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### Evaluating Plant-Induced Altered States of Consciousness across Cultural Contexts

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Recent decades have seen an explosion of interest in the therapeutic and ritual use of mind-altering substances, both natural and synthetic. Many of the hallucinogenic chemicals synthesized in laboratories and being tested for their “medicinal” effectiveness—including psilocybin, LSD, and mescaline—have their bases in naturally-occurring plants, including mushrooms, other fungi, and a wide assortment of seeds, leaves, and other plant parts. Increased interest in the physiological and psychological effects of psychoactive substances includes attention to “set and setting,” that is, to the contexts in which these materials are prepared and used and to how the altered states of consciousness (ASCs) they generate are evaluated and made sense of. Anthropologists have long studied hallucinogenic plants and the altered states of consciousness they induce in cultural context. Thus, as scholars and practitioners recognize that the controlled use of many plant-based psychoactive materials and their derivatives can have beneficial physical, mental, and social outcomes, anthropologists are well-positioned to make important contributions to this work.

Anthropologists have long employed anthropology’s holistic approach to human practices to investigate the historical, biological, and social aspects of psychoactive substances and experiences. From the beginning, anthropologists have emphasized the importance of context (“ritual”) for ensuring the therapeutic and spiritual efficacy of these substances, showing how many groups value the knowledge gained over time with managed use of particular plant hallucinogens. Anthropological studies of altered states of consciousness often focus on traditional, indigenous practices, showing how plant-based hallucinogens were part of rituals aimed at creating social connections and a sense of belonging, not only among people but also with spirits, nature, and other beings. These pro-social practices contrast with how these substances are used by those raised in Western, industrialized societies, where ingesting substances is often decontextualized, individualized, and commodified, even when those Westerners travel to “foreign” locales ostensibly in order to experience a “traditional” ritual.

Anthropologists have recently turned their attention to the adoption of these traditional medicines and entheogens<sup>1</sup> by Western doctors and seekers. Cross-cultural studies counter ethnocentric views of hallucinogens as chemical substances to be isolated and consumed in a biomedical or recreational context. Rather, they demonstrate the importance of continuing or developing rituals and guided experience with psychoactive substances as they are used in new, modern settings. Another key objective of anthropological studies of consciousness altering substances is to point out the ethnocentrism of Western policy and attitudes towards plant hallucinogens and the indigenous peoples who pioneered their use. To be sure, we often see these ethnocentric tendencies not just among those who oppose the use of psychoactive substances (other than tobacco and alcohol, we note). Ironically, we also see callous attitudes among Westerners who profess to embrace plant-induced ASCs but marginalize indigenous groups and their traditional knowledge about the safe and proper use of these substances. Further, neophyte Western users are often oblivious to the consequences of their demand for these products and supposed “authentic” experiences, sometimes wreaking havoc on local communities and environments.

## **Anthropological perspectives: Opening worlds and countering biases**

As reflected by the range of articles in this collection, given the holistic nature of anthropological inquiry, anthropological studies of plant-based ASCs touch on a wide range of social, cultural, and physiological domains. Some anthropological investigations follow a long-standing anthropological objective of describing and documenting less well-known cultures and practices globally, opening our eyes to a widespread use of plant-based psychoactive chemicals. For example, László Koppány Csáji (2011) documents shamanism and its inclusive altered states of consciousness among the Hunza of Pakistan, a group rarely included in general studies of shamanistic traditions. The Hunza maintained many of their indigenous practices—including shamanism and the consumption of alcohol—when Islam was introduced into this remote area many centuries ago, resulting in what Csáji calls a “separate, even isolated, island of shamanism inside the Islamic world” (p. 163). Shamanism is pervasive in Hunza society; most Hunzakuts believe that spirits and “fairies” are a part of everyday life. Hunza shamans enter trance—to prophesize, heal the sick, and “defend the community from an attack by evil spirits” among other pro-social responsibilities—by dancing to rhythmic music and inhaling smoke made from juniper and Syrian rue (*Peganum harmala*), both hallucinogens. While documenting this long-standing practice, Csáji also observes that trust in shamans and acceptance of their divinatory and healing power is fading among the Hunza. He does not attribute this to the influence of Islam, but rather to the introduction of state schools in the region and exposure to television and radio that have introduced the Hunza to Western ideas about causality and healing.

Marlene Dobkin de Rios (1993)—a pioneering figure in the anthropological study of psychoactive substances and altered states of consciousness—reflects on her twenty-five years of work on plant hallucinogens and touches on several important findings and themes that continue to be central to studies of hallucinogens today. For example, she describes how the use and control of psychoactive substances varies by social context. In smaller-scale, more egalitarian societies, the use of plant hallucinogens is often widespread and accessible, whereas in hierarchical societies their use is limited and controlled, often subject to sumptuary laws or

restricted to high-ranking, power-wielding individuals. Dobkin de Rios also identifies several cross-cultural themes connected to plant-induced altered states of consciousness, including changed perceptions of time, the role of animals in introducing or facilitating ASCs, the importance of music for structuring the trance experience, themes of death and resurrection (often connected to the dissolution of the ego), and the belief that the use of plant hallucinogens gives the user prophetic power. Importantly, she was among the first to point out that—contrary to Western thinking at the time—cultural values and attitudes contribute strongly to hallucinogenic experiences. She notes that “As a result of my cross-cultural research for the US Commission [on Marihuana{sic} and Drug Abuse], I found that stereotypic visions were common ... individuals who are reared in a society where hallucinatory drugs have been used traditionally enter the drug experience with certain expectations about the content and form of drug-induced visionary experience” (p. 4). Dobkin de Rios also applied her research as a licensed psychotherapist, briefly describing the pro-social role of “managed altered states of consciousness” in which adolescents engage in culturally acceptable use of hallucinogens in many indigenous cultures in order to prepare them for adulthood, in contrast with legally constrained drug-use in Euro-American society. Finally, as discussed below, Dobkin de Rios was instrumental in establishing the study of drug consumerism and drug tourism, chronicling the rise of “non-authentic folk healers with malicious and fraudulent intention who provide psychedelic plant drugs in ritual settings for personal gain” to groups of travelers from the U.S. and Europe (p. 6).

Bonnie Glass-Coffin (2010) incorporates archaeological, linguistic, historical, ethnographic, and iconographic information to demonstrate the cultural meaning and ritual use of the mescaline-bearing San Pedro (*Echinopsis pachanoi*)<sup>2</sup> cactus on the north coast of Peru for more than 2,000 years. Glass-Coffin provides compelling evidence for the symbolic importance and religious significance of this plant. She traces a long association between San Pedro, water, fertility, and shamanic healers’ use of hallucinogenic brews to produce visions, contact ancestors or spirit entities, journey to other worlds to communicate with and mediate between worlds, or provide the interpretive insight needed to divine or diagnose on behalf of their patients and communities.

Many other anthropological archaeologists have also studied the use of plant-based psychoactive substances in ancient times. Tony Blomqvist Mickelsson (2020) reviews a recent book, *Ancient Psychoactive Substances* (Fitzpatrick 2018), that covers the use of a wide variety of substances, including cannabis, ayahuasca, ephedra, peyote, tobacco, and many types of fermented brews. The authors contributing to this book demonstrate that people have consciously sought out and consumed plants that produce altered states of consciousness for tens of thousands of years. The chapters provide examples of the methods archaeologists use to identify the substances and the contexts in which they were used, including botanical, chemical, and iconographic studies. It is clear from these case studies that plant intoxicants and the altered states of consciousness they produced had profound spiritual, social, and political effects in ancient societies. Several of the chapters draw parallels with modern practice. For example, the chapter on Maya intoxication rituals shows that images on ritual vessels depict females as servers and males as dominant participants. The author then compares this imagery with contemporary advertisements for alcoholic beverages in which men are usually depicted being served by attractive women. For a whole host of reasons, including the broadening of our knowledge about when and how psychoactive substances were used in ancient societies as well as the parallels with modern

practice, Mickelsson concludes that the book “makes a strong case for making historical inquiries when investigating contemporary substance-use.”

Often, cross-cultural anthropological studies implicitly or explicitly challenge Western assumptions about the effects of “drugs,” underscoring ethnocentric frameworks for evaluating plant-based hallucinogens that portray their use as absolutely harmful to physical or mental health or as solely criminal behavior. For example, Bonnie Glass-Coffin (2010) concludes her study of San Pedro with the statement, “Hopefully, this knowledge can serve to challenge the unfortunate tendency of some US policy makers and shortsighted individuals to dismiss the sacred power of this plant. It is about time that San Pedro becomes recognized by those of this generation as the venerated messenger and portal to the Divine that it has always been” (p. 78).

Like Glass-Coffin, Joseph Calabrese (2001) addresses the disparity between traditionalentheogenic uses of plant-based psychedelics and Western, ethnocentric assumptions about the role and effects of these hallucinogens, exploring the “political and social significance of consciousness alteration” as a topic worthy of scholarly research. Calabrese documents how the use of peyote—a Schedule 1 substance deemed to have no therapeutic application by the US government—has beneficial, pro-social uses, particularly as it is used within the Native American Church to treat alcoholism and mental illness. Calabrese traces Western intolerance of peyote use from the time of the Inquisition through to twentieth century US Supreme Court decisions that stripped Native American Church members—whose participation in church sacraments included ingesting peyote—of their religious freedom (First Amendment rights). Calabrese points out that in reaching their decision, the justices ignored a century of ethnographic research documenting the safety and efficacy of peyote rituals. He presents an overview of studies that in fact contradict the Schedule I criteria used to criminalize peyote use, presenting ethnographic and experimental evidence that the managed use of peyote—in ritual settings with self-limiting dosage inherent naturally in peyote plants—is neither physically nor psychologically dangerous and that in reality peyote is therapeutically effective in treating alcoholism. In much the same way that Glass-Coffin concluded her essay, Calabrese writes “this paper represents a call to understanding of the diverse ways that human populations have found to support their mental and physical health and maintain their cultural identities” (p. 6).

## Healing with hallucinogenic rituals

As already noted, anthropological research has deepened understanding of the therapeutic benefits of the ritual use of ayahuasca, *purgahuasca*, peyote, and other natural hallucinogens, particularly for treating depression, anxiety, and addiction. Anthropologists have described how many groups have relied on plant-based psychoactive rituals to treat illness and promote overall health, well-being, and personal development. While hallucinogenic substances have measurable biological effects, researchers have reached consensus that therapeutic benefits depend on combining substances with guided ritual experiences that lead to enhanced awareness of new ideas, feelings, and memories. While hallucinogenic rituals exist as alternative medicine, anthropological research has helped support the integration of managed hallucinogenic rituals with other forms of conventional psychotherapy to treat a range of disorders.

Michael Winkelman (1991) notes that dominant biomedical perspectives have an extensive history of discounting hallucinogenic rituals, characterizing hallucinations and drug use as signs of pathology. Winkelman reviews the cross-cultural evidence of the therapeutic potential of plant-induced hallucinogenic experiences to treat sensory, perceptual, cognitive, emotional, and behavioral distress. The prevalent psychophysiological model suggests that hallucinogens reduce the brain's frontal cortex activities oriented to external stimuli and allow internal images and sounds to appear. At the same time, ingesting natural hallucinogens increases parasympathetic activity, leading to relaxation and a heightened state of suggestibility that can be guided by an experienced ritual healer. After a hallucinogenic experience, ritual specialists lead reflection and analysis to interpret the meaning of visions and other new sensory information. As Winkelman notes, "What constitutes a hallucinogen is not a particular type of plant or a single specific chemical structure or characteristic. Rather hallucinogens are defined in terms of their effects upon human experience" (p. 15). In other words, ingesting plant hallucinogens in a ritual context entails psychophysiological mechanisms that link biochemical reactions to spiritual and medicinal beliefs and practices. A healing ritual with an experienced ritual specialist allows individuals to integrate the awareness achieved in an altered state of consciousness with new thought and action to address distress in daily life.

Elaborating on these therapeutic effects, Francois Blanc (2010) surveys curative sessions from the Andes and Brazil and describes how ingesting natural psychoactive substances during guided rituals leads to hallucinations—sights, sounds, thoughts, emotions, sensations of moving, and memories. Traditional curing sessions with these substances include repetitive chants, prayers, songs, and music that enhance an individual's trance state. Individuals in trance move their bodies, vomit, cry, and speak incoherently. Under the active guidance of a ritual specialist, people integrate the insights achieved in trance with conscious awareness to modify distressing thoughts, emotions, and behavior.

In exploring how hallucinogenic rituals disrupt neurobiological dysfunction, Blanc situates anthropological studies of psychoactive substances in the context of recent cognitive neuroscience and neuroimaging studies, including research on hypnosis, meditation, and trance states. The evidence from multiple perspectives reinforces the proposition that a guided substance-induced trance in ritual contexts may allow individuals to restructure the personality and address neurobiological dysfunctions, particularly depression and anxiety. For example, PET scans and magnetic resonance imaging measure changes in brain activity, such as changes in the adrenergic systems related to neuroreceptors. Likewise, trance relates to neural reorganization in cortical areas affecting human social judgement and symbolic processing. This kind of research opens understanding of how hallucinogenic rituals reorder neural pathways, affecting how an individual may change decisions and judgements as well as evaluate emotions and memories.

A number of researchers describe biopsychosocial processes relying on hallucinogenic rituals that promote healing of mental health uses. For instance, Brian Anderson (2012) reviews ways to consider ayahuasca use to treat depression and anxiety, noting that such alternatives contrast with mainstream psychiatric views of psychedelic-induced modified states of consciousness as pathological. As a psychiatrist and medical anthropologist, Anderson refers to psychedelic-induced experiences as modified states of consciousness (rather than altered states of consciousness) to reinforce the view that controlled and precise hallucinogenic sessions can be

therapeutic. He particularly questions the dominant cultural perspective in psychiatry that views a healthy psyche as nonmalleable. Instead, Anderson reviews how hallucinogenic rituals allow individuals to reorganize the psyche to foster a sense of peace, hopefulness, positive moods, and a healthy sense of well-being. Structured psychedelic interventions can also reduce addictive cravings and reduce restlessness and anxiety associated with withdrawing from addictive substances.

Hillary Webb (2011) interviewed John Halpern, a psychiatrist and researcher who draws on medical anthropology, to discuss the efficacy of peyote ceremonies to treat alcoholism in the Native American Church (NAC). Peyote is a natural source for the hallucinogen mescaline. Halpern notes the NAC peyote ritual context that promotes mental health and treats alcohol addiction. Church members use peyote as a sacrament, not as a recreational or personal substance. Referring to peyote use of the NAC of Navajoland (now called, “Azee’ Bee Nahagha of Diné Nation”), Halpern says, “It’s the non-drug sacramental use. It’s a sacrament. It’s the flesh of god in their eyes. Given for the betterment of all Native peoples” (p. 240). In studying the long-term cognitive consequences from peyote use among Navajo people, Halpern and other researchers have concluded that the therapeutic efficacy of the peyote ceremony to treat addiction and improve mental health derives from combining the chemical components with a structured, ritual context.

In a more recent study, Miroslav Horák, Nahanga Verter, and Kristina Somerlíková (2021) examine the use of plant hallucinogens for treating addiction in a community in the Upper Amazon region of Peru. Drawing on practices of Awajún communities, a drug and alcohol addiction treatment center uses purgahuasca, a tea with the plant *Banisteriopsis caapi*, the main plant ingredient in ayahuasca. In contrast to the thick brew of ayahuasca, purgahuasca tea is drunk warm in large quantities and produces constant vomiting, which is considered part of the therapy. Awajún communities traditionally administered the tea to adolescents for initiation ceremonies. As an adaptation of this practice, the Takiwasi Center for the Rehabilitation of Drug Addicts and Research on Traditional Medicines (Centro de Rehabilitación de Toxicómanos y de Investigación de Medicinas Tradicionales) integrated the tea rituals into residential treatment programs. A majority of respondents receiving treatment with medicinal plants recognized the importance of hallucinogenic ritual in their recovery. The researchers suggest that the chemical composition of the plant may repair nerve damage caused by drug use, and the structured ritual combining individual and group therapy allowed people to explore visions and memories that guide recovery. Purgahuasca treatment also seemed to reduce drug craving by inhibiting tension, anxiety, and restlessness. Moreover, people interpret the constant vomiting in rituals as detoxification from drugs as well as elimination of negative thoughts, emotions, and memories.

## Drug tourism

Much of the Western fascination with plant hallucinogens manifests itself in the form of drug tourism, a practice in which (primarily) well-off, educated urban dwellers from North America and Europe travel to places such as Amazonia to ingest traditional substances for adventuresome, spiritual, or therapeutic reasons. Such travelers often naively reason that hallucinogenic substances will be more efficacious if used in their “primordial” setting. This tourist form is today often linked with jungle ecotourism and ethnic tourism, in which Westerners travel to

experience a variety of “adventures” that might combine activities such as river cruises and visits to “indigenous” communities with a *limpiada* that includes ingesting a plant hallucinogen such as ayahuasca. Other drug tourists seeking spiritual epiphanies or emotional healing attend intensive retreats that last ten or more days, during which they follow a limited diet, spend large stretches of time alone, and repeatedly ingest plant hallucinogens. Some scholars and practitioners prefer to call trips with these latter objectives shamanic tourism or entheogen tourism in order to differentiate them from the “cultural” experiences arranged for general tourists who incidentally visit places that have traditionally used plant hallucinogens.

In their analyses of drug tourism, anthropologists provide perspective on the centrality of context for ensuring the therapeutic and spiritual efficacy of plant-based hallucinogens. This context is often provided within a framework of ritual practice loosely referred to as shamanism, which has been practiced in South America, for example, for millennia. While recognizing that shamanism and the use of plant hallucinogens are not static practices, most anthropological studies of drug tourism document radical changes in the experience of using these substances and their associated contexts. Early studies of drug tourism—conducted when the use of naturally-occurring psychedelics was largely pursued by ill-informed people seeking thrills or a new “high”—largely paint a negative picture of a decontextualized practice led by untrained hustlers who took advantage of foreigners. These studies, however, were not particularly sympathetic towards the Westerners exploring indigenous entheogens either, depicting them as uninformed or inconsiderate outsiders who wreaked havoc on indigenous societies, cultures, and their natural worlds. Recent studies of drug and entheogen tourism are more nuanced. Although they still often document negative impacts on indigenous communities and environments, they also describe a more productive and efficacious experience for some participants. These anthropological studies suggest this is the case in large measure because ASC providers have created new rituals and recontextualized the use of plant hallucinogens as part of health-related “retreats.”

Marlene Dobkin de Rios (1994, 2006) was among the first anthropologists to study drug tourism. As a medical anthropologist studying the traditional use of the hallucinogenic brew ayahuasca, she worked with traditional healers and observed what she scornfully calls “instant traditional healers,” “so-called native shamans or witchdoctors,” and “unscrupulous practitioners who purposely exploit their victims.” She also criticizes the “expensive brochures which cost thousands of dollars to produce in color-separated glory” used to promote tours and purported “workshops” featuring the collection of psychedelics and “field training” in ethnopharmacology. She is equally harsh in writing about drug tourists, describing travelers as oblivious to local traditions and characterizing a typical event in which an outsider participates as “a staged drama to turn him on and extract his cash.” She writes about the cultural ignorance of drug tourists, noting they “cannot distinguish between native tribal groups and the complex sociological categories of people in the larger towns and cities of the Amazon ... they see exotic people of color untouched by civilization, who are close to nature, [perceiving] the natives as timeless and ahistoric [and are] desperate to find the vanishing primitive” (1994, p. 17). In describing the destructive force of drug tourism, Dobkin de Rios refers to author Susana Valadez (1986), who characterized Western drug tourism as “one of the most deadly weapons that the Western world possesses to contribute to the extinction of traditional peoples” (p. 17). Dobkin de Rios was not particularly sanguine in 1994, writing, “I think that there is little hope for communication

between the drug tourists and the Amazonians.” By the early aughts, she called for anthropologists to speak more forcefully about the differences between sacramental use of hallucinogenic plants and “the trendy hallucinogenic experiences of urban educated men and women” whose drug tourism “effectively destroys traditional urban and rural healing that has roots in the prehistoric past” (2006, p. 20).

Anthropologists document how performative “new shamans” often cater to the naïve expectations of entheogen tourists who are usually oblivious to fundamental aspects of rituals as traditionally performed. For example, Davidov (2010) writes, “Tourist-oriented shamanism is so closely associated with fantasies of holistic, ecofriendly, naturally healthy indians [sic] that tourists interviewed frequently expressed surprise (and some displeasure) at the amount of tobacco smoke involved in rituals” (p. 392). The ayahuasca ceremonies Davidov describes are brief, part of larger “jungle tours.” Ayahuasca ingestion is arranged as a onetime *limpiada*—cleansing—by tour guides and is scheduled at a time convenient to tour schedules, although traditionally ayahuasca was only ingested at night in a communal context. Most of the ayahuasca tourists Davidov interviewed had previous experience with hallucinogenic substances, primarily in Western settings. All of them expected their ayahuasca experience to be qualitatively different: “It was as if an ‘authentic’ shaman enabled access not only to ayahuasca, but also to a different cosmological reality” (p. 402). This, not surprisingly, was not the indigenous understanding of the ayahuasca experience, and locals perceived the shamans who catered to tourists as imposters “who would tell the tourists anything to fulfill their fantasies” (p. 404).

Evgenia Fotiou (2020a), who has studied ayahuasca tourism and shamanic tourism in and around Iquitos, Peru, also focuses on the performative aspects of drug tourism, but she takes a somewhat more sanguine approach to this burgeoning practice. By the time Fotiou began conducting her research, some *ayahuasqeros* (as those who perform ayahuasca rituals are called) had begun to create new rituals and work with trained psychologists to develop a therapeutic model for administering this plant hallucinogen. She notes that spiritual pursuits were central to the participants in the retreats she studied and that, in general, they were more knowledgeable about the substances and their effects. She attributes this knowledge to the availability of information on entheogenic plants and experiences on the internet, much of which she says is reliable. Fotiou describes how the shamanic journey that underlies ayahuasca tourism in Peru has been recontextualized to focus on healing the individual, rather than the community. She also points out that Western participants expect a high degree of indigenous “authenticity” from those who lead these ceremonies if the ritual is to be efficacious. Ironically, this has led many local healers—especially younger ones—to reimagine what the appropriate context is for ayahuasca ceremonies, including “dressing up” in what is perceived by outsiders to be indigenous dress and removing Christian images and symbols from their ceremonial spaces when performing rituals for foreigners. This occurs even though older, more “traditionally” trained healers often dress in Western clothing and include Christian imagery as part of the rituals when performing them for Peruvians.

In a second article, Fotiou (2020b) describes in greater detail how some shamans working in retreats catering to Westerners frame the ayahuasca ceremonies to increase their meaningfulness and efficacy. She describes the elements of these retreats that signal to participants that ingesting ayahuasca is a sacramental act, not recreational drug consumption. These elements include



burning fragrant *palo santo* (*Bursera graveolens*) and other herbs, singing, wearing white clothing, and sitting in a circle, along with eating a structured set of foods between ayahuasca consumption ceremonies. She demonstrates how leaders' speeches over the 10-day cycle of the retreats "framed the visionary experience as spiritual and transformative" (p. 226). That these long speeches are specifically geared towards foreigners' objectives is evidenced by the fact that they often touch on modern life and are delivered in English or Spanish (which is then translated by an interpreter). She notes that these speeches emphasize personal transformation through healing, a theme absent from ayahuasca healing ceremonies performed in mestizo communities for locals. Participants seemed to recognize the importance of the ritual context, one noting "how important ritual is and that we should incorporate it into our lives." Fotiou continues, "This person had taken other hallucinogens but noted that with ayahuasca the ritual is as important as the medicine and shared that he had a profound experience... People who participated in these ceremonies were conscious of the importance of ritual to them" (p. 232).

## New psychoactive contexts and identities

With the globalization of hallucinogens, anthropologists explore new social dimensions of emerging psychoactive rituals. Moving beyond indigenous healing rituals and drug tourism, people use psychedelic experiences to create new identities and address collective concerns in new ways. For instance, Arne Harms (2021) analyzes how environmentalism emerges from underground neoshamanic ayahuasca ceremonies in European contexts. The substance-induced experiences, in contrast to traditional ayahuasca curing sessions, focus primarily on promoting individual well-being and reflecting on life experiences with less regard to an individual's relationship to a community. Harms also documents how the guided ayahuasca sessions "demonstrated a ritual framing of experience engraining positive affect toward nature under conditions of increased suggestibility" (p. 74). With thick ethnographic details, Harms presents the cultural frameworks about plants, animals, and spirits appearing in ritual language, songs, music, dances, and reflective discussions after sessions. Headed by healers indigenous to the Amazon accompanied by European facilitators, weekend retreat participants value ingesting a natural substance, connecting ayahuasca ingestion with heightened human concern for Mother Earth, the forests as teachers, and healing plants. The ayahuasca rituals, in a sense, address distress regarding alienation of humans from healthy environments. Harms suggests that longer-term study of substance-based ceremonies will identify how personal environmentalism translates into broader social movements to protect the environment.

Anthropologists also explore how similar cultural themes emerge in contemporary contexts with synthesized and synthetic hallucinogens. Medical professionals and the public more generally have a growing interest in visionary experiences using the chemical compounds naturally found in plant hallucinogens. Graham St. John (2018) explores how many people have turned to DMT (N,N-dimethyltryptamine), a main active ingredient derived from the plants that are used to make ayahuasca brews, and increasingly share visionary experiences in underground in-person and virtual communities. People refer to synthetic DMT as an entheogen, emphasizing DMT's association with natural substances with visionary capacities resulting in therapeutic and spiritual transformation. Yet, in contrast to guided ayahuasca ceremonies, the "DMT trance ritual is accelerated, hyper-individualized, and private" (p. 62). People value the liminal characteristics of the DMT trance leading to what they term as a "breakthrough" event where they travel to

“hyperspace.” The disembodied visionary experience is “ritual-like,” allowing individuals to connect with other people and create a common culture related to traveling in trance. The journey to hyperspace ends in liminality, which becomes the ritual space for achieving self-realization and growth through “social critique, subversive behavior, and transformed understandings of consciousness” (p. 71). In these cases, the DMT trance may be an individual experience, but individuals make sense of their experience by drawing on preexisting collective frameworks and aesthetics of a liminal space. As with other substance-induced experiences, the perceived benefits of ingesting DMT relate to collective identities, shared language, and “ritual-like” experiences people share with each other. For people feeling alienated from dominant social norms, a DMT trance is one way to gain awareness and feel liberated from social constraints.

Leandros Kyriakopoulos (2021) explores the sense of liminality people seek in psychedelic raves. The long sessions involve dancing to electronic music, often with hallucinogens and stimulants that provide liminal states. The dancing becomes ritual action that expresses a collective narrative and a journey challenging the received reality of modernity. While the hallucinogens are synthetic rather than plant-based, the effect is similar, involving individual hallucinations experienced in a collective ritual context. People seek liminality to achieve self-discovery together. Like the other authors, Kyriakopoulos demonstrates that the personal transformation does not come simply from ingesting a chemical compound. Rather, the hallucinogen-induced trance in a collective ritual context produces new awareness.

## Conclusions

The articles in this collection illustrate the consensus that the use of psychoactive substances is nearly universal and has deep time depth. They touch specifically on a number of themes related to traditional and emerging uses of plant-based hallucinogens. They demonstrate that most of the use of these plants and their synthesized derivatives is pro-social, therapeutic, and spiritual, rather than recreational, and that their efficacy is predicated on the degree to which their use is guided and embedded in broader managed ritual or social activities. The medical drug explorers of the 1950s and 1960s were correct in an important observation: “set” and “setting”—by whatever names one chooses to call them—are key to the therapeutic and spiritual efficacy of ASCs.

In large measure, the articles in this collection demonstrate that conclusions about the overall effects and benefits of the burgeoning Western interest in the use of plant-based hallucinogens and their derivatives largely depend on whose perspective is used to evaluate them. For example, the negative effects of drug tourism are well-documented: the disruption to local communities, the destruction of the natural environment, and the exploitation of naïve and poorly informed tourists. Yet, anthropologists also document some benefits that come from this growing “industry.” First, it casts some forms of traditional medicine in a much more positive light, expanding the range of accepted therapies available to treat mental and emotional ills. Second, it addresses the needs and desires of seekers dissatisfied with Western forms of spirituality. Third, it has, in some cases, promoted a sense of pride in indigenous identities, encouraged, ironically, by the “authenticity” that outsiders demand. Additionally, efforts to integrate alternative medicine with biomedicine have the potential to support indigenous communities seeking to

maintain traditional medical and spiritual practices as well as promote interest in protecting traditional ecosystems. Finally, some communities (or at least some individuals within communities) can take advantage of the economic benefits that come from providing services to the tourist and wellness industries.

The articles contain a few points of general agreement, most notably that assessing the use of plant hallucinogens and their derivatives should be freed from the Western biases that have all too often characterized them as pathological or criminal. These studies show how Western attitudes and policies have stymied research into effective treatments for many disorders, deprived people of desired spiritual exploration and social connections, and, perhaps most importantly, hurt indigenous communities and people by disregarding and denigrating traditional practices. Moreover, these articles reflect a broader consensus in anthropology that natural hallucinogens are more efficacious for both healing and spiritual growth in the context of guided ritual activity. This insight supports efforts to integrate hallucinogen-induced states of consciousness with conventional biomedical therapies when dealing with a broad range of cognitive and mood disorders, such as depression, anxiety, and addiction as well as in spiritual quests to deepen one's understanding of and connections to self and the world.

We anticipate that advancements in neuroanthropology and neuroimaging, along with studies rooted in more traditional medical anthropological methodologies, will lead to new understanding and increased use of hallucinogens for therapeutic purposes. Further, as plant-based hallucinogens and their derivatives becomes increasingly common and recontextualized on a global scale, we hope that anthropological studies of these substances and the experiences they engender can help both providers and participants develop and practice respect for the indigenous communities whose forebearers demonstrated the healing and spiritual uses of these substances.

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## NOTES:

<sup>1</sup> The term “entheogen” was coined in the late 1970s as scholars sought to differentiate between the use of mind-altering chemicals for therapeutic or religious/spiritual reasons and for secular, recreational purposes so strongly disapproved of by government officials and policymakers in the latter half of the twentieth century.

<sup>2</sup> This plant is sometimes classified as *Trichocereus pachanoi*.

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**Ayahuasca as Antidepressant? Psychedelics and Styles of Reasoning in Psychiatry**

Brian T. Anderson – *Anthropology of Consciousness*. 23(1):44-59 (2012)

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**The Supreme Court versus Peyote: Consciousness Alteration, Cultural Psychiatry and the Dilemma of Contemporary Subcultures**

Joseph D. Calabrese – *Anthropology of Consciousness*. 12(2):4-19 (2001)

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