

Archeological investigations of ancient psychoactive substances

Scott Fitzpatrick (Ed.)

Ancient psychoactive substances

University Press of Florida, Gainesville, FL, 2018, 328 pp. including index and biographies

Hardback ISBN: 978-0-813-05670-8

This collection of articles written principally by archeologists provides a diverse and interesting introduction to the evidence for psychoactive use in the past, including consideration of the physical techniques and interpretative methods for understanding these practices. The book includes the introduction and 11 chapters primarily covering practices from the Americas but also articles on Eurasian, Mediterranean, and European practices. The book was a product of an annual meeting of the Society for American Archaeology in 2012.

The “Introduction” by Scott Fitzpatrick and Mark Merlin places the human use of psychoactive substances in a deep time perspective. They note that although the various substances considered fall into many quasipharmaceutical categories, such as the notions of inebriants, stimulants, opiates, narcotics, and hallucinogens, their use in the past are generally entheogenic, even if not specifically hallucinogenic or psychedelic. Such classification is more appropriate given the perspectives of the cultures that use these varied classes of psychoactive substances for purposes of entering into contact with deities and supernatural forces. Such an entheogenic perspective may be valid even in the cases of substances with recognized alcohol content because of the widespread practice of mixing such drinks with other psychoactive substances, often with known psychedelic effects.

The introduction provides an overview of the chemical constituents of the principal psychoactive plants found around the world: ibogaine, psilocybin, cannabis, *Ephedra*, opium, betel, kava, peyote, ayahuasca, *Anadenanthera* snuffs, tobacco, and others. The notable lack of coverage of African cultures is justified from the editor’s perspectives as a reflection of the lack of archeological evidence for the use of many known species. However, the significance of psychoactive plant use there as well is indicated by the presence of mushroom petroglyphs in the Sahara and the documented use of an extensive repertoire of psychoactive plants among the shamans of the hunter–gatherer !Kung Bushmen (Winkelman & Dobkin de Rios, 1989).

Both the introduction and several articles cover several technologies that archeologists have developed in recent years to recover residues of plants from artifacts and to identify the psychoactive substances they contain. These include not only identification of residues in artifacts but also the presence of evidence of psychoactive plant use in skeletal remains. These new forms of evidence provide substantial bases for what many anthropologists have noted that the use of psychoactive substances was a central part of

the ritual life in many cultures, often serving as the major pillars and sacraments of religious systems.

Mark Merlin and Robert Clarke’s paper on “Cannabis in Ancient Central European Burials” provides a detailed review of the prehistory of ritualistic use of cannabis to produce supernatural experiences and support religious beliefs. The widespread use across Eurasia leads to the conclusions that ritual cannabis use has a history exceeding 5,000 years. The evidence suggests that cannabis was widely traded and diffused across vast expanses of Eurasia. Before the classic Confucian culture, areas of China had traditions of widespread ritual use indicating the central cultural importance of the plant. The ritual context of consumptions there and in other places attests to entheogenic significance of cannabis.

Zuzana Chovanec’s article covering the use of psychoactive substances in the ancient Eastern Mediterranean illustrates the importance of the chemical analysis of residues to sort through the meaning of names that may be found in texts and providing exact identification of the plants used. It further establishes that other psychoactive substances such as *Artemisia* were included with fermented beverages, reminding us to not overlook the entheogenic principles of alcoholic beverages.

Mark Merlin reviews the evidence of ritual *Ephedra* use in both Americas and Eurasia, as well as its antiquity (>50,000 years), as evidenced in the Shanidar Neanderthal cave site. While *Ephedra* has a range of medicinal applications, its religious use is attested to the cultures across Eurasia; it has been considered the basis of the Iranian Houma and the India soma. Given that its constituent ephedrine also produces euphoria, as well as stimulant effects, Merlin proposes that its use is considered as entheogenic rather than merely psychoactive. Furthermore, the potential interactions of *Ephedra* with other constituents of sacraments open the possibility that it potentiates other substances. Merlin’s article illustrates the importance of combining botanical, archeobotanical, and historical sources of evidence with modern methods for analyzing plant constituents found in ceramics.

Sean Rafferty’s article provides an overview of the various forms of evidence for prehistoric psychoactive plant use in North America involving the *Ilex* species, *Datura*, peyote (*Lophophora williamsii*), and tobacco (*Nicotiana* species).

While botanical evidence is scarce, the implements of use, such as snuffing equipment, pipes, enema tubes, and

other paraphernalia, provide important indications of entheogenic use, particularly when found in contexts supporting ritual interpretations. Ethnohistorical and ethnographic sources provide analogies for the interpretation of the illustrative evidence in depictions of key details of the plants used on artifacts.

The article by Victor Thompson and Thomas Pluckhahn on mortuary findings in South Florida illustrates how careful archeological studies can help in determining the patterns of ancient psychoactive use. The concentration of smoking pipes in specific restricted areas of the archeological site reveals a differentiated pattern of use, suggesting consumption by religious specialists rather than the populace as a whole. Pollen residues also indicate the use of *Ilex* species, known for its stimulant properties. Evidence for this entheogen use is provided by ethnohistorical accounts involving the use of the drink in extended fasts and competitive races designed to produce a death and rebirth experience.

Quetta Kaye's article provides a combination of analysis of ethnohistorical data, artifacts, and archeological site analysis to provide a view of the forms of power involved in the use of *cohoba* in the ancient Caribbean. The substances in *cohoba* were likely derived from a natural source of dimethyltryptamine (DMT) in *Anadenanthera* or *Virola* species. Analyzing artifacts previously classified as "art" as drug-related technologies, Kaye poses questions regarding the ritual purposes for altering consciousness, and given the significance of etheogens in acquiring power, frames the inquiry in terms of their relationship to acquiring personal individual power, communal power, and the social power of leadership. The location of some artifacts in conjunction with occupational deposits suggests their widespread role as tools of personal power, while the secret deliberate placement of other artifacts, principally hidden in caves, suggests the separation of special powers from the rest of society. These nuances in the locations of artifacts provide crucial data for understanding the social significance of these substances and the resultant alterations of consciousness.

Daniel Seinfeld and Jennifer Loughmiller-Cardinal each contributes articles on Mayan's ritual use of fermented beverages that illustrate how we can determine aspects of the prehistorical and sociocultural context of ritual use of substances. Although the use of fermented beverages was common, the addition of other intoxicating substances to these alcohol-based sacraments is evident in additional plant residues. The analyses by Loughmiller-Cardinal of contemporary Mayan's drinking rituals provide interpretative frameworks for identifying the social dynamics of the depictions and the significance of the alterations of consciousness. Seinfeld shows how the images on polychrome vessels that depict ritual inebriation serve to identify the gendered aspects of ritual activities, where women (presumably the wife) provide sober support for the increasingly inebriated husband. Evidence for the intoxicating effects comes from depictions of glazed eyes, vomiting, and falling; the physical support of intoxicated males by women reveals the gendered-based differences in access to entheogenic experiences. The supernatural dimensions of these experiences, as opposed to secular drinking and intoxication, are revealed by the presence of depictions of supernatural beings on the vases.

Constantino Manuel Torres' article on "The Origins of the Ayahuasca/Yage Concept" uses ethnohistorical data to present conclusions that many might find startling. Relying on historical documents to identify patterns of different entheogen use, he shows that the widespread ayahuasca use of the Amazonian basin may be a relatively recent development, perhaps mostly post-European contact. The DMT-containing *Anadenanthera* plants used as snuffs are well depicted in flowers, leaves, and seeds found on artifacts from ancient South America, but no similar artifacts attest to an ancient use of ayahuasca brews or the plants involved.

This evidence for the prehistoric use of *Anadenanthera* species and its preeminent status in the Andean region as an item of trade and entheogenic activity is addressed in Matthew Sayre's article. His focus on the Chavin de Huanter site in Peru reveals an abundance of other psychotropic plant use – *Trichocereus* sp. (San Pedro), *Banisteriopsis*, *Virola*, and *Nicotiana*. Although the physical evidence is not always present, the representations in sculptures and textiles attest to their importance in culture and ritual.

Torres notes that while widespread use of chicha (a fermented beverage) occurred during the early contact period, there is an absence of mention of ayahuasca in the earliest accounts. However, Torres reviews the evidence of using one ayahuasca ingredient, the *Banisteriopsis* vine, in conjunction with inhaling the DMT-containing snuffs or ingesting the seeds from *Anadenanthera*, as well as the latter's inclusion in fermented drinks. It is this widespread prior practice pattern of mixing *Banisteriopsis* and fermented beverages with other psychoactive ingredients that provided the basis for ayahuasca once the admixture plants included new DMT sources from *Psychotria* and other species. The resulting infusions of knowledge into prior patterns of consumption of fermented and other psychoactive beverages led to the development of many ayahuasca admixtures that include a total of more than 100 different plants.

Torres summarizes information that opens a new perspective on the entheogenic role of fermented beverages as sources of monoamine oxidase inhibitors that make DMT sources orally available by impeding the normal degradation process in the stomach and intestines. Alcohol's ability to enhance tryptamine availability is a result of the metabolism of ethanol into beta-carbolines that can potentiate their effects. This provided a basis for the invention of many new psychoactive, entheogenic, and psychedelic combinations that typify the diversity of ayahuasca brews.

The significance of different brewing methods in the production of fermented beverages is addressed in the final chapter by Justin Jennings and Lidio Valdez. Analysis of the process and time and labor requirements for different preparations of fermented drinks provides a window into the conditions for assuring large quantities of beverage for ritual consumption. The different fermentation processes involved in various grain and fruit substances present on the other side of the consumption of entheogenic substances, the often-laborious processes involved in making the beverages.

The contemporary ayahuasca churches have a well-developed and somewhat lengthy process for making their brews, an elaborate process combined with rules for sexual

abstinence and diet, as well as singing and ritual to accompany the preparation. This should remind us of the importance of the “pre-ritual” activities of entheogenic encounter in addition to the actual ritual.

Ancient Psychoactive Substances covers a wide range of material of interest to many readerships. Archeologists can be well-informed of the methodological and factual advances in the archeological study of the evidence for the prehistorical use of psychoactive substances. Entheogenic specialist should be impressed with the enhanced access to knowledge regarding the entheogen use in the past provided by the new tools of archeology. Anthropologists can point to the evidence for significant entheogenic practices at the core of past cultural and religious practices. Therapists, social scientists, and drug policy advocates can be further assured of the possibility of socially constructive and even transformative drug use. In addition, scientists of psychedelics can be informed with a reminder that the psychedelic use of the

past was not generally the use of single isolated substances, but rather plant combinations that in synergetic interaction provided a portal to the sacred dimensions of the universe.

REFERENCE

- Winkelman, M., & Dobkin de Rios, M. (1989). Psychoactive properties of !Kung Bushmen medicine plants. *Journal of Psychoactive Drugs*, 21(1), 51–59. doi:[10.1080/02791072.1989.10472143](https://doi.org/10.1080/02791072.1989.10472143)

Michael Winkelman

Retired, School of Human Evolution and Social Change, Arizona State University, Caixa Postal 62 Pirenopolis, Go. 72980-000, Brazil
E-mail: michaeljwinkelman@gmail.com