Exploring Cannabis and Opium in Post-Medieval Portugal and Related Nations Through Archaeological and Literary Evidence

Raziskovanje konoplje in opija v novoveški Portugalski ter sorodnih državah na podlagi arheoloških in literarnih virov

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Abstract
This paper examines cannabis (*Cannabis* sp.) and opium (*Papaver somniferum*) in post-medieval Europe, with a focus on Portugal and regions shaped by global trade and colonial networks. Covering the sixteenth–nineteenth centuries, it synthesizes historical texts such as medical treatises, travel narratives, and ethnographic accounts, alongside fragmentary material evidence to trace how these substances were perceived, used, and culturally embedded. The sources suggest diverse roles, from therapeutic and recreational applications to broader symbolic meanings within early modern life. While the evidence is dispersed and often partial, the study contributes to a growing historiography of psychoactive substances in Europe. By foregrounding Portuguese examples within wider intellectual and cultural currents, it advances inquiry into how cannabis and opium intersected with evolving notions of the body, health, and consciousness in the early modern period.
Keywords: cannabis, opium, Portugal, 16th–19th centuries, consuming habits.

Izvleček
Članek obravnava izbrane vidike konoplje (*Cannabis* sp.) in opija (*Papaver somniferum*) v postsrednjeveških evropskih kontekstih, s posebnim poudarkom na regijah, kot je Portugalska, ki so jih oblikovali vplivi globalne trgovine in kolonialnih povezav. Za obdobje od 16. do 19. stoletja se prispevek opira na arheološke sledi ter književne in medicinske vire, da bi raziskal, kako so bile te snovi dojemane, uporabljene in kulturno umeščene.
Konoplja in opij se pojavljata v zgodovinskih besedilih – od medicinskih traktatov in potopisov do etnografskih opazovanj – ob razpršenih materialnih dokazih. Ti viri omogočajo vpogled v raznolike vloge, ki so jih te snovi igrale v zgodnjem novem veku, vključno z zdravljenjem, doseganjem spremenjenih stanj zavesti ter s simbolnimi pomeni. Čeprav dokazi ostajajo fragmentarni in številna vprašanja odprta, prispevek dopolnjuje razumevanje zgodovine psihoaktivnih snovi v Evropi. Z vključevanjem portugalskih primerov v širši kulturni in intelektualni okvir odpira pot nadaljnjim raziskavam o odnosu med telesom, zdravjem in zavestjo v zgodovinskem času.
Ključne besede: konoplja, opij, Portugalska, 16.–19. stoletje, potrošniške navade.

Introduction

Although some Europeans had already encountered tobacco smoking as early as 1492 (Columbus 1893, 71), this habit, whether through cigarettes or pipes, is assumed to have gradually reached Europe during the sixteenth century. By the second half of the century, news of tobacco spread, depicted as a valuable panacea. Known as *herva sancta* (holy herb) in Portugal during the early periods of contact, it quickly became an addiction for many Europeans across all social classes in the second half of the seventeenth century, assuming a prominent role in the eighteenth century 'consumer revolution'

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associated with 'the way in which Western societies, since the sixteenth century, have incorporated the full diversity of new plant products made available by the colonial experience' (Sherratt 2007, 13).

Nonetheless, in Old Europe, other substances with psychoactive properties were already in circulation (Goodman 2007, 128–129), some of which are occasionally linked to the archaeological identification of post-medieval clay pipes. In the Near East, the claims of smoking opiates or cannabis have been verified since the 1990s, which vindicates 'the 18th to 20th-century typological parallels and helps to refute the persistent opinions among some Israeli and other archaeologists that pipes were used to smoke *narcotica* [other than tobacco] at an earlier medieval date' (Simpson 1994, 14, emphasis added).

This paper offers a preliminary exploration of how cannabis (*Cannabis* sp.) and opium (*Papaver somniferum*) were present, perceived, and discussed in post-medieval Portugal, roughly between the sixteenth and nineteenth centuries. Drawing from both archaeological references and literary or medical texts, it attempts to shed light on how these substances may have figured in everyday practices, medical applications, and broader cultural imaginaries.

Drawing on archaeological and literary evidence, this study focuses on selected traces, material and textual, that allude to the varied roles played by cannabis and opium in Portuguese settings, shaped in part by the wider cultural and economic networks in which Portugal was entangled. The goal is not to provide definitive conclusions but to contribute to the ongoing dialogue on the place of psychoactive substances in early modern European societies and to lay the groundwork for future research.

Smoking Habits During the Early Modern Period in Europe

Although two 'possible smoking pipes'[1] have been uncovered at the prehistoric Perdigões

Figure 1: Detail o f the *Madrid Codex,* c. 1250–1450 (FAMSI: Foundation for the Advancement of Mesoamerican Studies, Inc.: 86)

Archaeological Complex (Valera 2018, 106), the first clear mentions and illustrations of smoking pipes in European sources appear only by the mid-sixteenth century. Between 1527 and 1561, Friar Bartolomé de las Casas described the use of 'half-burned wood', which he compared to muskets and Gonzalo Fernández de Oviedo between 1535 and 1557 noted a *Y* shaped pipe called *tabaco* applied by the natives of Hispaniola. Similarly, Friar Bernardino de Sahagún, writing between 1540 and 1576, referred to a *caña de humo* (smoking cane) and depicted its ceremonial use in Aztec rituals.

After the royal introduction of snuff tobacco by Jean Nicot in the 1560s, following his period as ambassador to the Portuguese court, Nicolás Monardes wrote a widely reprinted

1 Unless otherwise noted, all translations are those of the author.

and translated treatise on medicinal substances from the West Indies. In the English translation, among the medical properties of various plants, it is suggested that the smoke of tobacco (*Nicotiana tabacum*) be taken 'at your mouth through a tube or cane' (Monardes 1580, fol. 44v).

In many Portuguese and Mediterranean urban contexts, it is generally believed that tobacco, initially regarded as an ornamental plant, was first consumed by hand-rolled cigarettes, chewed, or snuffed through the nose. Clay smoking pipes began to appear more consistently only in the early seventeenth century and became common archaeological finds throughout the eighteenth century. In Portugal, particularly in the Lisbon region, a large number of Dutch and English clay smoking pipes have been identified, occasionally accompanied by local, regional, or Ottoman productions (Silva and Teixeira 2022; Sousa and Casimiro 2024, 123).

In Spain, where archaeological research has covered a broader territory, extensive excavations in Barcelona have led to the publication of a significant assemblage. The first study identified over 8,000 pipe fragments, enabling the identification of 96 workshops located in Gouda, Bristol, and London (Beltrán de Heredia and Miró 2008). A later survey documented 128 artefacts from 28 separate excavation sites, nearly half of which were produced in Catalonia, chiefly in Barcelona, but also in Minorca (Balearic Islands) and Palamós (Girona). The remainder mostly originated from the eastern Mediterranean (Beltrán de Heredia et al. 2012, 111).

Prior to the publication of the influential London pipe typologies (Atkinson and Oswald 1969) and Adrian Oswald's *Clay Pipes for the Archaeologist* (1975) – papers that defined the 1970s as a formative period for historical archaeology (Cessford 2001, 84) – 'two small plaster [sic] pipes' had already been recorded in Lisbon (Moita 1965, 75, est. XXV-212). These were unearthed during excavations commissioned by Lisbon's City Hall between August 22 and September 24, 1960, at Praça da Figueira. The exact location

Figure 2: Portuguese tile from the Monastery of Odivelas in Portugal, 18th century (author, 2024)

remains uncertain, situated somewhere between the former Royal Hospital de Todos-os-Santos, the Chapel of Nossa Senhora do Amparo, and the buildings of the Convent of São Domingos da Cidade.

At the time of these publications, the study of pipes in Portugal like other post-medieval contexts was still largely framed through ethnographic approaches, particularly focusing on African pipes (Dias and Dias 1964, 49). These were documented in association with the consumption of *riamba* (*Cannabis sativa*) as early as the second half of the nineteenth century (Capelo and Ivens 1881, 26). As Coelho noted in 1889 (41, as cited in Saad 2019, 80), 'tobacco is not the only plant product that entire populations smoke, consume, or chew', referring also to 'betel, opium, naschiche [sic], [and] cannabis.

Meanwhile, domestic tobacco use was also widespread in rural regions of Portugal. In Alentejo during the last century, for example, smoking was documented among men who used *careto* (handcrafted pipes; Neves 2003) and discreet female smokers who preferred *cachimbeta* in more isolated areas (Moniz 1963; Ribeiro 1969).

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On the other hand, in the first decade of the eighteenth century, Francisco da Fonseca Henriquez suggested the use of tobacco ash for whitening the teeth of tobacco smokers 'whose teeth become black and rotten' (Henriquez 1710, 346). Additionally, for coughs, he advised smoking on an empty stomach, 'as it penetrates and better introduces its narcotic virtue, which helps to suspend or moderate catarrhal fluxes', though he discourages smoking after meals (Henriquez 1710, 416). The virtues of 'smoking tobacco … taken through a pipe' were also supposed to relieve asthma (Henriquez 1710, 439). In the treatment of pulmonary tuberculosis, the clay pipe would be used to smoke 'powders of ambre, styrax benzoin, storax, almécega [*Protium heptaphullum*], myrrh, incense, dry coriander, red sandalwood, or red roses, placing the powders on coals, or first making them into tablets with tragacanth, and inhaling the smoke through the mouth, or smoking them in a pipe like tobacco', adding that 'robust people can smoke powders of pau santo [*Bursera graveolens*], ground-ivy, rosemary, coltsfoot, tobacco, and orpiment' (Henriquez 1710, 457).

Cannabis and Opium: Differences and Similarities

According to current scientific and medical knowledge (Clarke and Merlin 2013), opium and cannabis have distinct mechanisms of action on the human body and have been studied unequally in terms of their historical backgrounds (Mills 2007, 178). Nevertheless, they share several effects, particularly regarding their addictive potential. Opium primarily binds to mu-opioid receptors in the brain, especially within the limbic system, which is involved in memory, motivation, and emotional responses. This binding triggers the release of dopamine, leading to sensations of euphoria, pain relief, and calmness. However, excessive use can suppress respiratory function, potentially resulting in life-threatening respiratory failure. Opium also slows digestion, often causing constipation, and weakens the immune system, increasing vulnerability to infections.

The active substance in cannabis, THC, binds to CB1 receptors, which are primarily located in brain regions involved in cognition and movement, such as the frontal cortex and the cerebellum. THC induces pain relief and appetite stimulation but may also impair motor coordination, judgment, and memory. Although cannabis can cause constipation similar to opium, its most concerning side effects are cognitive, particularly with long-term use. Both substances increase dopamine release, which contributes to their addictive qualities. The intense gratification from this dopamine surge plays a central role in the development of dependency.

Clinically, both opium and cannabis have demonstrated medical utility, though their use is highly regulated. Opioid medications such as Vicodin and OxyContin are commonly prescribed for managing severe pain resulting from injury or major surgery. While effective, they carry a high risk of addiction and overdose if misused. Illicit opioids, including heroin and raw opium, currently have no approved medical applications.

THC, the primary psychoactive component of cannabis, is used in prescription drugs such as Marinol and Cesamet, primarily to stimulate appetite in patients with cancer or AIDS. Ongoing research continues to evaluate its potential in treating conditions such as chronic pain and epilepsy (Matos et al. 2025). However, chronic cannabis use may result in structural brain changes, affecting memory and cognitive function.

In conclusion, although opium and cannabis operate through different physiological mechanisms, they exhibit notable similarities in their effects on the brain, their potential for addiction, and their clinical relevance. Both substances require careful regulation due to their potent impact on the body and mind. While cannabis is associated with a lower risk of addiction compared to opium, dependency can still occur. Notably, only opium poses a direct risk of death from overdose, highlighting the importance of distinguishing between the substances while recognizing their shared risks.

Cannabis: Hashish and Bhang

Recent research suggests that cultivated *Cannabis* sp. (hemp) appeared in Central Europe as early as the Copper or Bronze Age (McPartland et al. 2018, 638–639). However, the earliest confirmed evidence of cannabis smoking comes from wooden braziers dated between 2,400 and 2,600 years ago, excavated from the Jirzankal cemetery in the Pamir Plateau (Tashkurgan Tajik Autonomous County, Xinjiang, China) (Ren et al. 2019, 6). The plant is also documented in the earliest known Chinese *materia medica, Shen-nung Pen-ts'ao Ching,* dated to 2,737 BCE, and Scythian ritual use through inhalation was described by Herodotus in his *Histories* (fifth century BCE) (Guerra Doce and López Sáez 2006, 14).

The recreational use of hashish appears to have been known in the Iberian Peninsula by at least the fourteenth century. A passage from *Nufāḍa II* by Lisan Ibn al-Khatib (1313–1374) recounts how Muhammad VI of Granada exposed secret gatherings where hashish was consumed, stating that himself had attended such events (Escorial MS 1.755, fol. 65v, as cited in Fernández-Puertas 1997, 17–18). Later, a 1570 manuscript from the same area also refers to hashish as an inebriating substance 'cheaper than wine', reportedly used by both Moors and Christians (Castillo 1853, 31).

Regarding the association of pipes with hashish consumption between the tenth and fifteenth centuries in the Iberian Peninsula, a prior study (Sousa et al. 2024) contextualized certain so-called *pipas de hachís* (hashish pipes) as likely later productions. Nonetheless, the possibility that these objects were used to smoke substances other than tobacco cannot be entirely dismissed.

In a different context, during the early modern period, hemp was essential for ship rigging, had many industrial uses and therapeutic properties, though not primarily for smoking (Lopes 2013, 62, 121–124; Lozano Cámara 2017). However, as global exchanges intensified, certain psychoactive habits may have been gradually adopted and adapted.

Writing in the early sixteenth century, the Andalusian diplomat known as Leo Africanus (al-Hasan Muhammad al-Wazzan al-Fasi) described how the inhabitants of Tunis were consuming a compound called *lhasis,* which made users 'laugh, disport, and dally' as if inebriated, while also being 'marvelously provoked unto lust' (Africanus 1963, 722).

In his *Colóquios dos Simples* (1563), Garcia da Orta noted the use of *bangue,* a cannabis-based product taxed by the Portuguese crown (Matos 2000, 6). He described it as a mixture of powdered leaves and seeds that 'inebriates and makes one lose his senses' (Orta 1563, 25). He also rejected the idea that *Cannabis indica* was the same as the locally grown Portuguese hemp (*Cannabis sativa,* locally known as *alcanave*). According to this matter, the 1598 account of John Huyghen van Linschoten's voyage to the East Indies reports that bangue was 'very much used by the Indians, and likewise by some *Portingales,* but most by the slaves thereby to forget their labour' (Tiele 1885, 116, emphasis added).

Similarly, João dos Santos (1891), writing in 1586, noted that bangue was used in East Africa. He described how dried leaves and stalks were crushed into powder and consumed with water when necessary, just like two centuries later in the Granada Kingdom.

Though smoking cannabis did not become widespread until the nineteenth century, we can point to events such as the monthly *séances* of the Club des Hashischins held in Paris between 1844 and 1849 (Gautier 1863, 429–458). Shortly thereafter, the Portuguese botanist and nobleman Francisco Manuel de Melo Breyner, *Conde de Ficalho,* described *riamba,* also known as *Congo tobacco,* as a form of *Cannabis indica* that was smoked communally by Africans using a water pipe called a *mutopa*.

Ficalho argued that this habit had originally been introduced by Arabs into Eastern Africa and was subsequently transmitted to Southern Africa and eventually Brazil. He also condemned the practice, asserting that enslaved people who adopted this 'lethal habit' were lost

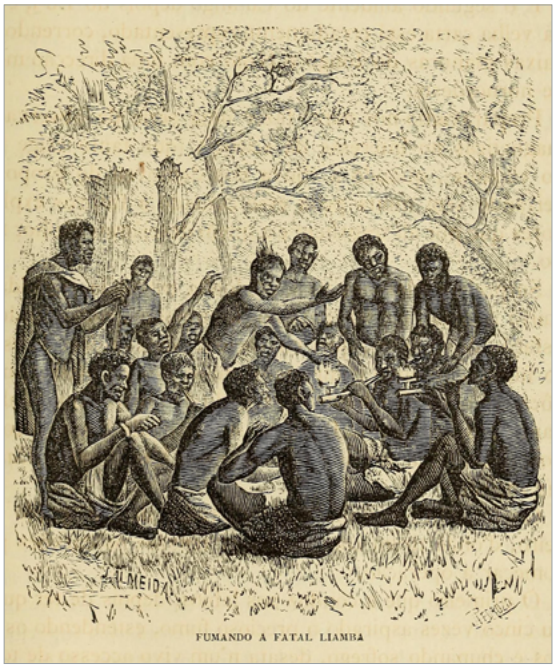

Figure 3: Detail of 'Smoking the lethal *liamba* [riamba, *Cannabis indica*]' (Capelo and Ivens 1881, 27)

to it, writing: 'Riamba, like opium or alcohol, tenaciously takes possession of its victim and does not let go' (Ficalho 1884, 267–268).

Opium: Laudanum and Amfiam

Although *Papaver somniferum* (opium poppy) has been proposed as possibly the only plant domesticated in Neolithic Europe, this hypothesis remains unconfirmed (Jesus et al. 2023, 2). Nevertheless, by the early sixteenth century, opium was already recognized as a highly valued commodity. In 1513, Afonso de Albuquerque, then Viceroy of the Portuguese State of India, wrote to King Manuel I of Portugal suggesting the cultivation of *amfião* (*Papaver somniferum*) in Portuguese territories, especially the Azores islands, stating that 'the Indians were lost without it' (Bulhão Pato 1884, 174). Whether the proposal was implemented remains unknown.

Probably in 1527, opium's medical use was being promoted by Paracelsus (Philippus Aureolus Theophrastus Bombastus von Hohenheim), who developed laudanum, a tincture made from opium dissolved in alcohol, often combined with other ingredients, as a treatment for pain and coughs (Sigerist 1941).

Garcia da Orta, the Portuguese physician in Goa (India) also wrote a chapter on his *Colóquios* about *amfião.* Among several points of information, he asserted that it is the same product as the one called opium in Europe, and being eaten by some men, they claimed that it made them 'not feel the labour', although the majority used it for 'carnal lust' (Orta 1563, 154).

More than a century later, European observers reported opium use in the Ottoman Empire. In 1686, the French diplomat Girardin described court celebrations in Istambul where wine and tobacco were banned, but certain individuals consumed a form of opium called *afium benghilik,* or *hannebaume*. He wrote that it rendered employers to become 'stupid' and transported them through vivid visions, much like those allegedly induced by tobacco smoke (Girardin 1686, 289–291).

The previous citation from the French ambassador in seventeenth-century Constantinople was written after the 1679 book of the Italian adventurer Cornelio Magni, who denounced (1679, 592, emphasis added): 'At this time they can treat themselves to coffee and sorbets, but never to wine. Some take opium called *Afion,* with which they remain almost stupefied, and enjoy various visions that their mind, cluttered by vapours, represents to them.' Nevertheless, the first literary source documenting opium in the Ottoman court in these terms was the 1665 *Serai Enderum* written by Wojciech Bobowski (also known as Albertus Bobovius or Ali Ufkî) who lived for about twenty years in the Topkapı Palace and declared in a passage entitled Entertainment of Pages: 'Drinking wine, vodka and smoking tobacco is forbidden. [However], some of them take opium, [in Turkish] called afyon, bengilik [sic] or hiosciamo [sic]. These are substances that cloud their minds and induce various visions. To put it shortly, they cause

strong befuddlement"[2] (cited in Pawlina 2023, 172).

As per other fragments regarding this subject in the *Serai Enderum,* Wojciech Bobowski only mentioned, before the passage above (Pawlina 2023, 122): '*Odabaşı* checks their [pages'] coffers. He opens them and looks for forbidden herbs, coffee, tobacco and love letters.'

However, we must mention that Wojciech Bobowski also wrote pharmaceutical prescriptions on the marginalia of the London copy of *Mecmua-i Saz ü Söz* (MS BL–Sloane 3114) which were studied by Burcu Şen Utsukarçi and Gökçe Toprak (2018).

For instance, in *Prescription 8,* opium is mentioned among more than eleven drugs, probably for rheumatic diseases (Şen-Utsukarçi and Toprak 2018, 199), but in *Prescription 12 mikdar afyon* (opium) was the only component and it was recommended against haemorrhoids. Wojciech Bobowski revealed, 'In anal fissure bleeding, some opium paste is applied in the anus while the patient lies. Be patient with his pain. This process is repeated three times in succession and the healing is soon observed' (Şen-Utsukarçi and Toprak 2018, 204). There is still research needed to understand how this literary evidence developed until the proliferation of Chinese opium pipes in the nineteenth century (Duco 1997).

More recently, archaeotoxicological analysis of brain and bone tissue from patients treated at Milan's Ospedale Maggiore confirmed the administration of opiates in the seventeenth century. Founded in 1456, the hospital became a model for medical institutions across Italy and Europe (Giordano et al. 2023), including the previously mentioned Portugal's Royal Hospital de Todos-os-Santos founded in 1492. However, as for the practice of smoking opium, evidence remains scarce in Europe. One notable exception is a study of alleged opium-related pipes discovered in Eastern Europe, dated to the eighteenth and nineteenth centuries (Mitrevski 2015, 35–36).

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OPIUM SMUGGLING IN CHINA.

[Macao.]

MACAO, a town on an island of the same name at the entrance of the river of Canton, is the only settlement which Europeans possess within the dominions of the emperor of China. It was founded by the Portuguese, and still continues in their hands; but since other nations have participated in the commerce of the Indies, Macao has fallen somewhat into decay. In 1725 the Chinese restricted the shipping to twenty-five vessels, and it has since fallen to about one-half this number. For nearly a century the Portuguese monopolised the trade of the East. De Gama, the discoverer of the passage by the Cape of Good Hope, landed on the coast of Malabar in 1498: in 1511 the Portuguese had begun to explore the Indian Archipelago; in 1525 they made themselves masters of Malacca, and soon afterwards achieved the conquest of the Moluccas. Their first attempt to open a trade with the Chinese was not successful; but with a pertinacity and resolution not to be overcome by ordinary obstacles, they persevered in their object, and were finally successful. About the year 1537 the Chinese only allowed them a temporary shelter upon the island of Macao: by bribery and solicitation they next obtained leave to erect sheds for drying goods; and about the middle of the century they began to be recognised as having some title to occupation; but it was only gradually that they were permitted to build stone houses and to form a considerable town. In 1542 the Portuguese had succeeded in establishing a commercial intercourse with Japan, which continued until 1638. Macao was the centre of the trade with China, Japan, and the eastern islands, and the cause of its importance at the above periods is therefore easily traced.

The Chinese are too cautious and jealous a people to concede valuable privileges without reserving the right of reclaiming them. The Portuguese, therefore, are not in possession of the sovereignty of Macao, but pay an annual ground-rent, and their forts are periodically inspected by military mandarins. A civil mandarin also resides in the town as the representative of the emperor of China, and the Chinese population is entirely under his government. The only rights which the Portuguese of Macao really possess are those of a municipal character. Indeed they are occasionally made to feel that neither nominally nor actually are they masters. Milburn states, in his 'Oriental Commerce,' that "the Chinese treat the Portuguese very cavalierly on many occasions, exacting duties sometimes in the port, and punishing individuals for crimes committed against the natives; and whenever resistance is attempted against such proceedings, the mandarin who commands the Chinese at the guard-house immediately stops the supply of provisions from their market until they quietly submit." This means of coercion may very easily be put into execution, for Macao is built on a low sandy promontory, connected with the remainder of the island by a long narrow neck of land; and at a place where the width of the latter is about a hundred yards, a wall has been built, which stretches across and projects at each end into the water. In the centre of the wall there is a gateway, and close to it the guard-house for the Chinese soldiers. This wall was erected in 1573,

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Figure 4: Front page of *The Penny Magazine* v. 9: 509, 1840, covering opium smuggling in China and depicting the city of Macao (University of Michigan, https://hdl.handle.net/2027/mdp.39015013149631?urlappend=%3Bseq=101%3Bownerid=13510798897178390-113)

The study of opium's role in early modern Europe reveals a complex cultural and medical narrative. From Indian *amfião* and Paracelsus's laudanum to the Ottoman court usage, opium was deeply embedded in diverse practices of healing, ritual, and pleasure. However, by the nineteenth century, particularly during the Opium Wars, its *status quo* had manifestly shifted. What was once a medical and mystical substance became entangled in imperial trade conflicts and global politics (Delalande and Delalande 2011, 46–59). The smuggling of opium through Ma-

2 This translation was kindly made available by Dr. Agata Pawlina who studied and translated the original version of A. Bobovio. 1665. Serai Enderum [...]. (MS Harley 3409, Western Manuscripts Collection, British Library).

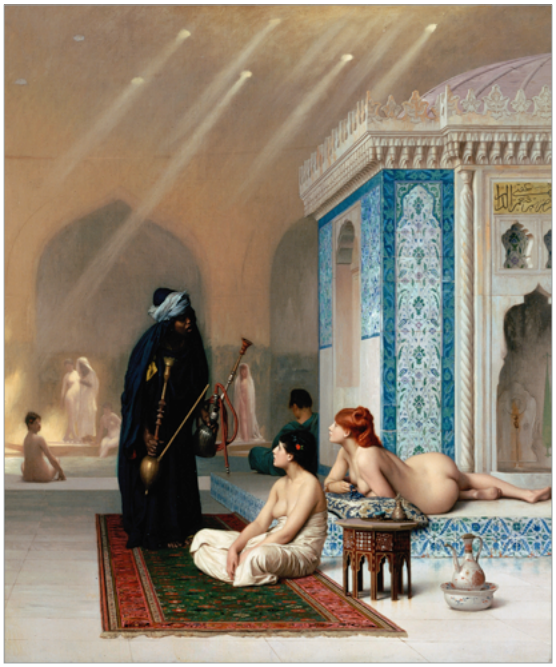

Figure 5: 'Une piscine dans le harem' by Jean-Léon Gérôme, c. 1876 (Hermitage Museum work ID: 37799)

cau, a former Portuguese colony in present day China, reflects this turning point and foreshadows Portugal's declining control over the drug trade (Santos 1996, 225).

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Conclusion

While some research has provided compelling evidence that tobacco was sometimes integrated with other substances and it varied in quality (Cessford 2001, 95), the assumption that clay pipes were used exclusively for tobacco overlooks the possibility that other substances may also have been smoked in an increasingly globalized world.

On the other hand, while the presence of cannabis and opium in post-medieval Portugal is still insufficiently understood, the available evidence indicates that these substances occupied a range of roles, from medicinal and therapeutic to recreational and symbolic. Their meanings and applications were likely shaped by a complex interplay of local traditions and broader global currents in trade, medicine, and cultural exchange.

The lack of direct analysis prevents a deeper exploration of how these substances shaped European society, from medical practices to leisure activities. In addition to the archaeological evidence, literary sources provide insights into the medical and recreational use of these psychoactive substances. However, without a more detailed examination of the material culture, our knowledge of the everyday use of *Cannabis* sp. and opium remains underdeveloped.

In summary, this study offers a preliminary investigation into the presence and perception of cannabis and opium in post-medieval contexts, with a particular focus on Portuguese and European sources. Drawing on a combination of archaeological findings and literary, medical, and ethnographic texts, it has highlighted how these psychoactive substances were understood, used, and regulated within diverse cultural frameworks. While much attention has historically been given to tobacco, the examples presented here suggested that cannabis and opium also played meaningful roles in shaping practices related to healing, intoxication, ritual, and daily life.

The evidence remains fragmentary, and many questions persist. However, this paper contributes to a growing investigation that seeks to reassess early modern engagements with mind-altering substances beyond simplistic narratives of prohibition or exoticism. By situating cannabis and opium within wider networks of exchange, labour, empire, and medicine, it becomes possible to understand these substances not only as pharmacological agents but also as carriers of meaning, power, and memories. Continued interdisciplinary research may help clarify their place in the material and intellectual history of early modern Europe and reveal how altered states of consciousness were culturally negotiated long before the modern era of drug policy and neuroscience.

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References

Africanus, L. 1963. *The History and Description of Africa and of the Notable Things Therein Contained*. Franklin.

Atkinson, D., and A. Oswald. 1969. 'London Clay Tobacco Pipes.' *Journal of the British Archaeological Association* 32:171–227.

Beltrán de Heredia, J., and N. Miró. 2008. 'Les pipes de caolí del segle XVII trobades al jaciment de l'Antic Mercat del Born, Barcelona: importacions angleses i holandeses.' *Quaderns d'arqueologia i història de la ciutat de Barcelona* 4:139–157.

Beltrán de Heredia, J., N. Miró, and M. Soberón. 2012. 'The Production and Trade in Socketed Clay Pipes Found in Barcelona Between the Seventeenth and the Nineteenth Centuries.' *Journal of the Académie Internationale de la Pipe* 5:111–125.

Bulhão Pato, R. A. de. 1884. *Cartas de Affonso de Albuquerque, seguidas de documentos que as elucidam.* Tipografia da Academia Real das Ciências.

Capelo, H., and R. Ivens. 1881. *De Benguella às Terras de Iácca*. Vol. 2. Imprensa Nacional.

Castillo, A. 1853. 'Sumario é recopilación de todo lo romançado.' Memorial Histórico Español: Colección de Documentos, Opúsculos y Antigüedades 3. Real Academia de la Historia.

Cessford, C. 2001. 'The Archaeology of the Clay Pipe and the Study of Smoking.' *Assemblage: The Sheffield Graduate Journal of Archaeology* 6:84–112.

Clarke, R. C., and M. D. Merlin. 2013. *Cannabis: Evolution and Ethnobotany.* University of California Press.

Coelho, J. X. 1889. 'Do tabagismo: sua influência sobre a mentalidade.' PhD diss., Faculdade de Medicina da Bahia.

Columbus, C. 1893. 'Journal of the First Voyage of Columbus.' In *Journal of Christoph Columbus (During His First Voyage, 1492–93), and Documents Relating to the Voyages of John Cabot and Gaspar Corte Real,* edited and translated by C. R. Markham. Hakluyt Society.

Delalande, D., and É. Delalande. 2011. *Mémoires d'opiums.* Somogy Éditions d'art.

Dias, J., and M. Dias. 1964. *Os Macondes de Moçambique II: cultura material.* Junta de Investigações do Ultramar.

Duco, D. 1997. 'De attributen van de opiumschuiver.' Amsterdam Pipe Museum. https://pipemuseum.nl/en/article/de-attributen-van-de-opiumschuiver.

Fernández-Puertas, A. 1997. 'The Three Great Sultans of al-Dawla al-Ismāʿīliyya al-Nasṣriyya Who Built the Fourteenth-Century Alhambra: Ismāʿīl I, Yūsuf I, Muḥammad V (713–793/1314–1391).' *Journal of the Royal Asiatic Society* 7 (1). https://doi.org/10.1017/S1356186300008294.

Ficalho, F. M. 1884. *Plantas úteis da África Portugueza.* Imprensa Nacional.

Gautier, T. 1863. *Romans et contes.* Charpentier.

Giordano, G., M. Mattia, L. Biehler-Gomez, M. Boracchi, S. Tritella, E. Maderna et al. 2023. 'Papaver somniferum in Seventeenth Century (Italy): Archaeotoxicological Study on Brain and Bone Samples in Patients from a Hospital in Milan.' *Scientific Reports* 13:3390.

Girardin, P. de. 1686. 'Description du Sérail du Grand Seigneur, par M. de Girardin, ambassadeur de France à la Porteo.' Nouvelle Acquisition 4997, Département des Manuscrits, Bibliothèque nationale de France, Paris.

Goodman, J. 2007. 'Excitantia: Or, How Enlightenment Europe Took to Soft Drugs.' In *Consuming Habits: Global and Historical Perspectives on How Cultures Define Drugs,* edited by J. Goodman, P. E. Lovejoy, and A. Sherratt. 2nd ed. Routledge.

Guerra Doce, E., and J. A. López Sáez. 2006. 'El registro arqueobotánico de plantas psicoactivas en la prehistoria de la Península

Ibérica: una aproximación etnobotánica y fitoquímica a la interpretación de la evidencia.' *Complutum* 17:7–24.
Henriquez, F. F. 1710. *Medicina Lusitana, e socorro delphico a os clamores da Natureza humana, para total profligação de seus males.* Na Casa de Miguel Diaz.
Jesus, A., V. Bonhomme, A. Evin, R. Soteras, S. Jacomet, L. Bouby et al. 2023. 'Morphometrics of Waterlogged Archaeological Seeds Give New Insights into the Domestication and Spread of Papaver somniferum L. in Western Europe.' *PLOS One* 18 (5): e0286190.
Lopes, G. N. C. S. 2013. 'Ria de Aveiro F (Ílhavo): um naufrágio de época moderna na laguna de Aveiro.' Master's thesis, Universidade Nova de Lisboa.
Lozano Cámara, I. 2017. 'Cultivo y usos etnobotánicos del cáñamo (*Cannabis sativa* L.) en la ciencia árabe (siglos VII–XVII).' *Asclepio* 69 (2): 197.
Magni, C. 1679. *Quanto di più curioso, e vago hà potuto raccorre Cornelio Magni nel primo biennio da esso consumato in viaggi, e dimore per la Turchia.* Per Galeazzo Rosati.
Matos, A. T. de. 2000. *Tombo de Chaul 1591–1592.* Centro de Estudos Damião de Góis.
Matos, C., A. T. Pereira, M. João Dias, C. Sousa, A. Ferreira Vinha, C. Moutinho et al. 2025. 'Cannabis for Chronic Pain: Mechanistic Insights and Therapeutic Challenges.' *Stresses* 5 (1): 7.
McPartland, J. M., G. W. Guy, and W. Hegman. 2018. '*Cannabis* Is Indigenous to Europe and Cultivation Began During the Copper or Bronze Age: A Probabilistic Synthesis of Fossil Pollen Studies.' *Vegetation History and Archaeobotany* 27:635–648.
Mills, J. H. 2007. 'Globalizing Ganja: The British Empire and International Cannabis Traffic c. 1834 to c. 1939.' In *Consuming Habits: Global and Historical Perspectives on How Cultures Define Drugs,* edited by J. Goodman, P. E. Lovejoy, and A. Sherratt. 2nd ed. Routledge.
Mitrevski, D. 2015. *Skopje Fortress.* Translated by D. Ristovska Kostadinova. Ministry of Culture of The Republic of Macedonia
Moita, I. 1965. 'Hospital Real de Todos-os-Santos II.' *Revista municipal* 1 (104–105): 26–103.
Monardes, N. 1580. *Ioyfull Newes out of the Newe Founde Worlde.* Translated by J. Frampton. Norton.
Moniz, M. de C. 1963. 'Da Arte Popular Alentejana II: Tabaqueiras-Cachimbos-Apatuscos.' *Revista de Guimarães* 73 (1–2): 127–140.
Neves, F. C. das. 2003. 'O 'careto' alentejano e a tradição do tabaco.' In *A estepe das abetardas (crónicas do Alentejo).* Câmara Municipal de Beja.
Orta, G. da. 1563. *Coloquios dos simples, e drogas he cousas mediçinais da India.* Ioannes de Endem.
Oswald, A. 1975. *Clay Pipes for the Archaeologist.* British Archaeological Reports.
Pawlina, A. 2023. *Bobovius-Ali Ufki: życie Wojciecha Bobowskiego między faktami a legendą.* Wydawnictwo Uniwersytetu Jagiellońskiego.
Ren, M., Z. Tang, X. Wu, H. Jiang, Y. Yang, and N. Boivin. 2019. 'The Origins of Cannabis Smoking: Chemical Residue Evidence from the First Millennium BCE in the Pamirs.' *Science Advances* 5 (6). https://doi.org/10.1126/sciadv.aaw1391.
Ribeiro, M. 1969. 'Mulheres fumadoras.' *Trabalhos de antropologia e etnologia* 21:231–241.
Saad, L. 2019. *"Fumo de negro": a criminalização da maconha no pós-abolição* . Universidade Federal da Bahia.
Santos, I. 1996. *Macau e o Oriente: no arquivo histórico ultramarino.* Vol. 1. Instituto Cultural de Macau.
Santos, J. dos. 1891. *Ethiopia oriental.* Mello d'Azevedo.
Şen Utsukarçi, B., and T. Gökçe. 2018. 'Ali Ufki'nin Mecmua-i Saz ü Söz'ündeki İlaç Reçeteleri.' *Studies in Ottoman Science* 19 (2): 187–218.
Sherratt, A. 2007. 'Alcohol and Its Alternatives: Symbol and Substance in Pre-Industrial

Cultures.' In *Consuming Habits: Global and Historical Perspectives on How Cultures Define Drugs,* edited by J. Goodman, P. E. Lovejoy, and A. Sherratt. 2nd ed. Routledge.
Sigerist, H. E. 1941. 'Laudanum in the Works of Paracelsus.' *Bulletin of the History of Medicine* 9:530–544.
Silva, R. B. da, and A. Teixeira. 2022. '"Cachimbos de gesso", de "barro vermelho" e chibuques em Lisboa.' *Vestígios - Revista Latino-America de Arqueologia Histórica* 16 (2): 109–138.
Simpson, St. J. 1994. 'Near Eastern Pipe News.' *Society for Clay Pipe Research Newsletter* 44:14–15.
Sousa, M. M. de, and T. M. Casimiro. 2024. 'Smoking in Portuguese Historical Archaeology: Clay Pipes, Social Habits and Long-Distance Relations.' In *Archaeologies of Smoking, Pipes and Transatlantic Connections,* edited by S. de B. V. Hissa. Springer.
Sousa, M. M. de, A. Gomes, C. Parreira, Í. Fragoso, and I. Belém. 2024. 'Clay Cannabis Pipes? Interpretative Approach Between Archaeological and Historical Sources on Cannabis and Clay Smoking Pipes in the Iberian Peninsula from Late Medieval to Early Modern Periods.' In *XIII Congreso Internacional sobre Cerámica Medieval y Moderna en el Mediterráneo (AIECM3),* edited by A. García Porras, M. Busto Zapico, L. Martín Ramos, and M. José Peregrina Sánchez. La Ergástula.
Tiele, P. A. 1885. *The Voyage of John Huyghen van Linschoten to the East Indies from the Old English Translation of 1598.* Vol. 2. Hakluyt Society.
Valera, A. C. 2018. *Os Perdigões neolíticos: génese e desenvolvimento (de meados do 4.º aos inícios do 3.º Milénio a.C.).* NIA-ERA.

Summary

The article surveys how cannabis (*Cannabis* sp.) and opium (*Papaver somniferum*) appeared, were perceived, and were used in post-medieval Europe – with a particular emphasis on Portugal within wider colonial and trade networks – between the sixteenth and nineteenth centuries. Combining archaeological finds (especially clay pipes) with medical, travel, and ethnographic texts, it argues that these substances occupied overlapping therapeutic, recreational, and symbolic roles and that their meanings shifted alongside early modern transformations in commerce, empire, and ideas about the body and mind.

After outlining the spread of tobacco and the emergence of clay pipes in Europe, the study situates Portugal in transatlantic and Mediterranean circuits. Clay pipes proliferate archaeologically in the seventeenth–eighteenth centuries (with many Dutch and English imports found in Lisbon), and Iberian assemblages reveal complex supply chains that included local, regional, and Ottoman productions. The article cautions against assuming pipes were exclusively for tobacco, noting the broader early modern repertoire of psychoactive practices.

A thematic section compares cannabis and opium physiologically and clinically: opium's action on mu-opioid receptors and cannabis's THC effects on CB1 receptors produce partially similar subjective outcomes (euphoria, analgesia, appetite changes) but differ markedly in risks – especially overdose for opium – while both generated medical applications and regulatory concerns. Although these are modern biomedical framings, they help interpret early testimonies about use, habit formation, and therapeutic rationales in historical sources.

On cannabis, the paper traces textual and contextual signals from medieval Iberian references to hashish through early modern descriptions of *bhang/bangue* in imperial and Indian Ocean settings. Portuguese observers – Garcia da Orta among them – record cannabis preparations taxed by the crown and used across social strata (including enslaved populations), while nineteenth-century European circles (e.g. the Parisian Club des Hashischins) exemplify changing elite curiosities. In Lusophone colonial spaces, *riamba* smoking via water pipes is documented and morally contested by figures such as the Conde de Ficalho, revealing entanglements of race, labour, and authority in substance discourse.

On opium, the narrative runs from Paracelsian laudanum and Indo-Portuguese commerce (including Afonso de Albuquerque's early sixteenth-century remarks) to Ottoman court accounts and hospital pharmacologies. Literary depictions of *afyon,* alongside later archaeotoxicological confirmations of opiate administration in seventeenth-century Milan, show medical and ritual dimensions before nineteenth-century geopolitics reframed opium through conflicts like the Opium Wars and smuggling via Macau.

The conclusion underscores that evidence remains fragmentary: pipes rarely yield unambiguous residue data, and textual sources are uneven. Yet taken together, they suggest cannabis and opium were woven into everyday early modern life – from tooth powders and cough remedies to leisure, trance, and social regulation. The article therefore invites further interdisciplinary work (archaeology, toxicology, textual studies) to clarify how psychoactive substances intersected with changing notions of health, consciousness, empire, and material culture in Portugal and other regions.

Povzetek

Članek preuči pojavnost, dojemanje in rabe konoplje (*Cannabis* sp.) ter opija (*Papaver somniferum*) v novoveški Evropi – s posebnim poudarkom na Portugalski in na širših kolonialnih ter trgovskih povezavah – od 16. do 19. stoletja. Z združitvijo arheoloških najdb (predvsem glinenih pip) ter medicinskih, potopisnih in etnografskih virov pokaže, da sta imeli snovi prekrivajoče se medicinske, rekreativne in simbolne vloge, katerih pomen se je spreminjal skladno s preobrazbami trgovine, imperija ter predstav o telesu in zavesti v zgodnjem novem veku.

Po orisu širjenja tobaka in uveljavitve glinenih pip v Evropi raziskava umesti Portugalsko v transatlantske in sredozemske tokove. Glinene pipe arheološko množično nastopijo v 17.–18. stoletju (v Lizboni je veliko nizozemskih in angleških izdelkov), iberski sklopi pa kažejo zapletene dobavne verige z lokalno, regionalno in osmansko proizvodnjo. Avtor opozori, da pip ne smemo samoumevno vezati izključno na tobak, saj v zgodnjem novem veku obstaja širši repertoar psihoaktivnih praks.

Primerjalni del povzame sodobna biomedicinska spoznanja: opij deluje predvsem na μ-opioidne receptorje, THC na CB1; subjektivni učinki (evforija, analgezija, apetit) se deloma prekrivajo, tveganja pa se razlikujejo – zlasti z vidika predoziranja pri opiju – ob hkratnih medicinskih rabah in regulativnih zadregah. Čeprav so ti okviri sodobni, pomagajo razložiti zgodovinska pričevanja o rabi, navadah in terapevtskih utemeljitvah.

Pri konoplji članek sledi namigom od srednjeveških iberskih omemb hašiša do novoveških opisov bhanga/bangue v imperijskih in indijsko-oceanskih okoljih. Portugalski opazovalci – med njimi Garcia da Orta – zapisujejo pripravke konoplje, ki jih je obdavčevala krona in ki so jih uporabljale različne družbene skupine (tudi zasužnjeni), medtem ko pariški Club des Hashischins v 19. stoletju kaže spreminjajoče se zanimanje elit. V lusofonih kolonialnih prostorih je dokumentirano skupinsko kajenje »riambe« z vodnimi pipami, ki ga je, ob rasnih, delovnih in oblastnih razmerjih, moralno problematiziral tudi grof Ficalho.

Pri opiju se pripoved razteza od Paracelsusovega laudana in indoportugalske trgovine (vključno z zgodnjim zapisom Afonza de Albuquerqua) do osmanskih dvornih opisov ter bolnišničnih farmakologij. Literarni zapisi o afyonu ter novejše arheotoksikološke potrditve uporabe opiatov v 17. stoletju v Milanu pričajo o medicinskih in ritualnih razsežnostih, še preden opij preoblikuje 19. stoletje skozi geopolitične spopade (vojne zaradi opija) in tihotapljenje preko Macaa.

Sklep poudari, da so dokazi še vedno razpršeni: pipe redko dajejo nedvoumne ostanke, besedilni viri so neenakomerni. Vendar v seštevku nakazujejo, da sta bila konoplja in opij vtkana v vsakdan zgodnjega novega veka – od zobnih praškov in zdravljenja kašlja do prostega časa, transa in družbenih regulacij. Članek zato vabi k nadaljnjemu interdisciplinarnemu raziskovanju (arheologija, toksikologija, tekstologija), da bi jasneje razumeli, kako so psihoaktivne snovi križale predstave o zdravju, zavesti, imperiju in materialni kulturi na Portugalskem ter sorodnih območjih.