

Neuropsychedelia: The revival of hallucinogen research since the decade of the brain

Nicolas Langlitz

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On the morning I began writing my review of Nicolas Langlitz's *Neuropsychedelia: The revival of hallucinogen research since the decade of the brain*, my email inbox greeted me with an uncanny echo of the book's subtitle: "Psychedelic Academe: Research into Mind-Altering Drugs Is Back". It was the lead article in that week's *Chronicle of Higher Education*, describing how public valorization of neuroscience starting in the 1990s had opened a space for research involving psychedelic substances – particularly studies seeking to biologically model the behavior of neurotransmitters involved in conditions such as schizophrenia and anxiety, or to explore the therapeutic uses of psychedelics in their treatment.

It is no surprise that Langlitz is quoted in the article, as its subject matter is precisely the terrain of his own inquiry: psychedelic research, virtually prohibited and banished to an unfunded wilderness since the 1970s (for reasons he explains), has hitched a ride back to the academy on the neuroscience bus, exchanging its tie-dyed robes for the more conventional white lab coat. Langlitz, a scholar trained in medicine, philosophy, history of science and anthropology, offers readers an ethnographic view into the contemporary experimental life of psychedelics in two laboratories, each a critical node in the resurgence of psychedelic research: Franz Vollenweider's lab in Switzerland, which explores neurobiological correlates of psychedelic experiences in humans; and Mark Geyer's lab in California, which examines the effects

of hallucinogenic compounds on animals as a way to model the neurology of psychosis in humans.

Langlitz makes it known early on that his book will not be "one more case study of the biologicistic reduction of the human to 'bare life'" (p. 2). He argues that despite the rhetoric of disenchantment and methodological prudence that drives the relegitimization campaign of contemporary psychedelic research, the field continues to be animated by traces of the mysticism that brought it into being in the 1950s and 1960s; these traces are what he sets out to track, with the hope of generating "a meditation on spiritual venues open to those living under conditions of late-modern materialism" (p. 2).

Langlitz's personal commitment to the project stems from an encounter with lysergic acid diethylamide (LSD) as a teenager during which he felt a complete loss and eventual return of self, accompanied by a "deep sense of peace and ontological security" (p. 241) that, he wrote in his diary at the time, must have "something to do with God" (p. 14). The sense of shame he felt at the discrepancy between this avowedly mystical experience and his allegiance to scientific rationalism is the "existential concern" that motivates his quest "to find a way out of the stale standoff between science and spirituality" (p. 19).

Those inclined to brand Langlitz as a present-day version of Carlos Casteneda, the infamous peyote-taking anthropologist of the 1970s, should note that unlike Casteneda he is not looking to other ethnic groups for models of better living or searching for an exit from the discontents of his own culture. As Langlitz tells us, "fresh ways of responding to a problematic situation do not necessarily have to be sought in far-flung idylls but can often be found by attending to marginalized and therefore only partially realized possibilities in one's own domains" (p. 20).

To equip himself for this undertaking, Langlitz assembles a kit of analytic tools that range from Aldous Huxley's recapitulation of Leibniz's "perennial philosophy" (taken from the writings of the sixteenth-century Biblical scholar Steuco) to Paul Rabinow's "anthropology of the contemporary", Max Weber's "ideal types" to Bruno Latour's "nature-culture hybrids", Gilles Deleuze's "unlimited-finite" to Ian Hacking's "looping effects". He convincingly adapts these resources to the task of discerning the "fresh ways of responding" to modern life that psychedelic research might offer. To this same end he

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draws insights from an extensive array of academic interlocutors including historians of science Lorraine Daston and Hans-Jörg Rheinberger, medical anthropologists Margaret Lock and Emily Martin, scholars of science and technology Annemarie Mol and Andrew Pickering and scholars of modern life Michel Foucault and Nikolas Rose. Might this curious assemblage – its very eclecticism defended by Langlitz as a historical alternative to the hegemony of modern scientific thought – be applied to the ethnographic case of present-day psychedelic research in a way that brings us closer to a reconciliation of scientific materialism and spiritual experience?

Langlitz leaves this question unanswered until the concluding chapters of his book, choosing instead to reproduce the open-ended trajectory of his exploration and bring us along for the ride. Readers who prefer to have a clear map of the road ahead may be irked by this narrative strategy; those of us willing to give ourselves over to an adventure are in for an eye-opening trip. (Upon reaching the end of Langlitz's *tour de force* on neuropsychedelias, readers may want to re-read it; the startle-value of its myriad ideas may be diminished when encountered a second time, but there will be new things to notice and reflect upon.)

The first two chapters of *Neuropsychedelia* do a masterful job of documenting the array of interacting historical, political and economic conditions that led first to a flurry of research into psychedelics after Albert Hofmann discovered LSD in 1943, then to a standstill of such research in the 1960s, and finally, brought psychedelic research back into the fold of mainstream science today. Punctuated by ethnographic dispatches from the 2006 LSD Symposium in Basel, Langlitz weaves together fascinating histories of psychiatry, chemistry, spiritual movements, social dissent and global flows of drug-research funding and regulation. This account lays the contextual groundwork for the next four chapters, in which Langlitz the autoethnographer comes to the fore.

"Before all sixty-four electrodes had been fixed to my head to measure my brain waves", begins Chapter Three, "I fell through a dark tunnel into a void" (p. 83). In an opening section aptly titled "Field Trip", Langlitz gives an account of his participation as an experimental test subject in a study at the Swiss lab exploring what might be happening in the brain when a human subject experiences a drug-induced sense of 'oneness' – or *unio mystica*, in theological terms. In their study, the electrical activity of subjects' brains is monitored by electroencephalogram after they have been dosed with psilocybin, the active chemical in hallucinogenic mushrooms. The researchers' aim

is to correlate these neural recordings with subjects' introspective reports, recorded via intercom.

The next 50 pages present an impressive – and sometimes dizzying – meditation on "the precarious relationship between the objectivity demanded by science and the exuberant subjectivity of the psychedelic experience" (pp. 97–98). Langlitz shuffles visceral vignettes of his own test experiences with heady discussions of epistemological debates in brain and social sciences (Can a brain study the brain?), accounts of scientists' self-experimentation as it is "mediated by their psychopharmacological knowledge and fed back into the generation of this knowledge" (p. 114), and finally, ontological reflections on drug action as "a hybrid phenomenon of nature and culture" that arise from a complex interaction of set, setting and neurochemistry.

Langlitz draws loops upon loops – among subjectivity and objectivity, experience and experiment, set and setting, human and natural kinds. Some might wish that he had given a more linear organization to the material, for readers are likely to experience a cognitive oscillation between disorientation and clarity that is not unlike – if I may be permitted the metaphor – the experience of being swept from one plateau of insight to another in the course of an acid trip. Yet it is clear, from Langlitz's comments that he wishes to preserve a sense of the "erratic process" (p. 132) and "logic of discovery" (p. 133) of anthropological fieldwork, that he values the insights that can emerge from this sort of intellectual wandering.

Toward the close of the chapter, as Langlitz moves from observations of others' practices and beliefs to his own arguments, he develops a criticism of the idea that a drug's effects derive from an interaction of "set" (a given subject's personality, mood and expectations) and "setting" (the social, cultural and physical environment) (p. 188). Although popular both in anthropological and lab-science accounts of hallucinogenic experience, such an explanation leaves 80 per cent of a psychedelic drug's effects unexplained. With a wink back to a time in anthropology when the biological and the cultural were not disconnected, Langlitz proposes that we understand psychedelic experience as a "composite entity that is both human and natural" (p. 115) – an entity that emerges from looping effects so complex that it "escapes both cultural and pharmacological attempts" to study or control it (p. 22).

This sweeping chapter at the heart of Langlitz's book concludes with a brief meditation on the hypothesis that a "cerebral reducing valve" exists in the brain to filter irrelevant sensory information and

prevent subjects from becoming overwhelmed, thus aiding biological survival. Following this hypothesis, one can understand mystical experiences, drug trips and psychotic states as resulting from an opening of the brain's reducing valve. As Langlitz observes, present-day postulations of a neurophysiological "gating mechanism" amount to a secularized account of Huxley's "doors of perception" and earlier visions of the brain as an organ of filtration for spiritual life (elaborated by the likes of Henri Bergson and William James). Foreshadowing chapters to come, Langlitz raises the question: What is the ontological status of the spiritual in neuropsychodelia? Hinting at the possibility of reconciliation between scientific materialism and mystical experience, he points to the way in which contemporary hallucinogen researchers recast the spiritual as an immanent, this-worldly form rather than a transcendent, other-worldly form.

Chapter Four moves from the historical varieties of experimental mysticism to those of experimental psychosis. Langlitz begins this epistemological history with nineteenth- and twentieth-century psychiatric work premised on the idea that drugs such as hashish or mescaline, when administered to healthy subjects, could simulate the symptoms of mental illness and thus "serve as mediators between the worlds of madness and reason" (p. 138). The so-called psychotomimetic value of hallucinogens was challenged in the mid-twentieth century as new evidence suggested that the biological and circumstantial factors involved in mental illness and drug experiences were incommensurable. Developments in psychopharmacology in the 1940s and 1950s, however, reversed this thinking and reinvigorated the use of hallucinogens in psychosis research. Langlitz describes how ensuing twists and turns in neurotransmitter science led to the waxing and waning of model psychosis research, and to different explanatory models for mental disorder. Today, he observes, psychedelic researchers recognize that the particular historical, cultural and technical conditions surrounding hallucinogen experience make it a contingent – but not fully arbitrary – model for psychiatric illness. Drug intoxication and mental disorder are taken to be two distinct states that are nevertheless "situated at the same ontological level" (p. 23). In other words, the states brought about by hallucinogens are seen not as identical with psychiatric conditions but as experimentally valuable for illuminating the workings of those conditions. Langlitz calls this the "non-representational" or "enactive model" of psychosis (taking inspiration from Mol's work in which a single medical condition is shown to be multiply enacted).

Chapter Five moves from the varieties of hallucinogenic brain research to the ways in which animal researchers at the California lab he studies attempt to experimentally operationalize the filtering mechanism we learned about earlier. Their goal is to illuminate the workings of sensorimotor gating by examining how animals habituate to startling stimuli following an initial weaker stimulus – or, as Langlitz sums it up, "to understand schizophrenia by startling mice, rates, and guinea pigs" (p. 166). As it happens, while both schizophrenics and drugged mice show a decreased startle response, healthy human subjects treated with a psychedelic drug do not. The puzzle prompts the question: is this apparent limit of the animal model of psychosis a clue to what makes humans distinct? (p. 167). As Langlitz notes, "What better site for an anthropological investigation of how the revival of psychedelic research inflected notions of *anthropos* today?"

In contrast to Vollenweider's lab where Langlitz found researchers preoccupied with their own relationship to the knowledge they produced, in Geyer's California lab he found them preoccupied with the ethics of animal experimentation. Alongside formalized and bureaucratic ethical standards, they had developed their own methods of animal care. This initially surprised Langlitz, who believed modern science had divorced its truth-making process from ethical concerns; but he was returned to familiar territory when he discovered that the researchers' compassion was, at least in part, an effort to standardize the subjective experiences of their animals and improve their data.

I had not expected Langlitz's foray into the blurring of ethics and epistemology in animal research, yet the terrain proves rich ground for exploring nonhuman forms of subjectivity and the difficulties of translating between human and animal studies, a recent focus of research in Science and Technology Studies (STS). Although animals are believed to have different interior lives than humans, these lives emerge out of the same molecular components as our own and, in this sense, could be said to share the same ontological ground. Returning to his opening concern with how the revival of psychedelic research might inflect notions of *anthropos* today, he argues that "*anthropos* is configured as one of a multitude of finite transitory life-forms that participate in the infinite of an evolutionary process that is constantly reshuffling a limited number of biological building blocks".

It would be inaccurate, Langlitz contends, to understand this molecularized vision of man as the disenchanting child of dualist naturalism; instead, it signals

the emergence of a monist ontology that he names “mystic materialism”. In the book’s penultimate chapter he explores how this ontology is “lived and reflected on” (p. 23) through a series of biographical portraits of contemporary psychedelic researchers, focusing on the different ways in which they reconcile their work as scientists with the spiritual domain. Even the most rationalist of his interlocutors, Langlitz finds, experiences a sense of wonder when contemplating neurobiological life – not a feeling of oneness with an otherworldly realm, he specifies, but of connectedness with a material world infinitely larger than their own existence. In other words, their interest in the biology of mysticism is accompanied by “a mysticism of the biological that reveres life itself” (p. 23). This reverence can take the form of humor (like that of the laughing Buddha, confronted with the sublime joke of the universe), play (a “ludic approach to science as a way of life”), or scientific self-experimentation that borders on self-annihilation (p. 231). Like Langlitz himself, these scientists are “travelers ... looking for ways of integrating hallucinogenic experiences into their twenty-first century Western lives” (p. 241).

Yet, scientific ventures in neuropsychodelia, Langlitz notes, remain “exploratory movements from which no stable formation has yet emerged” (p. 241). After 20 years, they have yielded no paradigm shifts in self-conception (which largely continues to be based in a dualist ontology) nor in scientific practice (which continues to operate as “normal science” in Kuhn’s terms). In some cases, he recounts, the lack of tangible progress provokes disillusionment or even an exit from laboratory life. The distinct sense of impasse imparted by these scenes leaves one wondering how Langlitz will get back on track with the narrative of hallucinogenic revival and his search for “a way out of the stale standoff between science and spirituality” (p. 19).

He does this by leaving the terrain of neuroscience and moving on to his own field. In the final chapter of *Neuropsychodelia* we learn that mystical materialism not only animates the work and life of the scientific researchers Langlitz has been studying, but also inspires the “peculiar kind of philosophical anthropology” (p. 19) that he has been developing and practicing in the course of the book. He calls this approach the “anthropology of the perennial”, an expression that joins Huxley’s conviction that mystical experiences across time and space are united by recurrent forms to Rabinow’s anthropology of the contemporary – a mode of inquiry that attends to historical singularities rather than universals, and cultivates a “sensibility of constant change” (p. 251). The specific task of the anthropologist of the perennial

is to cultivate a “sensibility of the eternal return of the same” so as to attend to “singular rearticulations of the universal” (p. 251). The universal to which he orients, Langlitz specifies, is “not the universality of transhistorical truths and anthropological constants, but one akin to the universality of DNA or certain neurochemicals: molecules that we share not only with all humans, but also with distant and ancient life-forms” (p. 261).

As Langlitz boldly notes, perennial anthropology and its rejection of essential incommensurabilities (between cultures, epistemologies and so on) recuperates a former anthropological concern with unity – not just diversity – across human kinds, an endeavor that has become associated with an unenlightened, pre-constructionist mentality. Yet, in his revival of anthropology’s historical concern with unity, he gives it an important twist. He explains:

This cosmopolitan perennialism does not assume that there are no differences, but that we should think about them more in the way that neuropsychopharmacologists conceive of the differences between mice, rats, and humans than the way in which the philosophical anthropology of old thought about anthropological difference (p. 261).

Readers from science and technology studies will note the distinctly Latourian quality to the anthropology of the perennial, particularly its commitment to moving from the plane of fieldwork and second-order observation to that of ontological insight, following the assumption that nature and culture are not as divided as once believed. Langlitz states his wish that “the end point of this development will hopefully be a multifaceted but monist epistemology and ontology for anthropology and other fields” (p. 257). The goal of his work, he writes in the book’s final passage, is to move “beyond ethnography” and toward mystic materialism to generate “philosophical tools to remediate some of the spiritual ills of late modern life” (p. 265).

Missing from Langlitz’s otherwise powerful conclusion are answers to a few important questions: How to square his hopeful vision for a neuropsychedelically inspired anthropology of the perennial with his earlier, somewhat deflating observations on the languishing of mystic materialism in neuroscience? How are anthropologists to step in and shore up this monist ontology – which may be emergent but is also fragmented, fuzzy and flagging? How, exactly, to move “beyond ethnography” and enliven the new *anthropos* at stake?



These questions aside, by the close of Langlitz's book it is clear that he has made a major contribution to the science studies literature and, more specifically, has raised the bar for scholarly reflection on neuroscience and the brain. The past decade has seen an abundance of humanities and social science writings in this area, many following – either implicitly or explicitly – a familiar narrative of scientific

rationality's further incursion into and disenchantment of life and human experience. Through rigorous archival and ethnographic work combined with equally rigorous theoretical engagements, Langlitz shows us that there is far more to the story and suggests how we might, in rising to the challenge of telling that story, open our work to new methodological and epistemological possibilities.