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## Representations of the use of psychoactive substances in the beliefs and rituals of ancient societies: between the sacred and the profane

### Abstract

The use of plants with psychoactive properties by ancient communities has been confirmed in numerous archaeological studies conducted in almost every place on earth. Many tribes used their own characteristic psychoactive potions and, according to researchers, their use fostered the integration of the members of a given community, facilitated their existence in an occupied area and could be of significant importance for its survival. Around the psychoactive plants and toxic secretions of some species of fauna a conglomerate of myths, cults and the properties attributed to them has developed. Permanent traces of their presence remain in both non-material and material culture. The aim of this article is to present the representations of psychoactive substances in the beliefs of ancient communities, their occurrence in myths, rock or sepulchral art, and to discuss the reasons for their use during rituals. The article presents also the main causes of the diffusion of the use of psychoactive plants from the sacred to the profane sphere.

**Key words:** psychoactive plants, beliefs, drugs, the sacred

### Introduction

The history of psychoactive substances is inextricably linked with human history. Ever since the dawn of time, when the cultivation of land and animal husbandry were not yet known, members of the first

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tribal communities used whatever plants they could find in the surrounding area to satisfy their hunger (Bąbel 2006: 171–172). Ancient hunter-gatherer societies had extensive knowledge of the properties of nature's gifts, gained through the consumption of all kinds of plants but also toxins found in the organisms of the hunted animals (Rudgley 1998: 11–15).

With the development of knowledge acquired during such experiences, these substances began to play an important role in primitive societies. Many tribes used their own specific potions to facilitate their existence in the inhabited area, their use fostered the integration of the members of a given community and could be of significant importance for the survival of a community as a whole (Hajar 2016: 42; Sein Anand 2009: 330). In primitive societies, the use of psychoactive substances, as well as the roles assigned to them, helped in the interpretation of the secrets of the natural world and allowed to explain phenomena and facts (such as storms, fires, floods, diseases, deaths), which were impossible to understand through empirical cognition for the peoples at the time (Ruck 2018: 823–852; Winkelman 2019: 43). Moreover, visions caused by the use of these substances were interpreted as visits of spirits or gods, during which one communed or negotiated with them, accepted arrangements, norms and rules governing the life of a given community (Vetulani 2001: 202; Shanon 2008: 58–60; Orsolini, Ciccacese, Papanti, De Berardis, Guirguis, Corkery, Schifano 2018: 733).

The effects obtained after the consumption of psychoactive substances influenced the division of these into three main groups; the first included all plants and animal venoms causing visual and auditory hallucinations, which were used during rituals to communicate with gods or spirits of ancestors and to predict the future. The second group included drugs that induced strong agitation, ensured endurance and resistance to pain, they were mainly used by warriors, mountain tribes and nomadic people. The third group comprised substances with a soporific or dulling effect. Since the dawn of time, they have been used for anaesthesia for all kinds of pains, ailments and for calming down, for example, crying children or over-excited individuals (Szumowicz 2011: 7).

The use of plants with psychoactive properties and decoctions prepared with their use is a constant practice of many communities, confirmed by numerous archaeological studies conducted in almost every place on earth.

## Myths and beliefs

The magical perception of the world, weather phenomena or any events that were difficult to explain in a rational way, was a consequence of observation and, at the same time, interpretation of the environment. Living in symbiosis with nature, all nonlogical phenomena were explained as the result of the activities of secret forces which, although not fully understood, were deeply respected and they filled the sacred sphere with mysticism (Tzeferakos, Douzenis 2014: 1). Myths derived from prehistory concerned, above all, the origin of the world and the observed meteorological phenomena, but also fertility, life after death, etc. (Behjati-Ardakani, Akhondi, Mahmoodzadeh, Hosseini 2016: 3).

A review of the available sources and artefacts reveals that plants with psychoactive effects played an important role in explaining many phenomena, and at the same time influenced the creation of beliefs about the properties attributed to them, for example predicting the future and the possibility of restoring health (Carod-Artal 2015: 47; Nemu 2019: 124). In ancient Greece, the use of psychoactive plants was a common phenomenon, and these substances, which are reflected in myths, were used, among other applications, to impose one's will on those who were under their influence. This contributed, apart from other things, to the creation of the concept of magic elixirs (Laios, Lytsikas-Sarlis, Manes, Kontaxaki, Karamanou, Androutsos 2019: 63). The ancient Greeks connected the poppy (*Papaver somniferum*) with fertility and abundance. The goddess Demeter and her daughter Persephone were associated with this plant (Carod-Artal 2013: 33). Descriptions of the use of plants with intoxicating potential can be found in many Greek myths, for instance, in the myth about Perseus and Medusa, in the myth about Jason, in which the priestess Medea anointed the traveller with a decoction which was supposed to protect him from a fire-breathing bull, as well as in the myth about Odysseus who was given magic herbs by Hermes as an antidote to the poison of the sorceress Circe. Similar references can be found in many other ancient Greek stories (Ruck 2018: 821–851).

In the Vedas, the sacred books of Hinduism, there are numerous descriptions of the use of psychoactive substances. Hindu deities are often depicted with a chalice of decoction containing soma - a drink made from plants that induced mystical visions (Ruck 2018: 823–826). The representation of the use of psychoactive plants can also be found in the Zoroastrian Rigvedas. The authors of these sacred books state that the gods were mortals upon coming to earth, and they were made immortal by a drink made from Chinese ephedra (*Ephedra sini-*

ca). Practices of serving this drink were used, inter alia, during attempts to raise the dead, and the custom of giving a newborn child a few drops of an ephedrine decoction has survived in Iran till modern times (Mahdihassan 1987: 108).

In Costa Rica, Cabecar Indians believed that smoking tobacco during ritual ceremonies promoted communication with supernatural beings and was especially helpful in calming their anger (Arce, Cerdas 2019: 182).

In the pre-Columbian Inca civilization, the coca bush and its leaves were considered a gift from the gods and had a magical, religious and ritualistic meaning for the Indians. Inca mythology tells a story in which the Inca ancestors turned to the God of Sun for advice after their lands had been occupied by white strangers. In response, they were told to trust the coca leaves, which would feed and heal the Incas, and turn the white invaders into beasts and idiots in the future (Kamieński 2011: 47).

In numerous mythologies of ancient cultures, one can encounter stories relating to the use of hallucinogenic mushroom species, *Amanita muscaria* and *Psilocybe*, for ritual purposes. References to their use are found in the myths of Eurasian peoples in Siberia, Mongolia, Tibet, India, China, Greece, as well as on the African continent, for example in Egypt and Algeria. The Hindu and Zoroastrian sacred texts also make reference to several different types of soma (or haoma) considered to be the hallucinogenic nectar of immortality (Ruck 2018: 823–825; Winkelman 2019: 48–49).

## Rituals

Archaeological and anthropological research conducted in various parts of the globe confirm the use of psychoactive toxins obtained from both the fauna and flora for ritual purposes (Sayin 2014: 277–282). They were used, among other things, to establish contacts with the spirits, the gods or with the souls of ancestors, and also to obtain advice on individual or collective matters, to achieve enlightenment or to obtain magical powers (Sayin 2014: 277). Plants with such properties, but also the secretions of a number of species representing the fauna that have similar effect, were also used during rituals when adepts of the arcane arts were admitted to the group of shamans, and likewise during all other initiation ceremonies. At that time, they were used by apprentices to discover the unknown areas of the subconscious mind so that in the future they could fully serve the community which a given individual affiliated with

(Sayin 2014: 277–285; Winkelman 2019: 56). In hunter-gatherer societies, hunters used hallucinogens during rituals to predict the future and the location of the animals they hunted (de Rios, Grob 2010: 1158).

Around 9,000 BC, Finno-Ugric tribes used the fly agaric mushroom (*Amanita muscaria*) in their religious rites. The interest in the properties of the fungus probably resulted from the observation of the behaviour of reindeer, and their use could have given rise to both ritual and recreational use (Hajicek-Dobberstein 1995: 100). Ethnohistorical research conducted in Eurasia confirms that the use of hallucinogenic mushrooms was an important element of shamanic rituals. Shamans of various groups, including Yukagir, Kamchadal, Inuit, Koryak, and Chukchi ate hallucinogenic mushrooms, and also drank the urine of intoxicated reindeer whose organisms processed hallucinogenic mushroom toxins, multiplying their narcotic potential (Winkelman 2019: 47–48).

In ancient Greece, opium was worshiped by the Minoans, who considered it to be a symbol of immortality, and it was probably used for intoxication during rituals in honour of the goddess of fertility. Ancient Egyptians consumed opium during rites in honour of the god Osiris, while in ancient Greece opium was used for intoxication during the Orphic Mysteries (Babel 2009b: 26). The Eleusinian Mysteries, in which intoxicants were taken, used to be one of the most famous Greek religious rites. They were celebrated for almost two millennia, from 1500 BC until the end of the 4th century (Carod-Artal 2013: 35–36). During the performed rituals, one of the consumed drinks was made from plants infected with ergot – a parasitic fungus containing alkaloids that cause hallucinations (Sessa 2008: 5).

On the territory of modern Peru, in the Mochica culture, which developed over two thousand years ago, plant hallucinogens were used to achieve contact with supernatural spheres and to magically manipulate secret forces (de Rios 1977: 189). In the Amazon, the hallucinogenic ayahuasca, made from the decoction of the *Banisteriopsis caapi* vine and a plant known as chacruna (*Psychotria viridis*), was served during rites of passage. Its use and sensations monitored by the elders during the rituals were considered to be experiences preparing the young to fulfil adult roles (de Rios, Grob 2010: 1159–1160).

In order to establish a relationship with the gods, the shamans of the Olmec, Toltec, Mazatec, Aztec and Maya tribes, who lived in Central and South America, used peyote cacti (*Lophophora williamsii*) containing the hallucinogenic mescaline and psychoactive mushrooms from the *Psilocybe cubensis* family (Carod-Artal 2015: 45–47). For the same purpose, the inhabitants of the islands of Samoa, Fiji, Tonga, used a decoc-

tion of the Kava plant (*Piper methysticum*) (Gautz, Kaufusi, Jackson, Bittenbender, Tang 2006: 6147). The Moche and Chavin Indians used the psychedelic properties of the San Pedro cactus (*Trichocereus pachanoi*) during their rituals (Proulx 1999: 59–77).

Of the 1,200 Sanskrit texts that form the foundations of Hinduism, about one hundred describe a mysterious substance called Soma, the active ingredient of which may have been the hallucinogenic toadstool (Sessa 2008: 5). Marc-Antoine Crocq maintains that the mushroom was an ingredient of both Soma, the sacred brew described in the Old Indian Rigveda, and Haoma, the ritual brew mentioned in Avesta, the sacred book of the Zoroastrians (Crocq 2007: 356). Other authors believe that ephedrine was the basic ingredient of the mysterious Soma or Haoma, used initially as a drink against fatigue, and over time as a panacea, a rejuvenating drink, and finally as a potion of longevity, immortality and resurrection (Mahdihassan 1987: 105–108).

The followers of the Bwiti cult in Gabon consumed an infusion of bark chips of the *Tabernanthe iboga* plant containing the ibogaine alkaloid. The purpose of the common ritual use of the properties of the brew was, apart from other aspects, deepening the bonds through shared mystical experiences and contact with the spirits of ancestors (Alpert, Lotsof, Kaplan 2008: 9–10). Harmel (*Peganum harmala L.*) played an important role in the Zoroastrian rites, the seeds and other parts of the plant were burned to produce thick, intoxicating smoke (Apostolico, Aliberti, Caputo, De Feo, Fratianni, Nazzaro, Souza, Khadhr 2016: 1).

In many shamanic religions of the Old World in Europe, Asia and Africa, it was also believed that psychoactive plants had a divine healing power (Alrashedy, Molina 2016: 2) and could also protect against diseases and evil spirits that these diseases could bring. In Romania, poppy seeds were used to protect houses from vampires; they were scattered in the corners of the house and around it or around a suspicious burial place, because it was believed that collecting hypnotic poppy seeds would absorb the evil spirit after it had left the resting place, before it managed to set off on a blood hunt (Krysiak 2010: 12–13). Similar practices were adapted in the Bug River region, where in Orthodox settlements, in order to scare away evil spirits, wreaths were prepared with poppy heads woven in (Angielczyk 2010: 64).

On the territory of Poland, since pre-Slavic times, cannabis played an important role in magic treatments. The religious use resulted from the hallucinogenic properties of the plant, used both in rituals and for medicinal purposes (Arabas 1990: 329). Herodotus noted his observations about the use of cannabis by the Scythians during the burial rites.

The ancient historian noted an unusual change of mood in Scythian warriors who, participating in a mourning ritual, *howled with happiness* while inhaling cannabis smoke (Arata 2004: 42).

Psychoactive substances were also used in rituals of love magic. In the Bug River region, boiled poppy seeds were sprinkled on dishes to seduce a partner (Angielczyk 2010: 59). The infusion of lovage, which was popular in the lands of the Slavs and used to make a chosen person fall in love or to stimulate love games, was also used in ancient Rome (Syroka 2011: 134). Romanian herbalists used numerous plants with intoxicating properties, both for medicinal and ritual purposes, for instance jimsonweed, deadly nightshade or henbane (Gorun, Curcă, Hostiuc, Buda 2011: 73–74).

## Rock art

Researchers of the history of human communities describe numerous discoveries of rock art from the Neolithic era, confirming the knowledge of ancient peoples of the psychoactive properties of plants. Some of the oldest archaeological records confirm the use of hallucinogenic mushrooms in the areas of modern Algeria. Images of such plants have been discovered in prehistoric rock paintings dating between 6000 and 4500 BC in Tassili n'Ajjer and in other mountainous terrains of the Sahara Desert. Petroglyphs found at these sites show mushroom-headed figures moving in a ritual dance. According to the researchers, a convincing proof of the use of the psychoactive properties of these plants by former inhabitants of rock shelters are the painted broken lines connecting the mushrooms with the heads of the dancing figures, suggesting the effect of mushrooms on the human mind (Samorini 2019: 70; Winkelman 2019: 49–50). Petroglyphs, which date back around 10,000 years and depict the use of psychoactive mushrooms, have also been discovered at the Selva Pascuala rock shelter in south-eastern Spain (Ruck 2018: 829). Rock paintings, on which psychoactive plants have been identified, are also found in Chad and Егyпт (Гродзинська, Молдаван, Сирчін 2010: 18–28), in Libyan Tadrart Acacus, Spanish Pla de Petracos (from the 5th millennium BC), and in the Italian Valcamonica (Sikora 1999: 11). Images of hallucinogenic mushrooms and people with mushroom-shaped heads (probably toadstools) have also been discovered on numerous rock formations in Siberia, Mongolia, Papua New Guinea, and China (Winkelman 2019: 47). Petroglyphs depicting the use of psilocybin mushrooms have been discovered in rock art in the Kim-

berly region of Australia, as well as in the Kolo region of eastern Tanzania, suggest a connection between the two cultures. These assumptions are based on the similarities of the shamanic rituals in rock drawings in both regions (Nichols 2016: 268).

## Burials and sepulchral art

Archaeological research conducted at the ancient burial sites of the deceased confirms the frequent representation of psychoactive substances in the cultures being studied. Some of the oldest examples of such findings come from the Neanderthal burial site at the Shanidar Cave in northern Iraq, where pollen of the stimulant *Ephedra* plant was found around 50,000 BC (Merlin 2003: 300). The evidence of the use of psychoactive plants by the Neolithic people includes the discovery of *Areca catechu* seeds (a plant known as the psychoactive betel) in the Spirit Cave in northwest Thailand among plant debris dating between 7,000 and 5,500 BC, and the discovery of a skeleton dating back to almost three thousand years BC at Duyong Cave in the Philippines, where artefacts confirming the use of betel were found (Sneider 2005: 8). Similar finds have been discovered in the Chauvet Cave in southern France, where the remains of psychoactive mushrooms were found (Ruck 2018: 829). Researchers of South American Indians confirm the presence of cocaine metabolites in the discovered mummies, indicating the use of coca during their lifetime. They also assume that the healing and hallucinogenic properties of the cactus *Lophophora Williamsii* (the peyote) have been known to indigenous people for approximately 5,700 years (El-Seedi, De Smet, Beck, Possnert, Bruhn 2005: 238–242; Nichols 2016: 268). In another rock shelter, in the Azapa Valley in Chile, in the remains of mummies dating back to around 3,000 years, researchers also identified metabolites of psychoactive plants and animal secretions probably used for ritual purposes (Miller, Albarracin-Jordan, Moore, Capriles 2019: 11209).

In the Altai Mountains, at Pazyryk, in the kurgans of Scythian rulers, vessels for smoking hashish were found, dating between 5th and 2nd century BC (Vetulani 2001: 203). In Costa Rica, most evidence of the use of psychoactive plants and fungi has also been found at prehistoric burial sites (Arce, Cerdas 2019: 191). In western China, traces of the ritualistic use of cannabis, dating back to the first millennium BC, have been discovered in several graves. In one of the burial sites, among discovered things there was a shroud consisting of a dozen or so different



herbs, including hemp, and in another, next to the feet and the head of the deceased, there was a leather basket and a wooden bowl filled with hemp stems, seeds, leaves and shoots (Ren, Tang, Wu, Spengler, Jiang, Yang, Boivin 2019: 5).

Implications suggesting the use of plants with psychoactive properties can also be found in sepulchral art (Adamczyk 2009: 167). The tomb frescoes of the rulers of Egypt depict the ritual use of the Egyptian water lily (*Nymphaea caerulea*) which contains psychoactive alkaloids. This plant is often represented during magical and religious rituals. It is also visible, on the bas-relief of Tutankhamun's tomb, on which the young pharaoh holds a large *Nymphaea* in his hand, and on the frescoes from the tomb of Nebamun at Luxor. Depictions of these plants have also been noticed on the jewellery of the 18th dynasty (Emboden 1981: 60). Recurring themes in Egyptian and Mayan funerary art suggest that water lily was used to achieve mystical ecstasy among the priestly castes of the society (Emboden 1981: 40; Bertol, Fineschi, Karch, Mari, Riezzo 2004: 84–85).

## Artefacts

The use of mood-altering agents is also represented in the art of craftsmanship. Stone figurines in the shape of hallucinogenic mushrooms have been found in Guatemala, Mexico, El Salvador and Belize, dating back about 3,000 years (Hoffmann 2014: 14). In the caves and rock shelters in southwest Texas, as well as on the territory of northern Mexico, ceramic containers have been found with the plant remains of mescal beans, from which the hallucinogenic mescaline is obtained. Some findings suggest the presence of a prehistoric cult that may have been associated with the ritual use of this plant (Campbell 1958: 157–159). In the Mexican state of Coahuila and in Shumla Cave, Texas, the remains of peyote used for rituals have been found, together with other shamanic artefacts, including rattles and tubes containing incense, which were more than 5,000 years old (Carod-Artal 2015: 46). Paintings depicting the sacred toad have been discovered on ceremonial vessels used, among others, by the Maya. It has been agreed that shamans added scraps of the skin of the *Bufo* toad, containing the hallucinogenic bufotenine, in order to increase the potency of alcoholic beverages. The dried skin of these amphibians has been used to induce trance states since the Olmec era (approx. 2,000 BC) (Carod-Artal 2015: 48; Sayin 2014: 282–284). Numerous artefacts have been found in Costa Rica suggesting consuming

hallucinogenic mushrooms and smoking psychoactive plants; both the remains of incinerated herbs and the objects used to smoke them were discovered, and also mushroom-shaped figurines and golden pendants decorated with mushroom motifs. These finds date back from the period between the first millennium BC and the first millennium AD (Arce, Cerdas, 2019: 182–183). The use of psychoactive plants is also evidenced by numerous finds from four to five thousand years BC confirming the use of poppy by cave communities on the territory of modern France, Spain, Germany and Hungary (Bernáth 1998: 1).

## Towards the profane

Intoxicating plants also aroused interest because of their healing properties, observed after their consumption, during ancient explorations of the fauna and flora. Information obtained during the research on the Ebers papyrus, dating back about 4,000 years, confirms the medical use of plants with psychoactive properties in ancient Egypt. Poppy was used for the treatment of insomnia, headache, for anaesthesia during invasive surgical procedures and for alleviating breathing difficulties, and hashish, imported from outside Egypt and burned in the form of incense, was supposed to alleviate all kinds of pain (Aboelsoud 2011: 82–86).

In ancient Greece, cannabis was used to treat, inter alia, gonorrhoea and epistaxis (Arata 2004: 40–42). Greeks were also familiar with the plants from the *Solanaceae* family with sleep enhancing and hallucinogenic properties: deadly nightshade (*Atropa beladonna*), jimsonweed (*Datura stramonium*) and henbane (*Hyoscyamus niger*) (Fornaro, Clementi, Fornaro 2009: 7). References to the medical use of opium in ancient Assyria, during the reign of King Ashurbanipal, date back almost three thousand years. Opium was a special drug commonly used in Sumerian, Greek, Roman, Persian, Hindu and Arabic medicine (Plotkin 2014: 51). The investigation into the healing properties of the poppy was carried out, among others, by Hippocrates (5th-4th century BC), Diagoras (c. 4th century BC), Dioscorides (1st century AD) and Nicander of Colophon (3rd-2nd century BC). In the first century AD, Cornelius Celsus in his work *De Medicina* and Dioscorides of Anazarbus in *De Materia Medica* confirmed the possibility of the medical use of poppy juice (Scarborough 1998: 4–5).

The priests and healers of the Indian tribes inhabiting America recommended the use of the leaves of the coca shrub to strengthen teeth or gums and for abdominal pain. Infusions of this plant were recommended

to asthmatics, and an ointment made of the leaves was used to soothe all kinds of wounds (Marciniak 2009: 154). Raul Marino and Marco Gonzales-Portillo presume that in pre-Columbian times, Indians in Peru used psychoactive herbal preparations for anaesthesia during skull trepanations (Marino, Gonzales-Portillo 2000: 947). In China, five thousand years ago, Emperor Shen Nung, who was considered the father of local medicine, encouraged his subjects to use cannabis as an antidote to all emerging ailments (Sneider 2005: 16).

The references of the use of the stimulating khat plant (*Catha edulis*) for the treatment of gastric ailments by the Yemenis date back to the turn of the 11<sup>th</sup> century (Dhaifalah, Šantavý 2004: 11). Kava-kava (*Piper methysticum*), a plant which has mild stimulating effects, has been used in the folk medicine of the inhabitants of the southern Pacific islands for centuries (Amorim, Diniz, Araújo, Pita, Dantas, Ramalho, Xavier, Palomaro, Júnior 2007: 448–454). The Persian physician Avicenna, who lived at the turn of the 11th century, in his work *The Canon of Medicine* classified opium poppy, hemlock, henbane and deadly nightshade, plants with strong anaesthetic and hallucinogenic properties, to the group of painkillers (Smith 1980: 369). The achievement of the Bernardine monks of the Monte Casino monastery, dating back almost a thousand years, is considered to be an extraordinary advance in anaesthesiology. Using a complex mixture of plants with psychoactive properties, they prepared a decoction, which was used to soak sponges to put a patient to sleep or anaesthetize before invasive medical procedures (Prokopowicz 2007: 71).

The stimulating alkaloids of some plants were also applied in circumstances requiring superhuman strength, extraordinary courage or contempt for death. In ancient Greece, in the 3<sup>rd</sup> century BC, Olympic participants used stimulants to increase physical fitness. Medieval knights acted in a similar way, stimulating potions allowed them to maintain vigour, necessary during a fight (Verroken 1996: 18). Nubian warriors dipped their arrowheads in the decoction of hallucinogenic deadly nightshade (*Atropa belladonna*), which made their weapons powerful even if the enemy was slightly injured (Plotkin 2014: 55). Berserkers, the gallant Norse warriors (8<sup>th</sup> to 10<sup>th</sup> century) owed their vigour, lack of fear and unrestrained battle fury to the properties of the decoction of the fly agaric, which they consumed just before entering the battle (Jay 2012: 17). Members of the cult of fanatical killers – the Assassins (10<sup>th</sup> to 12<sup>th</sup> century), became intoxicated with both cannabis and the opium poppy (Nahas 1982: 815–816).

The leaves of the coca shrub were grown in Peru and Ecuador as early as 3,000 years BC. The Incas controlled both their cultivation and

distribution, reserving the plant only to the upper classes and to the workers; in this case, the only reason was to gain more benefit from their labour. The purpose of consuming coca leaves was to suppress hunger and to provide strength to survive in difficult mountain conditions (Freye, Levy 2009: 11).

Ancient Olympic athletes used a mixture containing wine, fly agaric and various stimulating plants to increase the body's efficiency in order to improve speed, endurance, and also to eliminate pain. Despite the fact that these practices were considered unethical and the athletes risked the punishment of being sold into slavery if cheating was detected, sources confirm their use at ancient games as early as in the 3<sup>rd</sup> century BC (Reardon, Creado 2014: 96). The gladiators of the Roman Colosseum used the psychoactive stimulants to overcome fatigue and numb wounds received in combat. For the same reasons African warriors used stimulating plants, including *Catha edulis* and *Cola acuminata*, and similarly, Australian Aborigines or inhabitants of other regions of the world (Yessalis, Bahrke 2002: 45).

Since time immemorial, people have also tried to improve their sexual performance. These needs were met by properly used psychoactive gifts of nature (Singh, Singh, Jeyabalan, Ali 2012: 43). The Greeks were well aware of the intoxicating properties of cannabis, and the states caused by the use of drugs and sexual orgies were supposed to make them similar to the gods and bring them closer to the world of pleasures available to the gods (Arata 2004: 40-42). To intensify sexual arousal, among other things, potions produced from cantharidin were used – a substance found in the organisms of some beetles, one which may cause powerful hallucinations when used in high doses (Moed, Shwayder, Wu Chang 2001: 1357–1360). Intense experiences and visual hallucinations also occur after consuming a decoction of the *Tabernathe iboga* plant, which is also considered to be an aphrodisiac (Graziano, Orsolini, Rotolo, Tittarelli, Schifano, Pichini 2017: 756).

Toxic plant decoctions were also used for less glorious purposes. Experiments with side effects observed after consumption of plants with such potential led to the use of their specific properties as secret, formidable weapons. Mohammedans were attacked with poisoned arrows, when they crossed the borders of India in 700 AD (Herbert, Jagiełło-Wójtowicz 2009: 48). The narcotic liqueur made from the fruit of deadly nightshade, sent insidiously to the Danes by Duncan, prince of the Scots, who was waging a war with them, tipped the scales of victory by making the opponents fall into a strong coma (Prokopowicz 2007: 57).

In the library of Ashurbanipal, king of Assyria, which was discovered during excavations in Nineveh, evidence was found that the Assyrians used extracts from poisonous plants in the 7<sup>th</sup> century BC. These properties of plants were also known to the Chinese, which is confirmed by the notes from the Pen-King herbarium from around 2700 BC (Herbert, Jagiełło-Wójtowicz 2009: 48). In ancient Egypt and Greece, people condemned to death were given poisonous plant decoctions to drink. The same fate befell *Socrates*, among others, who was given a cup of hemlock (*Conium maculatum L.*) decoction to drink (Hotti, Rischer 2017: 15). This poison was also used for assassination purposes, to eliminate inconvenient people, opponents, rivals or competitors for the throne. Out of over eighty Roman emperors, less than thirty died a natural death, and many were killed by drug decoctions (Prokopowicz 2007: 57). Roman poisoner Locusta, who was in the service of Nero, used henbane and psychoactive mushrooms among other ingredients (Herbert, Jagiełło-Wójtowicz 2009: 48). Psychoactive plants were also cultivated by the king of Pergamon, Attalus III Philometor, who ruled in the years 163 to 133 BC. He sent the mixtures he created to all people who were inconvenient for him. The Egyptian queen Cleopatra VII (69–30 BC) had similar skills. She gained knowledge on the subject directly from the initiated, including the poisoner Canidia, mentioned by Horatius in the work *Epodon Liber* (Ożarowski 2006: 30).

Another dark evidence of the use of toxic plants are descriptions of God's judgments, called trials by ordeal, known both in Antiquity and the Middle Ages. In the course of this specific ritual, people accused of committing crimes were given toxic plants for consumption. It was assumed that if a man is not guilty, Almighty God would save them from death. It was not until 1215 that the Catholic Church prohibited this practice (Ożarowski 2006: 30). Similar practices took place among African tribes; during such ordeals for determination of guilt, the survival after drinking the poisonous decoction was proof of innocence of the convict (Prokopowicz 2007: 57).

The strong concentration of psychoactive drugs was also used for the first legal acts of euthanasia. People living in the Greek colony of Marseilles, after reaching the age of sixty, were entitled to take their own lives with the help of the drugs. Moreover, every citizen of ancient Greece, after presenting convincing evidence of the need to leave this world, had the opportunity to receive specially prepared poison from the representatives of the authorities (Herbert, Jagiełło-Wójtowicz 2009: 48). The ceremonial feasts on Keos, during which the elderly were treated with strong doses of opium to transfer them to Hades, were described by

*Heraklides of Pontus* in the second century BC. The author described these practices as a custom that had been maintained on this Greek island for many years (Bąbel 2009b: 26).

Among the tribes of America, before the ships of Christopher Columbus reached its shores, drugs were used to intoxicate people who were sacrificed to the deities (Jędrzejko, Roszczyk 2010: 95). The Tung sect, worshipping the goddess Kali, had similar practices and used the seeds of the hallucinogenic jimsonweed to daze those sacrificed to the bloody goddess. This plant was also used in a similar way by Indians who once lived in what is now Bogota. They added the drug to beverages to numb the wives of deceased warriors, who were waiting to be burned alive with their husbands' corpses (Kmieć 2007: 136).

The dynamics of diffusion of the use of psychoactive plants from the sacred to the profane was observed along with geographical discoveries. One of the earliest accounts of the recreational use of cannabis are excerpts from the trip diary to the Bengal area of an English merchant and sailor, Thomas Bowrey, in the 1770s. The French traveller Jean Chardin, in his accounts of his expedition to Persia in 1711, also pointed out that in local cafes, men treated themselves with a hemp decoction called *bhang*, in which they sought oblivion and relief (Davenport-Hines 2006: 19–24). Coca leaves, which are now an essential raw material for cocaine production, began to be a sought-after commodity as early as during the journeys of Spanish conquistadors to Peru. It was at that time that the effects of this plant began to be used to increase the productivity of slaves working in difficult conditions in the local silver mines. The leaves of the plant were also used by sailors during long and difficult expeditions as an agent increasing endurance. Opium, on the other hand, was a recognized painkiller, but the accounts of eighteenth-century travellers to the countries of the Near and Middle East more and more often included information about opiumists – people who used the drug for non-medical purposes. Even then, the destructive effects of the drug were noticed, and people using it were considered morally corrupt (Davenport-Hines 2006: 46–66). By the beginning of the 19<sup>th</sup> century, the risks associated with opium use were widely known. Although drug addicts were not yet recognised as a separate part of a given community, information about such groups appeared in the reports from Islamic countries and stimulated the Western imagination. The proliferation of information about the devastating effects of using mood-altering substances, over time began to raise concerns about self-destruction of communities where these behaviours were noticed more and more frequently. By the end of the 19th century, the differences were noted be-

tween those who used drugs to increase their productivity and those who used them for pleasure (Davenport-Hines 2006: 223–234).

## Summary

The sacred use of plants with psychoactive potential can also be encountered today. In Yemen, the Muslim, Catholic and Jewish populations reach for the strongly stimulating khat plant (*Catha edulis*); some Muslims believe that chewing the leaves of the plant facilitates contact with Allah (Wabe 2011: 138). The Mazatec shamans of the Mexican state of Oaxaca still use the properties of the *Salvia divinorum* plant, commonly known as the diviner's sage, for both medicinal and religious purposes (Schneider, Ardenghi 2010: 358). Indian tribes inhabiting the Andes, for example Quechua and Aymara people, benefit from the stimulating properties of coca leaves used, for instance, when performing ritual dances (Hugh-Jones 1995: 51). American Indians also mystically worship the peyote cactus, whose properties bring together the messianic movement formed as a part of the cult of this hallucinogenic plant (Sherat 1995: 15). The inhabitants of Papua New Guinea use during rituals, among others, hemp (*Cannabis sativa*) and kratom (*Mitragyna speciosa*) (Thomas 2000: 33–59). The use of stimulating khat is still an important part of the culture of the inhabitants of Yemen (El-Menyar, Mekkodathil, Al-Thani, Al-Motarreb 2015: 78). Even in the twentieth century, among the Yazidis, marginalized and persecuted Kurds, indigenous people of northern Mesopotamia, the practice of Zoroastrian Mithraism was observed, which used the hallucinogenic properties of the toadstool (Ruck 2018: 825).

There are still several religious communities in Brazil for which the use of Ayahuasca brew is a sacrament, which is taken during public rituals. Congregations celebrating Ayahuasca also exist in Germany, Australia, Canada, France, the Netherlands, Japan, Spain, and the United States (Riba, Rodríguez-Fornells, Urbano, Morte, Antonijoan, Montero, Callaway, Barbanoj 2001: 85–86; Tupper 2008: 297–303). In the Ethiopian Coptic Church, cannabis is considered to be a symbol of Jesus, and its use is recognized by the members of the church as a sacrament (Newton 2017: 22).

As in the distant past, the reasons for giving plants a religious significance, or even the existence of a cult of a certain plant are their hallucinogenic properties. However, globalization and all the changes taking place in the modern world, the flow of information or the possibility of

traversing the globe have significantly influenced the extension of knowledge about plants with psychoactive properties and more frequent use of these gifts of nature in absolutely different circumstances. The same effects that are used among the Amazon tribes in sacral and medical circumstances, are currently most often used by enthusiasts of drug experiences for hedonistic purposes. The desacralisation of the use of psychoactive substances, their use for recreational purposes, without the previously observed restrictions set by cultural norms, has become a fact.

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## Reprezentacje używania środków psychoaktywnych w wierzeniach i obrzędach starożytnych społeczności: między sacrum a profanum

### Streszczenie

Używanie przez społeczności pierwotne roślin o psychoaktywnych właściwościach zostało potwierdzone w licznych badaniach archeologicznych prowadzonych w niemal każdym miejscu na ziemi. Wiele plemion korzystało z charakterystycznych dla siebie psychoaktywnych specyfików, a zdaniem badaczy ich używanie sprzyjało integracji członków społeczności, ułatwiało egzystencję na zajmowanym obszarze i mogło mieć istotne znaczenie dla jej przetrwania. Wokół psychoaktywnych roślin i toksycznych wydzielin niektórych przedstawicieli świata fauny wytworzył się konglomerat mitów, kultów i właściwości im przypisywanych. W kulturze niematerialnej i materialnej pozostały trwałe ślady ich obecności. Celem niniejszego artykułu jest przedstawienie reprezentacji środków psychoaktywnych w wierzeniach pradawnych społeczności, ich występowanie w mitach, w sztuce naskalnej i sepulkralnej, omówienie przyczyn ich używania w trakcie rytuałów. Przytoczono również hipotezy spekulatywne na temat wpływu psychoaktywnych roślin na kulturę starożytną, omówiono zasadnicze przyczyny dyfuzji używania roślin psychoaktywnych ze sfery sacrum do profanum.

**Słowa kluczowe:** psychoaktywne rośliny, wierzenia, narkotyki, sacrum