

BOOK REVIEW

Nicolas Langlitz. *NEUROPSYCHEDELIA: The Revival of Hallucinogen Research since the Decade of the Brain.* Berkeley: University of California Press, 2012.

The modern science of spirituality is something of an oxymoron, but anthropologist Nicolas Langlitz tackles this concept in his study of neuropsychedelica, or the psychedelic revival in the behavioral sciences. Relying extensively on field research with neuroscientists Franz Vollenweider in Switzerland and Mark Geyer in California, in combination with archival, ethnographic, scientific, and experiential methods, Langlitz seeks to understand how modern brain science has reinvigorated a fascination with psychedelic substances and, consequently, has reopened discussions about the relationship between spirituality or mysticism and science. This provocative premise is exciting and promises to either resurrect dormant psychedelic studies, or refashion them in a more palatable format after their colorful demise in the 1960s. Ultimately, however, Langlitz concludes in a more sober tone suggesting that the culture of modern neuroscience has neither the vocabulary nor the appetite for incorporating spirituality into neuroscience.

The book is divided into six chapters, beginning with an historical appraisal of psychedelic research following Albert Hofmann's discovery of LSD-25 at mid-century and moving on to his 100th birthday celebrations in Switzerland in 2006, marking an important gathering for psychedelic enthusiasts. As an attendee at gathering Langlitz shifts into his ethnographic stance as a participant observer and shares his insights and interactions with the assembly of worshippers, from dedicated hippies to legitimate scientists and practitioners of psychedelic therapy. The event comes across as a malaise of enthusiasm and despair for a set of ideas and substances that have failed to gain sufficient legitimacy within mainstream science. This set up makes for an appropriate jumping off point into the remaining chapters where Langlitz offers a close investigation of two prominent laboratories and their experiences with neuropsychedelica.

While the stated goal is to examine how modern brain researchers legitimately incorporate psychedelics into their labs, and from there, consider what the future holds for psychedelic research, Langlitz's observations at times reveal more about the culture of neuroscience than psychedelia or spirituality per se. Franz Vollenweider's work involving hallucinogens and human subjects, for instance, has been carried out in Switzerland in part due to more relaxed regulations concerning LSD and other hallucinogens. Candid descriptions of interactions in the lab with students, post docs and Vollenweider himself, however, suggest that the rigours of modern lab-based research are not necessarily conducive to questions of spirituality or even consciousness as described by psychedelic encounters. One illustrative study came from drawing comparisons between psychedelic reactions with subjects who had been administered LSD and subjects who had reached a similar state of consciousness through meditation. Using brain imaging techniques and questionnaires researchers attempted to compare these experiences, but encountered a number of difficulties in securing subjects. These challenges were reminiscent of earlier psychedelic studies in the 1960s, but Vollenweider further explained to Langlitz how the now well-established mantra of randomized controlled trial methodology all but paralyzes such attempts to raise what are essentially philosophical questions in brain science.

Langlitz then relocates to California where neuroscientist Mark Geyer has established one of the most successful labs for investigating the effects of hallucinogens on animal behavior.

Here too, however, the culture of science is brought to bear on the design of trials and the questions that can be asked. Geyer explained to Langlitz that the historical reputation of psychedelics in California has shaped the research approaches, and meant that their work has focused exclusively on animal models to satisfy regulators and ethicists. While animal models are constructive, this design also introduces certain constraints if the objective is to interrogate the way that spirituality works in the brain. Staff in Geyer's lab seemed less motivated by these broader questions of mysticism or philosophy and was instead more focused on the detailed, incremental accrual of data that can be gleaned from behavioral studies. Psychedelic drugs in that setting are thus merely one of many substances being tested on rodents (rats mostly). Animal welfare, perhaps unsurprisingly, arose as a prescient theme in Geyer's lab, which raised questions about the potential folly of randomized controlled trials that could be tampered with simply by changing personnel. Langlitz's anecdotes included changes when one researcher sang to a rat before injecting a drug to help reduce anxiety. Another recalled running a group of animals by left-handed woman followed by a right-handed one, which sufficiently altered the environment and may have stymied the results. Although these subtle alterations did not appear in the trial methodology, researchers nonetheless found that "set and setting" remained critical features of their work. These observations reinforced the importance of routine and stability to accrue sufficient repeatable results. Once more, the structure and design of the trials took precedence over the novelty or ingenuity that a researcher might bring to a project. Taking time to ponder the intersections of spirituality, consciousness, and brain science seems to have moved beyond the grasp of even the most successful researchers whose time is increasingly devoted to securing grants, filling out ethics forms, and logging hours in the lab accumulating data.

While at times this book is a challenging read, particularly with Langlitz providing a dizzying array of references and theoretical influences that may not be familiar to many readers, it is worthwhile for anyone interested in psychedelic science. In fact, I would, this book is quite valuable for all neuroscientists given what it reveals about the culture of science "since the decade of the brain." As Langlitz suggests, over the past two decades brain research has grown phenomenally, which may then indicate that adding psychedelics back into the mix is no surprise. By studying the attempt to bring psychedelics into mainstream science, however, Langlitz clearly elucidates how the culture of neuroscience forces researchers to carve out space within an increasingly technical field that mitigates against asking big picture questions, such as how can science account for spirituality? In spite of the language of revival, Langlitz's study suggests that a more paradigmatic shift in neuroscience is required to convincingly redress these age-old dilemmas.

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