

Tryptamine Hallucinogens and Consciousness

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There is a very circumscribed place in organic nature that has, I think, important implications for students of human nature. I refer to the tryptophan-derived hallucinogens dimethyltryptamine (DMT), psilocybin, and a hybrid drug that is in aboriginal use in the rain forests of South America, ayahuasca. This latter is a combination of dimethyltryptamine and a monoamine oxidase inhibitor that is taken orally. It seems appropriate to talk about these drugs when we discuss the nature of consciousness; it is also appropriate when we discuss quantum physics.

It is my interpretation that the major quantum mechanical phenomena that we all experience, aside from waking consciousness itself, are dreams and hallucinations. These states, at least in the restricted sense that I am concerned with, occur when the large amounts of various sorts of radiation conveyed into the body by the senses are restricted. Then we see interior images and interior processes that are psychophysical. These processes definitely arise at the quantum mechanical level. It's been shown by John Smythies, Alexander Shulgin, and others that there are quantum mechanical correlates to hallucinogenesis. In other words, if one atom on the molecular ring of an inactive compound is moved, the compound becomes highly active. To me this is a perfect proof of the dynamic linkage at the formative level between quantum mechanically described matter and mind.

Hallucinatory states can be induced by a variety of hallucinogens and dissociative anesthetics, and by experiences like fasting and other ordeals. But what makes the tryptamine family of compounds especially interesting is the intensity of the hallucinations and the concentration of activity in the visual cortex. There is an immense vividness to these interior landscapes, as if information were being presented three-dimensionally and deployed fourth-dimensionally, coded as light and as evolving surfaces. When one confronts these dimensions one becomes part of a dynamic relationship relating to the experience while trying to decode what it is saying. This phenomenon is not new - people have been talking to gods and demons for far more of human history than they have not.

It is only the conceit of the scientific and postindustrial societies that allows us to even propound some of the questions that we take to be so important. For instance, the question of contact with extraterrestrials is a kind of red herring premised upon a number of assumptions that a moment's reflection will show are completely false. To search expectantly for a radio signal from an extraterrestrial source is probably as culture bound a presumption as to search the galaxy for a good Italian restaurant. And yet, this has been chosen as the avenue by which it is assumed contact is likely to occur. Meanwhile, there are people all over the world - psychics, shamans, mystics, schizophrenics - whose heads are filled with information, but it has been ruled a priori irrelevant, incoherent, or mad. Only that which is validated through consensus via certain sanctioned instrumentalities will be accepted as a signal. The problem is that we are so inundated by these signals - these other dimensions - that there is a great deal of noise in the circuit.

It is no great accomplishment to hear a voice in the head. The accomplishment is to make sure it is telling the truth, because the demons are of many kinds: "Some are made of ions, some of mind; the ones of ketamine, you'll find, stutter often and are blind." The reaction to these voices is not to kneel in genuflection before a god, because then one will be like Dorothy in her first encounter with Oz. There is no dignity in the universe unless we meet these things on our feet, and that means having an I/Thou relationship. One say to the Other: "You say you are omniscient, omnipresent, or you say you are from Zeta Reticuli. You're long on talk, but what can you show me?" Magicians, people who invoke these things, have always understood that one must go into such encounters with one's wits about oneself.

What does extraterrestrial communication have to do with this family of hallucinogenic compounds I wish to discuss? Simply this: that the unique presentational phenomenology of this family of compounds has been overlooked. Psilocybin, though rare, is the best known of these neglected substances. Psilocybin, in the minds of the uninformed public and in the eyes of the law, is lumped together with LSD and mescaline, when in fact each of these compounds is a phenomenologically defined universe unto itself. Psilocybin and DMT invoke the Logos, although DMT is more intense and more brief in its action. This means that they work directly on the language centers, so that an important aspect of the experience is the interior dialogue. As soon as one discovers this about psilocybin and about tryptamines in general, one must decide whether or not to enter into this dialogue and to try and make sense of the incoming signal. This is what I have attempted.

I call myself an explorer rather than a scientist, because the area that I'm looking at contains insufficient data to support even the dream of being a science. We are in a position comparable to that of explorers who map one river and only indicate other rivers flowing into it; we must leave many rivers unascended and thus can say nothing about them. This Baconian collecting of data, with no assumptions about what it might eventually yield, has pushed

me to a number of conclusions that I did not anticipate. Perhaps through reminiscence I can explain what I mean, for in this case describing past experiences raises all of the issues.

I first experimented with DMT in 1965; it was even then a compound rarely met with. It is surprising how few people are familiar with it, for we live in a society that is absolutely obsessed with every kind of sensation imaginable and that adores every therapy, every intoxication, every sexual configuration, and all forms of media overload. Yet, however much we may be hedonists or pursuers of the bizarre, we find DMT to be too much. It is, as they say in Spanish, *bastante*, it's enough - so much enough that it's too much. Once smoked, the onset of the experience begins in about fifteen seconds. One falls immediately into a trance. One's eyes are closed and one hears a sound like ripping cellophane, like someone crumpling up plastic film and throwing it away. A friend of mine suggests this is our radio entelexy ripping out of the organic matrix. An ascending tone is heard. Also present is the normal hallucinogenic modality, a shifting geometric surface of migrating and changing colored forms. At the synaptic site of activity, all available bond sites are being occupied, and one experiences the mode shift occurring over a period of about thirty seconds. At that point one arrives in a place that defies description, a space that has a feeling of being underground, or somehow insulated and domed. In *Finnegans Wake* such a place is called the "merry go raum," from the German word *raum*, for "space." The room is actually going around, and in that space one feels like a child, though one has come out somewhere in eternity.

The experience always reminds me of the twenty-fourth fragment of Heraclitus: "The Aeon is a child at play with colored balls." One not only becomes the Aeon at play with colored balls but meets entities as well. In the book by my brother and myself, *The Invisible Landscape*, I describe them as self-transforming machine elves, for that is how they appear. These entities are dynamically contorting topological modules that are somehow distinct from the surrounding background, which is itself undergoing a continuous transformation. These entities remind me of the scene in the film version of *The Wizard of Oz* after the Munchkins come with a death certificate for the Witch of the East. They all have very squeaky voices and they sing a little song about being "absolutely and completely dead." The tryptamine Munchkins come, these hyperdimensional machine-elf entities, and they bathe one in love. It's not erotic but it is open-hearted. It certainly feels good. These beings are like fractal reflections of some previously hidden and suddenly autonomous part of one's own psyche.

And they are speaking, saying, "Don't be alarmed. Remember, and do what we are doing." One of the interesting characteristics of DMT is that it sometimes inspires fear - this marks the experience as existentially authentic. One of the interesting approaches to evaluating such a compound is to see how eager people are to do it a second time. A touch of terror gives the stamp of validity to the experience because it means, "This is real." We are in

the balance. We read the literature, we know the maximum doses, the LD-50, and so on. But nevertheless, so great is one's faith in the mind that when one is out in it one comes to feel that the rules of pharmacology do not really apply and that control of existence on that plane is really a matter of focus of will and good luck.

I'm not saying that there's something intrinsically good about terror. I'm saying that, granted the situation, if one is not terrified then one must be somewhat out of contact with the full dynamics of what is happening. To not be terrified means either that one is a fool or that one has taken a compound that paralyzes the ability to be terrified. I have nothing against hedonism, and I certainly bring something out of it. But the experience must move one's heart, and it will not move the heart unless it deals with the issues of life and death. If it deals with life and death it will move one to fear, it will move one to tears, it will move one to laughter. These places are profoundly strange and alien.

The fractal elves seem to be reassuring, saying, "Don't worry, don't worry; do this, look at this." Meanwhile, one is completely "over there." One's ego is intact. One's fear reflexes are intact. One is not "fuzzed out" at all. Consequently, the natural reaction is amazement; profound astonishment that persists and persists. One breathes and it persists. The elves are saying, "Don't get a loop of wonder going that quenches your ability to understand. Try not to be so amazed. Try to focus and look at what we're doing." What they're doing is emitting sounds like music, like language. These sounds pass without any quantized moment of distinction - as Philo Judaeus said that the Logos would when it became perfect - from things heard to things beheld. One hears and beholds a language of alien meaning that is conveying alien information that cannot be Englished.

Being monkeys, when we encounter a translanguistic object, a kind of cognitive dissonance is set up in our hindbrain. We try to pour language over it and it sheds it like water off a duck's back. We try again and fail again, and this cognitive dissonance, this "wow" or "flutter" that is building off this object causes wonder, astonishment and awe at the brink of terror. One must control that. And the way to control it is to do what the entities are telling me to do, to do what they are doing.

I mention these "effects" to invite the attention of experimentalists, whether they be shamans or scientists. There is something going on with these compounds that is not part of the normal presentational spectrum of hallucinogenic drug experience. When one begins to experiment with one's voice, unanticipated phenomena become possible. One experiences glossolalia, although unlike classical glossolalia, which has been studied. Students of classical glossolalia have measured pools of saliva eighteen inches across on the floors of South American churches where people have been kneeling. After classical glossolalia has occurred, the glossolaliasts often turn to ask the people nearby, "Did I do it? Did I speak in tongues?" This

hallucinogen induced phenomenon isn't like that; it's simply a brain state that allows the expression of the assembly language that lies behind language, or a primal language of the sort that Robert Graves discussed in *The White Goddess*, or a Kabbalistic language of the sort that is described in the *Zohar*, a primal "ur sprach" that comes out of oneself. One discovers one can make the extradimensional objects - the feeling-toned, meaning-toned, three-dimensional rotating complexes of transforming light and color. To know this is to feel like a child. One is playing with colored balls; one has become the Aeon.

This happened to me twenty seconds after I smoked DMT on a particular day in 1966. I was appalled. Until then I had thought that I had my ontological categories intact. I had taken LSD before, yet this thing came upon me like a bolt from the blue. I came down and said (and I said it many time), "I cannot believe this; this is impossible, this is completely impossible." There was a declension of gnosis that proved to me in a moment that right here and now, one quanta away, there is raging a universe of active intelligence that is transhuman, hyperdimensional, and extremely alien. I call it the Logos, and I make no judgements about it. I constantly engage it in dialogue, saying, "Well, what are you? Are you some kind of diffuse consciousness that is in the ecosystem of the Earth? Are you a god or an extraterrestrial? Show me what you know."

The psilocybin mushrooms also convey one into the world of the tryptamine hypercontinuum. Indeed, psilocybin is a psychoactive tryptamine. The mushroom is full of answers to the questions raised by its own presence. The true history of the galaxy over the last four and a half billion years is trivial to it. One can access images of cosmological history. Such experiences naturally raise the question of independent validation - at least for a time this was my question. But as I became more familiar with the epistemological assumptions of modern science, I slowly realized that the structure of the Western intellectual enterprise is so flimsy at the center that apparently no one knows anything with certitude. It was then that I became less reluctant to talk about these experiences. They are experiences, and as such they are primary data for being. This dimension is not remote, and yet it is so unspeakably bizarre that it casts into doubt all of humanity's historical assumptions.

The psilocybin mushrooms do the same things that DMT does, although the experience builds up over an hour and is sustained for a couple of hours. There is the same confrontation with an alien intelligence and extremely bizarre translinguistic information complexes. These experiences strongly suggest that there is some latent ability of the human brain/body that has yet to be discovered; yet, once discovered, it will be so obvious that it will fall right into the mainstream of cultural evolution. It seems to me that either language is the shadow of this ability or that this ability will be a further extension of language. Perhaps a human language is possible in which the intent of meaning is actually beheld in three-dimensional space. If this can happen on DMT, it means it is at least, under some circumstances, accessible

to human beings. Given ten thousand years and high cultural involvement in such a talent, does anyone doubt that it could become a cultural convenience in the same way that mathematics or language has become a cultural convenience?

Naturally, as a result of the confrontation of alien intelligence with organized intellect on the other side, many theories have been elaborated. The theory that I put forth in *Psilocybin: The Magic Mushroom Grower's Guide*, held the *Stropharia cubensis* mushroom was a species that did not evolve on earth. Within the mushroom trance, I was informed that once a culture has complete understanding of its genetic information, it reengineers itself for survival. The *Stropharia cubensis* mushroom's version of reengineering is a mycelial network strategy when in contact with planetary surfaces and a spore-dispersion strategy as a means of radiating throughout the galaxy. And, though I am troubled by how freely Bell's nonlocality theorem is tossed around, nevertheless the alien intellect on the other side does seem to be in possession in a huge body of information drawn from the history of the galaxy. It/they say that there is nothing unusual about this, that humanity's conceptions of organized intelligence and the dispersion of life in the galaxy are hopelessly culture-bound, that the galaxy has been an organized society for billions of years. Life evolves under so many different regimens of chemistry, temperature, and pressure, that searching for an extraterrestrial who will sit down and have a conversation with you is doomed to failure. The main problem with searching for extraterrestrials is to recognize them. Time is so vast and evolutionary strategies and environments so varied that the trick is to know that contact is being made at all. The *Stropharia cubensis* mushroom, if one can believe what it says in one of its moods, is a symbiote, and it desires ever deeper symbiosis with the human species. It achieved symbiosis with human society early by associating itself with domesticated cattle and through them human nomads. Like the plants men and women grew and the animals they husbanded, the mushroom was able to inculcate itself into the human family, so that where human genes went these other genes would be carried.

But the classic mushroom cults of Mexico were destroyed by the coming of the Spanish conquest. The Franciscans assumed they had an absolute monopoly on theophagy, the eating of God; yet in the New World they came upon people calling a mushroom *teonanacatl*, the flesh of the gods. They set to work, and the Inquisition was able to push the old religion into the mountains of Oaxaca so that it only survived in a few villages when Valentina and Gordon Wasson found it there in the 1950s.

There is another metaphor. One must balance these explanations. Now I shall sound as if I didn't think the mushroom is an extraterrestrial. It may instead be what I've recently come to suspect - that the human soul is so alienated from us in our present culture that we treat it as an extraterrestrial. To us the most alien thing in the cosmos is the human soul. Aliens Hollywood-style could arrive on earth tomorrow and the DMT trance would remain more

weird and continue to hold more promise for useful information for the human future. It is that intense. Ignorance forced the mushroom cult into hiding. Ignorance burned the libraries of the Hellenistic world at an earlier period and dispersed the ancient knowledge, shattering the stellar and astronomical machinery that had been the work of centuries. By ignorance I mean the Hellenistic-Christian-Judaic tradition. The inheritors of this tradition built a triumph of mechanism. It was they who later realized the alchemical dreams of the fifteenth and sixteenth centuries - and the twentieth century - with the transformation of elements and the discovery of gene transplants. But then, having conquered the New World and driven its people into cultural fragmentation and diaspora, they came unexpectedly upon the body of Osiris - the condensed body of Eros - in the mountains of Mexico where Eros has retreated at the coming of the Christos. And by finding the mushroom, they unleashed it.

Phillip K. Dick, in one of his last novels, *Valis*, discusses the long hibernation of the Logos. A creature of pure information, it was buried in the ground at Nag Hammadi, along with the burying of the Chenoboskion Library circa 370 A.D. As static information, it existed there until 1947, when the texts were translated and read. As soon as people had the information in their minds, the symbiote came alive, for, like the mushroom consciousness, Dick imagined it to be a thing of pure information. The mushroom consciousness is the consciousness of the Other in hyperspace, which means in dream and in the psilocybin trance, at the quantum foundation of being, in the human future, and after death. All of these places that were thought to be discrete and separate are seen to be part of a single continuum. History is the dash over ten to fifteen thousand years from nomadism to flying saucer, hopefully without ripping the envelope of the planet so badly that the birth is aborted and fails, and we remain brutish prisoners of matter.

History is the shockwave of eschatology. Something is at the end of time and is casting an enormous shadow over human history, drawing all human becoming toward it. All the wars, the philosophies, the rapes, the pillaging, the migrations, the cities, the civilizations - all of this is occupying a microsecond of geological, planetary, and galactic time as the monkeys react to the symbiote, which is in the environment and which is feeding information to humanity about the larger picture. I do not belong to the school that wants to attribute all of our accomplishments to knowledge given to us as a gift from friendly aliens - I'm describing something I hope is more profound than that. As nervous systems evolve to higher and higher levels, they come more and more to understand the true situation in which they are embedded, and the true situation in which we are embedded is an organism, an organization of intelligence on a galactic scale. Science and mathematics may be culture-bound. We cannot know for sure, because we have never dealt with an alien mathematics or an alien culture except in the occult realm, and that evidence is inadmissible by the guardians of scientific truth. This means that the contents of shamanic experience and of plant-induced ecstasies are

inadmissible even though they are the source of novelty and the cutting edge of the ingression of the novel into the plenum of being.

Think about this for a moment: If the human mind does not loom large in the coming history of the human race, then what is to become of us? The future is bound to be psychedelic, because the future belongs to the mind. We are just beginning to push the buttons on the mind. Once we take a serious engineering approach to this, we are going to discover the plasticity, the mutability, the eternal nature of the mind and, I believe, release it from the monkey. My vision of the final human future is an effort to exteriorize the soul and internalize the body, so that the exterior soul will exist as a superconducting lens of translinguistic matter generated out of the body of each of us at a critical juncture at our psychedelic bar mitzvah. From that point on, we will be eternal somewhere in the solid-state matrix of the translinguistic lens we have become. One's body image will exist as a holographic wave transform while one is at play in the fields of the Lord and living in Elysium.

Other intelligent monkeys have walked this planet. We exterminated them and so now we are unique, but what is loose on this planet is language, self-replicating information systems that reflect functions of DNA: learning, coding, templating, recording, testing, retesting, recoding against DNA functions. The again, language may be a quality of an entirely different order. Whatever language is, it is in us monkeys now and moving through us and moving out of our hands and into the noosphere with which we have surrounded ourselves.

The tryptamine state seems to be in one sense transtemporal; it is an anticipation of the future, It is as though Plato's metaphor were true - that time IS the moving image of eternity. The tryptamine ecstasy is a stepping out of the moving image and into eternity, the eternity of the standing now, the nunc stans of Thomas Aquinas. In that state, all of human history is seen to lead toward this culminating moment. Acceleration is visible in all the processes around us: the fact that fire was discovered several million years ago; language came perhaps thirty-five thousand years ago; measurement, five thousand; Galileo, four hundred; then Watson-Crick and DNA. What is obviously happening is that everything is being drawn together. On the other hand, the description our physicists are giving us of the universe - that it has lasted billions of years and will last billions of years into the future - is a dualistic conception, an inductive projection that is very unsophisticated when applied to the nature of consciousness and language. Consciousness is somehow able to collapse the state vector and thereby cause the stuff of being to undergo what Alfred North Whitehead called "the formality of actually occurring." Here is the beginning of an understanding of the centrality of human beings. Western societies have been on a decentralizing bender for five hundred years, concluding that the Earth is not the center of the universe and man is not the beloved of God. We have moved ourselves out toward the edge of the galaxy, when the fact is that the most richly

organized material in the universe is the human cerebral cortex, and the densest and richest experience in the universe is the experience you are having right now. Everything should be constellated outward from the perceiving self. That is the primary datum.

The perceiving self under the influence of these hallucinogenic plants gives information that is totally at variance with the models that we inherit from our past, yet these dimensions exist. On one level, this information is a matter of no great consequence, for many cultures have understood this for millennia. But we moderns are so grotesquely alienated and taken out of what life is about that to us it comes as a revelation. Without psychedelics the closest we can get to the Mystery is to try to feel in some abstract mode the power of myth or ritual. This grasping is a very overintellectualized and unsatisfying sort of process.

As I said, I am an explorer, not a scientist. If I were unique, then none of my conclusions would have any meaning outside the context of myself. My experiences, like yours, have to be more or less part of the human condition. Some may have more facility for such exploration than others, and these states may be difficult to achieve, but they are part of the human condition. There are few clues that these extradimensional places exist. If art carries images out of the Other from the Logos to the world - drawing ideas down into matter - why is human art history so devoid of what psychedelic voyagers have experienced so totally? Perhaps the flying saucer or UFO is the central motif to be understood in order to get a handle on reality here and now. We are alienated, so alienated that the self must disguise itself as an extraterrestrial in order not to alarm us with the truly bizarre dimensions that it encompasses. When we can love the alien, then we will have begun to heal the psychic discontinuity that has plagued us since at least the sixteenth century, possibly earlier.

My testimony is that magic is alive in hyperspace. It is not necessary to believe me, only to form a relationship with these hallucinogenic plants. The fact is that the gnosis comes from plants. There is some certainty that one is dealing with a creature of integrity if one deals with a plant, but the creatures born in the demonic artifice of laboratories have to be dealt with very, very carefully. DMT is an endogenous hallucinogen. It is present in small amounts in the human brain. Also it is important that psilocybin is 4-phosphoroxo-N, N-dimethyltryptamine and that serotonin, the major neurotransmitter in the human brain, found in all life and most concentrated in humans, is 5-hydroxytryptamine. The very fact that the onset of DMT is so rapid, coming on in forty-five seconds and lasting five minutes, means that the brain is absolutely at home with this compound. On the other hand, a hallucinogen like LSD is retained in the body for some time.

I will add a cautionary note. I always feel odd telling people to verify my observations since the sine qua non is the hallucinogenic plant. Experimenters should be very careful. One must build up to the experience. These are

bizarre dimensions of extraordinary power and beauty. There is no set rule to avoid being overwhelmed, but move carefully, reflect a great deal, and always try to map experiences back onto the history of the race and the philosophical and religious accomplishments of the species. All the compounds are potentially dangerous, and all compounds, at sufficient doses or repeated over time, involve risks. The library is the first place to go when looking into taking a new compound.

We need all the information available to navigate dimensions that are profoundly strange and alien. I have been to Konarak and visited Bhubaneswar. I'm familiar with Hindu iconography and have collected thankas. I saw similarities between my LSD experiences and the iconography of Mahayana Buddhism. In fact, it was LSD experiences that drove me to collect Mahayana art. But what amazed me was the total absence of the motifs of DMT. It is not there; it is not there in any tradition familiar to me.

There is a very interesting story by Jorge Luis Borges called "The Sect of the Phoenix." Allow me to recapitulate. Borges starts out by writing: "There is no human group in which members of the sect do not appear. It is also true that there is no persecution or rigor they have not suffered and perpetrated." He continues,

The rite is the only religious practice observed by the sectarians. The rite constitutes the Secret. This Secret...is transmitted from generation to generation. The act in itself is trivial, momentary, and requires no description. The Secret is sacred, but is always somewhat ridiculous; its performance is furtive and the adept do not speak of it. There are no decent words to name it, but it is understood that all words name it or rather inevitably allude to it. Borges never explicitly says what the Secret is, but if one knows his other story, "The Aleph," one can put these two together and realize that the Aleph is the experience of the Secret of the Cult of the Phoenix.

In the Amazon, when the mushroom was revealing its information and deputizing us to do various things, we asked, "Why us? Why should we be the ambassadors of an alien species into human culture?" And it answered, "Because you did not believe in anything. Because you have never given over your belief to anyone." The sect of the phoenix, the cult of this experience, is perhaps millennia old, but it has not yet been brought to light where the historical threads may run. The prehistoric use of ecstatic plants on this planet is not well understood. Until recently, psilocybin mushroom taking was confined to the central isthmus of Mexico. The psilocybin-containing species *Stropharia cubensis* is not known to be in archaic use in a shamanic rite anywhere in the world. DMT is used in the Amazon and has been for millennia, but by cultures quite primitive - usually nomadic hunter-gatherers.

I am baffled by what I call "the black hole effect" that seems to surround DMT. A black hole causes a curvature of space such that no light can leave it, and, since no signal can leave it, no information can leave it. Let us leave

aside the issue of whether this is true in practice of spinning black holes. Think of it as a metaphor. Metaphorically, DMT is like an intellectual black hole in that once one knows about it, it is very hard for others to understand what one is talking about. One cannot be heard. The more one is able to articulate what it is, the less others are able to understand. This is why I think people who attain enlightenment, if we may for a moment compare these two things, are silent. They are silent because we cannot understand them. Why the phenomenon of tryptamine ecstasy has not been looked at by scientists, thrill seekers, or anyone else, I am not sure, but I recommend it to your attention.

The tragedy of our cultural situation is that we have no shamanic tradition. Shamanism is primarily techniques, not ritual. It is a set of techniques that have been worked out over millennia that make it possible, though perhaps not for everyone, to explore these areas. People of predilection are noticed and encouraged.

In archaic societies where shamanism is a thriving institution, the signs are fairly easy to recognize: oddness or uniqueness in an individual. Epilepsy is often a signature in preliterate societies, or survival of an unusual ordeal in an unexpected way. For instance, people who are struck by lightning and live are thought to make excellent shamans. People who nearly die of a disease and fight their way back to health after weeks and weeks of an indeterminate zone are thought to have strength of soul. Among aspiring shamans there must be some sign of inner strength or a hypersensitivity to trance states. In traveling around the world and dealing with shamans, I find the distinguishing characteristic is an extraordinary centeredness. Usually the shaman is an intellectual and is alienated from society. A good shaman sees exactly who you are and says, "Ah, here's somebody to have a conversation with." The anthropological literature always presents shamans as embedded in a tradition, but once one gets to know them they are always very sophisticated about what they are doing. They are the true phenomenologists of this world; they know plant chemistry, yet they call these energy fields "spirits." We hear the word "spirits" through a series of narrowing declensions of meaning that are worse almost than not understanding. Shamans speak of "spirit" the way a quantum physicist might speak of "charm"; it is a technical gloss for a very complicated concept.

It is possible that there are shamanic family lines, at least in the case of hallucinogen-using shamans, because shamanic ability is to some degree determined by how many active receptor sites occur in the brain, thus facilitating these experiences. Some claim to have these experiences naturally, but I am underwhelmed by the evidence that this is so. What it comes down to for me is "What can you show me?"

I always ask that question; finally in the Amazon, informants said, "Let's take our machetes and hike out here half a mile and get some vine and boil it up and we will show you what we can show you."

Let us be clear. People die in these societies that I'm talking about all the time and for all kinds of reasons. Death is really much more among them than it is in our society. Those who have epilepsy who don't die are brought to the attention of the shaman and trained in breathing and plant usage and other things - the fact is that we don't really know all of what goes on. These secret information systems have not been well studied. Shamanism is not, in these traditional societies, a terribly pleasant office. Shamans are not normally allowed to have any political power, because they are sacred. The shaman is to be found sitting at the headman's side in the council meetings, but after the council meeting he returns to his hut at the edge of the village. Shamans are peripheral to society's goings on in ordinary social life in every sense of the word. They are called on in crisis, and the crisis can be someone dying or ill, a psychological difficulty, a marital quarrel, a theft, or weather that must be predicted.

We do not live in that kind of society, so when I explore these plants' effects and try to call your attention to them, it is as a phenomenon. I don't know what we can do with this phenomenon, but I have a feeling that the potential is great. The mind-set that I always bring to it is simply exploratory and Baconian - the mapping and gathering of facts.

Herbert Guenther talks about human uniqueness and says one must come to terms with one's uniqueness. We are naive about the role of language and being as the primary facts of experience. What good is a theory of how the universe works if it's a series of tensor equations that, even when understood, come nowhere tangential to experience? The only intellectual or noetic or spiritual path worth following is one that builds on personal experience.

What the mushroom says about itself is this: that it is an extraterrestrial organism, that spores can survive the conditions of interstellar space. They are deep, deep purple - the color that they would have to be to absorb the deep ultraviolet end of the spectrum. The casing of a spore is one of the hardest organic substances known. The electron density approaches that of a metal.

Is it possible that these mushrooms never evolved on earth? That is what the *Stropharia cubensis* itself suggests. Global currents may form on the outside of the spore. The spores are very light and by Brownian motion are capable of percolation to the edge of the planet's atmosphere. Then, through interaction with energetic particles, some small number could actually escape into space. Understand that this is an evolutionary strategy where only one in many billions of spores actually makes the transition between the stars - a biological strategy for radiating throughout the galaxy without a technology. Of course this happens over very long periods of time. But if you think that the galaxy is roughly 100,000 light-years from edge to edge, if something were moving only one one-hundredth the speed of light - now that's not a tremendous speed that presents problems to any advanced technology - it could cross the galaxy in one hundred million years. There's life on this planet 1.8 billion

years old; that's eighteen times longer than one hundred million years. So, looking at the galaxy on those time scales, one sees that the percolation of spores between the stars is a perfectly viable strategy for biology. It might take millions of years, but it's the same principle by which plants migrate into a desert or across an ocean.

There are no fungi in the fossil record older than forty million years. The orthodox explanation is that fungi are soft-bodied and do not fossilize well, but on the other hand we have fossilized soft-bodied worms and other benthic marine invertebrates from South African gunflint chert that is dated to over a billion years.

I don't necessarily believe what the mushroom tells me; rather we have a dialogue. It is a very strange person and has many bizarre opinions. I entertain it the way I would any eccentric friend. I say, "Well, so that's what you think." When the mushroom began saying it was an extraterrestrial, I felt that I was placed in the dilemma of a child who wishes to destroy a radio to see if there are little people inside. I couldn't figure out whether the mushroom is the alien or the mushroom is some kind of technological artifact allowing me to hear the alien when the alien is actually light-years away, using some kind of Bell nonlocality principle to communicate.

The mushroom states its own position very clearly. It says, "I require the nervous system of a mammal. Do you have one handy?"