

Rachel
Carson
Center
Perspectives

How to cite:

Smail, Daniel Lord. "Psychotropy and the Patterns of Power in Human History." In: "Environment, Culture, and the Brain: New Explorations in Neurohistory," edited by Edmund Russell, *RCC Perspectives* 2012, no. 6, 43–48.

All issues of *RCC Perspectives* are available online. To view past issues, and to learn more about the Rachel Carson Center for Environment and Society, please visit www.rachelcarsoncenter.de.

Rachel Carson Center for Environment and Society
Leopoldstrasse 11a, 80802 Munich, GERMANY

ISSN 2190-8087

© Copyright is held by the contributing authors.

SPONSORED BY THE



Federal Ministry
of Education
and Research

Deutsches Museum 



Daniel Lord Smail

Psychotropy and the Patterns of Power in Human History

A psychotropic mechanism, if we can use a broad and capacious definition, is anything that is capable of altering perceptions, emotions, moods, and behavior. Normally, we associate the word *psychotropic* with drugs or other psychoactive substances such as alcohol, caffeine, nicotine, and other stimulants and opiates. Chemicals that make their way into the bloodstream, however, cannot pass directly to the synapses. Instead, they are “translated” into a chemical language consisting of neurotransmitters. In a sense, neurotransmitters—not drugs—are the actual psychotropic substances. Importantly, neurotransmitters are not foreign to the brain; they are always present in greater or lesser amounts. Psychoactive substances merely sensitize the neurons that are receptive to neurotransmitters such as dopamine and serotonin. In other words, users of drugs and alcohol do not experience a new chemical state; what they experience is a different or more intense version of a familiar bodily state.

The brain-body system is like a chemical sounding board that is highly responsive to inputs of all sorts, among them drugs. The most common stimuli to this system are not drugs, however. They arise instead from everyday phenotypic experiences—that is, things people do to their own bodies. Eating a good meal leads to higher dopamine levels in synapses. Sharing conversation with close friends can produce oxytocin and serotonin. Exercise elevates levels of pain-killing endorphins and enkephalins, a condition which can produce a mild state of euphoria not unlike that produced by opiates. It is true that phenotypic experiences normally do not produce the highs associated with drugs, but they typically do not produce the same lows either. Mood is an oscillating wave. Drugs may increase the amplitude of the wave, but they do not change the fundamental architecture of feeling.

The chemical language of the brain-body system, in short, is the universal idiom of mood and feeling. The existence of this idiom leads to a surprising methodological conclusion: we cannot easily make an ontological distinction between the various stimuli that trigger changes in the brain-body system. Drugs and phenotypic experiences are equally psychotropic, since they are grounded in the same array of body chemicals. The similarity between drugs and phenotypic experiences does not end there. Elements

belonging to each category (e.g., heroin, opium, gambling, and Facebook) are capable of being addictive. They can circulate as objects of exchange in human society. They can be commodified, regulated, or dressed with ritual significance. They can fall in and out of fashion. Because drugs and phenotypic experiences are cut from the same cloth, they can amplify each other, as in cases where ritual processes deploy psychoactive substances. But they can also displace each other over the course of time as a result of colonial encounters or societal transformations. For all these reasons and more, psychotropic mechanisms can be richly historicized. They constitute an important avenue of research for the neurohistorical approach.

In an earlier work, I engaged in speculations on how psychotropic mechanisms might have evolved in human societies (Smail 2008). As a working hypothesis, we can say that over the long span of human history psychotropic mechanisms have probably become more thickly imbricated in human cultures. The rapid commodification of psychotropic mechanisms such as drugs, caffeine, alcohol, leisure reading, and pornography in the eighteenth-century world system serves as a case in point.¹ But psychotropics long predate the rise of the modern world system. The process of commodification alone cannot explain why they might have become increasingly common in human societies.

One hypothesis that could explain the growing density of psychotropics springs from an observation about how power operates in human societies. One of the most important features of psychotropic mechanisms is that they induce alterations in behavior. This is the essence of power, whether it is the conventional understanding of power (one individual or group exerting control over another) or the more complex idea of “biopower,” whereby individuals, in effect, unconsciously discipline their own manners or behaviors through the internalization of norms or rules (Elias 1939; Foucault 1975). At the level of the brain, this kind of power involves two neurological systems: the stress-response system and the reward system. Power, arguably, arises from the production and circulation of mechanisms that deter and reward. Significantly, we don’t have to assume a kind of Machiavellian intelligence on the part of powerful individuals to explain how psychotropics may have been harnessed in the service of power in early human societies. We can offer a more organic model by using the archaeological concept of “bottlenecking.”

1 The standard work on psychopharmacological substances is Courtwright 2001; see also Schivelbusch 1992; Dikötter, Laamann, and Xun 2004; Hunt 2007.

The principle of bottlenecking assumes that power coalesced at key sites in the late Neolithic system of exchange where the circulation of goods, favors, or labor value became constrained by the formation of bottlenecks (Earle 1997, 2011). In Paleolithic and early Neolithic societies, goods circulated freely. Flints, amber, and beads of various descriptions were capable of being collected or produced by many people, hindering the possibility of point-of-production bottlenecks. As a result, the webs of circulation that existed during the Upper Paleolithic were broad and diffuse. Rare exceptions, such as the bottlenecks in mammoth ivory production that may have existed at the Sungir site in Russia (ca. 22,000–25,000 years ago), prove the general rule. In late Neolithic or early Bronze Age societies, by contrast, the types of goods in circulation became increasingly subject to bottlenecks. Bronze metallurgy, for example, generates a production bottleneck; the production of bronze weapons and ornaments can be readily controlled by a single individual in a given area. Markets are examples of bottlenecks that can develop in circulation. According to complex-society archaeologists, chiefs and early states emerged by controlling these bottlenecks.

Many kinds of psychotropic mechanisms are also susceptible to bottlenecking. Psychopharmacological substances, for example, are subject to the same kinds of bottlenecks as goods. In modern societies, sin taxes and laws banning drugs are examples of bottlenecks that can develop in the circulation of psychopharmacological substances (DeGrandpre 2006; Herlinghaus 2010). Similar arguments can also work for phenotypic or cultural psychotropics. Consider two working examples drawn from medieval European society. The first, involving sermons, concerns a practice that affects the reward system. The second, involving violence and debt recovery, concerns a practice that arguably affected the stress-response system.

Sermons. Medieval observers of sermons were sensitive to the psychology of crowds. In their accounts, we occasionally find interesting descriptions of collective tears, sighs, and groans in response to sermons. Medieval authorities on the art of preaching, as Beverly Kienzle has observed, advised preachers to go carefully: if the audience is weeping too heavily, wrote Alain of Lille, “hold back a little, but not too much” (quoted in Kienzle 2002, 99). A remarkable thing about the sermons of the great mendicant preachers of the later Middle Ages is that they were held outdoors, where the audible range of a sermon, or indeed any speech, is very restricted. Yet the descriptions of audiences at medieval sermons suggest that crowds sometimes numbered in the thousands. Most of

them could not have heard the content of the sermon. The messages conveyed during a sermon were therefore as much visceral as they were intellectual. Experts on sermons agree that listeners experienced sermons as a form of theater, complete with joys and sorrows and great swings in mood. The importance of this does not lie so much in the conditioned response (although that is interesting enough) but rather in the fact that the demographic and political conditions of the later medieval cities, notably the cities on the Italian peninsula where mendicant sermons flourished, placed a high premium on cooperation. Emerging research in neuroscience has suggested that a process similar to musical entrainment (that is, synchronization in response to an external rhythm) can occur in people who share powerful emotional swings in large crowds.

Violence, Humiliation, and Debt Recovery. By the fourteenth century, cities and towns throughout southern Europe had perfected a technique for debt recovery that included the very real threat of home invasions by sergeants of the law. These agents acted on behalf of both public and private creditors (Smail 2012). During the process of seizure, the sergeants would march into houses and seize household goods of a value commensurate with the debt owed. Although the evidence is necessarily indirect, criminal court records indicate that the house invasion was often felt as a deeply humiliating, high-stress event. The practice was relatively common. In Lucca (Italy) and its district in the 1330s, for example, there were as many as 2,000 acts of debt seizure per year—and this is to say nothing of the debt claims that did not proceed as far as seizure. The practice can be interpreted from a strictly economic perspective, but it is intriguing to consider it from a neurohistorical point of view. Among olive baboons, unpredictable violence inflicted on lower-ranking individuals can generate chronic stress, which has the effect of continuously affirming the social hierarchy and making lower-ranking individuals less competitive and more governable (Sapolsky and Share 2004; on stress more generally see Sapolsky 2004). Although the immediate cause of debt recovery may lie in economic concerns, it is possible to argue that political goals played a role in determining why a high-stress pattern of debt recovery emerged in this historical context. In particular, the deliberate violation of household space signaled the universal extension of state sovereignty.

Examples such as these suggest a hypothesis whereby power accrued as states gradually isolated and controlled bottlenecks in the circulation of psychotropic mechanisms. Sermons, promoted by civic or religious authorities, serve as an example of a range

of psychotropic mechanisms that were built on the reward system (the archetype is the “bread and circus” of ancient Rome). Prohibitions or restrictions on other reward-based activities in medieval cities and towns, such as gambling, sex, and theater, can be seen as part of a system that channeled rewards through choreographed events that heightened feelings of cooperation or solidarity and thus enhanced civic engagement. Stress-inducing practices like debt recovery, by contrast, constantly reaffirmed patterns of social hierarchy. They also served to make citizens or subjects more amenable to the payment of taxes and other dues. By offering a debt-recovery service that was cheaper and more efficient than do-it-yourself debt recovery, states exploited a small but significant bottleneck in the production and distribution of stress. Significantly, in neither of these cases is it necessary to assume that states were aware of the existence or function of the bottlenecks in question.

Bottlenecks are necessarily evanescent: since they arise naturally, they can disappear just as easily, and can also foster the emergence of forms of resistance or evasion. In light of this, one of the remarkable features of the eighteenth-century world system is the way in which the commodification of psychotropics reduced or eliminated the bottlenecks on which power had been built. In a sense, modern global capitalism has itself become an order of power, since it serves at once as a vast dopamine-delivery system (the pleasures of consumption) and, at the same time, a stress-inducing system (poverty, envy).

It goes without saying that the model sketched out above is purely hypothetical, scarcely achieving even the status of wild speculation. Any value lies in how it might enable historians interested in neuroscience to come up with new ways of thinking about the past. Neurohistory, in my view, will have gained nothing if it offers no more than a study of hardwired brain states that influence human behavior. It is far better to think of the brain as an ecological niche that is continuously being altered or manipulated even as it subtly constrains or channels behavior. Human history, in this view, is the study of the ongoing and unpredictably contingent dialectic between culture and neurology.

References

- Courtwright, David T. 2001. *Forces of Habit: Drugs and the Making of the Modern World*. Cambridge, MA: Harvard University Press.
- DeGrandpre, Richard. 2006. *The Cult of Pharmacology: How America Became the World's Most Troubled Drug Culture*. Durham: Duke University Press.
- Dikötter, Frank, Lars Laamann, and Zhou Xun. 2004. *Narcotic Culture: A History of Drugs in China*. London: Hurst.
- Earle, Timothy. 1997. *How Chiefs Come to Power: The Political Economy in Prehistory*. Stanford: Stanford University Press.
- . 2011. "Redistribution and the Political Economy: The Evolution of an Idea." *American Journal of Archaeology* 115: 237–44.
- Elias, Norbert. 1939. *Über den Prozess der Zivilisation: Soziogenetische und psychogenetische Untersuchungen*. Basel: Haus zum Falken.
- Foucault, Michel. 1975. *Surveiller et Punir: Naissance de la Prison*. Bibliothèque Des Histories. Paris: Gallimard.
- Herlinghaus, Hermann. 2010. "From Transatlantic Histories of 'Intoxication' to a Hemispheric 'War on Affect': Paradoxes Unbound." In *Emerging Disciplines: Shaping New Fields of Scholarly Inquiry in and beyond the Humanities*, edited by Melissa Bailar. Houston: Rice University Press.
- Hunt, Lynn. 2007. *Inventing Human Rights: A History*. New York: Norton.
- Kienzle, Beverly Mayne. 2002. "Medieval Sermons and their Performance: Theory and Record." In *Preacher, Sermon and Audience in the Middle Ages*, edited by Carolyn Muessig, 89–124. Leiden: Brill.
- Sapolsky, Robert M., 2004. *Why Zebras Don't Get Ulcers*, 3rd ed. New York: Times Books.
- Sapolsky, Robert M., and Lisa J. Share. 2004. "A Pacific Culture among Wild Baboons: Its Emergence and Transmission." *PLoS Biology* 2 (4): e106. doi: 10.1371/journal.pbio.0020106.
- Schivelbusch, Wolfgang. 1992. *Tastes of Paradise: A Social History of Spices, Stimulants, and Intoxicants*. Translated by David Jacobson. New York: Pantheon.
- Smail, Daniel Lord. 2008. *On Deep History and the Brain*. Berkeley: University of California Press.
- . 2012. "Violence and Predation in Medieval Mediterranean Europe." *Comparative Studies in Society and History* 54: 1–28.