

Just Say Yes to the Noösphere!

Psychedelics and the Evolution of Information Technologies

Richard Doyle, Ph.D.

“Instructions emphasized that the experience could be directed as desired. Subjects were told that they would not experience difficulty with such distractions as visions, involvement with personal problems, and so on.” “Psychedelic Agents in Creative Problem Solving”, Willis Harman et al., 1966 —

BEFORE ITS POSSESSION became a criminal offense in the United States, the psychedelic compound LSD-25 was given to engineers and designers to help break “creative logjams” and promote innovation in the Cold War United States. In the late 1950’s and early 1960’s, for example, Stanford engineer Myron Stolaroff of the Ampex Corporation (inventor of the Video Tape Recorder) studied the effects of LSD on engineers, and the result was a growing body of literature and data on psychedelic regimens and their effects on technical innovation.

These regimens included precise and intensive recipes for psychedelic experience such as the epigraph above – although essentially inflexible, psychedelic experience was treated as fundamentally and necessarily “programmable” through collective human attention. In a forthcoming book, I offer an evolutionary and ecological framework for comprehending and evaluating recent claims by innovators such as Mitch Kapor, Mark Pesce, and Kary Mullis that psychedelics played an integral role in the invention of their breakthrough information technologies. Given the importance of programming to psychedelic experience, the book argues that psychedelic adjuncts were useful to engineers and scientists less because they “expanded” consciousness than because they trained subjects in practices of focused attention, enabling the perception of forms embedded within larger scale structures, the “pattern that connects” (Bateson) perhaps measured in the Witken Embedded Figure tests, a perceptual assay on which psychonauts seem to have excelled.

One More Time With Feeling?!

“Turn On, Tune In, Drop Out” Revisited

The biological science of attention could be said to be born in Charles Darwin’s model of sexual selection, where Darwin studied the “information technologies” (such as a peacock feather, or human speech) through which organisms signal sexual difference and orient attention toward likely reproductive and survival success. This

evolutionary search for attention—the original “flower power”, as flowering plants lured insects with their blossoms—acts through what the biologist V.I. Vernadsky later dubbed the “noösphere”. While the biosphere irreversibly and undeniably altered the lithosphere from which it emerged, the noösphere transforms the biosphere via the gathering and application of attention by all organisms. While many contemporary designers and engineers seek to “evolve” designs and programs through evolutionary processes, an expanded model of evolution integrating sexual selection and its attention economy, the noösphere—not to mention psychedelics—is likely to be even more fruitful for the development, integration and transformation of information technologies.

Indeed, the famous but oft misunderstood mantra “Turn on, Tune In, Drop Out” suggested that in their own way, psychedelics “are” information technologies for honing and focusing the attention. As Stolaroff put it many years after the original studies, reflecting on the use of low doses of psychedelics: *... it is easier to focus attention under their influence, which permits developing the*

attributes for good meditation practice. As one develops proficiency in entering the desired state, it is found that the advantage of one compound over another diminishes. The appropriate dose (found by experiment—generally equivalent to 25-50 micrograms of LSD) of most any long-acting psychedelic is helpful.

<http://ccbs.ntu.edu.tw/FULLTEXT/JR-ADM/stolar.htm>

The ancient discipline of rhetoric—the sometimes shamanic practice of learning and teaching eloquence, persuasion, healing and information architecture by practicing and revealing the choices of expression or interpretation open to any given composer, poet, viewer, listener, singer, patient or reader using what Aristotle called “all available means”—has also always been a discipline for managing and modulating attention. Mantra—the rhythmic repetition of words, meaningful or not, in order to capture or steer the attention—are perhaps the simplest and yet most powerful techniques in the rhetorical traditions of our planet, so in order to share with you my thoughts on how we might best focus our attention in the midst of what hints at a renaissance of



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penchant for letting go of accrued habit structure (“Gelassenheit” as Eckhart dubbed it) resonated with past seekers in what Aldous Huxley entitled (mistakenly after Leibniz) “the Perennial Philosophy”, and seemed to initiate a practice of re-imagining self in the light of Self, embedding the part (ego) within a whole (Self) which it repeated on a different scale.

In this sense psychedelic investigation repeated a long strand of heterodox science and alchemy which treated the refrain of the Corpus Hermeticum “As Above, So Below” as the “achievement” of alchemical practice as well as a principle fundamental to it. (Terrence McKenna’s righteous love and enthusiasm for all things fractaled is perhaps another case in point.) DROP OUT was above all a disciplining and focusing of the attention on any given moment: Was it divine? So according to Leary’s script, “dropping out” was anything but a “giving up”, but was instead an intensification of personal, yes spiritual informational rhetorical evolution necessary to the next scale of the human and transhuman adventure, the discovery of what Albert Hoffman called “The most worthwhile spiritual benefit from LSD Experiments...the inextricable intertwining of the physical and spiritual. “Christ in matter” (Teilhard De Chardin)”. (*LSD My Problem Child*, 188) Teilhard, of course was the theologian and anthropologist most associated with the next scalar jump for human consciousness: The noösphere.

Turn in, Turn in, I Beseech you

To help each member to use the Sacraments to discover the divine within and then express this revelation in an external life of harmony, beauty and, particularly, to help each member to devote his entire consciousness and all his behavior to the glorification of God. Complete dedication to the life of worship is our aim, exemplified in the motto “Turn on, Tune In, Drop Out.” (Legal Papers, “League of Spiritual Discovery” Leary, 1966)

As a rhetorical practice, dwindling any non divine aspect of self almost by definition brings out larger scale structures within which we are embedded, and suddenly, the scale shifts to the ecosystem and our awareness of it—the noösphere. Working with mantra as algorithms, Metzner and Leary’s “Programming the Psychedelic Experience” (www.maps.org/psychedelicreview/n09/n09005met.pdf) offered a linguistic, visual and sonic reorientation of the self through inquiry that let go of linguistic phenomena as anything but labels for our benefit and conscious evolution, echoing that other influential mantra from Count Korzybski, “The Map is not the territory!”

Letting go of any particular formulation about the self, the incessant inner speech of Who I Habitually Am,

something larger scale came into relief, the Upanishad’s “Tat Tvam Asi”, rendered in Victorian English as “Thou Art That” but perhaps equally well rendered for the 21st century as “Thou art that Fractal!” For Leary it was an “inner light” fusing the individual with that multiplicity, “internal life processes”: “In the introverted state, the self is ecstatically fused with internal life processes (lights, energy waves, bodily events, biological forms, etc.)”

This unification with “life processes” could not have come at a better time, arriving at the same moment when scientific models of living systems were overwhelmingly focused on the molecular scale of life. Understandably entranced by the discovery of the genetic code and its protein messages, researchers sometimes seemed to forget the embodied, ecological and often symbiotic scalar contexts for the evolution and expression of DNA. So too did LSD itself both strengthen the reductionist biochemical model of mind—you can hack your “13 billion cell computer” with as little as 50 micrograms of a molecule - and focus psychonautical attention on the larger scale structures —“your” body, the ecosystem, the cosmos—discovered through the withering of the ego and scripting the daily erasure of the ego’s incessant news broadcasts about itself. This “liberation” occurred through erasure, the production of a “void.”

Liberation is the nervous system devoid of mental-conceptual redundancy.

The mind in its conditioned state, limited to words and ego games, is continuously in thought-formation activity. The nervous system in a state of quiescence, alert, awake but not active, is comparable to what Buddhists call the highest state of dhyana (deep meditation). The conscious recognition of the Clear Light induces an ecstatic condition of consciousness such as saints and mystics of the West have called illumination...The first sign is the glimpsing of the “Clear Light of Reality, the infallible mind of the pure mystic state”—an awareness of energy transformations with no imposition of mental categories.

“Inner” and “outer” were some of the mental categories that were no longer imposed, and this language and visualization of “light” echoes with many earlier practitioners of the Perennial Philosophy such as the Quaker William Penn. In his youth, the founder of Pennsylvania discovered an inner light revealed through silence - the active removal and erasure of information “informing” the mind in “mental-conceptual redundancy.” Like many psychonauts, Penn tried hard to describe this light:

That blessed principle, the Eternal Word... is Pythagoras’s real light and salt of ages; Anaxagoras’s divine mind; Socrates’ good spirit; Timaeus’ unbegotten principle and author of all light; Hieron’s God in man; Plato’s eternal, ineffable and perfect

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principle of truth; Zeno's maker and father of all; and Plotin's root of the soul.... www.universalistfriends.org/quf-elc.html

In this context, Penn urges us, like Leary, to drop out from the ego chatter of self and media, and to behold the inner light common also to meditative and, yes, psychedelic conditions. In an uncanny resonance with Leary's phrasing, the Pre-Cybernetic Penn asks us to "Turn in" rather than "on":

"Therefore, O friends, turn in, turn in, I beseech you..."

Turn on, Tune in, Get Epic

But it was not only Perennial Philosophers who were investigating this "inner" realm that gave way to the scale of the divine, "Hieron's God in man; Plato's eternal, ineffable and perfect principle of truth; Zeno's maker and father of all..." Researchers Jay Stevens and Steven Marks have helped remind us of the important roles played by the intelligence community in the emerging science of psychedelics. Initial CIA interest in "psilocybe mexicana", for example, focused on the possibility that "magic mushrooms" could be a potent "truth drug." In other words, psychedelics were seen as aids to rhetorical practice—in this case, interrogation. This history repeats the horror of Dachau, where mescaline was investigated as an interrogation drug. But in their indigenous context, mushrooms were a kind of information technology of healing and divination. Maria Sabina, the curandera made famous by (sometime CIA funded) mycologist Gordon Wasson offered her own refrains, rhythmic chants with that hallmark of information: redundancy

You are a green Father, a Father of clarity

You are a green Mother, a Mother of clarity

You are a budding Mother, a Mother of offshoots

You are a green Mother, a Mother of clarity

(www.ubu.com/ethno/soundings/sabina.html)

Maria Sabina's eloquence, as poet and theorist Jerome Rothenberg points out, was not simply a result of the mushrooms; an entire shamanic and poetic tradition was referenced and reworked by Maria Sabina in her healing chants. But nor can her eloquence be rigorously separated from the ecology of psilocybe mexicana. Rothenberg: "The sacred mushrooms are considered the source of Language itself—are, in Henry Munn's good phrase, "the mushrooms of language." So despite our sense that "information technology" is a modern invention and catalyst of the globalizing economy, Maria Sabina and Stolaroff remind us that human speech and the attention minding it, and its poetic, rhetorical and healing effects, can be amplified and modulated by plants and fungi.

In the case of Maria Sabina, her use of the classical rhetorical form of "repetitio" - a form certainly older than the tradition that named it - helps to paradoxically empty

our minds by crowding it out in repetition. In this repetition was epic creativity. She did not merely chant from the "dictionary" of motifs and themes of Mazatec healing, in Rothenberg's good phrase, "she rewrote that dynamical dictionary throughout her life." www.ubu.com/ethno/discourses/yepez_review.html

Munn, who sometimes translated for Maria Sabina, called the rhetorical state achieved by Maria Sabina 'ecstatic signification', implying a simultaneous detachment and participation: "ecstasy" means literally a "being-besides-oneself" (Rotman) Psychologist Roland Fischer, in collaboration with the literary critic Colin Martindale, mapped the effects of this "ecstatic signification" induced by psilocybin on writers, and found that writing influenced by psilocybin contained more "primary process content" - content associated with the unconscious—than writing without. Perhaps most intriguing, Martindale and Fischer found that the pattern of primary process content produced by psilocybin induced writing was isomorphic to the primary process content of epic literature. By 1973, Fischer was ready to argue that this epic structure of psilocybin discourse bore the hallmarks of an information compression or optimization technology: "Thus far, our studies suggest that certain hallucinogenic drug induced transformations in visual space may be regarded as an optimization of information." Roland Fischer, 1973

Just Say Yes to the Noösphere

The noösphere is the feedback effect of collective attention on our environment. Writing in 1943, Vernadsky was amazed at the sudden circulation of "cultural minerals", compounds and alloys made possible only by the transduction of human consciousness, such as Aluminum (which is very rare in its native state), and, we might add, LSD-25, first intentionally synthesized that same year in Switzerland by Albert Hoffmann.

The attention focused on Maria Sabina and her healing mushrooms and chants by Wasson's 1957 *Life* magazine article indeed had a feedback effect on the Sierra Mazateca. With the news of "psilocybe mexicana", thousands of travelers headed in search of Maria Sabina, and the result was the (partial) destruction of the very context that sustained the mushrooms and the healing poetics associated with them. So too did media attention intentionally and unintentionally garnered by Wasson, Hofmann, Leary and others seem to amplify the difficulties always inherent in any attempt to communicate about psychedelic experience, let alone any attempt to communicate about psychedelic experience to millions of people at a distance, reading *Life* magazine or a *MAPS Bulletin...* Vernadsky conceived the noösphere, after all, in the midst of war, and was amazed at the mass mobilization and

**Why did modern psychonauts,
in the thick of the Cold War
and, evolutionarily speaking,
barely out of the trees,
so favor this language
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transformations of the planet induced by a war consciousness with which we are all too familiar. Might the noosphere harbor that “purgatory or even . . . the hell of frightful extinction...”? Or, listening to Maria Sabina’s chants, was this perhaps yet another prophecy of the mushroom, an early symptom of a post modern globalization which, if not meshed with awareness, extinguishes more than it enlivens? Maria Sabina wrote:

Before Wasson, I felt that the saint children elevated me. I don't feel like that anymore. The force has diminished. If Cayetano hadn't brought the foreigners. . . .the saint children would have kept their power. . . .From the moment the foreigners arrived, the saint children lost their purity. They lost their force; the foreigners spoiled them. From now on they won't be any good. There's no remedy for it.

Wasson struggled with the effects of his mass media story on his conscience and the Sierra Mazateca. Wasson wrote that he shared news of the magic mushrooms because of it’s certain “extinction”: “If I did not do this, “consulting the mushroom” would go on for a few years longer, but its extinction was and is inevitable.”

www.csp.org/chrestomathy/maria_sabina-estrada.html

Yet, happily, Wasson was wrong about this extinction. Years later, the noosphere brought Maria Sabina’s little children to the labs of John Hopkins University, where a new, highly technical but alliterative chant emerged:

“Psilocybin can occasion mystical-type experiences, having substantial and sustained personal meaning and spiritual significance. Psilocybin can occasion mystical-type experiences, having substantial and sustained personal meaning and spiritual significance.” Global warming, fossil fuel depletion, colonialism and post colonialism continue transforming the planet in globalized war, and by all accounts our attention must finally become focused on global survival of biodiversity in response to climate change and extinction events. So too did the noosphere bring an awareness, like Wasson’s, of our responsibility to and for these extinctions through *Life* magazine, eventually bringing psilocybin and its effects to mycologist and bioremediator Paul Stamets. Stamets compares the mycelial network covering the planet to that avatar of the noosphere, the Web:

I believe the earth's natural Internet is the mycelial network," he says. "That is the way of nature. If there is any destruction of the neurological landscape, the mycelial network does not die; it's able to adapt, recover and change. That's the whole basis of the computer Internet. The whole design patterns something that has been reproduced through nature and has been evolutionarily successful over millions of years. www.newchapter.com/media/article/stamets_saloncom.html

Perhaps this is our epic, to open to and accept the tragedy of that nightmare from which we, like visionaries from James Joyce to Terrence McKenna, are trying to awaken and, yes, evolve. And we might evolve precisely by

focusing our attention along with Stamets on those “design patterns” such as the noosphere and its scalar difference. When it comes to naming the plants and compounds that can help us re-scale our collective attention, clearly a mixture of terms is called for, and into the mix I want to whorl “ecodelic”, a name that both samples from tradition and highlights an important but less discussed effect of these plants and compounds for inducing sudden bouts of interconnection, the perception of being enmeshed by the terrestrial and extraterrestrial ecology. Biologist Theodor Dobzhansky ended his epic of human evolution, *__Mankind Evolving__* (sic) with what he called the “poetry” of Teilhard De Chardin:

A harmonized collectivity of consciousness, equivalent to a kind of superconsciousness. The Earth is covering itself not merely by myriads of thinking units, but by a single continuum of thought, and finally forming a functionally single Unit of Thought of planetary dimensions. (*Mankind Evolving*, 347-348)

Working with the mantra “harmonized collectivity of consciousness” is no simple feat, tending as it does toward the idea of “homogeneity” and de-individuation for many, as in “hive mind” (Leary) or the Borg of *Star Trek: The Next Generation*. Yet imagining the noosphere, as Vernadsky did, as a scalar level of living systems (not unlike Gaia) that incorporates rather than excludes human consciousness, requires that we wither the ego and discover not our homogeneity, but our unique, finite urgent role in the emergent ecology capable of focusing collective attention on the planet as a whole. For the psychonaut engineers, who did so well on the Witkin Embedded Figure Test, did well indeed when it came to remembering both part and whole, “finding common geometric shapes in a larger design. . . .” and at our lab at Penn State we are testing Harman et. al’s claim that response to the Witkin Embedded Figure test is indeed immune to alteration through the use of a flotation tank. That’s one of our roles. What’s yours? For the “larger design” is now planetary in scale:

For we are the local embodiment of a Cosmos grown to self-awareness. We have begun to contemplate our origins: starstuff pondering the stars, organized assemblages of ten billion billion billion atoms considering the evolution of atoms; tracing the long journey by which, here at least, consciousness arose. (Sagan, *Cosmos*, p. 345)

Yes, it seems as though consciousness could extinguish just as it arose. Many contemporary narratives of apocalypse, such as 2012, sometimes augur Hofmann’s “hell of frightful extinction,” perhaps scripting us toward despair, and, as Buckminster Fuller put it, we face an “inexorable evolution.” Evolution is never easy, so here’s a mantra to get you through the rough patches: Just say yes to the noosphere! •