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Essay

Strange Bedfellows: Meditations on the Indispensable Virtues of Confusion, Mindfulness and Humor in the Neuroscientific and Cognitive Study of Esoteric and Contemplative Traditions[1]

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Abstract: Several recent publications in the study of esoteric traditions have drawn together insights from scholars of religions and philosophy, contemplative communities, metaphor and conceptual blend theories, cognitive sciences, neurosciences, and physical anthropology. These interdisciplinary explorations revolve around contemplative practices (meditation, mindfulness, ritual traditions, etc.). This includes both ethnographic and textual expressions of these traditions. This paper is a response to the questions and insights of some recent articles, books, and two 2015 conference papers, with the specific purpose of contributing to what Glen Hayes (2014) called "the need to develop and 'new vocabulary' for this interdisciplinary study" of contemplative and esoteric traditions (Hayes' call was specifically in reference to Hindu Tantra). To do this, I have referred to some other scientific approaches to which the scholars of esoteric and contemplative communities have not made much mention, and then to offer a form of reflection and meditation on what this new vocabulary and these research projects call us to do: their concepts, logic, and meaning. To this end, I have given some careful attention to the concepts of confusion, mindfulness, humor, and dispassionate vulnerability to help us better understand what we are doing, and where we should go from here.

Keywords: Tantra; Tantric *sādhanā*; Buddhist mindfulness; ritual trance; interdisciplinary contemplative studies; ethnographic neuroscience; humor in contemplative communities; philosophical confusion; conceptual confusion

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> "Hey! rub-a-dub, ho!, rub-a-dub, three maids in a tub.
>
> And who do you think were there?
>
> The butcher, the baker, the candlestick maker,
>
> And all of them going to the fair [3]."

In our case, it is a scholar of religions, a cognitive scientist, and a neuroscientist and the three maids are esoteric medieval texts, Tantric *sādhanā*, the modern compassion and mindfulness movements; the

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[1] These meditations or reflections grew out of conversations and responses to papers presented at "Listening Closely: Toward an Interdisciplinary Ethnographic Neuroscience of Contemplation" (Contemplative Studies Group) at the Annual Meeting of the Academy of Religion, Atlanta, 21 November 2015. In particular, there are three interrelated meditations. 1. What do the concepts involved in a neuroscientific study of contemplative practice require of us: what new ideas and vocabulary do we need? What do we already know? And, where do we go from here? 2. Specific response to Michael Spezio paper [1]. 3. Specific responses to Jeffrey Lidke's paper [2]. This article was written in response to their conference papers. I have not had the opportunity to review any revisions that they may have subsequently incorporated for inclusion in this volume.

tub might be our total cosmos of meaning and there is no fair. By the end, I hope to have made clear that in leaving out the fair the scientists among us may risk missing the context and overriding point of our subjects of research and, with them, what is more, the point of our own research commitments and efforts. In our rhyme, respectable folks are looking at a spectacle and it is not quite clear whether or not there is something humorous going on, something bawdy, or rather something that is simply confounding. I start with this nursery rhyme, because in this moment, we may reflect on how scholars of Tantra and scholars of contemplative traditions in general are possibly not anyone in the rhyme, but rather the hearers of it (and its other versions) not quite sure what we are hearing, what it means, or how to figure it out. Even though I begin in jest (and will return to importance of charm and humor in Section 3 of these meditations), I do intend quite seriously to explore the themes of uncertainty, vulnerability, existential transformation, mindfulness, and humor so as to consider how we might push the interdisciplinary study of contemplative and esoteric traditions forward. Although I may be starting us off in a place of disorientation, I will argue us through and out of this by the time this meditation is finished.

As these comments suggest, I have some counter-intuitive things to say. In the first section I shall lay out these and their context in broad and largely suggestive strokes; detailed argument follows in the subsequent sections. Ethnographically informed, ethically sound, and historically aware attention to the contemplative and esoteric communities (and their texts) requires of us a kind of close listening. It requires an attention to their own formulations of what they are doing and why. Interpreting these communities through cognitive and neuroscientific lenses requires an act of cultural translation. This is an act of translation that differs from the other kinds of translations we perform. Performing close listening and science together, is a new kind of study that requires a new vocabulary. By attending to these issues carefully and closely, I will argue that we will not be able to rely on our familiar ways of making sense when shaping this new vocabulary or the interdisciplinary study it seeks to express. The arguments explored in this paper are meditations on what this new kind of "making sense" requires of us.

1. A *New*, "New Vocabulary": Exploring Cognition, Neurosciences, Esoteric Traditions, and Contemplative Communities

What do the concepts and practices involved in a cognitive and neuroscientific study of contemplative and esoteric practice require of us? Glen Hayes [4] recently suggested that scholars of religions in general, the cognitive science of religion (CSR), metaphor and conceptual blend theorists (broadly construed), and the disciplines collectively known as neurosciences need to develop a "new vocabulary" to express what we are learning and researching regarding contemplative and esoteric traditions ([4], p. 688). On the one hand, it is likely that collectively we do not yet know what we are doing, yet on the other hand this *not knowing* is an especially constructive form of not knowing that will help us get a proper perspective on what we *are* doing and where we should go from here.

Of particular relevance for this argument, one should pay special attention to Hayes' discussion of what might be going on with the transformation of mind, brain, and body via modification of the prenoetic body schema (the triggering of mirror neurons and relevant neural networks associated with visual, tactile, olfactory, and emotional centers) ([4], p. 689). Hayes combines this with insights from neuroscientist Patrick McNamara and others to show that there are important overlaps between a human's self-consciousness and sense of self and religious experience. Simply phrased, the neuroscience of all human beings' "sense of self," may provide directly applicable analysis to our understanding of Tantric texts and the communities that produced them.

Hayes goes on to explain how this is relevant in Vaiṣṇava Sahajiyā *sādhanā*, and if he is even tentatively correct in these connections, it is likely that the conclusions could be generalized to other contemplative communities, including the many traditions of Tantra and such practices as visualization, deity yoga, meditation, and mindfulness practices. Inversely, there is one further insight that must be brought out clearly: If we *listen closely* to the esoteric textual and contemporary contemplative

communities, they might reflectively give us some insights into our own neuroscientific efforts and conclusions. Simply phrased, complex ritual practices and a variety of meditation practices that focus on *being a different kind of being (or person)* activate various changes and plasticity in neurobiological processes and structures so as to transform the practitioner actually into *a different kind of being*. (Hayes suggests that Tantric gurus might say "this in fact is what *their sādhanas* do" ([4], p. 693). Potentially, one could map this in the brain and in body structures and processes. I emphasize the phrase "being a different kind of being" because it refers to what underpins and brings about the character of observability and measurability in those "beings" that have it, and therefore is itself in principle not observable or measurable. As a result, it is one example of concepts that are emerging as indispensably relevant in the scientific study of religions and that have no equivalent in the semantics of hard scientific discourse, which is specifically designed to avoid that type of reference. Conversely, the central semantics of the hard sciences has no equivalent in the semantics of practices construed as concerned with being and meaningfulness (or "having a point").

Another way of phrasing this is that we are in the borderlands of a paradigm shift in the social sciences, where classical humanities and social sciences combine their efforts with new developments in cognitive neurosciences (some of these being technological) to the end that we might significantly supplement or even alter our concepts about such topics as Tantric *sādhanā* or Buddhist mindfulness.[2] Correspondingly, we are likely to supplement and alter our concepts of science and its methods as part of this project. Scholars of religions were already defining this path, at least in a preliminary way in the *Religions* 2014 Special Issue, "Science and Religion: Buddhist and Hindu Perspectives", in which Hayes, Geoffrey Samuel, Loriliai Biernacki, Norman A. S. Farb, and others outlined and illustrated their approaches and their sources. Independently, Sthaneshwar Timalsina [5] explored fundamental Tantric concepts and practices through the conceptual integration and metaphor theories of philosophically informed cognitive linguistics. Timalsina also draws heavily on the Tantric traditions' own conceptual formulations, and this is a guiding theme within this search for a "new vocabulary" to which I will return. It is effectively these approaches and sources that provide the foundation for my arguments. The arguments here focus specifically on responding to or remarking on Lidke [2] and Spezio's [1] articles that will be included in this volume. Readers should be aware that although the arguments herein include detailed reasoning and conclusions, review of the other two articles will provide readers with a more thorough and detailed context for my comments. There is one last observation that I think is important. In as much as scholars of Tantra and contemplative traditions have already succeeded in showing interesting and suggestive insights from metaphor and conceptual blending theories, these ideas are not the primary focus of my meditations here. The primary concerns that I express in the following pages are more directly focused on moving some of these insights into the neuroscientists' laboratories (Lidke [2] and Spezio's [1] concerns), responding most particularly to, "where do we go from here?" via the concerns and reflections that I explore.

Four Concerns: Other Research Projects, Conceptual Confusion, Ethical Issues, Defining "Reality"

There are at least four primary concerns that scholars of Tantra or the combined efforts of interdisciplinary contemplative and esoteric studies[3] should take into account: the extant research

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[2] Neuroimaging technology and the move of the super-computing to desktops and cell phones has affected both affordability and availability of neuroimaging technology in such a way to practically test various contemplative practices about which scholars of the previous century mostly merely theorized. There are exceptions. Some of this kind of testing of meditation in laboratory settings goes back to the 1970s and before, but those projects were limited in ways that now seem, at least theoretically, to be surmountable.

[3] Michael Spezio ([1], p. 1) employs the term Interdisciplinary Contemplative Studies (ICS) for self-reference, and I think that this expresses his recognition of an already crowded fields of overlapping (but not identical) approaches. ICS already has a research program, and so can be distinguished from some other ones (CSR, Biogenetic Structuralism, and others) that I briefly explore in this section. I do not know whether scholars of Tantra should adopt this term, or invent their own, or leave the matter undecided.

program of CSR and similar research programs, the issues of testability, the ethically complex context of these studies, and the different models of reality that operate for the communities (historical or ethnographic) in question.[4]

First, an unrelated collection of intellectual disciplines and arguments has already defined a research project in the study of religions that typically refers to itself as the cognitive science of religion (CSR). This work was formally launched in the 1990s, and is exemplified in the works of Robert N. McCauley and E. Thomas Lawson [8,9], Harvey Whitehouse [10], and several others. The CSR theories and methods are in many ways profoundly different from the projects dealt with here (or related projects), such as the CBCT protocols of the Emory-Tibet Science Initiative [11], the projects Michael Spezio [1] considers, the research programs called for by Jeffrey Lidke [2], or the theoretical demonstrations in Glen Hayes [4] (and the other contributors to the 2014 Special Issue), and in Sthaneshwar Timalsina [5], Part of developing a "new vocabulary" suggests that interdisciplinary study of contemplative and esoteric traditions chooses a path different from previous or similar approaches (such as CSR).

Taking this new path might include scholars of contemplative and esoteric traditions fruitfully entering into dialogue with CSR (examining its concepts, methods, or conclusions, and considering critical responses to them[5]), but fundamentally the two approaches diverge on purpose and perspective. This is a reflection of the well-known insider/outsider problem in the study of religions. Scholars of Tantra and contemplative studies are effectively a set of scholarly-informed insider approaches to contemplative communities (with a scholarly and scientific orientation), whereas CSR is demonstrably and outsider approach, primarily scientific in its commitments. The CSR scholars focus on religions and religious behavior in general, and on the particular cases against which they test and demonstrate their theories.

An older (1970s) set of studies and theoretical frames are included under the rubric of Biogenetic Structuralism. The conceptual basis for these investigations was driven by the work and theories of Eugene d'Aquili and Charles Laughlin, and others [12,13]. More recently (2001), related concepts are taken up in Newberg, d'Aquili et al. [14]. Examination of and familiarity with these approaches by interdisciplinary contemplative and esoteric studies is likely to be instructive. There are dozens of social and natural scientific theoretical explorations of ritual, trance, meditation dating back to the mid-twentieth century, and the scope and variety of these explorations invite attention. Furthermore there is some measurable danger of our current explorations and investigations attempting to reinvent a wheel that is already rolling along in anthropological, psychological, and neuroscience circles. Even if we discovers that none of these other modes of inquiry are already showing productive ways to proceed, we will have done a certain kind of due diligence and self-reflection that will push us to construct this "new vocabulary" in a more developed way.

My intention here is not to be exhaustive, but to indicate that there is an intellectual family tree of socially and culturally informed cognitive and neuroscientific approaches to religions and religious behavior that already has many branches. In order to strengthen and deepen our own arguments; to anticipate critical review and possible research pitfalls; and to productively draw out our own insights and reflect fully on them; it bears saying and then repeating (often) that we need to know what we are doing (and as I am exploring here, sometimes strategically *not* know what we are doing, in such a

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[4] Samuel [6] provides considerable insights into the different models of reality, their incommensurability, and their mutual and historically grounded effects on each other. He gives special attention to what science might learn from Buddhism, reversing and critiquing the naïve realism of scientific projects. Farb [7] contributes a sense of the ethical context, and Spezio extends this concern with ethics in his article.

[5] I would even suggest this, especially McCauley and Lawson's [8] work (although there are many sources to choose from in this area) because it is carefully reasoned and clearly argued. It may be that CSR concepts, such as Superhuman Agency or Immediacy, or counterintuitive properties fall too far outside the practical research concerns of the scholars and communities discussed here, but being aware of these concepts and theories will help these projects to at least see other research programs: their "new vocabularies" and the twists and turns that come with a paradigm shift. There has been more recently a critical response to CSR that could additionally contribute to this "new vocabulary."

way to better engage the issues). In addition, we need to listen closely to the traditions themselves (textually and ethnographically) to help us do this. While listening closely to the traditions themselves, we will need to split our attention in at least two ways. One of these ways includes our ongoing ability to keep our culturally critical perspectives. Traditions themselves have vested interests, political and power concerns just as do the scholars and scientists who study them. Also like us, they have their own conceptual confusions and blinders. The other direction for our attention will be toward trying to fully engage what they are actually trying to conceptually communicate. This is not just a casual form of listening, it requires conceptual translations of very subtle kinds, and I will return to this theme and explore it in some detail in Sections 3 and 4. It is with this kind of care and thoughtfulness and this kind of critical perspective that we will have to proceed.

Second, nearly immediately, a dual problem of genuine difficulties and conceptual confusions[6] arise for this "new vocabulary" and our approaches that it seeks to express. Some of these are carefully laid out in Lidke and Spezio's articles, and so I will not repeat them here. Suffice to say the ethnographic and performative circumstances in which meditation, mindfulness, Tantric ritual, or the medieval Tantric textual traditions abide is difficult to replicate in laboratory conditions: profoundly difficult. Spezio considers this throughout his article (particularly in reference to contemporary contemplative communities), and I will respond to this issue throughout the rest of these meditations.

Third, the ethical context of these studies has at least two areas of interest: the practices and concepts being tested (and future tests imagined by scholars of Tantra and other contemplative traditions) occur inside specific religious sense making frameworks. The practices inhabit a complex total view of reality, likely incommensurable with that of our equally totalizing scientific worldview. It complicates matters that we would like to see them tested in, specifically within, that incommensurable framework of science. This, in part is not a problem, because this testing seeks to find common ground or to productively and creatively shift between the frameworks in order to create a new paradigm that can gain insights from each. The traditions in question embed their practices within certain ethical and metaphysical concerns that are not necessarily (likely not) shared by at least some of the researchers doing the studies. This problem requires a robust act of cultural translation: an ethnographically and historically informed "new vocabulary." This is not an obstacle to study, but it is a concern and one that I will also return to later.

Fourth, what is really real is not a small question. It is not a big question either. It is a question that goes beyond grammar, sense, and meaning (since these are also elements of reality and so their nature is also part of what is in question); it is therefore a bigger than big question. Our contemplative traditions (historical and ethnographic) each have a different sense about what makes a really big question and its answer, and a different sense of reality and the nature of a human being. Additionally, there is, at least in part, a suspicion on our parts that the Buddhist practitioners or the Tantric gurus have something to teach *us*, as much as that our very sophisticated scientific measuring ideas and measuring devices have to show them.[7] To state this plainly, we are suspicious (possibly hopeful) that the contemplative communities know a lot about brains, nervous systems, and rewriting the human being so that it becomes *a different kind of being*. This can be expressed in two stages: first neuroimaging has already shown that advanced practitioners of contemplative disciplines do in fact and measurably change their own brains and nervous systems in predictable and profound ways. Although observable and recordable, we do not have fully adequate explanations for this. There are entailments to this that include a dismantling of few centuries of Western (more recently, Scientific)

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[6] I am indebted to Vicki Hearne ([15], p. 226) for this kind of phrasing ("genuine difficulties and conceptual confusions"), where she is critiquing conceptual failures within science in general and, in particular, the theory of behaviorism. She does nuance this criticism with recognition that her argument is sharply defined and not a rejection of scientific approaches in general. I introduce and work through some her thought and examples in Section 3.

[7] Although his emphasis is different, this is the same kind of argument that Samuel ([6], Section 2 and generally throughout his article) makes about Buddhism "enrich[ing] and extend[ing] Western scientific understandings, rather than simply reducing them in order to fit in with what we think we already know" ([6], p. 576).

cultural chauvinism (this is phrasing it too kindly) about the so-conceived "deluded practices of the mystic orient". Many readers attracted to this topic, will be fully familiar with these colonial and Western attitudes, such as the one expressed by Auguste Barth in the 1870s [16], when speaking of yogic practices, where he writes: "When these are rigorously practiced, they can lead only to madness and idiocy."[8] In 1931, Jean Filliozat [17] reports prevailing negative views of contemplative practices, and he worked against these kinds of judgments in his scholarship, attempting to bring clarity and legitimacy to several aspects of practices and thought present in Hindu yoga traditions. Even though scholars of yoga, tantra, and meditation no longer perpetuate these negative stereotypes (for the most part), there persists up to the present day (although in much weaker forms, and with many dissenting voices) certain negative (at worst) flaky and dreamy eyed (at best) Western stereotypes in the social sciences as well as popular culture that the current neuroscience has arguably already disproved (even though such studies are recent and not comprehensive or perfect in their design).

Second, this contemplative and esoteric transformation of human beings into *some other kind of being*, operates at the edge of what our normative scientific ideas about bodies, mind, and brains can handle. The final piece of this second entailment is that these transformations *might* (in their own and in our Western scientific terms) lead to empowerment, longevity, happiness, and meaning (again, even defined in our scientific terms). And this, from the hard scientific perspective, is the real issue that substantiates some insiders' claims, and challenges Western assumptions and categories. That is, the insiders might be doing exactly what they say they are doing: making a better human being. So, instead of some form of flaky, deluded mysticism, the insiders were the scientists all along (or at least some kind of technicians) and the scientists were, in part, engaging in some "rigorous practices that led to their own forms of madness and idiocy." I have pushed the comic envelope far enough at this point, but the insight is the same.

Alternatively, regarding this second entailment, if this project proceeds (and succeeds) in this way, will it more simply be redescribing—in a very clever way—our own truisms about Buddhist mindfulness and Tantric self-empowerment, using scientific language to thus *legitimize* our intellectual projects that we think of as in sympathy with theirs? Does proving that contemplatives harness and change their brains and nervous systems prove something in particular, and if so, then what exactly? More clearly stated, if we prove the practices are neuroscientifically measurable and thus, *real* (from a Western Scientific perspective), what are we proving and why is it important? There may be some self-referential and circular reasoning operating that we have not yet clearly identified. It may be that we are still, in part, trying to answer critics from the 19th and 20th centuries, whose ideas we already have little reason to trust (even without the neuroscientific support). Nevertheless, this may need reflection and expression, because the "popular" varieties of the naïve realism of scientific thought is pervasive and intractably embedded in our own attitudes and in Western and Modern cultures in general.

Another part of the danger here is a different possible error in the opposite direction from that of dismissing contemplative practices; it comes in the form of an overly romanticized and idealistic view of these traditions. Seeing these traditions as in sympathy with our own projects, or drawing from their practices and perspectives is a fair attitude to take, and not what I am seriously calling into question. However, there are naïve and popular versions of this too, with which we may not share sympathies but should attempt to clearly understand.

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[8] Barth (1879; English 1883 [16]). I first read this quoted in Jean Filliozat's 1931 work on yoga, p. 93; reprinted ([17], p. 270). Without going into a list, there have been many social scientific theories of contemplative behavior that treat at least some of its claims and practices as pathological. Although scholars of Tantra and Buddhist contemplation typically no longer fall into these characterizations, the stereotypes have not disappeared. Also, I am not suggesting the Buddhist mindfulness or lovingkindness, yoga, and Tantric practice are all the same thing, rather that dismissive Western attitudes have generally and unfairly stereotyped the traditions of Buddhists, Hindus, Daoists, and other traditions that they conceived as "mystical" or non-rational. More plainly, scientific and social scientific and philosophical traditions in the West have been clearly negative and judgmental about other traditions (or alternatively, romantic and idealistic, which have their own sets of distortions).

One avenue takes a bit of a science fiction track: we could spend a few decades, figuring out (proving) what these practices are capable of, and that leads to the rational conclusion that maybe our time would be better spent becoming Śāktas, Bikkhus, or Bikkhunis (some kind of positively construed brave new world). Or, does this trek lead us into a circle drive (or cul-de-sac) in which we unexpectedly reflect (instead of prove) something that has already (arguably) been proven: that human neuro-systems are plastic instead of static and that learning and experience alter the systems? It may be that the Buddhists and Tāntrikas are doing something very interesting, but not different from what any very committed artists, thinkers, athletes, or rigorous practitioners of methods do: reinvent themselves and this reinvention is measurable in their brains and bodies. This amounts to a kind of "thick redescription", a translation of one concept of cultural excellence and intensified training into other similar forms. This could be instructive, but it might not supersede the literary, social scientific, and philosophical resources we already have.

The final avenue leads to a frustrated science (a certain dead end) that cannot quite figure out how to reduce contemplative traditions to laboratory conditions without fundamentally distorting them: this ultimately creates a kind of pseudo, laboratory-only contemplative studies: one which would not satisfy the insiders nor explain anything useful to the outsiders.

A separate but related set of issues will arise simultaneously on any of these avenues of exploration. Power, politics, economics, and all of the other vested and competing cultural forces will permeate all aspects of this study and its new vocabulary. Such research has costs and the results will include various forms of cultural currency and the various populations and agents competing for control of those currencies. Some aspects of this kind of study are only in their infancy. It is unknown what shape these forces will take for studies not yet done. In other cases, such as the international mindfulness movements and the popular yoga industries, there are clues to some of the forms and forces that will come into play. Scholars engaging in this new work and its new vocabulary will have to develop equally new forms of vigilance, critical approaches, and self-awareness of the cultural forces that will come in to play.

My purpose here is not to choose, predict, or suggest which of these avenues and concerns correctly describes what we are doing, but instead to raise what might be the relevant issues, or to demonstrate the kind of internal and reflective self-awareness that could lead us to more of the relevant issues. If (and this is a mighty and loaded "if"), the contemplative research projects succeed (even partially), then they will demonstrate that scholars of the humanities, social and natural sciences do need to alter their literary interpretative and scientific explanative theories and practices. The case is not proven or fully theorized, but there are some suggestive breadcrumbs to follow.

2. Lidke's Bi-Directional Gaze

In Jeffrey Lidke's "The Potential of the Bi-Directional Gaze," [2] he forms a hypothesis that is summarized in his numbered conclusions, 1–5. I will not fully address here the implications of his sixth conclusion, refining a position on point 6 would rely on the actually testing of 1–5 in the cognitive and neuroscientific ways he suggests. His hypothesis is very intriguing, and I think one could look to some of the broader theoretical and practical programs discussed in section one to develop his insights and call for future researches. I would summarize his conclusions as having two prominent features: 1. the concept that Tantric *sādhanā* (meditation, ritual, etc.) is a central nervous system training program that can be tested via contemporary neuroscience, and 2. reviewed in this experimental context, our historical, ethnographic, and experimental awareness of the concepts of Tantra might shed some light on both our understanding of Tantra and on human neurobiology itself (another example of the idea that the Tantric practitioners might have something to tell us about brains and bodies that our neuroscience alone has not fully cognized).

After describing these two features and briefly elaborating on them, I want to emphasize that this research brings out an unavoidable confusion in the methodological concepts we need to employ in this kind of context. This is a form of confusion that is structurally part of this kind of research. I will

argue that this particular sort of confusion is a virtue that scholars should understand and embrace as part of their "new vocabulary."

First, Lidke's concept of nervous system training, flow, and synesthesia creatively reexamines his combined sources from the social and natural sciences under a Tantric light. His concepts are intriguing, and the larger bodies of research suggest that he is on a productive track. Barbara Lex (1979) raises a number of relevant issues [18]. She offers a detailed discussion of what she calls ritual trance, which for her in this context includes the kinds of meditation practices of interest to Lidke, as well as others such as in medicine traditions of dance and drumming, spirit possession, and other altered states of consciousness that occur in symbolic and ritual contexts. I will not repeat her full analysis here, but the relevant issues include her explanation of central nervous system (CNS) tuning, the role of the parasympathetic (PNS) and sympathetic (SNS) nervous systems in this process, alternating and complementary shifts between the function of brain hemispheres in ritual contexts, the social symbolic settings, and the concepts of rebound and mixed discharge (these last concepts are of special importance for Lidke's hypotheses).

In order to make my first argument I will simplify the distinctions between specific brain areas, brain hemispheres, and nervous system responses and processes to the terms "rest functions" and "arousal functions."[9] One of Lidke's concerns is that the researchers in his sources (Amihai, Kozhnevnikov et al. (2014) and Kozhnevnikov (2009)) divided the Buddhist meditation practices and practitioners (the objects and subjects of their studies) into these rest and arousal categories. This is where Lex, her sources, and her broader emphasis on ritual trance in general (as opposed to just working with Buddhist meditations) provides particular insights. Lex does report (as of the 1960s and 1970s) that many of the meditation techniques studied at the time were interpreted mostly through analysis of decreased activity in the left cerebral hemisphere, increased activity in the right cerebral hemisphere, increased alpha waves, and primarily as producing a relaxation or rest response. However, she goes on to argue that the processes are more complex and involve a combination of relaxation and alertness that arise through CNS tuning ([18], pp. 136–39).

Ritual practices and meditations of this sort employ driving behaviors to tune the CNS.[10] Interestingly, this tuning appears to work whether rest functions are emphasized or arousal functions are emphasized ([18], pp. 145–46). (For example trance dancing and austerities would drive the SNS, and sitting meditation and withdrawal of the senses would drive the PNS, but as Lex' discussion argues, the whole process is more complex than the rest verses arousal dichotomy suggests). First, the behaviors produce an increase in one system that inhibit the other (as is normal, SNS and PNS functions alternate to produce homeostasis). These behaviors increase, further inhibiting the other system through tuning, and counter-intuitively not only is the opposite system fully suppressed, but stimuli that would normally evoke the opposite system (non-sensitized system) instead evoke a response in the sensitized system (termed *reversal phenomena*). If stimulation continues, a third stage can result where the alternating, reciprocal relationships between SNS and PNS fails and simultaneous discharge of both systems occur ([18], p. 137). It is important to emphasize here, that under normal circumstances the nervous system cannot function this way; SNS and PNS are by nature alternating systems. Examples of this would include the body being flooded with both anabolic and catabolic hormones at the same time, or unlike the standard model of relaxation where brain activity decreases

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[9] By doing this, I simply beg the indulgence from the neuroscientists who might be following this discourse. Stimulation of ergotropic and trophotropic systems includes various forms of external stimuli, cortical activity in the brain, autonomic effects, somatic effects, and behavioral effects ([18], p. 136). "Arousal" and "rest" are generalizations at the observable "behavioral" level—the coherent manifestations and results of all of these systems and subsystems functioning in the ways that they do. See Lex [18] throughout. For the purposes of clarity, as I hope to make clear, this simple distinction will suffice for this part of the argument. Ultimately, it will be the neuroscientists, physical anthropologists, and others with particular forms of scientific expertise who teach the scholars of Tantra how to appropriately phrase these issues when developing this part of our "new vocabulary".

[10] Lex' discussion of CNS tuning, ([18], pp. 134–44): the summary that follows, ([18], p. 137). She credits Gellhorn [19] and Gellhorn and Kiely [20] for articulating the three stages of tuning that I summarize here.

in the left hemisphere and increases in the right, one would get activity in both hemispheres (and not of the usual sort).

Tuning creates the mixed discharges. It appears to do so in slightly different ways depending on the type of practice. In peaceful meditation practices (such as with *śamatha* and *vipaśyanā* or similar) the effects of tuning on the CNS shift the balance to dominance of the rest function (trophotropic), with some activity in the arousal function (relaxed but alert behavior); tuning in ecstatic trance both rest and arousal are heightened (and it is clear historically, ethnographically, and via Lidke's sources that Tantric traditions employ both peaceful and ecstatic practices as part of their total body of ritual and meditation training). The conclusion that Lex (and her sources) draws here is that these changes in the states demonstrate that "learning has occurred in the nervous system." Phrased differently, these practices alter the functioning of the nervous system to produce a *new normal* that the researchers described as therapeutic, integrative, and salutary ([18], p. 138).

I will return to this *new normal* shortly, but first want to insert some cautions and concerns. Lex, [18] cautioned in the 1970s (citing and extensive list of ethnographic and clinical sources) that cortical functions, brain hemispheric behaviors, and autonomic balance might differ widely among diverse populations. In other words, brains and nervous systems share many structurally universal features but functions might have many culturally specific expressions and differences. Their claims were that ritual trance (in Lex's broad meaning) was likely a human cultural universal, but exploring all the particular details and moving such study into laboratory conditions faced many unknowns both in terms of the hard science and the cultural influences. This summary of Lex [18], only explores a small portion of her discussion of ritual trance. The work of developing a new vocabulary suggests that scholars of contemplative and esoteric traditions reexamine Lex's work, her sources (their heirs, and critical responses to of them), as part of this intellectual project. One needs to keep important focus on the practitioners of Tantra, but adding this broader perspective on ritual trance offers resources that investigations purely into meditation might have missed.

2.1. Intrinsic Problems: Generalization and Sample Size

We need to keep this in mind when we turn to specifically tantric practitioners. If we accept Lidke's call to develop a Tantra specific research protocol, then we will need to be very slow and uncertain as we proceed. There are at least two pressing reasons. The first is the same issue raised by Lex, that tantric practitioners might represent a very culturally specific special case. Special cases are instructive (both scientifically and philosophically), but research of this kind would need some serious self-reflection as to its goals and (if successful) its claims. Second, and related, there is the problem of sample size. Scholars of Tantra and practitioners who would willingly explore their practices in a laboratory would need to project forward the goals of their protocols and research program with these issues in mind. One or a few people can productively practice Tantra, but this fundamentally contradicts or violates the principles and methods necessary for scientific generalization (i.e., sample size is important).

There might not be a large enough sample of Hindu Śākta Tantra practitioners available to test Lidke's hypothesis about the bi-directional gaze. One could combine research with Śākta Tantra practitioners to that of Vajrayāna Buddhists, or practitioners of *kuṇḍalinī* varieties of Haṭha yoga, or something of this sort, but where this would possibly address the sample size problem, it would play into the cultural and practical differences difficulties. An exaggeration of these difficulties could occur depending on the practitioners' ethnic and cultural backgrounds. Do Tibetans, South Asians, or Westerners have the same (or rather, similar enough) brains and nervous systems if they all practice some form of *kuṇḍalinī yoga*, or do other unexpected factors play into this that cannot be solved when one is working with a small sample size? I will limit myself to one example, but possible variables seem mind-numbingly complex here. Such as, do practices that focuses on four subtle centers (*cakra* or alternative formulations) produce differing effects from those that focus on 6, 7, or 36? Answers to these kinds of issues would only be discovered in the process of doing the research; and using a

protocol from one system would interact with the others in unintended ways. This would "effect" and "affect" the outcomes and results of the study. Such unintended results could lead to all manner of genuine difficulties and conceptual confusions.[11]

2.2. Understanding the New Normal Produced by Meditation Practices

On this point, I will return to the *new normal* (in the brains and bodies of people who have CNS tuning practices) created by ritual practices and its relationship to the virtue of practicing an attentive form of reflective confusion. The conflict between the "new normal" and "old normal" shows us how to think about these issues. Under typical neuroscientific reasoning, the old normal functioning of the central nervous system (from brain all the way to behavior) is largely unambiguous (even if showing cultural variations, and not fully understood by the researchers): it can be mapped and at least potentially explained. The significance of what we record in the brain and body systems is given by the normal configuration (even if culturally specific). When this configuration shifts (the tuning), the same recorded phenomena will be symptoms of the different condition, possibly even an opposite one (for example, desirable verses undesirable) in each case. Like the reversals and tuning in the systems themselves, the meanings and values attributed to the body's functions have changed as the functions have changed. This is subtle but not hard to follow. Although not hard to follow, it is somewhat confusing (or to borrow some Western religious vocabulary, *it is hard to believe*). This confusion does not arise because we cannot understand what we are seeing, but instead precisely in the form of seeing it clearly.

Dealing with things that are confusing (or hard to believe) now returns us to a claim that we see Lidke make about careful listening (and the other scholars exploring these issues suggest the same): the need to pay attention to what the traditions themselves say on these issues. Esoteric and contemplative traditions (as well as very thorough philosophical traditions[12]) specialize in preparing the practitioners to understanding life itself anew. They intentionally explore and challenge conventionally held notions (such as "purity and pollution" in the Tantras or "the self" in Buddhism) in order to systematically alter their way of being in the world: To turn themselves into different kinds of beings (quite literally, as well as conceptually and symbolically). A thoughtful practice of the virtue of confusion is an essential part of this, and it may be one of the values that we as researchers need to adopt in order to proceed. In other words, we will not answer all of the questions I have raised here without trying out and experimenting with some of these hypotheses (like the one Lidke suggests), strongly guided not solely by our scientific assumptions but by listening closely to what the contemplative traditions say and discovering whether or not we can translate it productively to laboratory conditions.

There are two unsettling conclusions to this: if we want to do a cognitive neuroscience of contemplation and esoteric transformation, then it does, practically speaking, have to be done in a scientific way. We cannot escape this truth: mapping brains (or other body systems) in a laboratory requires strict and rigorous attention to scientific methods and practices. What we must add to this (and Spezio's discussion in part 3 demonstrates concrete examples of this) *is that these methods, that we must follow, will fail*. It is at this point that we will be able to begin to really discover the level of

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[11] Samuel's [6] discussion in Section 4 of his article explores related issues and provides some clear insights into the genuinely murky and confusing possibilities as well as positive realizations that could arise from doing this kind of research.

[12] It is not my purpose to actually construct the arguments necessary here, but I will suggest that Plato's "aporia" (being perplexed and confused, and arguably recognizing the importance of this state), the use of similar concepts in Ortega y Gasset's sense of life as a dialectic and of life as a project, or in Heidegger and Wittgenstein's thought, and in Post-structuralism. Zen Buddhists and Philosophical Daoism also take up confusion and specific programs of not knowing. The very esoteric nature of the Hindu Tantras, offers multiple points of reflection regarding different kinds of clarity and confusion. My point here is not to conclusively argue this in a cross cultural way, but to show that contemplative and philosophical communities (including the ones we are examining here) know a lot about confusion and not knowing, and suggest or argue in favor of working with confusion in ways that typical scientific thinking and popular forms of naïve realism are specifically formed to avoid. If the project we are exploring here is to succeed, it needs to recognize the texture and necessity of working through these counter-intuitive and pervasive issues in sustained and rigorous ways.

confusion we are inviting into our scholarly discourses and practices. Our response to this will be the test of our scholarly virtues and our creative abilities to then more fully begin to develop our new vocabulary in earnest. This is also the place where our attention to the traditions themselves can provide helpful insights, because they specialize in change and transformation. We would have to learn from them to see our projects through a bi-directional gaze of our own. Thus, I would argue that Lidke's (and the others') call for careful listening and attending to the traditions actually goes far more deeply and much more seriously than we may have yet realized. It is not just the traditions' surface, particular interpretations of their own actions, or their theories of human life that are potentially instructive here (they are), but additionally and in the long run more profoundly, their aviator's spirit or search for transformation that would actually guide us toward a genuine neuroscience of contemplative transformations. I will discuss how this confusion (undergoing it and negotiating it), which is now evidently a research virtue, connects with mindfulness, humor, and vulnerability in Section 3.

3. Spezio: A New Ethnographic Neuroscience [1]

There is a laboratory anecdote reported by Vicki Hearne [15], in her work on communicating with animals, in which students designed experiments that employed domestic cats as the research subjects. On review, the venerable professor said: "Don't use cats, they will screw up your data ([15], p. 225)." The context was that cats will solve numerous puzzles for a food reward, until they figure out that "pushing the lever" is what researcher wants them to do. Hearne reports, that upon this realization "some of them will *starve* to death, rather than do it ([15], p. 225)." She goes on to say (and this is part of the point of using her example):

> That result fascinated me—I would have dropped everything in order to find out what the cats were trying to do or say to the researchers. After all, when human beings behave that way we come up with a pretty fancy catalogue of virtues in order to account for it. But, of course, I was stupidly supposing that the point of these efforts was to understand animals, and it wasn't at all. The point was simply to Do Science... ([15], p. 225).

This story points to a particular difficulty present in the neuroscientific study of contemplative practices. Michael Spezio's call for an Ethnographic Neuroscience explores and exemplifies the precise nature of this kind of difficulty [1]. He describes how various prominent studies are "plagued by confusions as to what is actually being studied." Spezio explores all of these examples in detail and sorts out the particular difficulties with each. I shall not repeat his arguments; my purpose here is only to signal the reader to reflect on the deep lack of clarity and coherence within the research community itself regarding what exactly is being studied, how, and in what context. These confusions are represented in such examples as the marketing and teaching of mindfulness as "value-neutral" without a clear or necessary connection to an ethically grounded lifestyle. Others include separating compassion and empathy, or even more confusingly defining either compassion or empathy in ways that neither match with the community of practice or with the controls and methods of the research studies. Another example is Singer and Planck's separation and isolation of practices (such as mindfulness of body separated from lovingkindness, and others) in ways that puzzled the contemplative practitioners on the teaching and research team. To a certain extent, we do not know what we are doing. This is not to thoroughly or radically vilify the conclusions or results of these other research programs—part of what I want to suggest is that this "not knowing what we are doing" is probably a productive and philosophically valid place to inhabit, at least in some ways that I will articulate.

These kinds of confusion are constructive. They show that to the extent that we think (for sure) that we know how precisely to study lovingkindness, mindfulness, Tantric meditation, or ritual processes in a laboratory, we discover our communities, in their fluid variability, impressively do a better job than even cats do at frustrating our intentions and challenging our assumptions. And, like the cats, they are trying to tell us something when they do this: they are trying to communicate something

that we cannot scientifically hear or understand. It is also true that this fluidity of human practices makes them inherently and unavoidably confusing to the systematic mind (i.e., these confusions are an inevitable part of the research process). Consequently these confusions are the place where scientific inquiry meets its human subject matter; and the specific character of these confusions is our guide to the cultural and psychological distinctions we have missed. We should pay attention to these confusions. Spezio draws our attention to this issue thoughtfully, and we should attend to what he is saying and think of ways to extend it generally in our project to create and sustain an interdisciplinary contemplative studies (whether it be called Ethnographic Neuroscience or ICS and including its "new vocabulary"; all of these various intersecting interdisciplinary approaches that are our subject matter).

I want to reflect on Spezio's critique and insights through a meditation on two of his topics: mindfulness and humor. These are not his only points, and in fairness may not be his primary concerns, but I hope to show that considering these two result in certain conclusions and insights that might be more generalized in such a way as to contribute our understanding of *what we are doing*, and why we are doing it, and to the formation of our new vocabulary.

3.1. Research Experiments and Mindfulness

The spirit in which one does something is not just a trivial addition to what is being done, it is the spirit of *what one is doing*. It is part of what one is doing: an essential, integral part. All the more so, if one studies practices that themselves involve the spirit in which one does things, the issue of the spirit in which one studies them is very directly relevant. So, if one studies mindfulness practice—which is in part the practice of paying careful attention to one's actions and being aware of the consequences of those actions, to the self and to others—then there is an attitude (comportment, spirit) that one needs to adopt in order to actually be dealing with mindfulness, at all. This attitude most importantly includes that the practice one is aiming to study has something of its own to say about attitudes or comportments of this type. If we make that study in an unmindful way—not paying attention to what the Buddhist say (and can demonstrate) is the appropriate and proper context and attitude for the practice—then there is something puzzling and strange going on. In this context, the researchers are missing an integral part of what they intend to study and explain. Like Hearne's cats [19], if we do it this way, then we are engaging in something like Doing Science (for its own sake, or something like that), instead of making these efforts for the sake of understanding mindful human behavior.[13]

I would argue that it is not surprising, when Spezio reports that the insiders were puzzled by this kind of approach. The researchers have taken the practices and conceptually chopped them up into pieces that might not make any sense to the communities of practice, and furthermore do not make sense according the basic rules of meaning and sense making. They are arguably saying that it is really important to learn about paying attention and being mindful—so important that we are going to study it in a lab and develop research generalizations and hypotheses around these concepts and practices—but when it comes to designing experiments, we are not going to be mindful or pay attention. Instead, we are going to make up our own distinctions and categories to study because it is easier to study it that way in a laboratory and we can more efficiently make up an experiment in that way. Or phrased differently: I'm not going to study mindfulness in a mindful way, but I am going to study a facsimile of mindfulness of my own invention. I am definitely going to do it in an unmindful way because that is a lot easier to design in a lab. This is not a frivolous observation, it exemplifies the issue that our cat anecdote raises—if in order to do science we have to distort that object of our study (making it an object at all also complicates this problem) in a very fundamental way, then we are violating the principles of what science at least philosophically intends to be doing and imagines itself doing in favor of some kind of cartoon version of what it is doing.

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[13] See Samuel [6] and Farb [7] exploring related issues.

A few cautions and concerns arise here. There are many circumstances when redefinition, reduction, or selecting out a single variable are perfectly adequate scientific activities (my purpose here is not to throw the world of science out the window, and this is not Spezio's point either). Generalization, probability, reductionism are defensible and coherent scientific concepts. The question here, is not whether or not one can reduce *any* subject matter to constituent parts, but instead whether or not one can do this with contemplative practices: Either *at all*, or in the ways that it is currently being done. Spezio's arguments suggest that we might succeed at doing laboratory work with contemplative communities, but that we might need to also fundamentally rethink how precisely we are going about it, and how we should change our approaches going forward.

I want to extend and rephrase Spezio's general conclusion as this: there are many research projects that respond to what they think of as *genuine difficulties* (studying mindfulness or lovingkindness, or other practices in holistic or ethnographically sensitive ways or in their natural social settings) by relying on their familiar methods of reduction, redefinition, and experimentation. The problems may include *genuine difficulties*, but they could equally and as easily be conceptual confusions rather than genuine difficulties (or an admixture of both).[14] We should, at least as part of our thinking, look to the communities themselves to understand and ameliorate these conceptual confusions in order to create new ways of studying their practices. We should do this instead of relying on our familiar ways of doing things (in the lab or theoretically), because we *do not yet know what we are doing, nor how to do it*. We are (professionally and productively) developing our methods and our "new vocabulary" as we go along. We are inventing an interdisciplinary contemplative science, and we do not quite yet know what shape that science needs to take in order for it to push itself forward fruitfully. It may also become clear that there are some genuine difficulties, but until we sort out the conceptual confusions, we would not be in a position to know this one way or another.

Crucially, because of the fluidity of human practice, it is inherent in social scientific study that we recurrently do not know what we are doing. It is therefore a permanent part of scientific method itself in these contexts that we learn from the communities themselves—and that we do so specifically in the ways that their principles are not yet capturable in our existing scientific terms.

3.2. Humor and Contemplative Studies

Spezio [1] refers to humor as a cross-cultural value of contemplative communities in his article. A casual reader might just register this as simply one thing in a long list of contemplative values (with suffering, vulnerability, patience, compassion, and confusion), but I want to focus on this and extend what Spezio says in a way that might give some insight into the larger issues of developing a new vocabulary. It was clear, from Spezio's oral presentation of this work, that humor was not just an add-on, or extraneous comment from the communities of practice. Instead it was clear that sense of humor was important to these communities. What I want to emphasize is that if we pay attention and listen closely' to what the communities of practice say, they say things like having a *sense of humor is important* and *increasing vulnerability* is a fundamental part of overcoming suffering. This is in sharp contrast to what Spezio reports as a prevailing trend in the research community to offer operational definitions of mindfulness that emphasize reduction of vulnerability. For one example, mindfulness is marketed as reducing stress and promoting objectivity. Additionally, although Spezio does not comment on this, I suspect that no one is designing operational definitions or lab experiments on a contemplative sense of humor itself. To repeat, if we pay attention to what the communities of practice *say*, we might realize that they *mean what they say*. One of the reasons that I would like to point out is that humor as regards to our overall subject is a very special kind of contemplative awareness.

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[14] As I pointed out in the notes in Section 1, I am indebted to Vicki Hearne ([15], p. 226) for this type of phrase and the ideas I am expressing when using it.

Sense of humor gives us a perspective, often in a way that we find charming or amusing. Most of us enjoy and celebrate humor because of its charming and entertaining character: because it tickles our fancy; it is pleasurable. This is not especially what is important for contemplative communities (although it would be a part). When examining what a sense of humor *is*, one realizes that the contemplative communities are pointing to a much more fundamental and subtle point (one related to mindfulness, vulnerability, and the other points they emphasize). Performing this examination, what we will see is that sense of humor is a very special kind of meta-awareness. It could be a meta-awareness of something trivial: A play on words, a pun, a joke. These figures of speech work via basic rules of meaning with which we can intentionally play. A joke, or a play on words, works by showing us that the story we thought we were in, is not actually the story we find ourselves to inhabit, in the end. But as this way of expressing it suggests, this meta-awareness of our expectations of meaning can also be profound, and the contemplative communities say a sense of humor is important for the most important existential issues of human life.

Sometimes to laughter, sometimes to groans, I often illustrate this to students through the joke: "Mary had a little lamb, the doctor was quite surprised." This joke works because "had" has more than one meaning in English, and because we also know in advance a nursery rhyme about Mary and her lamb. Because of this we have an expectation (our knowledge of Mary and her lamb), and this gets violated when we intentionally change which meaning we intended for "had."[15] This is important and illustrates that sense of humor itself is an exploding of a circumstance when we are paying attention to meanings, and the meanings then shift. We are carried along by our own meanings (we have expectations, we think we know what we are going to hear), but our expectations are violated through an exploitation of certain rules of language and meaning. And, if this is done at a really sharp angle, then the result is not simply that we are confused, puzzled or mystified, (or angry), but instead we find it clever and amusing. To say this a little differently, we find it in some way unexpectedly meaningful and affirmative.

This is connected with the themes of encountering a perspective that is bigger than us (or bigger than our current resources for making sense)—suffering, loss, confusion, new insights—in two subtle ways. First, when the communities of practice say something, and mean what they say, they are in part using ordinary language to communicate ordinary ideas: such as by saying operating with humor and vulnerability are important. As with other forms of deeper philosophical insight, these words, that they mean to say, mean more than our ordinary senses of them. Most people might agree, a sense of humor is worthwhile, in general and in our most ordinary sense of human life. These communities probably recognize this (mean this), but they are making a more radical claim. For them a sense of humor is fundamental and worthwhile in the context of our deepest and most profound ideas and practices of dealing with the problems of human existence (suffering, meaning, ultimacy). In order to recognize what they are saying, we need to see that they are expressing something very different from what we would ordinarily mean by these same statements. In other words, we need to be surprised out of our expectations of meaning, in the same kind of process by which humor works. In this case it is true of our understanding what these communities say about humor itself, but it is also true of understanding human variability generally, and especially of understanding unfamiliar human depth.

There is an intermediate version of this as well. A scientist might add that humor relieves stress, promotes comradery, gives insights; and, that same scientist might design experiments to test precisely how humor has these social effects or how humor operates neurobiologically, yet this operates, for the most part, only just beyond the ordinary insight (it redescribes the insight in more precise, scientific terms). The communities of practice are saying more than this: humor does not simply relieve stress

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[15] I am deeply indebted to Jeremy Barris, scholar of philosophy, for this joke and the line of reasoning that I am exploring here. His insights into humor and meaning, sense and sensibility have largely come from personal communication and team-teaching. For readers who find this line of reasoning intriguing, I would recommend the forms it takes across a variety of contexts in his *Sometimes Always True: Undogmatic Pluralism in Politics, Metaphysics, and Epistemology* [21].

(it might increase or relieve it, or paradoxically do both at the same time), it is instead part of a fundamental insight into the most meaningful aspects of human life. This *is* a radical claim. And what is important here is not only that we come to understand contemplative practices of humor in a way that hard scientific method does not allow, but that this understanding of humor, and so the scientific method that allows that understanding, must itself involve the kind of humorous meta-awareness that these communities advocate.

Second, the communities of practice (I would argue) suggest and show the importance of humor, but they leave this largely unexplained. This lack of explanation contributes to why this subtle and profound insight might be easily ignored by researchers. They say it, and mean it, but they do not emphasize the issue further. There could be a variety of reasons for this. One could be that they consider the statement to be self-evident, and thus it does not occur to them that explanation is necessary. Alternatively, in a contemplative community, practitioners are expected to figure out important things though contemplation and experience, and to be suspicious of confusing description or explanation for understanding. The scholar and scientist's contexts and purposes are different. We need to take the communities' statements seriously, but outside of their community of practice, we need to engage in additional thinking and consideration to precisely understand what *taking it seriously* means for our experiments and reflections. Outside of a community of practice, what is self-evident may become opaque; what has a practical and experiential context may become theoretical. Following a contemplative method may not require explanation, but analyzing the method conceptually does. We need, then, to become sympathetically immersed in the community's unexplained practices for some time before we make decisions about how to conceptualize those practices in systematic and testable terms. In other words, just as being guided by the insights of humor is a necessary element of adequate social scientific method, it is also a crucial part of properly social scientific practice to be actively vulnerable, to allow the subject we are studying to shape us and to do so profoundly, in order for us to come to know what we are studying, and so what we are doing, at all.

3.3. The Humor and the Problems with Conceptual Comprehension

There is one final part to this issue: Spezio reports that contemplative communities typically agree that the most profound truths of human life can be experienced, or actualized, but they defy conceptual comprehension (this is a stereotype of mystical expression that appears in contemporary ethnography and in classical and historical accounts). I will not develop an argument in response to this fully here, but instead tease this issue in a small way to show that it includes the same kinds of comingling of our ordinary sense of *defies conceptual comprehension* and possibly other senses that require some thought and explanation. First, while it is important for us to listen carefully to contemplative communities and to take seriously what they say—ultimate truths are experiential and cannot be comprehended conceptually—they also talk about these ultimate truths a lot and in great detail (for centuries, in poetry, prose, performance, and *conceptually*). Second, and arising from this first point, there are moderated forms of conceptualization: conceptualization may be an important part of what these communities are doing, but they do not want practitioners or outsiders to confuse the concepts with the practices; or, to mistakenly consider the concepts as fully adequate for understanding.

Now, on the one hand, this is precisely a place where our larger realizations and discoveries in neuroscience are instructive. Contemplative practices activate a variety or cognitive and biological processes, some of which operate beneath and behind the structures that inform our ordinary awareness. A simple formulation of this is that we have brain and consciousness states that deactivate our conceptual apparatuses. In other words we can experience feelings and states of consciousness during which our ordinary awareness is chemically and electrically turned off: in quite straightforward and understandable ways—we cannot comprehend certain experiences, because our comprehension apparatus is turned off at the time. We can reconstruct these states later, conceptually or poetically, but we cannot do so at the time (regarding various meditation states, I want to say something like:

"I cannot phrase the experience in words, because the word-making part of my brain was suppressed or turned off at the time").[16]

On the other hand, however, a tentative explanation through the lens of the experience of humor would take something like the following shape. Humor in ordinary and profound ways gives us a cognitive and conceptual model of a very fundamental aspect of human life. It unsettles us, but not in an upsetting way. It provides a moment of amusing confusion, reflection, realization, and reorientation: this is *like* life itself, meaning, and ultimate consciousness. Its results are blissful, but not by some means of simple pleasure and reward, but instead through recognizing our disorientation and accepting it. Here conceptual disorientation is an element of a new, unexpected *orientation*, in which the disorientation is not an incapacity to be overcome, but instead an integral part of the now-understood situation. It now makes sense, as a meaningful element of life understood as a confusing process. In this new orientation, conceptual disorientation is not opposed to conceptual sense but is part of it. In other words, the meaning of "defies conceptual comprehension" now turns out to be a working part of "conceptual comprehension."

Systematic, conceptually consistent scientific method cannot accommodate this systematic shift and reorganization of the meanings that express our subject of study, a reorganization of relevant meanings that therefore is itself part of our subject of study. To return to an earlier point, an adequate scientific method must centrally undergo, pay attention to, and work with confusion.

It is not entirely unexpected that this insight one can gain by reflecting on the role and nature of the profound kinds of conceptual confusion that structure these cross-cultural and cross-semantic contexts parallels (in some ways) the *tuning* effects of meditation and ritual on consciousness, mind, brain, and body that I discussed in Section 2 (even if it does so primarily at the conceptual level). In the present section I have tried to show that this parallel is further present with mindfulness, and in the humor and the immersive vulnerability that are sometimes indispensable ways of negotiating these kinds of confusion.

All of these express the same basic condition of social scientific research, that it deals with the fluid, often self-incommensurable variability of human culture and phenomena, so that social scientific research, as itself one of the elements of that culture and one of those phenomena, must inherently involve that same structure of fluid, often self-incommensurable variability.

4. Conclusions

What I have tried to show in these reflections and meditations is that developing a "new vocabulary" does not simply depend on getting our words and concepts collected, refined, and defined. It will need to take into account the bi-directional influence of the cognitive and neurosciences on our subject matter. Additionally, if done thoughtfully, it will also require that the communities and texts speak for themselves. We will need to listen to them with both attention and a lot of uncertainty about how these various ways of making sense (sciences' and the communities') will come to interact with each other as we proceed.

Importantly, I have been arguing not that hard science is inadequate, but that the hard sciences and the contemplative traditions are both necessary and inadequate, because they are both valuably and irreplaceably relevant to understanding religious practices but are incommensurable with each other. Consequently we need a new paradigm, which seems to be starting to emerge, in which we work with incommensurable concepts, and so have to revise our fundamental concepts, including our concepts of how concepts work, in profound ways. I have argued that the logic and practices of confusion, mindfulness, humor, and immersive vulnerability taught in these traditions give us the entry to insights into and practice of appropriate ways of revising our sense of how to work with our concepts. Our subject matter, our approaches, and our need for a new vocabulary require us not just to

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[16] Lex ([18], pp. 124–25); Newberg et al., throughout [14].

form new concepts but also to reflect on how we will discover them, and work with them, and revise these concepts as we go along.

As we proceed, the sciences will show certain indispensable features that will be incompatible with the contemplative traditions own ways of seeing things, just as the traditions themselves will show certain indispensable features (things without which we would have nothing to study) on the way to this new vocabulary and the new paradigm it will seek to express. I am arguing that an important key of being able to put together these indispensable but also incompatible things will be what I have referred here as certain scholarly virtues and a willingness to be guided by (instead of guiding) the cultural phenomena that we seek to understand.

Finally, I have argued—because of the fluid variability of human culture and phenomena—for an interdisciplinary, multi-voiced conversation as the appropriate social scientific research framework. I have argued this, both to attend to the multiple, often incommensurable voices in the cultural phenomena being studied, but also because insight into them correspondingly requires multiple, often incommensurable voices in our own research activity. The virtues and conceptual resources that allow us to enter into and negotiate this multi-voiced research process include those of confusion, mindfulness, humor, and immersive vulnerability.

By advocating interdisciplinary study in cooperation with ethnographic awareness and multicultural meanings we will be able to encounter the variability of these complex human phenomena and cultural differences with some care and attention. What is required of us to bring these incompatible forces to bear on these complex cultural phenomena will need to be approached with the virtues or attitudes I have explored here. These virtues will be indispensable, themselves, if we are to succeed at negotiating the genuine vulnerability and the conceptual complexity required by a neuroscience of contemplative and esoteric traditions.

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