

# ALTERED STATES OF CONSCIOUSNESS: A THIRTY-YEAR PERSPECTIVE (An Invited Address for Division 30) PART 2

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## Waking from Sleep at a Pre-selected Time: Impossible and Too Easy?

That was the MORE dimension, but as I mentioned, the FOOLING OURSELVES dimension always comes through. In 1970 I was finally able to publish a study I had carried out while at Stanford on waking from sleep at a pre-selected time. Since I had been a child, I had the ability to wake up whenever I wanted to if it was necessary to get up early for a trip or the like. I found no scientific literature on this ability, so I thought I would check it out. I had a group of Stanford students take booklets that gave various, random, times to wake up scattered through the night. They mailed their results to me. I found that there were an extremely high number of exact time awakenings (editor's note: a recent study in *Nature* suggests that the hormone adrenocorticotropin surges about an hour before anticipated awakening). I thought I was investigating the MORE dimension, but it turned out I was also in-

vestigating the FOOLING OURSELVES dimension. It took a number of tries before I could find a journal that would accept my article for publication. Half the journals had referees who rejected it because they said the idea that a person could have that kind of timing accuracy was ridiculous, "the participants must have been faking it, don't publish the article." The other half of the journals rejected it because their referees said "Of course, anyone can wake up anytime they want to, why bother to waste journal space on this?"

### The ASC Induced by Marijuana:

In the late sixties and early 70's I also began systematic work on the nature of the ASC induced by marijuana intoxication, resulting in a publication in *Nature* on this and a book, *On Being Stoned: A Psychological Study of Marijuana Intoxication*. The book is officially out of print now, but it and the article are available in their entirety on the Internet from my web site.

In looking at earlier research on psychoactive drugs like marijuana, it became obvious to

me that suggestion and expectations had major effects on whether someone even got intoxicated and developed an ASC from using marijuana. They had an even stronger effect on determining the nature of the particular state they got into. The proper way to research this would have been to run thousands of laboratory participants under all varieties of psychological conditions to work out all the interactions. This was practically and legally impossible, given the hysteria about marijuana intoxication at that time, yet something needed to be done to get an accurate phenomenology and to counteract the rather ridiculous ideas as to the nature of marijuana intoxication that seemed prevalent in the scientific literature. The literature tended to concentrate on "objective" effects, and if one gave much weight to that criterion, it seemed that people risked going to jail in order for their eyes to get red and their heart rate to be slightly slower than normal! Needless to say, something was missing in this description.

I took a practical route. After confidential, informal, open-ended interviews with a number

of marijuana users, I developed a detailed questionnaire in which users could rate how often they experienced a particular effect and the minimal level of intoxication necessary for such experience to occur. Users could return this questionnaire anonymously, and the result was the first systematic catalog of the nature of the ASC that could be induced by marijuana. Note that I say "could be."

Psychological factors are important, and changes in cultural and psychological variables since doing that study may mean that what people experience today is somewhat different from what they experienced then.

I mentioned earlier that I was ambivalent about my *Altered States of Consciousness* book still being a good book today instead of being totally outdated by research. I have the same feelings about my *On Being Stoned* book: I had hoped that my work would inspire much more extensive studies on the phenomenology of marijuana intoxication, but that didn't occur and so this book still remains an important reference source.

### **Opening Up A Little: Meditation for Idiots**

The early 1970's also saw another change in the MORE dimension, in terms of my experiential capacity to understand meditation. I was still a poor meditator in spite of having

tried many systems. The Beatles then popularized the meditation teachings of the Maharishi Mahesh Yogi, his Transcendental Meditation system, and since they advertised that this would work for anybody, including "idiots" at meditation, I figured it was the system for me. So I got trained in it and practiced it fairly regularly for a couple of years. A report of what I experienced appeared in the *Journal of Transpersonal Psychology*. Basically, I found it relaxed me, and it seemed to take a lot of incompletely processed psychological material and bring it up to consciousness so that it was processed. It also had another interesting effect: I found it more difficult to enjoy the slight intoxication effect that a glass of wine before dinner could bring on! I wasn't sure whether I liked that or not. I liked the feeling of clarity that came after my transcendental meditation sessions, but I also liked to take a break into a little fuzziness with my glass of wine before dinner.

I kept up Transcendental Meditation for a couple of years, then let it slide. In the 1980's I met a Westerner who had trained in the East but then given a lot of thought to how to effectively train people in our culture to become effective meditators. This was Shinzen Young, a genius at teaching meditation, and I learned more traditional Buddhist meditation procedures from him. The re-

sult is that I now meditate rather regularly, enjoying these periods of quiet and clarity, and occasionally teach basic meditation procedures to others. I would not characterize myself as a person who experiences wild or unusual or profound meditative states, but I have certainly gotten something very valuable out of it that has helped me personally and informed my research.

### **Pain Alters One's State and Leads to...**

The early and mid 1970's saw what is probably my most creative contribution to the scientific enterprise, namely my proposal, published as a feature article in *Science*, to create state-specific sciences. This had its genesis in a Rolfing session. Rolfing, as it is colloquially known, or structural integration to give it its more proper name, is a system of deep body work designed to relieve stress in the body caused by old injuries and the like that have become embodied in the connective tissue, the fascia, resulting in chronically poor posture and subsequent chronic strains from living in a gravitational field. I was having a Rolfing session in San Francisco and all sorts of creative energy and thoughts broke loose, brought on by the pain of the session: Rolfing was very painful for me, and pain does indeed alter one's consciousness! By the time I had driven from San Francisco back to

Davis, a little over an hour's drive, the entire essence of my state specific sciences proposal had come to me and I had a hundred copies of the lengthy paper ready to take with me to a conference two weeks later. An updated version of this proposal has just been published in *Ciencia e Cultura*, the Journal of the Brazilian Association for the advancement of Science, in a special issue devoted to developing a science of consciousness. This new version is also available on my web site.

### **State-specific Sciences Proposal:**

Basically I brought my altered states of consciousness perspective to the process of science. Essential science, as I like to call it, begins with curiosity and humility. You want to know about some aspect of reality and you admit that your current knowledge is incomplete and probably biased. So you go out and observe what there is to be observed, you get the data. Then you theorize about it, trying to be logical in your theorizing. At this point in ordinary life, when you come up with a good theory, you tend to stop, because it's so satisfying to think you understand something. But the basic requirement of essential science stems from the recognition that any theory may be a post hoc rationalization, rather than a deeper understanding of the phenomenon, so you are required to test the consequences of your theory: You

make predictions that follow logically from your theory and take the next step of conducting experiments and gathering observations to test the validity of your predictions.

All of these three steps, observation, theorizing, prediction/testing could be done by a single individual, but science is a collective enterprise, so there is a fourth step of sharing/communicating one's activities and findings in all these other steps, so that others confirm, deny, or expand your data, check your theorizing and predictions, etc. Since not all scientists have exactly the same biases, we get important relief from the subjectivity that might otherwise exist.

What I basically proposed is that essential science has so far been (officially) done in our ordinary state of consciousness, but my understanding of any state of consciousness is that any state has both advantages and disadvantages. There is no one state that is uniformly superior in all regards. Each has its state-specific perceptions, state-specific logics, state-specific actions, and state-specific communications. Thus, if we want a complete understanding of consciousness, we must practice essential science in a variety of states of consciousness, and create and refine complementary bodies of state-specific knowledge.

My proposal for states specific sciences was socially premature when it appeared in *Science* in 1972, although it drew a great deal of comment. Most of our scientific articles receive no comment whatsoever by anyone, unfortunately, even if they contribute to the long term building of the corpus of our knowledge, but over 100 Letters to the Editor were written to *Science* as a result of my article. They could only publish a few, but they passed all the letters on to me. I noticed an interesting two-fold division in them. Most of the letters thought the idea of doing science in an ASC was ridiculous: altered states were degenerations from normal, and so my proposal made no sense. I noticed that practically all the writers of these letters were older, established scientists in a variety of disciplines. The other writers tended to be younger people and they all thought the proposal to establish state-specific sciences was wonderful and we should get on with it! Still being fairly young myself, it was rather easy to identify with the younger folks.

The most interesting letter came from a young psychiatrist who sided with the older people: all altered states were degenerations and pathological, you couldn't possibly do science in them. A few days later, however, he followed this up with a second Letter to the Editor. In this he indicated that he was embarrassed about writing the second letter, but his scientific

honesty compelled him to. He had been thinking about my state specific sciences proposal while in an ASC the night before, and found it made perfect sense in the ASC! Since that proposal, investigation of lucid dreaming is moving toward becoming a state specific science. In lucid dreaming, one is physiologically in a stage 1-REM state, while psychologically/experientially in a dream world, but the pattern of consciousness is approximately that of one's normal waking state, so you can question what is happening ("How can I obviously be fully conscious and perceive what looks and feels like a real world around me when I know I'm dreaming?"), carry out experiments, etc. Lucid dreamers now have their own communication media and are exchanging observations with each other (print and web-based), carrying out experiments and sharing their results, making some predictions about the nature of lucid and ordinary dreams based on theories, testing them, etc.. Stephen LaBerge at Stanford is a leader in this activity, so I fully expect a state specific science of lucid dreaming to be created.

Since making the original proposal, several mathematicians have pointed out to me that mathematics is already a well-developed state specific science. The basic data are internal observations of mathematical "truths," data from which theories are derived and tested by other mathe-

maticians who are able to get into the state of consciousness appropriate to understanding them. Not being mathematically inclined myself, I find this fascinating, but will have to take these mathematicians' word for it, as I'm not capable of getting into an ASC where higher mathematics makes any sense to me!

### **Broadening Out to the Psychologies Implicit in Spiritual Systems:**

The mid-1970's were an especially productive time on the MORE dimension for me. As a result of encounters with various spiritual systems, I came to realize that there were full-fledged psychologies implicit within all the world's great spiritual systems. I decided to bring these out as a way of beginning to get us out of our culture-boundedness, so I recruited a group of people who were very knowledgeable in various spiritual systems (like Sufism, Yoga, Gurdjieff's Fourth Way system, Christianity, etc.) to write about these systems as psychologies rather than as religions. The result was my *Transpersonal Psychologies* book.

My *Transpersonal Psychologies* book illustrated both the MORE dimension and the FOOLING OURSELVES dimension. The MORE dimension is clear: People raised in other cultures and other spiritual

systems see the psychological universe in rather different ways than we do. The FOOLING OURSELVES dimension became apparent as the book was about to be published.

Just before press time, I received a somewhat frantic call from the publisher. It seemed that one of the major psychological book clubs had seen the manuscript and wanted to have the book as their next monthly selection, but, there was a problem. At that time the book was titled *Spiritual Psychologies*. Psychologists, said the book club manager, could not deal with the word spiritual! Could we change the title? Thus the change to *Transpersonal Psychologies*, as the word transpersonal was still new enough at that time that there were no habitual prejudices against it!

I also learned a lot about both the MORE dimension and the FOOLING OURSELVES dimension as I lightly edited the contributors' chapters for uniformity of presentation. I constantly found myself reading various psychological ideas and automatically rejecting them as not making sense. Yet I kept realizing that I had recruited a bunch of clearly successful, intelligent, mature people, getting along well in the world. Could they really be full of nonsense? Or was it that my implicit cultural prejudices were getting in the way?

I realized that the latter was the problem, and so, constantly stimulated by the editing, I contributed a chapter to the volume on the implicit assumptions of Western psychology and culture. This was a real eye opener for me, to realize how many things we just assume and have always assumed as true, but we don't really know, they are just assumptions.

Another lesson in FOOLING OURSELVES resulted when, several months later, I told some friends about this chapter I had written. Each one was interested and would ask me "What are some of these implicit assumptions?" To my amazement, I generally could not remember a single one of them! Since I was no longer working daily with the material in editing it, they had all become implicit again! This was a good lesson about assumptions and the power they have over us, which I've tried to keep in mind. The problem is, of course, that it's hard to remember the assumptions we make.

### **Making Sense of the Variety of Altered States:**

In the same year that I published my *Transpersonal Psychology* book, I also published my *States of Consciousness* book. A word of advice for you book writers out there: never publish two books with similar titles! People who have to read my *Altered States of Consciousness* book automatically think that the *States of Consciousness* book is

the same thing and don't look at it. I should've had sense enough to name the second one *Altered States Strikes Back* or *Son of Altered States*, to keep them distinct!

*States of Consciousness* is a quite different book from my earlier *Altered States of Consciousness*. The latter was an anthology, covering all sorts of fascinating data on many different ASCs, but *States* is my synthesis of what it all means, a systems approach, based partly on my engineering background, as to what constitutes a state of consciousness, how any particular state is stabilized, how one induces an altered state by interfering with such stabilizing processes and then adding disrupting and patterning processes, etc.. It's not a simplistic view of consciousness, and I recognize that we really like simple sorts of views. But my background in engineering was in work with complex systems, and consciousness is more complex than anything I've ever worked with in the physical world, so I don't expect an understanding to be simple. While the *States of Consciousness* book is officially out of print, it is also available in toto online via my web site, as are articles in which I've now greatly expanded this systems approach framework by using analogies from computer-generated virtual reality devices to show how we already live in a biological-psychological virtual reality.

Time is running out but I'll mention just one more major thrust of my work, a book published in 1986 called *Waking Up: Overcoming the Obstacles to Human Potential*, whose points were expanded in 1993 in a follow-up book called *Living the Mindful Life*. One of the great influences on my psychological understanding was the work of G. I. Gurdjieff, who was a genius in trying to translate Eastern psychological understandings into terms suitable for Westerners to work with. Easterners have an idea that we live in samsara. This Sanskrit term is usually inaccurately translated to mean that the world is somehow not real, but the point of this concept is really a psychological one, that our perceptions and our thoughts are so neurotic and distorted that we live our psychological lives badly out of touch with our true nature and what actually goes on the world, and consequently have a great deal of unnecessary suffering.

What amazes me is that while this concept of living in samsara is strange by contemporary Western standards, we Western psychologists probably know a great deal more about the nuts and bolts of exactly how one lives in samsara than they do in the East! We know about things like perceptual defense, the constructed nature of perception, defense mechanisms, neuroses, psychoses, and many more ways in which we do indeed live in a biological-psychological virtual reality, bearing only a partial re-

semblance to actual reality. I could go on at length about this work, as a practical application of mindfulness training to help us be more intelligent and effective in the world, quite aside from its psychological import, but I am out of time.

### **In Conclusion?**

In a talk like this the convention is that I should reach some sort of conclusion. Certainly I can say that we can be so much more than we are now, that there are transpersonal/spiritual dimensions of existence whose realization and development are essential for full health and development. But I also have to balance this by saying that it is clear that we can fool ourselves badly, we thoroughly live in illusion, in samsara, often illusions that are shared by our culture and colleagues and so very difficult to detect. These illusions can be "spiritual" illusions, i.e., we can believe in ideas about apparent spiritual reality that are indeed illusory. But these illusions can also be "materialistic," fashionably scientific, and put us just as much out of touch.

So, there really is no "conclusion" to my life's work. The dynamic between discovering the MORE that is possible for us and the ways we can fool ourselves about both the MORE in the ordinary and in the extraordinary still continues to go on. It's exciting, it's frustrating, it's inspiring, and it's fun!

### **Directions Into the Future:**

Where am I going with all this? To illustrate just four direc-

tions, one kind of research I am following is looking at strong emotions as ASCs. It's now clear to me that within our ordinary state of consciousness we can have mild levels of any emotion but still remain in our same, baseline state of consciousness. I can be a little sad, or a little angry, but I'm still basically me with all my habits of thought and perception. But once almost any emotion goes beyond a certain threshold, an ASC is induced. Depression, for example, is not ordinary consciousness with lot of sadness instead of a little sadness, it's a state in which time perception changes (this terrible state will go on forever...), and some people literally see red in the ASC of rage, which is not the same thing as our ordinary state plus a lot of anger.

Another direction I'm going in, almost another dimension that bridges all my work, is to try to form bridges between the open minded scientific community and the open minded spiritual community. I think both communities have a great deal to teach each other, and working in both of them is not really incompatible. Being closed minded, being narrow in either sphere, is what leads to conflict. To me there is no essential conflict between essential science and true spirituality, but there's plenty of conflict between dogmatic scientism and dogmatic religiosity.

A third line I'm working on is what I call my TSEOS project, Transpersonal/Spiritual Experiences of Scientists. I've

met so many scientists over the years who, after they realize it's safe to talk to me, will reveal that they've had some profound spiritual or psychic or transpersonal experiences, but they have never been able to talk about them in their own scientific community for fear of being laughed at and rejected. I'm in the process of setting up a TSEOS web site where such people will be able to anonymously share their experiences with each other. That will help get them get their experiences off their chests, which should be good for people, it will help to dispel the stereotype that "real scientists" don't have spiritual experiences, and will provide some very interesting research data, as scientists are good observers.

Finally, I am really enjoying teaching our graduate students at the Institute of Transpersonal Psychology how to develop mindfulness in everyday life. I'm an old-fashioned psychologist in one sense: I think psychology is and should be the study of the mind. But, you have to learn how to observe the mind in a thorough fashion, so mindfulness training is not only useful in everyday life, but it also creates the possibility of a real psychology. Thank you again for asking me to speak with you today!