration of carbon dioxide—and both of these non-homeostatic states can, it seems, generate higher states of consciousness. Many Native American groups—such as the Salish, the Algonquians and Kiowa—used both hypo- and hyperventilation as a means of inducing higher states of consciousness (Jilek, 1989). Certain kinds of chanting

practised by tribal peoples, such as the “throat music” of the Inuit, also appear to involve a rapid rhythmic hyperventilation which produces altered and higher states (Metzner, 1987). Part of the purpose of the pranayama exercises of yoga is to induce temporary higher states of consciousness. Although the essential purpose of pranayama is long-term regulation of prana—and inseparable from the physical exercises of hatha yoga, it is clear that a breath control technique such as kevali-kumbhaka, in which the aim is simply to hold the breath for as long as possible, would potentially induce a higher state of consciousness (Feuerstein, 1990).

This may also be the root of the connection between dancing and higher states of consciousness. The initiates of the Greek and Roman mystery cults used frenzied dancing—as well as self-flagellation and drugs—as a means of disrupting homeostasis so that they could be, in the words of a contemporary observer, “filled with divine awe...assimilate themselves to the holy symbols, leave their own identity, become at home with the gods, and experience divine possession” (in Spenser, 1950, p. 157). Similarly, the Dervish orders of Islam used dancing as a means of inducing the state of consciousness which they called “passing away.” Here we can probably assume that prolonged energetic dancing produces an internal imbalance because of a high body temperature, dehydration and exhaustion. We can put forward similar cases for other ritualistic and religious practices such as drumming (which may also, like chanting, involve a meditative concentrative aspect) and painful ordeals.

All of these are examples of the fifth category in Ludwig’s model: changes in the body chemistry or neurophysiological functioning. His second category—increasing exteroceptive stimulation and/or motor activity and/or emotion—can also be seen as related to disrupting homeostasis, since in most cases the increasing level of these factors is likely to produce an internal imbalance, as with the increasing motor activity of frenzied dancing.

The question of why disrupting homeostasis can result in higher states of consciousness is difficult to answer exactly. It seems clear, however, that ordinary consciousness and homeostasis are closely interlinked. From the point of view of survival, ordinary consciousness is our optimum mode of consciousness. It may be that, as the “filter theory” of higher states of consciousness put forward by Huxley (after Bergson), and later developed by Naranjo and Ornstein (1971) suggests, the “shadowy” vision of reality which ordinary consciousness gives us evolved as a kind of survival mech-

anism. It screens out reality so that we can concentrate properly on the business of day to day survival. And at the same time it conserves energy. Our perception becomes automatized so that we can transfer energy that would normally be channelled into the act of perception into the business of practical survival. Or as Floyd W. Rudmin wrote:

In line with evolutionary theory, it is widely accepted that this active mode of ordinary consciousness is adaptive and functional and serves to enhance the survival of the species. It simplifies and actively processes information and guides and monitors our intra- and interpersonal actions (1994, p. 60).

In view of this it seems justifiable to say that, at least to some extent, homeostasis works to regulate and maintain ordinary consciousness. The optimum physical state of homeostasis equates with the optimum psychological state (from the point of view of survival) of ordinary consciousness. As a result, when we disrupt homeostasis we also disrupt ordinary consciousness¹.

However, it’s important to point out that disrupting homeostasis certainly does not always result in a higher state of consciousness. It almost always results in altered states of consciousness, but only infrequently in higher states. For example, extreme tiredness may often result in psychotic and delusional states, with paranoia and hallucinations. Psychedelic drugs appear to most reliable way of inducing higher states through non-homeostasis, but even they can frequently produce psychotic symptoms.

The exact chemical nature of the disruption to homeostasis—in the case of sleep deprivation, blood pressure, a depressed immune system and hormonal and metabolic changes; or in the case of pain, hormonal and metabolic changes and increased heart rate and blood pressure, or the chemical changes produced directly by drugs—does not seem to be so significant. Any disruption to homeostasis can, it seems, trigger altered states of consciousness (including higher states).

This might suggest that I am attempting to reduce higher states of consciousness to chemical causes. But the important point may be rather that ordinary consciousness is strictly chemically moderated. Higher (and altered) states of consciousness occur when the chemical conditions that regulate ordinary consciousness are relaxed, as it were. Any change in any one of these conditions is enough to dismantle the whole structure. This suggests that, rather than merely being chemically produced themselves, higher states of con-

consciousness are ontologically more fundamental and authentic, and that ordinary consciousness may be thought of as—at least to some extent—a more artificial, chemically-generated construct.

Consciousness-Energy and Higher States of Consciousness

In a discussion on the psychological effects of meditation, Novak (1996) makes an important connection between our normal shadowy vision of the world and psychic energy. He notes that the “endless associational chatter” of our minds monopolises our psychic energy, leaving none available for us to devote to what he calls the “open, receptive and present-centred awareness.” However, when a person meditates, she or he deprives the automatized structures of consciousness (which produce “thought-chatter”) of attention. As a result, they begin to weaken and fade away, which “frees up” the energy that they normally monopolise. As a result, Novak claimed that energy bound in defences and fantasies can be released in present-centeredness. Deikman also makes a connection between mystical experiences and energy when he suggests that they are

brought about by a deautomatization of hierarchically ordered structures that ordinarily conserve attentional energy for maximum efficiency in achieving the basic goods of survival... Under special conditions of dysfunction, such as in acute psychosis or in LSD states, or under special goal conditions such as exists in religious mystics, the pragmatic systems of automatic selection are set aside or break down, in favour of alternate modes of consciousness (Deikman, 1981, p. 259).

Both these views hint at what can, I believe, be classified as the second major source of higher states of consciousness. They can also occur when there is an intensification of what I term consciousness-energy. This is roughly equivalent to the term “psychic energy”—I prefer consciousness-energy because it emphasises the interrelationship between this energy and consciousness. Consciousness-energy is the active principle of consciousness, the energy which we use in being conscious, in the acts of perceiving the phenomenal world, attending to our experience and thinking logically and discursively. This is not to say that consciousness is in its essence a form of energy—De Quincey (2002) has argued that this cannot be the case, since there is always a witnessing “I” which is apart from the flow of energy. Consciousness as a witness may be fun-

damentally independent, but consciousness as awareness and as consciousness as cognition are bound up with psychic energy.

Psychologists often assume the existence of psychic energy (e.g., Novak, 1995; Csikszentmihalyi, 2003) or attentional energy (e.g., Deikman, 2004a; Csikszentmihalyi, 1992; Marchetti, 2004) without making it clear exactly what this energy is. Others talk more obliquely of mental effort (e.g., Gross, 1996) or “pool of attentional resources” (Kahneman, 1973), seeming to assume the existence of some form of mental energy without actually using the term. Consciousness-energy is clearly distinct from energy as we normally think of it, and independent (at least to a large extent) to the chemical energy which we absorb from food and which fuels the functioning of our bodies. On an everyday level, we accept its existence almost as a given, and we certainly feel subjectively that it exists. As Marchetti (2004) puts it, paying attention towards an object spends attentional energy on it. We have the sense that our level of consciousness-energy continually fluctuates, according to how much we have expended through concentrating or attending to stimuli. If we have been concentrating hard, we might feel lethargic or run down; if there is a surplus of consciousness-energy, we feel alert and vibrant. Our moods seem to be affected by our level of consciousness-energy too—when we feel mentally drained we often feel depressed, whereas when we feel mentally buoyant, with a high level of consciousness-energy, we usually feel cheerful and optimistic. We also conserve this energy through the phenomenon of automatization. Activities such as driving, typing or playing a musical instrument are initially painstaking conscious processes, but at a certain point there is a switch to fully automatic processing, the purpose of which is to conserve attentional energy so that we can focus our minds elsewhere (Norman & Chalice, 1980).²

It might be said that we normally expend our consciousness-energy in three main ways: through what Novak identifies as the “endless associational chatter” of our egos; through the concentrative effort we make to deal with the tasks and chores which fill our lives, including the effort to communicate with other human beings; and also through the effort we make to process the various forms of information (e.g., perceptual stimuli such as sights and sounds, and verbal information from the media, books or the internet), which are part of our lives. However, when, for some reason, we halt this constant outflow of consciousness-energy, and build up a high concentration within our

own being, we are liable to experience higher states of consciousness. As Novak suggests, this is one interpretation of what may happen in meditation practice. The thought chatter of the ego is fed by attention, so when we focus our attention elsewhere, it fades away. In addition, during meditation we largely close the other main channels through which we expend energy. We process very little information from our environment, and the only task we have to concentrate on is focusing our attention. Our automatized perception means that we usually give very little consciousness-energy to the act of perceiving our surroundings. However, when the chatter of our minds fades away—and when we conserve energy in the other ways I mentioned—there is a surplus of consciousness-energy, which means that perception no longer needs to be automatic, since there is no need for energy to be conserved. As a result we perceive our surroundings with first-time vision, and are awake to the *is-ness* and animacy of natural phenomena. Examples of these were given by many participants of Deikman's experimental meditation sessions (Deikman, 2004b).

Many mystics and spiritual teachers have spoken of mystical experience in similar terms to these. The Hindu text the *Moksha-Dharma* compares the transcendental Self to a sun, and notes that through the process of concentration (*dharana*), the rays of the sun—or the whirls of consciousness—are gathered up and focused inwardly. As a result, the yogin experiences the intense radiance of the Self, and attains a state of *samadhi* (Feuerstein, 1990). In the Christian mystical tradition, Meister Eckhart described how mystical experience occurs when “you are able to draw in your [intellectual and sensory] powers to a unity and forget all those things and their images which you have absorbed” (1979, p.7, *italics added*). Or again, he states that to achieve union with God, “a man must collect all his powers as if into a corner of his soul” (1979, p. 20). Similarly, St. Gregory of Sinai described spiritual experience as “the total lifting of the powers of the soul to what may be discerned of the entire majesty of glory” (in Happold, 1986, p. 223). The terms “powers” and “powers of the soul” here are equivalent to the term consciousness-energy, and the terms “drawing in,” “collecting,” and “lifting”—and also the “gathering up” of the whirls of consciousness described in the *Moksha-Dharma*—refer to what I describe as generating a high concentration of consciousness-energy.

One of the main differences between ICE states (as I will term them from now on, standing for ‘intensification of consciousness-energy’) and higher states

of consciousness resulting from homeostasis disruption is that the former are—in Stace's terminology (1964/88)—more introvertive. That is, whereas homeostasis disruption (HD) states are centred around a different mode of experiencing the phenomenal world, ICE states also often involve a profound sense of inner peace and contentment, or even bliss. ICE states have a powerful affective dimension that HD states lack. Meditators have, for example, reported great senses of peace, wholeness, and relief (Hardy, 1979). This sense of inner peace appears to be generally absent from HD experiences, which is logical when we consider that it is probably directly caused by the high concentration of consciousness-energy which meditation can generate. As the Indian mystical traditions make clear, bliss is the nature of being or consciousness—being-consciousness-bliss (*Sat Chit Ananda*) is the essence of reality. We are, therefore, likely to experience this bliss when the energy of our being is intensely concentrated.

There is another cause of this sense of inner peace that requires explanation. As well as an intensification, ICE states feature a stilling of consciousness-energy. At the same time as monopolising a large portion of our consciousness-energy, the constant thought-chatter, which runs through our minds, creates a constant psychic disturbance. In Meister Eckhart's (1996) phrase, there is a constant inward storm of thought. In spiritual states caused by an ICE this storm fades away. It has to, otherwise consciousness-energy would not be concentrated enough to produce a spiritual state. And this contributes to the sense of bliss which spiritual ICE states feature. There is always a sense of inner stillness, and a sense of purity—and this is not so much an affective state, as a direct, literal experience of the stillness and purity of consciousness in these moments.

Meditation is, we might say, a conscious attempt to intensify and still our consciousness-energy, both in the short and long term. (In the long term it is an attempt to permanently halt the associational chatter of the mind, which may lead to a permanent alteration of the structures of consciousness, if a point is reached where the chattering ego becomes so weakened that it disappears as a psychic habit.) However, there are situations in which ICE states may occur more accidentally, and give rise to higher states of consciousness. This is probably, for example, the reason why spiritual or mystical experiences often occur in natural surroundings. Usually if a person is, for instance, walking alone in the countryside she is absorbing and processing comparatively little information and being relatively inactive, and so largely closing two of the main chan-

nels through which consciousness-energy drains away. And at the same time the beauty of nature may have a similar effect to a mantra in meditation. It becomes a focus for the attention, directing it away from the chattering of the ego. As a consequence the chattering might fade away, until an ICE state is generated, resulting in a sense of inner peace and wholeness and a familiarity-free perception of is-ness and all-pervading spirit. The following are good examples of higher states of consciousness (presumably) induced by nature from Hardy's *The Spiritual Nature of Man* (1979):

Last summer, when walking on Hampstead Heath alone, feeling calm and at peace with the world, suddenly I became aware that there was no separateness between myself and other people, that there was no such things as death, and I was pervaded by a feeling of great peace and joy. (p. 62) In my early twenties...in Wales, I went out for walk one evening alone. The path led up to a narrow precipice walk along the hill's edge, and while I was there...the setting sun blazed out turning the whole world crimson and gold, there was a gust of wind and felt as if I had been swept into the very heart of all that glory and colour, taken over by something outside myself of which I was yet a part. (p. 72)

The high incidence of spiritual experiences amongst athletes and sportspeople (e.g., Murphy & Whyte, 1995; Taylor, 2002) can be explained in similar terms. Some of these may be due to homeostasis disruption, since the exertions of some sports can easily create internal imbalances. However, sports also often involve an intense degree of concentration, which may generate ICE states. This is particularly the case with sports that involve long periods of monotonous rhythmic activity, such as long distance running or swimming. The activity itself serves as a focusing device, and quietens the chattering ego. As the psychiatrist Thaddeus Kostrulaba (1976) wrote, after discussing the universal use of mantras to induce different states of consciousness, "I think the same process occurs in the repetitive rhythm of long-distance running. Eventually, at somewhere between 30 and 40 minutes, the conscious mind gets exhausted and other areas of consciousness are activated" (p. 103). Similarly, the poet Ted Hughes described a meditative state he often experienced while fishing. He notes how poetry depends upon the ability to focus the mind, and believes that he acquired this ability through fishing. He describes the effect of staring at a float for long

periods: "All the nagging impulses that are normally distracting your mind dissolve...once they have dissolved, you enter one of the orders of bliss. Your whole being rests lightly on your float, but not drowsily, very alert" (1967, p. 72).

This may also be part of the reason why sex can be a powerful trigger of spiritual states. The sheer pleasure of sex can shift our attention away from the ego-mind, which may fall silent. As a result, after sex we may experience what D.H. Lawrence described as "the strange, soothing flood of peace which goes with true sex" (1973, p. 54). Sex can, therefore, as Jenny Wade comments, "take people to the same realms as trance, meditation, drugs" (p. 120).

Music, too, is a prominent trigger of spiritual states, for similar reasons. The following example—again from Hardy—is a good example of an ICE state induced by music:

I was sitting one evening, listening to a Brahms symphony. My eyes were closed, and I must have become completely relaxed, for I became aware of a feeling of 'expansion', and seemed to be beyond the boundary of my physical self. Then an intense feeling of 'light' and 'love' uplifted and enfolded me (Hardy, p. 85).

The fact that the person was inactive and had closed his eyes had already reduced his or her outflow of consciousness-energy, and we can assume that the music acted as a concentrative device, quietening the chattering of the ego-self, reducing the outflow further.

In theory, almost any activity which involves a degree of concentration and which takes place in a quiet and still setting—and which can therefore result in an intensification and stilling of life-energy—could give rise to a spiritual experience. Other significant triggers of spiritual experience, such as literature, the contemplation of art and creative work (Hardy, 1979; Laski, 1961) might be explained in these terms.

Other Aspects of ICE states

So far I have discussed two different aspects of higher states of consciousness in relation to ICE states: an intensified perception of the phenomenal world (perhaps including an awareness of the presence of brahman in the world) and a sense of inner peace. However, we should give some attention to other aspects of higher states of consciousness. For example, how can we explain the sense of one-ness that comes with spiritual experiences in these terms?

Unlike the sense of inner peace, this sense of one-

ness is—as we have seen—also a feature of spiritual experiences resulting from homeostasis disruption. This suggests that the experience is not strictly related to ICE states. The experience may be primarily related to ego-dissolution, a transcendence or dismantling of the separate-self system which creates the illusion of separateness and duality. This can be achieved through disrupting homeostasis—since the separate self-system is an integral part of our ordinary optimum survival consciousness which homeostasis partly serves to maintain—or through a silencing of associational chatter. Our sense of ego appears to be largely maintained by this chatter. Therefore when the chatter becomes silent the separate self-system may fade away.

However, ICE states in particular may provide another source of this experience of oneness. As many spiritual traditions hold, at the essence of our being, we are one with the cosmos. As the Vedanta tradition tells us, atman is one with brahman. The consciousness-energy that constitutes our being is one and the same as the consciousness-energy which pervades the cosmos. Therefore, when we experience a powerful intensification of consciousness-energy, we also effectively experience the essence of the whole universe. We tap into the ocean of Spirit that pervades all reality.

Another important aspect of spiritual experiences is the sense of becoming who we really are, the sense that we have made contact with a deeper and truer part of our own being. There is an identity shift from the ego-self to the True Self, which can occur temporarily in higher states of consciousness or as a gradually evolving feature of long-term spiritual development. This new sense of self is vividly evoked in Paul Brunton's famous description of meditating in the presence of Ramana Maharishi:

The brain has passed into a state of complete suspension, as it does in deep sleep, yet there is not the slightest loss of consciousness. I remain perfectly calm and fully aware of who I am and what is occurring. Yet my awareness has been drawn out of the narrow confines of separate personality; it has turned into something sublimely all-embracing. Self still exists, but it is a changed, radiant self. Something that is far superior to the unimportant personality which *was* I, some deeper diviner being, arises into consciousness and *becomes* me. (1972, pp. 304-5)

The important point here may be that our true sense of self is *embedded* in consciousness-energy. The energy *is* our Self, our true identity, so that an ICE state equates with a sense of connection to a truer self,

especially once the superficial thought-maintained self of the ego has faded away. According to the Yoga philosophy of Patanjali, the “restriction of the whirls of consciousness” allows the transcendental Self to appear (in Feuerstein, 1990, p.171.) Since HD states do not depend on an intensification of consciousness-energy, we would not expect this aspect to feature in them. And based on my own examination of reports of HD states (e.g., Huxley, 1977; Ouspensky, 1984; Hardy, 1979; McKenna, 1993) and my own personal experiences of them³, I believe this to be the case. Reports of HD-induced higher states of consciousness do not, I believe, generally feature this sense of becoming one with a truer and deeper self. In this respect the term that is sometimes used for psychedelic drugs, “entheogens” (e.g., Walsh, 2003)—literally, revealers of the god within—is misleading. If anything, they should be termed “extheogens.”

Long Term Spiritual Development

Long-term spiritual development can also be interpreted in terms of an intensifying and stilling of consciousness-energy. One way of looking at regular spiritual practice—whether it is daily meditation practice or mindfulness exercises or a monastic life of renunciation—is as a concerted effort to generate a permanently high concentration of consciousness-energy (and to permanently still consciousness-energy to some degree), by permanently reducing or restricting its outflow. As mentioned previously, the practice of meditation does this by teaching the chattering ego the habit of quietness. But the spiritual life involves more than meditation. Traditionally, spiritual aspirants have forced themselves to extremes of renunciation and detachment in an effort to permanently transform their state of being. They might choose to live alone in the forest or desert, to take vows of silence or celibacy, to rid themselves of all possessions or to relinquish ambitions or interests of their own. This kind of radical spirituality is opposed to many contemporary spiritual teachings (e.g., Cope, 1999), which insist that there is no distinction between the spiritual and the mundane and that every aspect of our lives—including business, food and relationships—offers the opportunity for spiritual growth. Like asceticism, detachment has been seen as part of the ascending world-rejecting tradition which posits an artificial and dangerous duality between matter and spirit. It's certainly true that, as the Integral Philosophy recently developed by Ken Wilber, Michael Murphy, and others suggests, focusing our energies exclusively upon spiritual development is likely to cause an imbalance and a neglect of

other important areas of our lives. However, the purpose of the life of a renunciate is clear: he or she is attempting to drastically limit the outflow of consciousness-energy—or more specifically, making a determined effort to permanently close down the channels through which consciousness-energy drains away. This underlying purpose of detachment was noted by Underhill (1960), who describes it as a process of “stripping or purging away of those superfluous, unreal, and harmful things which dissipate the precious energies of the self” (p. 204). The practice of voluntary poverty, for example, can be seen as a method of stopping our thoughts being occupied and our energies being drained away by possessions. As Meister Eckhart noted, ‘There are men who completely dissipate the powers of the soul in the outward man. These are the people who direct all their aims and intelligence towards transient possessions’ (1990, p. 117). And similarly, Underhill (1960) noted that possessions “are a drain upon the energy of the self, preventing her from attaining that intenser life for which she was made” (p. 212). In a similar way, we can see the practice of celibacy as, on the one hand, a method of freeing the monk or mystic from the responsibility of having to care and provide for a family, and also a means of—hopefully, since there is always the danger that the sexual energy may simply be repressed—freeing the consciousness-energy which is normally devoted to sexual desires and activity. As Swami Prabhavananda (1952) wrote: “Sexual activity, and the thoughts and fantasies of sex, use up a great portion of our vital force. When that force is conserved through abstinence, it becomes sublimated as spiritual energy” (p. 72). Silence and solitude are clearly two other ways of concentrating or intensifying consciousness-energy.

This is another aspect of asceticism. We should not see asceticism purely as a matter of punishing the body for its sinful desires. At the same time as serving as a means of inducing temporary spiritual states through homeostasis-disruption, it should be seen as a question of taming or controlling what ascetics called “the body of desire” in order to conserve—and redirect—the consciousness-energy which it normally monopolises. As Underhill notes again, ‘The mortifying process is necessary...because those senses have usurped a place beyond their station; become the focus of energy, steadily drained the vitality of the self’ (p. 220). Underhill actually refers to a wrong distribution of this energy. And similarly, the yogic asceticism of *tapas* was defined by Swami Prabhavananda (1969) as “the practice of conserving energy and directing it toward the goal of yoga...obviously, in order to do

this, we must exercise self-discipline; we must control our physical appetites and passions” (p.102). *Tapas* usually involves chastity (*brahmacharya*) and the subjugation of the senses (*indriya-jaya*) and is believed to generate an intense form of energy, *ojas*, which is sometimes experienced as heat (the literal meaning of the word *tapas*). The first two stages of Patanjali’s eight-limbed path of yoga also involve rigorous self-control and an effort to tame the body of desire. The purpose of *yama* (often translated as restraint) is, as Feuerstein (1990) puts it, “to check the powerful survival instinct and rechannel it to serve a higher purpose” (p. 186). This frees up psychospiritual energy, which the adept can use at the *niyama* (discipline) stage, when he attempts to “harmonize his relationship to life at large and to the transcendental reality” (p. 186).

We should note that both detachment and mortification (or asceticism) are not—at least ideally—ongoing or permanent processes. They are processes directed to a particular end: a release from what Underhill calls the selfhood’s tyranny and from the dominance (and energy-monopolisation) of our lower, hedonistic impulses. Many mystics strove for years to attain this freedom, at which point they often relinquished their lives of detachment and became extremely active. St. Catherine of Siena, for example, spent three years living as a hermit and an ascetic until she attained a state of deification. At that point she abandoned her solitude and was frenetically active for the rest of her life, teaching, converting non-Christians and serving the poor and sick (Underhill, 1960). The same is true of other mystics such as St. Theresa, St. John of the Cross, and St. Francis of Assisi. The purpose of detachment and mortification is to produce a transformation of being, a permanent redistribution of consciousness-energy, which equates with a permanently higher state of consciousness, or ascendance to the higher transpersonal realms.

I should make it clear that I am certainly not advocating a retreat from the world, or implying that everyday life is opposed to spirituality. I personally hold the non-dualist view that there is no distinction between spirit and the world and that in principle every act of our lives—from eating to washing the dishes and sex and socialising—is sacred and spiritual. The effort to tame physical appetites does not necessarily—and should not—entail a mind/body duality or a sense of disgust towards the body. The practices should be seen purely as a matter of economy, of permanently taming our desires so that they no longer monopolise our consciousness energy, and of reducing

its outflow by keeping ourselves apart from the demands and the hectic activity of normal life. This does not mean going to the extremes of the ascetics—in my view it is probably only necessary to follow the “middle way” that Buddhism recommends, half way between hedonism and asceticism, in which we avoid excessive desires and excessive activity, but do not go the extreme of punishing the body or neglecting other areas of our development besides the spiritual.

ICE states versus HD states

This is not the place for an extended discussion and comparison of HD and ICE mystical states. Many scholars have written at length on the question of whether drug-induced higher states of consciousness are comparable with those induced by or related to long term spiritual practices or seemingly proffered by the grace of God (e.g., Huston Smith, 1964; Stace, 1964/1988; Zaehner, 1961). However, there are a few salient points that I would like to mention.

HD and ICE states are two different technologies of spiritual experience, and have been used as such throughout human history. But the spiritual experiences they generate are of a different character. Above I have dealt with four different aspects of higher states of consciousness: (a) an intensified perception of the phenomenal world (b) a sense of inner peace and wholeness (c) a sense of oneness with the manifest world, or a sense of transcending boundaries and (d) a sense of becoming a deeper and truer Self. As I mentioned above, one of the differences between ICE and HD states is that while the former feature all four of these, the latter do not. HD states certainly feature (a) and (c), but they do not appear to feature the affective characteristics of (b) and (d). HD states are primarily sensory or perceptual experiences. I also pointed out that in ICE states the characteristic (c) is likely to be more powerful than in HD states because of the essential oneness of consciousness-energy with the consciousness-force of the cosmos.

HD and ICE states correspond to Fischer's (1971) ergotropic high arousal and trophotropic low arousal experiences. HD states can never give rise to the low arousal void experience of what Robert Forman (2000) describes as the Pure Consciousness Event. This can only come from ICE states, since these actually involve a purification and intensification of consciousness.

Similarly, we can say that HD states are never—in Stace's terminology (1964/1988)—introvertive. They always involve the phenomenal world; they are always extrovertive. On the other hand, ICE states can be both introvertive and extrovertive. They may be intro-

vertive void experiences of pure consciousness, or extrovertive experiences of perceiving is-ness, wonder and oneness. Whether ICE states are introvertive or extrovertive depends simply upon the circumstances in which they occur. An ICE state which is consciously induced by meditation will be introvertive, simply because the meditator has closed her senses to the external world, by shutting her eyes, sitting in quietness and focusing her attention on a mantra (or another object of concentration). An ICE state that occurs in the countryside, or while long-distance running or listening to music, will be extrovertive, simple because the individual is already in open communication with the external world.

A major problem with HD states is their unreliability. Often they will not generate any discernable change in consciousness (this is especially the case with forms of physical deprivation such as sleep and hunger), and even when they do, they are likely to generate other altered states of consciousness besides higher states, such as hallucinatory experiences or psychotic episodes. As Walsh noted of psychedelic drugs in particular, “[they] can induce genuine mystical experiences, but only sometimes, in some people, under some circumstances” (2003, p.2). ICE states, on the other hand, have a very low risk of negative or psychotic states, and reliably generate transpersonal or mystical states.

Probably the most important difference between HD and ICE states, however, is that only the latter can build towards a permanently transformed consciousness. In Wilber's terms (e.g., 2000), only they can create permanent, enduring structures of consciousness. HD states can only give “peek” experiences into the transpersonal domains. These can be useful; they might come as a bolt out of the blue, rupturing the familiar, taken-for-granted world and making the individual aware that higher realms of reality do exist. There is some evidence that drug-induced higher states of consciousness encourage individuals to investigate methods of gradual long-term consciousness transformation (e.g., Tart, 1991). This may not always be the case though. Being given these experiences for free may create a passive attitude towards them, and a reluctance to make the long term disciplined effort which permanent spiritual transformation requires. For every Ram Dass, there is a Timothy Leary. Or as Smith puts it, “Drugs appear to induce religious experiences: it is less evident that they can produce religious lives” (1964, pp. 528-9).

HD states can also be dangerous. The individual may not actually be ontologically ready to process the

experience, and their psychic equilibrium may be disturbed as a result. William Johnston argued that “meditation is safer than drugs because the meditation, if properly instructed, and guided, can integrate the new knowledge and preserve his equilibrium” (1988, p. 124). Particularly with intense use of psychedelic drugs, there is the danger that the separate self-system may collapse altogether, and lead to schizophrenia or psychosis. In fact this is the *only* long-term psychic change which the regular inducement of higher states of consciousness through HD can lead to. Whereas meditative ICE states are *constructive*—that is, they gradually tame the chattering ego and produce a permanent intensification of consciousness-energy, and gradually create a new psychic structure—HD states are essentially *destructive*: they produce a powerful blast which immobilises the ego, and if this blast is regularly repeated the ego-structure will be eroded away, to the point where it is no longer able to re-form itself.

This strongly suggests that ICE states are superior to HDs. However, at least HD states have the apparent advantage—which is part of their appeal—of requiring no effort, whereas ICE states usually involve some form of mental concentration and a degree of self-discipline. And I would certainly not degrade HD mystical experiences to the extent that scholars such as Zaehner (1961) and Masters and Houston (1966) have done by claiming that psychedelic experiences may be analogous to mystical experiences but are not the same thing—or else that they only superficially resemble them. HD mystical experiences are clearly genuine, but deficient in that they do not feature aspects of higher states of consciousness common to ICE states. We might say that they are one-dimensional, in that they can only be extrovertive, and lack an affective dimension.

This essay leaves some questions unanswered, of course. For example, why is it that disrupting homeostasis does generate higher states of consciousness in some instances but not in others? Or, how do ICE states correlate with the different levels of mystical or transpersonal experiences (e.g., in Wilber’s model, the psychic, subtle, causal and non-dual)? (My suggestion would be, very briefly, that the greater the intensification and purification of consciousness-energy, the higher the level of consciousness.)

This model of higher states of consciousness suggests a new view of the issue of whether children and native or tribal peoples might be more spiritual than adult Westerners. In Wilber’s model of transpersonal development (e.g., 2000) this is impossible, since individuals first have to move through the egoic and for-

mal-operational levels before they can stabilise themselves at the transpersonal realms (although Wilber admits that they may have brief peek or peak experiences). However, if we see an intensification of consciousness-energy as the source of spiritual states, then children and native peoples clearly do have access to the transpersonal realms. In fact, since in both cases their sense of ego is less developed and less active than ours, and appears to produce less associational chatter, we might assume that there would be a reduced outflow of consciousness-energy in their case, and that they would be therefore more open to spiritual states than us. This might not apply so much to children, since the intensity of their instinctive desires and heightened emotionality would itself produce a large outflow of consciousness-energy, but could easily be true for native peoples (see Taylor, 2003 for a related discussion). The important point is that, as so many spiritual teachers have stated, our over-active and over-separate egos—although not the ego in itself—are an enemy. As well creating a sense of “otherness” between us and the world, and between ourselves and our own bodies, they monopolise our consciousness-energy, so that we see the world as one-dimensional and inanimate place, instead of the radiant, benevolent, meaningful, Spirit-charged cosmos that it really is.

Endnotes

1 Neurologically, higher states of consciousness associated with homeostasis disruption appear to correlate with hyperactivity of the limbic system. Rhawn Joseph (2000) recognises that practices such as food and water deprivation, pain, drug use and self-mutilation have been traditionally been used to induce mystical or spiritual states, and links this to arousal of the brain’s limbic system. As he sees it, when the limbic system is denied its normal input, it becomes hyperactive and can no longer efficiently delete and filter out stimuli, resulting in intensified perceptual awareness. However, again, we can equally see the hyperactivity of the limbic system as a correlate—or an effect—of the mystical or spiritual state that is produced when homeostasis disruption means that ordinary consciousness can no longer be regulated and maintained. Following Newberg and D’Aquili’s research, there would also appear to be a correlate with increased activity in the sympathetic half of the autonomic nervous system.

2 The existence of this energy makes sense in terms of the theory of consciousness put forward by Robert Forman and others, which suggests that the brain itself doesn’t produce consciousness, but rather

receives and transmits it. According to this view, consciousness is a fundamental force of the universe, present everywhere and in everything, and at the cellular level and above, entities become capable of receiving it, and so become individually conscious. Extending this further, consciousness-energy—or psychic energy—is the portion of universal consciousness which is canalised into us, which is received and transmitted by our brains. This accords very well with the spiritual concept that at the heart of being we are one with the universe, that atman is one with brahman. Our own consciousness is of the same substance as the consciousness that pervades the universe.

3 I made a number of experiments with LSD and magic mushrooms over a two-year period. With the exception of one psychotic episode (with LSD), the experiences did produce what I would class as higher states of consciousness. I experienced an intense perception of the phenomenal world; so-called “inanimate” objects came to life, and natural phenomena such as stones and trees seem to possess a consciousness or being of their own. I was also occasionally aware of the presence of “spirit” in things. I felt I knew what brahman was when I looked at the sky and felt it was filled with a harmonising, living presence. There was also an awareness of the unity of superficially separate things. I felt exhilarated by these perceptions, even euphoric at the sense of meaning I could perceive, but I never experienced a sense of inner peace and wholeness, or a sense of becoming one with a deeper self. In fact the perceptual intensity was occasionally accompanied with a sense of inner emptiness and indifference.

References

- Alexander, C.N., Davies, J.L., Dixon, C.A., Dillbeck, M.C., Druker, S.M. Oetzel, R., Muehlman, J.M., & Orme-Johnson, D.W. (1990). Growth of higher stages of consciousness: Maharishi's Vedic psychology of human development. In C.N. Alexander and E. Langer (Eds.), *Higher stages of human development: Perspectives on adult growth* (pp. 286-341). New York: Oxford University Press.
- Andresen, J. & Forman, R. (2000). Methodological pluralism in the study of religion. *Journal of Consciousness Studies*, 7(11-12), 7-16.
- Attar, F. A. (1990) *Muslim saints and mystics*. London: Arkana.
- Becker, E. (1973). *The denial of death*. New York: Free Press.
- Brunton, P. (1934/1972) *A search in secret India*. London: Rider.
- Burkert, W. (1987) *Ancient mystery cults*. Cambridge, MA: Harvard University Press.
- Cope, S. (1999) *Yoga and the quest for the true self*. New York: Doubleday.
- Csikszentmihalyi, M. (1992). *Flow: The psychology of happiness*. London: Rider. Csikszentmihalyi, M. (2003). Materialism and the evolution of consciousness. In T. Kasser, & A. Kanner (Eds), *Psychology and consumer culture* (pp. 91-106). Washington D.C: American Psychological Association.
- De Quincey, C. (2002). *Radical nature*. Montpelier, VT: Invisible Cities Press.
- Deikman, A. (2004a). Deautomatization and the mystic experience. In R. Woods, (Ed.), *Understanding mysticism* (pp. 240-60). London: The Athlone Press.
- Deikman, A. (2004b) *Experimental meditation* available at <http://www.deikman.com/experimental.html> accessed 05/05/04
- Feuerstein, G. (1990) *Yoga: the technology of ecstasy*. Wellingborough, UK: The Aquarian Press.
- Fischer, R. (1971). A cartography of the ecstatic and meditative states. *Science*, 174(4012), 897-904.
- Forman, R. (1998). What does mysticism have to teach us about consciousness? *Journal of Consciousness Studies*, 5(2), 202-223.
- Green, S. (1987) *Physiological psychology: An introduction*. London: Routledge & Kegan Paul.
- Gross, R. (1996), *Psychology: The science of mind and behaviour*. London: Hodder & Staughton.
- Happold, F.C. (1986) *Mysticism*. London: Pelican
- Hardy, A. (1979) *The spiritual nature of man*. Oxford, UK: Oxford University Press.
- Hughes, T. (1967) *Poetry in the making*. London: Faber and Faber.
- Huxley, A. (1977). *The doors of perception and heaven and hell*. London: Grafton.
- James, W. (1902/1985). *The varieties of religious experience*. London: Penguin.
- Jilek, W. (1989). Therapeutic use of altered states of consciousness in contemporary North American Indian dance ceremonials. In C. Ward (Ed). *Altered states of consciousness and mental health: a cross cultural perspective* (pp. 167-85). London: Sage.
- Johnston, W. (1988) *Silent music*. London: Fontana.
- Joseph, R. (2000) *The transmitter to God: the limbic system, the soul and spirituality* San Jose: The University Press California.
- Kahneman, D. (1973), *Attention and effort*. Englewood Cliffs, NJ: Prentice Hall.

- Kostrulaba, T. (1976). *The Joy of running*. Philadelphia: Lippencott. *Life of Ramakrishna* (Anonymous, 1929) Madras, India: Ramakrishna Math.
- Krippner, S. (2000). The epistemology and technologies of shamanic states of consciousness. *Journal of Consciousness Studies*, 7(11-12), 93-118.
- Laski, M. (1961). *Ecstasy*. London: The Cresset Press.
- Lawrence, D.H. (1973) *John Thomas and Lady Jane*. London: Penguin.
- Ludwig, A.M. (1966) Altered states of consciousness. *Archives of General Psychiatry*, 15, 225-234.
- Marchetti, G. (2004). The role attention plays in building our subjective experiences. *Journal of Non-Locality and Remote Mental Interactions*, 1 (2), (Available at www.emergentmind.org/marchettiI2.htm. Accessed 11/10/04).
- Mascaro, J. (Ed.). (1990). *The Upanishads*. London: Penguin.
- Masters, R.E.L. & Houston, J. (1966) *The varieties of psychedelic experience*. New York: Delta.
- McGinn, C. (1993). Consciousness and cosmology: Hyperdualism ventilated. In M. Davies and G.W. Humphreys (Eds), *Consciousness* (pp. 155-77). Oxford, UK: Blackwell.
- McKenna, T. (1993) *The food of the gods*. New York: Bantam.
- Meister Eckhart (1979) *German sermons and treatises*, vol. 1 (Trans. M. Walshe). London: Watkins.
- Metzner, R. (1987). Shamanism, alchemy & yoga: Traditional techniques of transformation. (Available at www.rmetzner-greeneearth.org/research-articles. Accessed 21/7/04).
- Murphy, M. & White, R.A. (1995). *In the zone: Transcendent experience in sports*. London: Arkana.
- Naranjo, C & Ornstein, R. (1971). *On the psychobiology of meditation*. London: Allen & Unwin.
- Newberg, A, & D'Aquili, E. (2000). Neuropsychology of religious and spiritual experience. *Journal of Consciousness Studies*, 7, 111-122.
- Norman, D.A. & Shallice, T. (1980) *Attention to action: Willed and automatic control of behaviour*, CHIP Report 99, San Diego: University of California.
- Novak, P. (1997). Buddhist meditation and the consciousness of time. *Journal of Consciousness Studies*, 3(3), 267-77.
- O'Neal, D. (Ed.) (1996). *Meister Eckhart: From whom god hid nothing*. Boston: Shambhala.
- Oswald, I. (1970). *Sleep*. Harmondsworth, UK: Penguin.
- Ouspensky, P.D. (1984) *A new model of the universe*. London: Arkana.
- Persinger, M.A. (1987) *Neuropsychological bases of god beliefs*. New York: Praeger.
- Prabhavananda, Swami & Isherwood, C. (1969). *How to know God: The yoga aphorisms of Patanjali*. New York: Mentor.
- Rudmin, F.W. (1994). Property. In W. J. Lonner and R. Malpass (Eds). *Psychology and culture*. (pp. 55-59) Boston: Allyn and Bacon.
- Rudgley, R. (1993) *The alchemy of culture*. London: British Museum Press.
- Smith, H. (1964) Do drugs have religious import? *Journal of Philosophy* LXI, 517-530.
- Spencer, S. (1950) *Mysticism in world religion*. London: Penguin.
- Stace, W. (1964/1988). *Mysticism and philosophy*. Los Angeles: J.P. Tarcher.
- Tart, C. (1983). *States of consciousness*. El Cerrito, CA: Psychological Processes.
- Tart, C. (1991). Influence of previous psychedelic drug experience on students of Tibetan Buddhism. *Journal of Transpersonal Psychology*, 23, 139-74.
- Taylor, S. (2002). Spirituality: The hidden side of sports. *New Renaissance*, 10(4), 6-9.
- Taylor, S. (2003). Primal spirituality and the onto/phylo fallacy. *The International Journal of Transpersonal Studies*, 22, 61-76.
- Underhill, E. (1911/1960) *Mysticism*. London: Methuen.
- Wade, J. (2000) *Mapping the course of heavenly bodies: The varieties of transcendent sexual experiences*. *Journal of Transpersonal Psychology*, 32, 103-22.
- Walsh, R. (2003). Entheogens: true or false? *International Journal of Transpersonal Studies*, 22, 1-6.
- Wilber, K. (1996). *Sex, ecology and spirituality*. Boston: Shambhala.
- Wilber, K. (2000a). *One taste*. Boston: Shambhala.
- Wilber, K. (2000b). *Integral psychology*. Boston: Shambhala.
- Zaehner, R.C. (1961) *Mysticism sacred and profane*. Oxford, UK: Oxford University Press.

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