

From the Editor: David Jay Brown

Photo by Dee DeBruno



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Merry Prankster and technophilic creator of *The Whole Earth Catalog* Stewart Brand once described an LSD trip that he had in 1966 where he imagined looking at the Earth from space. He thought that a photograph of the whole planet would change people's perceptions of the world for the better, and he didn't understand why NASA hadn't released any photos of the whole planet yet. After his LSD trip, Brand began printing buttons with the question, "Why haven't we seen a photograph of the whole Earth yet?"—which he sent to scientists, secretaries of state, senators, people in the Soviet Union, United Nations officials, and leading-edge thinkers. In 1968 the Apollo astronauts sent back the first color photos of the Earth from space, and, a year later, Earth Day was founded by peace activist John McConnell.

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According to Brand:

Those riveting Earth photos re-framed everything. For the first time humanity saw itself from outside. The visible features from space were living blue ocean, living green—brown continents, dazzling polar ice and a busy atmosphere, all set like a delicate jewel in vast immensities of hard—vacuum space. Humanity's habitat looked tiny, fragile and rare. Suddenly humans had a planet to tend to. The photograph of the whole Earth from space helped to generate a lot of behavior—the ecology movement, the sense of global politics, the rise of the global economy, and so on. I think all of those phenomena were, in some sense, given permission to occur by the photograph of the Earth from space.

Seeing a photograph of the Earth from space undoubtedly created a paradigm shift in the collective human mind, for the reasons that Brand points out. However, it's also interesting to note that Brand's insight first arrived in an LSD vision, as many people have said that their experience with psychedelics helped to increase their sense of ecological awareness. In fact, a number of people believe that the modern ecology movement was,



at least, partially inspired by the collective use of psychedelic drugs and plants that began in the 1960s and continues to this day. There is evidence that psychedelics played at least as vital of a role in the creation of the worldwide Green movement as Rachel Carson's classic 1962 book about the environmental dangers of DDT, *Silent Spring*.

For example, Arne Naess, who founded the Deep Ecology movement in 1973, was profoundly influenced by his LSD experience in 1968. Mark Schroll, Ph.D. discusses Naess's work in the pages that follow, and provides an excerpt from an

interview with Naess about his LSD experience. Mycology expert Paul Stamets—author of *Mycelium Running*—credits his increased sense of ecological awareness to his experiences with psilocybin mushrooms. Freeman House—the author of *Totem Salmon*, who has been involved with a community-based watershed restoration effort in northern California for more than twenty-five years—has said that psychedelics played a role in his sense of ecological awareness. John Allen—who conceived and organized the building of the Biosphere 2 project in Arizona, the most ambitious environmental experiment of our time—was initially inspired by his experience with peyote. As psychologist Ralph Metzner points out in the following essay, psychedelic movements and ecology movements often go hand-in-hand.

Some commonly-reported characteristics of the psychedelic experience include a boundary-dissolving sense of unity with nature, a feeling of interconnected oneness with the natural world, a sense of how sacred, fragile, and precious all life is, and a long-term evolutionary perspective on our current historical situation—all of which can contribute to a greater sense of ecological awareness. These insights are described in exquisite poetic detail by the late philosopher Alan Watts in his classic book on psychedelic experiences in nature, *The Joyous Cosmology*. The late Swiss chemist Albert Hofmann, who discovered LSD and psilocybin, remarked that psychedelic drugs helped him to reexperience a sense of sacred oneness with the natural world, similar to the spontaneous mystical experiences that occurred during his childhood.

Even without the assistance of psychedelic molecules nestled in the synapses of one's brain, often, just being out in nature can expand an urban dweller's consciousness into transpersonal dimensions, and there has been quite a bit of nature-inspired mysticism, writings and artwork—from Henry David Thoreau and William Blake, to contemporary poets and artists, like Carolyn Mary Kleefeld, whose beautiful painting was featured on the cover of the *Bulletin* that I edited last Spring, and photographer Klea McKenna, who shares some of her work with



Photo of Nina Wise by Klea McKenna. www.kleamckenna.com

us in this Bulletin. This issue also includes remarkable visual art by Penny Slinger Hills, Michael Brown, Luke Brown, Rick Harlow, Salome Starbuck, and Sara Huntley that address the theme of ecology and psychedelics.

Certainly not everyone who has done a psychedelic becomes more ecologically aware, as anthropologist Jeremy Narby points out in the interview that we did for this Bulletin. For example, early psychedelic researcher Timothy Leary was actually opposed to the ecology movement—at least for a time—and called the whole field “a seductive

dinosaur science” because he was convinced that the human species would soon migrate into space. Nevertheless, many people in the West—including myself—credit their increased sense of ecological awareness to their use of psychedelics, and indigenous cultures that integrate psychedelic plants into their lives appear to live in greater harmony with their environment.

Since every life form descended from common ancestors, we are literally all related, and it's not merely metaphorical to speak about our kinship with other organisms and our unity of the biosphere—it's a living truth. We are inseparable from the intricately interconnected web of life on this planet, and what we do to the web, ultimately, we do to ourselves. Psychedelics may sometimes allow us to see these often-hidden connections a little more clearly—but the connections are always there. In fact, our entire existence is built upon them, and unless we begin to pay attention to these fragile environmental connections, humans may soon be just one more species—as most are—that is lost forever to the dark void of extinction.

With a massive reduction in biodiversity on the planet, global warming on the rise, and other signs of serious climate change growing ever more ominous, the possibility that we can increase our ecological awareness certainly seems like a timely topic for discussion. That's why this special theme edition of the *MAPS Bulletin* brings together scientific authorities and artists, from a variety of disciplines—both seasoned experts and young thinkers—to explore the important relationship between ecology and psychedelics.

Awakening the Gaian Mind Within

The biosphere is a thin layer of microbes, fungi, plants, and animals that surrounds the Earth. It is a self-sustaining system that is powered almost entirely by sunlight. Through decomposition, and the recycling of basic elements, the biosphere works such that the waste from one group of species becomes the resources for another group of species, and nothing is wasted. The life forms of the biosphere create a dynamic system so delicately balanced that it appears to be self-regulated, and many people have come to see the entire biosphere as operating in a way that is akin to a single organism, a single cell, or a single interconnected system. The late physician Lewis Thomas wrote a classic book exploring this subject in 1974 called *The Lives of a Cell*, and NASA scientist James Lovelock (along with microbiologist Lynn Margulis) developed a compelling theory that views the biosphere, as a living, self-regulating system, called the Gaia Hypothesis (first published in book form in 1975 as *Gaia: A New Look at Life on Earth*, although the idea was first put forth in the mid-1960s). The Gaia Hypothesis has become a powerful meme in the psychedelic community.

Lovelock's theory helps to explain how the delicate chemical ratios in our planet's oceans and atmosphere are consistently maintained such that life is possible. According to the Gaia Hypothesis, it's no accident that the environment on Earth is so ideal to support life. The Gaia Hypothesis has been extremely popular in the psychedelic community, and it is often mixed in people's minds with spiritual notions of a primordial Mother Earth goddess. Many people—such as the late ethnobotanist Terence McKenna—have speculated that the biosphere, or Gaia, may have a type of intelligence far and above what Lovelock acknowledges, and that psychedelic fungi may allow communication between human beings and the planetary mind. Many people have reported that their use of psychedelic plants—especially ayahuasca, peyote, psilocybin mushrooms, ibogaine, and *Salvia divinorum*—brings them in touch with what they describe as an “intelligence in nature.” To explore this idea further, I interviewed anthropologist and environmentalist Jeremy Narby, author of *The Cosmic Serpent*, for this *Bulletin*.

I also interviewed botanist Dennis McKenna, Ph.D., coauthor (with his brother Terence) of *The Invisible Landscape*, to discuss these ideas, and about the possibility that the widespread use of psychedelic plants and fungi around the world could be the biosphere's decisive response to human patterns of ecological destruction, and that an intelligence in nature may be utilizing psychedelic plants as catalysts to increase human ecological

awareness, hopefully, before it's too late. There's interesting evidence to support this commonly-encountered idea in the psychedelic community. According to mycologist Paul Stamets, psilocybin-containing mushrooms tend to grow in areas that are disturbed by ecological upheavals, such as where roads are cut into a forest, the grounds around a construction site, and landslides. They seem to especially proliferate in areas where there has been a lot of human activity, almost as if they are a response to our use of the Earth.

In *Psilocybin Mushrooms of the World*, Paul Stamets explains:

Before the impact of human civilization, psilocybin species were largely restricted to narrowly-defined ecosystems, and they tend to thrive after ecological catastrophes. Landslides, floods, hurricanes, and volcanoes all create supportive habitats for many *Psilocybe* mushrooms. As humans destroy woodlands and engage in artificial construction, *Psilocybes* proliferate, feeding on surplus wood chips and refuse, especially in the interface environments, wherever humans, forests, and grasslands struggle to coexist. Since human development seems inextricably associated with ecological disturbance, *Psilocybe* mushrooms and civilization continue to coevolve. Today, many *Psilocybes* are concentrated wherever people congregate—around parks, housing developments, schools, churches, golf courses, industrial complexes, nurseries,

gardens, city parks, freeway rest areas, and government buildings—including county and state court houses and jails! This successful adaptation is a comparatively recent phenomena; in the not-too-distant past, these species were competing in a different environmental arena. Many of the *Psilocybes* are now evolving in a decidedly advantageous direction, parallel to human development. The way these mushrooms have evolved in close association with humans suggests an innate intelligence on the part of the mushrooms.

It almost appears as though psilocybin mushrooms are a response by the biosphere, like a chemical signaling system within the body, to help the wayward human species become more symbiotic with its environment. Can it really be a mere coincidence that a fungus reported to increase ecological awareness specifically proliferates in those areas that are ecologically damaged? Once restricted to very narrow ecosystems—thanks to human activity—these mind-expanding mushrooms now flourish all over the globe. *Psilocybin* mushroom and ayahuasca-using cultures, also once restricted to a few areas in central Mexico and South America, are also now spreading

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There are now hundreds of ayahuasca churches established throughout the world, and the U.S. Supreme Court even allows one of them to operate legally within U.S. borders. According to anthropologist Luis Eduardo Luna, Ph.D., studies done in Brazil suggest that ayahuasca use tends to make people more sensitive toward ecological issues. Fieldwork among members of the syncretic churches, for example, reveal that many of them decided after participation in ayahuasca rituals to change their professions so that they could work with natural products or environmental issues. In the pages that follow, Environmental Sustainability Consultant Shena Turlington reports on several scientific studies that shed light on this important connection between psychedelics and increased environmental awareness.

As I mentioned earlier, one person who was inspired by his use of psychedelic plants to explore new ecological frontiers was Global Ecotechnics founder John Allen—who conceived and organized the building of the Biosphere 2 project in Arizona, the most ambitious environmental experiment of our time. Biosphere 2 is a miniature Earth under glass and the world's largest laboratory for global ecology ever built. It is the largest artificial, self-sustaining ecosystem, and it is truly a masterpiece of human engineering. For two years and twenty minutes, inside a completely sealed, glass-enclosed 3.15 acre environment—composed of miniature replicas of all the earth's environments, and housing 3,800 species of plants and animals, designed to function together as a single system—eight courageous men and women had to grow all their own vegetables, raise all their own livestock, and live so that a hundred percent of their waste was recycled.

In other words, the animals and plants in Biosphere 2 had to produce all of their own biological resources without polluting one another out of existence. Now, in larger sense, the same sort of process that goes on inside Biosphere 2 is going on with the planetary biosphere that we call home, only it's not as obvious. The plants and animals on this planet create all of the nutrients necessary to sustain life from one another's waste, and any chemical toxins or heavy metals that we release into our atmosphere or oceans quickly finds its way into the air we breath and the water we drink because the biosphere is a single system. This is why you find the flame retardant used in American children's pajamas in the fatty flesh of animals that live in the Arctic Circle.

Biosphere 2 was the most tightly sealed structure ever built by human beings and no air, water, or food could be brought in from the outside once the project began. Many scientific discoveries and new technologies have resulted from this ambitious project. In his book *Biospheres*, science writer Dorion Sagan—the son of

Carl Sagan and Lynn Margulis—builds upon Lovelock's Gaia Theory and explores the possibility that the Earth's biosphere is an organism that's "actually on the verge of reproduction," and that Biosphere 2 is it's first offspring. In John Allen's recently published memoir *Me and the Biospheres*, he recounts the story of how Biosphere 2 came to be, and he reviews the evolution of his thinking on this fascinating subject.

In the following pages, John shares with us how his participation in a traditional Huichole Indian peyote ritual brought him a new perspective of the biosphere, which lead to the development of Biosphere 2. Also, one of the brave "biospherians"—Mark Van Thillo—who lived inside Biosphere 2 during its first two year inaugural mission, and presently helps run the Planetary Coral Reef Foundation, joins us in this special issue to discuss how his psychedelic experiences inspired his interest in integrating ecology and technology.

Spiritual Malaise in the Biosphere

Some people think that the ecological crisis on this planet reflects a deeper, underlying spiritual malaise, that psychedelics help to illuminate and heal. For example, after a historical review of how psychedelic plant substances have come into use, and the impacts that they have made upon different cultures throughout history, psychologist Ralph Metzner, Ph.D. associates the use of these substances with political developments that help to counter the mounting environmental crisis. Metzner said:

Certainly, it is not difficult to see the parallels in several cultural movements that seek to correct the dangerous imbalance in humanity's relation to nature: in deep ecology and ecofeminism, which call for a respectful, egalitarian, ecocentric attitude towards the natural world; in the organic gardening and farming movements, which seek to return to traditional methods avoiding chemical fertilizers and pesticides; in the movement to increased use of herbal, nutritional and complementary healing modalities with less reliance on high-tech interventions; and in several other philosophical, scientific and religious movements...

According to Metzner, the greatest environmental threat that we face isn't the depletion of ozone, or the world's natural resources, it's the depletion of the human spirit. The global ecological catastrophe began when the religions of Western civilization were no longer based on living harmoniously with the Earth. "Once Western religions began to seek dominance instead of partnership with nature, we created a pathology that led to a massive destruction of the human spirit and a frightening worship of consumerism to fill the void. Simply put, by disrespecting and destroying the Earth, we are disrespecting and destroying what sustains the human spirit," explains

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Metzner. In the pages that follow, Metzner addresses this idea further, and explains the importance of developing a system of eco-psychology.

So far as we know, no other planet in our solar system supports complex intelligent life. Our planet is special. It's a precious jewel floating in the empty blackness of space, and it's all we have to call home. Reading James Lovelock's most recent books, *Revenge of Gaia* or *The Vanishing Face of Gaia*, or watching Al Gore's *An Inconvenient Truth*, can be far more frightening than watching *Night of the Living Dead*, on Halloween night, all alone on a hundred micrograms of LSD. Humans are seriously interfering with the fragile web of life and all of civilization is at stake. Although the consequences of what we're doing are unknown, the scientific reports that are coming in don't look good. We are living in a time that is marked by one of the most widespread mass extinctions in the history of our planet.

Conservation biologists tell us that climate change, habitat destruction, ozone depletion, toxic chemicals, and invasive or infectious species are driving biodiversity on this planet back 65 million years, to the lowest level of vitality since the Age of the Dinosaurs. The increase in green house gases, like carbon dioxide and methane, the massive migration of heavy metals into the biosphere, deforestation, the loss of biodiversity, the widespread use of pesticides, the spread of radioactive waste, and other environmental toxins are—according to environmental biologists—overwhelming our precious biosphere's ability to maintain the cozy Goldilocks temperatures that we've become so accustomed to.

If humans disappear into extinction, the biosphere will go on. We're not nearly as important to the biosphere as bugs and insects, microbes and bacteria. Biologist E.O. Wilson once said, "If all mankind were to disappear, the world would regenerate back to the rich state of equilibrium that existed ten thousand years ago. If insects were to vanish, the environment would collapse into chaos." Nonetheless, we are a uniquely creative, technological species, linking together a knowledge-based, electronic communication system around the globe. Our engineering activities have lead physicist Peter Russel and others to speculate that the fiber-optic network that our species is constructing around the planet serves as a "global brain" in the developing planetary organism, so Gaia may have reason to keep us around.

Despite all the blaring warning signals from climatologists, there are also good reasons to have hope for the human species and the future of our biosphere. The founder of systems philosophy Erwin Lazlow—who was

one of the first people to start warning us about the (now obvious) "limits to growth" back in the 1960s—presently sees our current ecological problems as a "decision window" where we not only face the danger of total global collapse, but also the opportunity for renewal of the world. In his recent book *The Chaos Point*, Lazlow points out that there is a measurable cultural shift occurring around the planet, as public opinion is changing, and societies are developing more sustainable, environmentally-aware public policies in response. Complex systems that approach a state of disequilibrium, like our biosphere, are difficult to predict because small changes can quickly grow exponentially.

Lazlow believes that we're in a race against time, and that it's not too late to turn things around—but we must act quickly! Either we reorganize ourselves into a more sustainable equilibrium with our environment soon, or the biosphere will reorganize itself on a lower level of complexity, wiping out whole human civilizations, like tsunamis crashing against a city of sandcastles.

Personally, I'm optimistic about the future of our biosphere, and I think that we're going to make it to the next level of evolutionary order—largely because of my experience with psychedelics and my faith in the human spirit. I realize that there isn't much time left to rescue our biosphere from serious damage, and that things look pretty grim from an ecological perspective, but I've personally witnessed just how quickly psychedelics can psychologically transform people and open

up their eyes. I agree with the McKenna brothers, that the planetary mind, the Gaian matrix that we're immeshed in, is far more intelligent than we are, and this intuition helps motivate me to harmonize with it. I like reflecting upon a message that Dennis McKenna brought back with him from one of his shamanic encounters, "You monkeys only think you're running the show."

Psychedelics can help us heal the damage that we've done to ourselves, and to the Earth. This is why I believe so strongly in the research that MAPS is doing. There isn't much time left before our biosphere starts to unravel, and we may only have a small window of opportunity to save our fragile world. I think that MAPS—and our sister organizations, like the Beckley Foundation and the Heffter Research Institute—are industrialized society's best hope for transforming the planet's ancient shamanic plants into the respectable scientific medicines of tomorrow, and, in so doing, bring psychedelic therapy to all who need it. This may not only help to heal a number of difficult-to-treat medical disorders, and increase ecological harmony on the planet, but it may also open up a doorway to untold and unimagined new worlds of possibility. •

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