

ORIGINAL ARTICLE

The nature of nonduality: The epistemic implications of meditative and psychedelic experiences

Julien Tempone-Wiltshire  | Floren Matthews

Australian College of Applied Professions—
Melbourne Campus, Melbourne, Victoria,
Australia

Correspondence

Julien Tempone-Wiltshire, Australian
College of Applied Professions—Melbourne
Campus, Melbourne, Vic., Australia.
Email: julien.tempone-wiltshire@acap.edu.au

Abstract

In Jylkkä's (*Philosophy and Psychedelics: Frameworks for Exceptional Experience*, Bloomsbury Academic, New York, 2022) *Mary on Acid: Experiences of unity and the epistemic gap*, the author contends that psychedelic experience, by inducing unitary—nondual—experiences of subject–object dissolution, brings to light the epistemic gap between unitary knowledge, constituted by experience, and relational knowledge, distinct from experience. Jylkkä draws a connection between the nondual experience as occasioned through psychedelic usage, and Buddhist contemplative practices. While Jylkkä's attempt to establish a dialogue between analytic philosophy, Buddhism and the science of psychedelics is laudable, we contend that more rigorous attention is required to characterizing nondual experience, the forms of experience occasioned by psychedelic use, and whether they truly constitute parallel to states cultivated through Buddhist practice traditions. While such parallelism may speak to a deeper unification, such a claim requires substantiation to avoid the perennialist eliding of the varied and rich engagement with nonduality across compleitive traditions. This article highlights the internal tensions that exist surrounding the nature of the nondual as elucidated across Indo-Tibetan traditions, dangers of decontextualizing states induced through culturally embedded contemplative practices including the under-recognized epistemic function of ceremonial ethnomedicine usage in generating Indigenous metaphysics; and the under acknowledged potential of psychedelic substances for attenuating introspective bias in first-person phenomenological inquiry.

Response to Jylkkä's (2022) *Mary on Acid: Experiences of Unity and the Epistemic Gap*.

© 2024 American Anthropological Association.

KEYWORDS

Buddhism, nonduality, Perennialism, physicalism, psychedelics

PHYSICALISM, PSYCHEDELICS, AND THE EPISTEMIC GAP

In the monograph *Philosophy and Psychedelics* (Hauskeller, 2022), the contributor Jussi Jylkkä offers the chapter *Mary on Acid: Experiences of Unity and the Epistemic Gap*. In this chapter, Jylkkä explores Frank Jackson's famous philosophical thought experiment *Mary's Room*, in relation to the phenomenology of psychedelic experience. Jylkkä contends that experience cannot be adequately understood by the empirical sciences. Rather, he suggests that contemplating the nature of unitary knowledge, derived from psychedelic experience, results in a more refined metaphysical understanding of the physical universe. For Jylkkä, psychedelic experience brings to light the epistemic gap between experiences themselves and the descriptions about them—between experiential and relational knowledge.

Jylkkä argues that science cannot capture what experience feels like because that knowledge is unitary, whereas scientific knowledge is always relational and distinct from what it is about. Jylkkä contends that a better appreciation of the divergence between experiential and scientific knowledge can be achieved using psychedelics which may induce such unitary experience. Jylkkä's suggestion is that such a unitary experience, catalyzed by psychedelics, offers a problematization of physicalism. This problematization is akin to the thought experiments offered by Jackson in his article "Epiphenomenal Qualia" (Jackson, 1982) and extended in "What Mary Didn't Know" (Jackson, 1986) termed collectively the *Knowledge Argument*, Nagel's (Nagel, 1974) *What is it Like to be a Bat?* and Chalmers's *Hard Problem of Consciousness* (Chalmers, 2017). Each of these thought experiments draws attention to the existence of an "epistemic gap" between experiential and scientific knowledge.

For instance, Jackson's thought experiment asks, could Mary, an expert neuroscientist who has only ever seen in black and white, know what it is like to see the color red, if she knew everything about the neurophysiology of sight? The suggestion made is that there is something added to Mary's knowledge about seeing the color red through direct experience. This "knowledge argument" calls for nuance in our physicalist ontology and quantitative epistemology, offering a challenge to the reductivist assumption that all there is to knowing a phenomenon is its abstract features.

Jylkkä adapts Jackson's *Mary's Thought Experiment* by applying it to the psychedelic experience. He asks, could Mary know what it is like to undergo an acid trip based only on understanding the neurophysiology of the event? In posing this question, Jylkkä points to a key problematic that calls for redress in the emerging science of psychedelics. Can science comprehend the sense of unitary experience—the dissolution of the boundary between subject and object—occasioned by psychedelics? Jylkkä's contention is that such psychedelic-induced "unitary" experience conveys knowledge that is not necessarily "about" anything, knowledge the author terms "unitary knowledge" or simply knowledge of "this." Jylkkä is therefore suggesting that the scientist, Mary, upon taking psychedelics and experiencing a dissolution of subject–object duality, gains knowledge that she did not have previously, even with her encyclopedic understanding of neurophysiology. Scientific knowledge is always relational, and thereby distinct from what it is about, whereas experience constitutes unitary knowledge. Psychedelics, in catalyzing unitary experience, may allow individuals to see the difference between these forms of knowledge. To substantiate his theory of the nature of unitary knowledge, Jylkkä draws upon the understanding of nonduality and the ineffability of experience, as described within the Zen Buddhist tradition, an attempt we will evaluate in what follows.

THE CASE FOR NONREDUCTIVE PHYSICALISM

Jackson's scenario offers a *Reductio Ad Absurdum* response to extreme forms of Eliminativist or identity physicalism, which claim all that exists, including experience, is merely physical—that there is nothing over and above the physical. Such theses hold to the causal closure of the physical domain that only occurrences at the physical level are causally efficacious, rendering higher level occurrences epiphenomenal (Lowe, 2000). Of course, eliminativist-reductive physicalism is only one rendering of what constitutes the physicalist thesis, alternate nonreductive physicalist theses which allow for the existence of other levels, including the mental, which possess genuine causal efficacy. This is the case if “higher” level events are supervenient upon a physical base and do not violate the completeness of physics thesis—that is, the contention that all events are explicable in purely physical terms (Stoljar, 2008). The completeness of physics thesis diverges from the causal closure of the physical domain.

Jackson's knowledge argument demonstrates, nonetheless, that an account of the physical mechanics operating in the world remains necessarily incomplete if it excludes experiential knowledge. In Nagel's (1974) phrase, there is “something it is like” to undergo experiences, to see red for the first time, to be a bat. Yet empirical science, by offering only relational knowledge—necessarily distinct from its subject—misses the knowledge that results from undergoing an experience. The dominant critiques of reductive physicalism offered by Chalmers, Jackson, Nagel et al. rely upon the epistemic gap that lies between knowing a thing through how it appears to us, versus knowing it in itself—between experience-in-itself and scientific theories about experience. This gap indicates the necessary incompleteness of scientific knowledge and the inadequacy of reductive physicalism.

Jylkkä suggests that psychedelic experience, as a brute happening, provides the individual a unitary experience which provokes insight into the distinction between relational and experiential knowledge, writing “we do not know, through science alone, the full truth about the physical—a *limitation that psychedelic experience brings to light*.” (Jylkkä, 2022, 167, *emphasis added*). Why is unitary experience occasioned by psychedelics, how does it produce insight into the distinction between relational and experiential knowledge, and what is unitary experience? To evaluate Jylkkä's argument, we will consider these questions in turn.

WHY DO PSYCHEDELICS PRODUCE UNITARY EXPERIENCE?

Why do psychedelics produce unitary experience? To answer this question, we must consider the different ways in which psychedelics affect human cognition. As Letheby (2021, 2022) suggests, beneficial effects of psychedelics are mediated by certain experiential effects, broadly, altering the sense of self and changing how people relate to their own minds and lives. Jylkkä has related this altered sense of self to the dissolution of perceived subject–object duality, which he refers to as “unitary” experience.

What produces these dissolution experiences? Various postulated physiological mechanisms attempt to understand unitary experience, or the experiential dissolution of the subject–object duality. However, at this stage there is no conclusive physiological correlate. Nonetheless, contenders include changes to mental representation of self, world and other, postulated as linked to reduced connectivity in the default mode network (DMN)—associated with reductions in self-oriented or ego-centric thinking, alongside reductions in mind wandering (Carhart-Harris et al., 2012, 2016; Timmermann, Roseman, et al., 2023). This physiology is correlated with the subjectively felt loss of self and dissolution of the subject–object boundary. Such reduced DMN activity occurs in both deep meditative states (Millière

et al., 2018; Timmermann, Bauer, et al., 2023), alongside psychedelic experiences (Gattuso et al., 2022; Palhano-Fontes et al., 2015). In a clinical register, these shifts are mapped to reduced symptoms of anxiety, depression, and addiction along with improved well-being (Tempone-Wiltshire & Dowie, 2023c, 2024a, 2024b; Tempone-Wiltshire & Matthews, 2023, 2024). Despite this promising research, we have good reason for caution when scientifically seeking neural correlates for mystical experiences, like nonduality, or soteriological states like awakening.

WHAT DID MARY LEARN ON ACID?

Considering proposals for how unitary experience is occasioned by psychedelics, a number of physiological mechanisms have been proposed that correlate with the experience of subject–object dissolution, colloquially a facet of “ego death” induced by psychedelics. We will turn now to considering Jylkkä's case for why psychedelically induced unitary experiences produce insights into the distinction between relational and experiential knowledge.

In brief, unitary experiences for Jylkkä reveal the way experience is always already unitary. That is, below the illusion of “relational knowledge” or knowledge that a subject has about the objects of the world, there is a unified holism. In this way, psychedelic unitary experiences, which dissolve perceived subject–object duality, catalyze insight into the distinction between the relational and the unitary. This, for Jylkkä, is what Mary learns on acid. Importantly, Jylkkä thus suggests that all experiences imply unitary knowledge. When Mary sees the color red for the first time, she gains unitary “knowledge” of red. When she takes acid for the first time, she understands that all experiences are unitary in nature. As Jylkkä writes:

[psychedelic experience] aids us to see what it is that Mary learns when she sees colours for the first time: the knowledge she gains *is* the experience. [psychedelic experience] can show that all experience constitutes this, ineffable consciousness.

(2022, 164, *emphasis added*)

The case that all experiences constitute unitary knowledge hinges upon Jylkkä's account of the nature of the unitary knowledge produced by psychedelic experiences of subject–object dissolution. This subject shall be our focus in what follows. Such an inquiry raises many interrelated and important questions. What is the connection between the psychedelic experience and mystical experience? Is the psychedelic experience a “nondual encounter” akin to the soteriological goals or certain stages of direct insight, described in various contemplative traditions? Is unitary experience, as Jylkkä claims, purely non-conceptual, non-intentional, and not “about” anything? As argued elsewhere (Thakchoe & Tempone-Wiltshire, 2019), there is a need to disambiguate the meaning of unitary knowledge.

WHAT IS UNITARY EXPERIENCE?

Jylkkä assumes a linkage between the psychedelic experience and a sort of non-denominational universal “nondual” mystical encounter, which he refers to as a unitary experience of “this.” Without further explication, his argument, that psychedelics occasion encounter with unitary knowledge suggests a perennialism of sorts, a problematic assertion we will address later. Despite the rich philological dialogue surrounding this subject, Jylkkä offers little engagement with the broader Eastern or Indigenous understandings of mystical

experiences or the epistemic or metaphysical doctrines arising around such contemplative experiential practices. Whether unitary experiences—however they are induced—constitute modes of insight into the nature of consciousness is a question of religious scholarship as much as science.

Engaging with this subject requires navigating topics like the nature of non-conceptual or epiphanous knowledge, the nature of direct insight, the limitations of introspection and apperception, the demarcation between religious soteriology and scientific methodology and the demarcation between first and third-person modes of inquiry. While Jylkkä's work opens the door to this interdisciplinary dialogue, to understand the insight occasioned by psychedelic experience requires a much richer engagement with mystical theology and Buddhist metaphysics.

BUDDHISM AND UNITARY EXPERIENCE

There is value in Jylkkä's ambition to respond to the excesses of physicalism by placing nondual experience in dialogue with the analytic philosophical tradition. However, in cross-cultural exchange, there is the danger of oversimplistic characterization. As we will see, Jylkkä's account of "this," or nonduality, would benefit from a fuller engagement with the wider non-western literature.

Jylkkä uses a Zen Buddhist metaphysical framework and language to explicate unitary experience and the collapse of the subject/object dichotomy occasioned by psychedelic experience. He draws upon the Zen term "This" to refer to the "brute happenings" of psychedelic unitary experience:

"This" involves no "subject" or "object," no "experiencer" and "experienced"; there is merely the brute happening of what could be conceptualized as "an experience" [...] In "This," unitary consciousness, there is no subject that becomes acquainted with an experience, there is simply the happening of an experience, the occurrence of a process, This.

Jylkkä uses the term "This" to refer to conscious pre-conceptual, raw experience beyond the reflective descriptions appended to it. He thereby suggests that any introspective or reflective characterization of an experience is separate from the experience itself.

This subject has, however, generated debate for millennia in Buddhist scholarship, particularly among Indo-Tibetan traditions. This is illustrated, for instance, in the Buddhist doctrine of the two truths (*dvasatya*) best explicated by the philosopher Nāgārjuna of the Madhyamaka school of Mahāyāna Buddhism. This doctrine draws a distinction between conventional and ultimate reality, suggesting that all phenomena are empty (*śūnyatā*) of an inherent self or essence due to the non-existence of self (*anattā*), yet exist inextricably dependent upon all other phenomena (*pratītyasamutpāda*). This metaphysics seeks to describe exactly the pre-conceptual reality encountered through direct meditative experience which Jylkkä describes as unitary experience. Indeed, Indo-Tibetan Mahāyāna traditions have long navigated the distinction between modes of non-conceptual ineffable experience, direct insight, and conceptually mediated knowledge (Garfield, 2014). However, Jylkkä offers only a limited cursory engagement with the relationship between contemplative metaphysical understandings of unitary experience and the psychedelic experience.

A need for greater engagement with Buddhist scholarship is evident in Jylkkä's claim that:

The unitary character of experience can be noticed not only in [psychedelic experience], but in any experience where one loses oneself and is completely present without reflection; where there is only This ... (2022, 160).

Yet this claim is highly contentious and runs together the wide gamut of described dissolution experiences, temporary or sustained. As such Jylkkä's argument begs the question, are all non-ordinary states of perception the same? Are all awakenings and various flow states isomorphic? These are just a few instances in which Jylkkä's understanding of unitary experience would have been enriched and contextualized by being put in relation to important constructs within Buddhist metaphysics. Greater engagement is called for with related concepts including *bodhi*, *satori*, *moksha*, *vimutti*, *Advaita*, *sūnyatā*, and *tathāgatagarbha* or *buddhadhātu*. We will explore the need for a fuller disambiguation of nonduality in what follows.

THE NATURE OF NONDUALITY

As suggested, a central characteristic ascribed to psychedelic experience is ego dissolution or loss of the sense of self (Carhart-Harris et al., 2018). Such ego death experiences, or nondual encounters, typically involve a sense of unity with one's surroundings and a loss of the perceived sense of self as distinct from other things. While binaries dissolve during the psychedelic experience, Jylkkä focuses upon precisely this dissolution of the subject–object division, upon which an individual, rather than being a subject having an experience, experiences themselves as indistinguishable from the stream of experience. Indeed, Jylkkä describes contemplative mystical experience as involving “a sense of becoming one with what one is doing [...] dissolution of the boundary between subject and object amounts to the experienced vanishing of subject and object as distinct things” (2022, 156–157).

Consideration of the nondual encounter brings to the surface important questions for further inquiry. Is there a single truth, a direct experiential insight into the nature of consciousness occasioned by psychedelics shared by varied meditative practices? If so, is it best described as the unitary experience of subject–object dissolution? Is it conceptually mediated or ineffable? In western philosophy, these questions relate to the status of introspection, conceptual and non-conceptual knowledge and the nature of direct insight. To make meaningful sense of the psychedelic experience, its implications for our epistemic modes of knowing, and its scientific and metaphysical ramifications, we require further research into the literature surrounding such questions. As subject–object dissolution has long been described across contemplative traditions, Jylkkä's account opens onto a larger dialogue.

Jylkkä writes: “I have argued that [psychedelic experience] constitutes unitary knowledge, or This. In fact, as Zen emphasizes, all experience is This” (2022, 163). Is that the end of the story for “This” and Buddhist metaphysics? Why is Zen drawn on with no reference to the wider Buddhist cannon? The author writes, “What I mean by ‘This’ is completely nondual and beyond concepts, it is the brute happening of experience” (2022, 160). What does it mean to be “beyond concept” and a “brute happening”? Debate surrounding such terminology has a rich scholastic history in Buddhist philosophy. Jylkkä assumes that the nondual unitary experience occasioned by psychedelics is non-conceptual in character. But whether nondual awakening experiences in Buddhist philosophy are conceptually mediated is recognizably a more vexed subject. Indeed, the relation between awakening and conceptuality is a topic on which the traditional texts are equivocal. Some suggest that awakening experiences occur in a state of advanced meditative absorption, in which ideation is completely absent. Others suggest that an awakening experience is a complexly structured cognitive insight into the four noble truths, dependent arising, and emptiness—for further see Thompson (2020).

A further highly contentious subject concerns whether unitary experience, induced by psychedelic substances, amounts to “awakening” experiences. We might ask: is psychedelic nondual experience akin to the Mahayana doctrine of *Buddha Nature* (tathāgatagarbha and buddhadhātu)? In Tibetan Mahayana teaching, the term *Rigpa* refers to a universal enlightenment underlying all beings; this is closely related to the term Buddha Nature. Buddha Nature, referred to as un compounded wisdom, is described as the union of awareness and emptiness (Dharmadhātu). It is viewed as naturally arising, pure, pervading all phenomena, beyond transition or change, like space. It remains beyond birth and death and is the fundamental nature of all mind streams. The suggestion made is that awakening is possible because all beings share this ground of being (sugatagarbha). There are adventitious stains or afflictions which veil this naturally pure and unobscured mind, as encapsulated in the four noble truths. These veils include the false view of self and belief in the persistence of objects; illusions which, one might suggest, relate to those binaries that dissolve during nondual encounters.

We can draw a parallel with Jylkkä’s claim that psychedelic unitary experience reveals unitary knowledge underlying all experiences, just as meditation reveals Buddha’s nature. Yet while branches of Indo-Tibetan Buddhism, such as Dzogchen, emphasize the relation between awakening and nonduality, this is less evident in some Theravadan traditions (Tempone-Wiltshire, 2024a). This tension is reflected in the dispute between sudden awakening schools, where awakening is instantaneous and totalizing following realization of the unconditioned quality of nondual awareness, and gradualist awakening schools that emphasize cultivation and purification practices (Tempone-Wiltshire, 2024a). A proponent of the sudden awakening school of thought might read Jylkkä as suggesting that psychedelics, in occasioning unitary nondual experience, produce enlightenment. As such, if adopting a view of awakening as inextricably tied to nondual experience, is it reasonable to suggest that a decontextualized psychedelic experience can produce a state of stream entry (soṭāpanna) from which an individual has seen the Dharma (i.e., experienced subject–object dissolution) and thereby enter upon the first of the four stages of enlightenment? Those who question whether psychedelic experiences, in producing mere glimpses of dissolution, can really equate to the stabilization of “the view,” as termed in Dzogchen or Mahamudra practice traditions, required for stage-based progress toward enlightenment (Brown in Wilber et al., 1986), would be highly skeptical of such a notion.

Furthermore, there is much literature and a host of questions about the subject of nonduality that needs to be addressed when Jylkkä relates psychedelic to nondual experience. It requires more work to determine whether the nondual experiences induced by psychedelics map to any specific quality of the awakened mind, that is, the pure, luminous, undefiled, natural, or true state as variously described. When subject–object duality falls, what other properties of pure awareness remain? emptiness, boundlessness, timelessness, wakefulness.

The Sanskrit word for nonduality, *advaita*, refers all at once to *not two, both/and, inseparable and simultaneous*. Do these map accurately to Jylkkä’s use of the word? Does the Mahamudra lineage use the phrase *same taste* the same as Jylkkä when describing the relation between ultimate and relative reality, form and formlessness? Is Jylkkä’s sense of nonduality akin to the Dzogchen term *Rigpa*, which, as described, refers to pristine or bare awareness and Buddha Nature? Or is it closer to *ordinary mind* as understood in Mahamudra? Does Jylkkä’s sense of unitary experience distinguish primordial consciousness from witness-consciousness, choiceless awareness from big sky mind or moksha from vimutti?

Consider an illustrative tension. If psychedelics occasion an experiential encounter with emptiness, as Jylkkä contends, should we understand psychedelics as occasioning an experiential encounter with emptiness understood as non-implicative negation (as in Madhyamaka) or the *alaya-vijñāna* notion of a “store-consciousness” (as in yogacara)? Or emptiness as understood in relation to the Theravadan description of interdependence (Pratītyasamutpāda)? Jylkkä leaves such questions ambiguous. There is a tension between

experiencing where the witness is aware of arisings in the mind and a nondual awareness where arisings in the field of awareness are recognized as not distinct from awareness itself. This is generally considered a later stage of development in contemplative training that involves the complete collapse of perceived duality and the unveiling of the awareness that is always already awake. Advaita traditions refer to this as the distinction between Turiya and Turiyatita (Brown in Wilber et al., 1986). Jylkkä's valuable inquiry would benefit from situating psychedelic unitary experience in relation to this distinction.

When proposing a commonality to unitary experience, there is value in engaging these complexities, such an engagement is increasingly apparent in the evolution in contemplative studies toward contextualized understandings of contemplative practices, soteriological goals and religious cosmologies. Scholars have recognized that awakening, and all other mystical states or attainments, cannot be adequately conceived or properly understood, when divorced from the practice traditions out of which they emerge (Kirmayer, 2015). A parallel argument concerns regarding the relation between psychedelics as ethnomedicines and contemplative technologies, developed in traditional Indigenous contexts. These critiques identify the relevance of traditional knowledge systems that inform and shape the meaning derived from contemplative experiences (Reyes-García, 2010). This is an argument made also by Buddhist scholar Thompson (2020) in relation to awakening as embedded in cultural context, a subject I elaborate in relation to the quest for neural correlates of awakening states (Tempone-Wiltshire, 2024a). We will explore the need for a contextualized understanding of ethnomedicines in what follows. Importantly, engagement with contemplative scholarship means addressing foundational concerns regarding perennialism. Such perennialism is evident in Jylkkä's assumed linkage between the psychedelic experience and non-denominational universal nondual mystical encounter.

NONDUALITY AND PERENNIALISM

Jylkkä's ambition to describe the unitary experience occasioned by psychedelics, if unexamined, implies the existence of a common underlying religion and a unity through shared mystical experience, indicating a faith in the existence of a perennial philosophy of sorts (Ferrer, 2000). Such a perennialism requires evidence that psychedelic experience, alongside meditative unitary experiences, is held together by a shared conceptual reference point. Though suggestive linkages exist, this convergence has yet to be established empirically or philologically.

The danger with suggesting such a universalist perennialism is smuggling in one viewpoint in the name of being universal (Thompson, 2020, 154). Universalism is itself a specific viewpoint, and in the rush to integration or assimilation, the universalist often fails to respectfully acknowledge the existence of different and irreconcilable perspectives. As indicated, genuine philosophical and religious differences exist beneath the broad umbrella of mystical traditions, as well as between the varied traditional Indigenous metaphysical understandings developed in relationship with ethnomedicines.

There are other significant critiques of this universalist tendency. Particular critiques have been leveled at the secular assumption that our scientific knowledge and rationalist outlook will enable us to strip culturally constructed understandings of unitary experience from their traditionalist baggage, magical thinking, and cultural foibles. Such an attitude is distinctly modernist, failing to recognize our own cultural positionality and acknowledge that we are undergoing a similar acculturation process, instead situating ourselves above or beyond cultural contingency (Gleig, 2019). Consequently, in attempting to offer a scientific engagement with unitary experience, scholars must explicitly address the problems associated with perennialism.

Jylkkä's work illustrates a bigger modernist project that faces similar perennialist issues. As explored elsewhere, contemporary modes of perennialism are apparent in the quest for neural correlates for enlightenment—a secular project that seeks to unify stage models of awakening described throughout Buddhist traditions (Tempone-Wiltshire, 2024a, 2024c). Jylkkä's work provokes a similar concern. If psychedelics induce nondual experiences, then neuroscientists may seek to scientifically operationalize them by reducing them to their biochemical mechanisms of action. The claim that there is a singular construct of nonduality mirrors the equally dubious suggestion that awakening constructs across contemplative traditions may be so unified.

Jylkkä's limits engagement with nonduality to the Zen notion of "This." This illustrates perennialist approaches to unitary experience that begins by combining a vast range of constructs that emerge out of distinct religious traditions. We have discussed but a few of these, Buddha nature and stage models of awakening; rigpa and ordinary mind; moksha and vimutti; sūnyatā and slaya-vijñāna; turiya and turiyatita. There may be meaningful differences between these constructs, and yet speaking of nonduality as a singular concept elides such important distinctions. Given these complexities, it is more appropriate to speak of various nondualities or theories of nonduality. Consequently, when using the term, careful explication is in order.

Much as the many nondualities call for careful disambiguation, the experiences occasioned by *various* psychedelics require elucidation. We might ask, is it the same experiential insight, or unitary encounter with *This, subject–object dissolution*, which occurs when one uses psilocybin, as when one sits with cactus or microdoses LSD? Attention to this question requires a navigation of the neurobiological mechanisms of action produced by these various subjects and the distinct experiential profile of such substances. Such subjects require redress if psychedelic experience is to be put compellingly into dialogue with Buddhist soteriological goals.

As psychedelics enter the medical sphere, with countries likely to follow Australia in legalizing them for therapeutic use, these questions will become more prominent (Andrews & Wright, 2022). Jylkkä's work holds value in attending to the inevitable limitations of a science that offers only what he terms relational knowledge, immediately apparent in the clinical sphere. How do psychedelics produce therapeutic change? Science as it currently stands cannot conceive of unitary knowledge, knowledge *by being*, as the therapeutic change agent. While unaddressed in Jylkkä's article, his work introduces the crux of this subject. Western epistemology will need to adapt to explain what will happen when the metaphysical becomes medicalized.

PSYCHEDELIC PHENOMENOLOGY AND PERENNIALISM

While the danger of perennialism regarding soteriology and theological constructs requires careful attention, it is also important to consider claims that there exist a shared set of phenomenological characteristics characterizing various psychedelic substances. Is there a shared psychedelic phenomenology? To address this question, we begin by acknowledging that emerging empirical data suggest the phenomenological overlap of and between different psychedelics (Ley et al., 2023) and some contemplative practices (Smigielski, Michael, et al., 2019; Smigielski, Scheidegger, et al., 2019; Timmermann, Bauer, et al., 2023).

There is emerging evidence that LSD, psilocybin, and mescaline induce experiences comparable in individuals when contextual differences are erased, as Ley et al. argue (2023). As a consequence, variability in experience across these psychedelics may be shaped primarily by contextual factors rather than substance biochemistry. However, if psychedelics operate as nonspecific amplifiers of context, as has been argued, then the crucial role context

plays in the psychedelic experience constitutes a strong counterargument to the suggestion that psychedelics always induce the same kind of experiences across users and context (Carhart-Harris et al., 2018; Hartogsohn, 2016).

If contextual features are inextricable to the experience itself, the attempt to strip context from the psychedelic experience may be wrong headed at its foundations. Should, however, such an effort make sense, the attempt to measure similarities once contextual differences are omitted still faces the significant danger of omitted variable bias and theory-laden observation. It will require significant further assessment and careful attention to biasing variables before substantiating such claims. Arguments for phenomenological overlap between different psychedelics—omitting contextual factors—thus begin from the deeply questionable premise that we can speak of a psychedelic experience out of context.

Empirical arguments exist for potential phenomenological overlap between psychedelic experience and neurobiological register as well. For instance, it has been suggested that the fact that some serotonergic psychedelics (5-HT_{2a} agonists such as LSD, psilocybin, and mescaline) induce cross-tolerance (Nichols, 2004, 2016) which provides support for their sharing phenomenal characteristics. Furthermore, evidence demonstrating that blocking 5-HT_{2a} receptors blocks the effects of both psilocybin and ayahuasca (Valle et al., 2016; Vollenweider et al., 1998) may suggest these substances share a closely related neurobiological mechanism of action. Such empirical observations should be taken into consideration when evaluating whether these substances induce differential effects. Of course, this consideration would not apply to atypical psychedelics that do not rely on this mechanism of action (such as ketamine, MDMA, and deliriants), but should Jylkka's argument be constrained to serotonergic or classic psychedelics (i.e., 5-HT_{2A} agonists), these data may offer support for his claim.

Such shared receptor blocking and cross-tolerance effects, however, provide a poor basis for assuming homogenous phenomenological characteristics. As argued, a common neurobiological mechanism of action provides a poor guide to either common phenomenal experience or reading soteriological implications into those effects. While these findings should not be dismissed and require further research into their significance, we must be careful not to indulge a scientific suggestion that neurobiology naturally correlates to phenomenology, as I already argued in relation to discovering neural correlates for cross-cultural liberatory experience like awakening (Tempone-Wiltshire, 2024a).

ETHNOMEDICINE AND EPISTEMOLOGY IN INDIGENOUS CULTURE

Beyond questions surrounding the relationship between the nondual encounter disclosed through psychedelic experience and western epistemology, there is a broader question concerning contemplative scholarship and its intersection with the academy. Attempts have been made to draw meditation practices derived from eastern traditions into dialogue with western science, to explore their ramifications for our theory of mind and cognitive sciences. Yet recent years have seen, too, a dialogue emerging around the alternate epistemologies presents in Indigenous communities. As we will demonstrate this is an area which would evidence and extend Jylkka's claims.

This is the case as Jylkka's contention that psychedelic experience can induce epistemic shifts in individuals aligns with emerging research involving formal testing concerning how psychedelics alter metaphysical beliefs. This research involved conducting online surveys concerning perception and nature of reality, consciousness, and free-will and how they change following psychedelic use (Timmermann et al., 2021). Results revealed significant enduring shifts away from physicalist or materialist views and toward

panpsychism—changes positively correlated with improved mental health outcomes; shifts mediated by perceived emotional synchrony with others during the psychedelic experience. Such findings support Jylkkä's contention that experience induced by psychedelics produce profound new epistemic perspectives and metaphysical beliefs. However, such research is enriched by considering, too, the millennia of ritualized Indigenous ceremonial engagement with plant medicine use. In this way, we can better comprehend the inextricable relationship that exists between ethnomedicines and Indigenous metaphysics and epistemologies.

Indigenous cultures frequently bind epistemology, not to the framework of deductive *a priori* logic, but to participation in a living landscape and the forms of conscious experience with places, animals, and importantly, plants or ethnomedicines (Botchway, 2014). There is value in reflecting upon the experience-based practices of Indigenous peoples and how these may bring understandings otherwise lost to Western metaphysics. In engaging with the unitary experience occasioned by psychedelics, Jylkkä is participating in this emerging dialogue. That is, even should psychedelics be disembedded from traditional contexts, or synthesized in laboratories, it is true that the longest ritualized engagement with psychedelics to produce experiential knowledge and perspectival shifts resides with Indigenous peoples. Elsewhere I have written upon the process of Indigenous knowledge creation and transmission. Researchers are increasingly working on exploring the role of psychedelic experience in these ritualized contexts (Tempone-Wiltshire, 2024b). Thought is emerging concerning the relationship between the psychedelic unitary experience and the process philosophy and animist philosophy underpinning many Indigenous belief systems. Elsewhere I explore the implications for cultural activity in an Indigenous Australian context, considering the onto-epistemic implications of haptic and situated knowledge in Indigenous science, place-based totemic mythology, lore, and ritual, the role of custodial, respectful interaction between living systems, and relational ritual and yarning practice in Indigenous process epistemology, and animistic perception of cosmos as living country (Dowie & Tempone-Wiltshire, 2022; Tempone-Wiltshire, 2024b).

Not all Indigenous cultures espouse a monolithic process metaphysic. That would suggest a further perennialism, more contentious even than the conflation of distinct Buddhist traditions, given the global variety of Indigenous cultures. It does, however, increasingly recognize the formative role that cultural activities play, including various contemplative practices, ceremonial plant medicine use, mantra recitation, practices of fasting and meditation, in epistemic knowledge making and metaphysical belief system formation (Tempone-Wiltshire & Dowie, 2023a, 2023b). This indicates the cruciality of context in psychedelic experience. Similarly, engaging with the role ethnomedicines historically play in Indigenous knowledge systems is vital to understand the mechanism of action for Jylkkä's proposed psychedelically induced perspectival shifts.

There are important ramifications derived from psychedelic unitary experience, including—of sure interest to Jylkkä—that ceremonial psychedelic use has a relationship with the Indigenous perceptions of cosmos as living country, place-based totemic mythology and lore, the relational metaphysics embedded in ritual and resultant panpsychist and animist metaphysics (Tempone-Wiltshire, 2024b). While Jylkkä's work speaks to an audience of analytic philosophers, as we have suggested even the analytic paradigm is moving toward recognition of the need to develop a language that attempts to think about the role of embodied, enacted, haptic and situated knowledge in Indigenous science(s), holistic modes of reasoning, mind–body connections and the relationship between Indigenous epistemologies and ethnomedicine. As such, Jylkkä's questions reflect upon the role of philosophical analysis in understanding how psychedelics have afforded insight for human beings across cultures but also how psychedelics inform our prevailing Western metaphysical frameworks, our epistemic belief structures, and our modes of inquiry.

Can psychedelics disrupt the neat lines drawn between domains such as science, culture, experience and objectivity? Jylkkä's approach to addressing such questions begins with the bi-directional relationship between different forms of knowledge, the relational and the unitary, the third and first person, east and western, secular and religious, Indigenous and non-Indigenous. The humility necessary to grasp psychedelic experience not merely as a type of induced madness but also a valuable mode of inquiry requires such recognition. In Indigenous traditions, people have long recognized respectful engagement as a prerequisite for being in right relation to ethnomedicines and their lessons. As we have much to learn from these custodians of entheogenic substances, let us begin with such humility.

PSYCHEDELIC ATTENUATION OF INTROSPECTIVE BIAS

It is important to note that unitary experience also has unexplored ramifications in the field of introspection. As a consequence, there is value in extending Jylkkä's claims to point out the further development of our introspective science and phenomenology, which psychedelic unitary experience may occasion. Critiques have historically been leveled at introspective reportage including fallibly self-reportage, the potential for cognitive illusion, distortions of wishful thinking such as confirmation bias or affective biases, poor validity and poor generalizability. Psychedelics—by generating pre-conceptual, pre-reflective, unitary experience—serve to attenuate such biases. Researchers in the domain of contemplative direct experiential practices (Baird et al., 2011) have similarly made this contention. Should psychedelics attenuate such introspective failings, offering novel unmediated experientially sourced knowledge claims, then psychedelics may serve as profound new tools for epistemic inquiry. This is true not only for therapeutic self-inquiry purposes but also for soteriological ambitions and scientific methodologies.

The field of empirical phenomenology offers insight into how unitary experience attenuates introspective bias. In the seminal works *The View from Within* (1999), *Neurophenomenology* (1996), and especially *On Becoming Aware* (2003), Varela contends that addressing introspective fallibility requires prioritizing the study of experience rather than its conceptualization. The content of experience should not be viewed as the primary focus. First-person inquiry should be concerned with the how rather than the what. How is it to experience a particular phenomenon? Arguably psychedelics encourage a pre-reflective focus that gives rise to non-conceptual unitary experience, orienting individuals toward the how not the what in just such a way. In Jylkkä's frame, this is the distinction between knowledge about things (relational knowledge) and knowledge constituted by direct experience (unitary knowledge).

Considering psychedelics as tools for first-person science and the revitalization of phenomenology in contemporary research deserves serious attention. The prospect that psychedelic experience is an important source of pre-reflective experience, promoting a more accurate form of introspection, with clinical, scientific and soteriological applications, needs to be balanced by emerging evidence that these compounds can also promote false insights. Psychedelics may also accentuate first-person biases by inducing false insights or potential false memories. Timmermann et al. (2022) offers many useful case studies in support of this thesis, while McGovern et al. (2023) provides a theoretical approach to exploring the mechanisms underlying these false insights. Due to these potential risks, we follow Timmermann, Bauer, et al. (2023) in suggesting a combination of psychedelic usage alongside rigorous first-person methods of, may serve to attenuate these potential risks while retaining the opportunities to draw upon psychedelics in research. The resurgence of introspective reporting has only recently been accompanied by an increase in the sophistication of methods guiding it (Hurlburt & Heavey, 2006). For this reason, psychedelics may constitute an important additional tool in first-person data gathering, allowing research participants an encounter in

which definitions come secondarily to the researchers' growing intimacy with the phenomenon reported.

CONCLUSION

Jylkkä opens important lines of inquiry regarding psychedelic experience, its metaphysical ramifications and bearing on the critique of the prevailing physicalist paradigm. Jylkkä re-frames the epistemic gap that lies at the heart of the physicalist paradigm by addressing the way psychedelic experience elucidates the distinction between what is relational knowledge and what is direct knowledge.

While the psychedelic “renaissance” as a surrounding context is a subject explored in greater detail elsewhere (Tempone-Wiltshire, 2023), the merit of Jylkkä's article resides, we suggest, in the inquiries it opens. While his ambition to establish an epistemic dialogue between analytic philosophy, Buddhism and the science of psychedelics is laudable, characterizing the forms of unitary, nondual experience occasioned by psychedelic use requires more rigorous attention. While such parallelism may speak to a deeper unification, such a claim requires substantiation to avoid indulging a naïve perennialism which elides the varied and rich engagement with nonduality across completive traditions. This article highlights the internal tensions that exist surrounding the nature of the nondual elucidated across Indo-Tibetan traditions, dangers of decontextualizing states induced through culturally embedded contemplative practices, underrecognized epistemic function of ceremonial ethnomedicine usage in generating Indigenous metaphysics and under acknowledged potential of psychedelic substances for attenuating introspective bias in first-person phenomenological inquiry.

CONFLICT OF INTEREST STATEMENT

There are no competing financial or non-financial interests to disclose.

ORCID

Julien Tempone-Wiltshire  <https://orcid.org/0000-0001-6252-1790>

REFERENCES

- Andrews, T., and K. Wright. 2022. “The Frontiers of New Psychedelic Therapies: A Survey of Sociological Themes and Issues.” *Sociology Compass* 16(2). <https://doi.org/10.1111/soc4.12959>.
- Baird, B., J. Smallwood, and J. W. Schooler. 2011. “Back to the Future: Autobiographical Planning and the Functionality of Mind-Wandering.” *Consciousness and Cognition* 20: 1604–11. <https://doi.org/10.1016/j.con-cog.2011.08.007>.
- Botchway, D. N. Y. M. 2014. “A Note on the Ethnomedical Universe of the Asante, an Indigenous People in Ghana.” In *Medicine, Healing and Performance*, edited by E. Gemi-Iordanou, S. Gordon, R. Matthew, E. McInnes, and R. Pettitt, 160–75. Oxbow Books. <https://doi.org/10.2307/j.ctvh1dwj4.14>.
- Carhart-Harris, R., L. Roseman, E. Haijen, D. Erritzoe, R. Watts, I. Branchi, and M. Kaelen. 2018. “Psychedelics and the Essential Importance of Context.” *Journal of Psychopharmacology* 32(7): 725–31. <https://doi.org/10.1177/02698>.
- Carhart-Harris, R. L., D. Erritzoe, T. Williams, J. M. Stone, L. J. Reed, A. Colasanti, R. J. Tyacke, et al. 2012. “Neural Correlates of the Psychedelic State as Determined by fMRI Studies with Psilocybin.” *Proceedings of the National Academy of Sciences* 109(6): 2138–43. <https://doi.org/10.1073/pnas.1119598109>.
- Carhart-Harris, R. L., S. Muthukumaraswamy, L. Roseman, M. Kaelen, W. Droog, and D. J. Nutt. 2016. “Neural Correlates of the LSD Experience Revealed by Multimodal Neuroimaging.” *Proceedings of the National Academy of Sciences* 113(17): 4853–8. <https://doi.org/10.1073/pnas.15183>.
- Chalmers, D. 2017. “The Hard Problem of Consciousness.” In *The Blackwell Companion to Consciousness*, edited by M. Velmans and S. Schneider, 32–42. <https://doi.org/10.1002/9781119132363.ch3>.
- Dowie, T., and J. Tempone-Wiltshire. 2022. “Immanence Transcendence and the Godly in a Secular Age.” *Cosmos and History: The Journal of Natural and Social Philosophy* 5(1): 1–7. <https://doi.org/10.23880/phij-16000219>.

- Dowie, T., and J. Tempone-Wiltshire. 2023. "Philosophy and Psychedelics: Frameworks for Exceptional Experience." *Journal of Psychedelic Studies* 7: 143–50. <https://doi.org/10.1556/2054.2023.00283>.
- Ferrer, J. N. 2000. "The Perennial Philosophy Revisited." *Journal of Transpersonal Psychology* 32(1): 7–30.
- Garfield, J. L. 2014. *Engaging Buddhism: Why it Matters to Philosophy*. Oxford: Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780190204334.001.0001>.
- Gattuso, J. J., D. Perkins, S. Ruffell, A. J. Lawrence, D. Hoyer, L. H. Jacobson, C. Timmermann, et al. 2022. "Default Mode Network Modulation by Psychedelics: A Systematic Review." *International Journal of Neuropsychopharmacology* 26(3): 155–88. <https://doi.org/10.1093/ijnp/pyac074>.
- Gleig, A. 2019. *American Dharma: Buddhism beyond Modernity*. New Haven: Yale University Press.
- Hartogsohn, I. 2016. "Set and Setting, Psychedelics and the Placebo Response: An Extra-Pharmacological Perspective on Psychopharmacology." *Journal of Psychopharmacology* 30(12): 1259–67. <https://doi.org/10.1177/0269881116677852>.
- Hauskeller, C., and P. Sjöstedt-Hughes eds. 2022. *Philosophy and Psychedelics: Frameworks for Exceptional Experience*. New York: Bloomsbury Academic.
- Hurlburt, R. T., and C. L. Heavey. 2006. *Exploring Inner Experience: The Descriptive Experience Sampling Method (Vol. 64)*. Amsterdam: John Benjamins Publishing. <https://doi.org/10.1075/aicr.64>.
- Jackson, F. 1982. "Epiphenomenal Qualia." *The Philosophical Quarterly* 32(127): 127–36. DOI: [10.2307/2960077](https://doi.org/10.2307/2960077)
- Jackson, F. 1986. "What Mary didn't Know." *The Journal of Philosophy* 83(5): 291–5. <https://doi.org/10.2307/2026143>.
- Jylkkä, J. 2022. "Mary on Acid: Experiences of Unity and the Epistemic Gap." In *Philosophy and Psychedelics: Frameworks for Exceptional Experience*, edited by C. Hauskeller and P. Sjöstedt-Hughes. New York: Bloomsbury Academic. <https://doi.org/10.5040/9781350231641.ch-009>.
- Kirmayer, L. J. 2015. "Mindfulness in cultural context." *Transcultural Psychiatry* 52(4): 447–69. <https://doi.org/10.1177/1363461515598949>.
- Letheby, C. 2021. *Philosophy of Psychedelics*. Oxford: Oxford University Press. <https://doi.org/10.1093/med/9780198843122.001.0001>.
- Letheby, C. 2022. "Self and Knowledge in Psychedelic Therapy: Reply to Commentaries on Philosophy of Psychedelics." *Philosophy and the Mind Sciences* 3. <https://doi.org/10.33735/phimisci.2022.9642>.
- Ley, L., F. Holze, D. Arikci, A. M. Becker, I. Straumann, A. Klaiber, F. Coviello, et al. 2023. "Comparative Acute Effects of Mescaline, Lysergic Acid Diethylamide, and Psilocybin in a Randomized, Double-Blind, Placebo-Controlled Cross-over Study in Healthy Participants." *Neuropsychopharmacology* 48: 1659–67. <https://doi.org/10.1038/s41386-023-01607-2>.
- Lowe, E. J. 2000. "Causal closure principles and emergentism." *Philosophy* 75(4): 571–85. <https://doi.org/10.1017/s003181910000067x>.
- McGovern, H., H. Grimmer, M. K. Doss, B. Hutchinson, C. Timmermann, A. Lyon, P. R. Corlett, and R. Laukkonen. 2023. "The Power of Insight: Psychedelics and the Emergence of False Beliefs." *PsyArxiv*: 1–51. <https://doi.org/10.31234/osf.io/97gfw>.
- Millière, R., R. L. Carhart-Harris, L. Roseman, F. Trautwein, and A. Berkovich-Ohana. 2018. "Psychedelics, Meditation, and Self-Consciousness." *Frontiers in Psychology* 9. <https://doi.org/10.3389/fpsyg.2018.01475>.
- Nagel, T. 1974. "What Is it Like to be a Bat?" *The Philosophical Review* 83(4): 435–50. <https://doi.org/10.2307/2183914>.
- Nichols, D. E. 2004. "Hallucinogens." *Pharmacology & Therapeutics* 101(2): 131–81. <https://doi.org/10.1016/j.pharmthera.2003.11.002>.
- Nichols, D. E. 2016. "Psychedelics." *Pharmacological Reviews* 68(2): 264–355. <https://doi.org/10.1124/pr.115.011478>.
- Palhano-Fontes, F., K. C. Andrade, L. F. Tofoli, A. C. Santos, J. Alexandre, S. Crippa, J. E. C. Hallak, S. Ribeiro, and D. B. de Araujo. 2015. "The Psychedelic State Induced by Ayahuasca Modulates the Activity and Connectivity of the Default Mode Network." *PLoS One* 10(2): e0118143. <https://doi.org/10.1371/journal.pone.0118143>.
- Reyes-García, V. 2010. "The Relevance of Traditional Knowledge Systems for Ethnopharmacological Research: Theoretical and Methodological Contributions." *Journal of Ethnobiology and Ethnomedicine* 6(1): 1–12. <https://doi.org/10.1186/1746-4269-6-32>.
- Smigielski, L., K. Michael, M. Scheidegger, R. Krähenmann, T. Huber, and X. Franz. 2019. "Characterization and Prediction of Acute and Sustained Response to Psychedelic Psilocybin in a Mindfulness Group Retreat." *Scientific Reports* 9(1): 14914. <https://doi.org/10.1038/s41598-019-50612-3>.
- Smigielski, L., M. Scheidegger, M. Kometer, and F. X. Vollenweider. 2019. "Psilocybin-Assisted Mindfulness Training Modulates Self-Consciousness and Brain Default Mode Network Connectivity with Lasting Effects." *NeuroImage* 196: 207–15. <https://doi.org/10.1016/j.neuroimage.2019.04.009>.
- Stoljar, D. 2008. "Distinctions in Distinction." In *Being Reduced: New Essays on Reduction, Explanation, and Causation*, edited by J. Hohwy and J. Kallestrup, 263–79. Oxford; New York: Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780199211531.003.0014>.

- Tempone-Wiltshire, J. 2024a. "Seeking the Neural Correlates of Awakening." *Journal of Consciousness Studies* 31(1–2): 173–203. <https://doi.org/10.53765/20512201.31.1.173>.
- Tempone-Wiltshire, J. 2024b. "Sand Talk: Process Philosophy and Indigenous Knowledges." *Process Studies* 53(1): 42–68. <https://doi.org/10.5406/21543682.53.1.02>.
- Tempone-Wiltshire, J. 2024c. "The Role of Mindfulness and Embodiment in Group-Based Trauma Treatment." *Psychotherapy and Counselling Journal of Australia* 12. <https://doi.org/10.59158/001c.94979>.
- Tempone-Wiltshire, J., and T. Dowie. 2023a. "Bateson's Process Ontology for Psychological Practice." *Process Studies* 52(1): 95–116. <https://doi.org/10.5406/21543682.52.1.06>.
- Tempone-Wiltshire, J., and T. Dowie. 2023b. "The Matter with Things: Our Brains, our Delusions, and the Unmaking of the World." *Process Studies* 52(1): 138–42. <https://doi.org/10.5406/21543682.52.1.08>.
- Tempone-Wiltshire, J., and T. Dowie. 2023c. "Psychedelics and Critical Theory: A Response to Hauskeller's Individualization and Alienation in Psychedelic Psychotherapy." *Journal of Psychedelic Studies* 7(3): 161–73. <https://doi.org/10.1556/2054.2023.00270>.
- Tempone-Wiltshire, J., and T. Dowie. 2024a. "A Mindful Bypassing: Mindfulness, Trauma and the Buddhist Theory of No-Self." *Journal of the Oxford Centre for Buddhist Studies* 23(1): 149–74.
- Tempone-Wiltshire, J., and T. Dowie. 2024b. "An Embodied Cognitivist Understanding of Mindfulness in Third-Wave Cognitive Behavioural Therapies." *Journal of Consciousness Studies* 31(3): 173–203.
- Tempone-Wiltshire, J., and F. Matthews. 2023. "Evaluating the Role of Psychedelic Psychotherapy in Addressing Societal Alienation: Imaginaries of Liberation." *Journal of Psychedelic Studies* 7(3): 238–52. <https://doi.org/10.1556/2054.2023.00275>.
- Tempone-Wiltshire, J., and F. Matthews. 2024. "The Role of Embodied Cognitivism in Reconciling Mindfulness for Public Health Interventions." *Mindfulness* (forthcoming).
- Thakchoe, S., and J. Tempone-Wiltshire. 2019. "Madhyamaka Philosophy of No-Mind: Taksang Lotsāwa's on Prāsaṅgika, Pramāṇa, Buddhahood and a Defense of No-Mind Thesis." *Journal of Indian Philosophy* 47(3): 453–87. <https://doi.org/10.1007/s10781-019-09388-z>.
- Thompson, E. 2020. *Why I am Not a Buddhist*. New Haven: Yale University Press. <https://doi.org/10.12987/9780300248708>.
- Timmermann, C., P. R. Bauer, O. Gosseries, A. Vanhauzenhuysse, F. Vollenweider, S. Laureys, E. Tania Singer, Antonova, and A. Lutz. 2023. "A Neurophenomenological Approach to Non-ordinary States of Consciousness: Hypnosis, Meditation, and Psychedelics." *Trends in Cognitive Sciences* 27(2): 139–59. <https://doi.org/10.1016/j.tics.2022.11.006>.
- Timmermann, C., H. Kettner, C. Letheby, L. Roseman, F. Rosas, and R. Carhart-Harris. 2021. "Psychedelics Alter Metaphysical Beliefs." *Scientific Reports* 11(1): 22166. <https://doi.org/10.31234/osf.io/f6sjk>.
- Timmermann, C., L. Roseman, S. Haridas, F. E. Rosas, L. Luan, H. Kettner, J. Martell, et al. 2023. "Human Brain Effects of DMT Assessed Via EEG-fMRI." *Proceedings of the National Academy of Sciences* 120(13): e2218949120. <https://doi.org/10.1073/pnas.2218949120>.
- Timmermann, C., R. Watts, and D. Dupuis. 2022. "Towards Psychedelic Apprenticeship: Developing a Gentle Touch for the Mediation and Validation of Psychedelic-Induced Insights and Revelations." *Transcultural Psychiatry* 59(5): 691–704. <https://doi.org/10.1177/13634615221082796>.
- Valle, M., A. E. Maqueda, M. Rabella, A. Rodríguez-Pujadas, R. M. Antonijoan, S. Romero, J. F. Alonso, et al. 2016. "Inhibition of Alpha Oscillations through Serotonin-2A Receptor Activation Underlies the Visual Effects of Ayahuasca in Humans." *European Neuropsychopharmacology* 26(7): 1161–75. <https://doi.org/10.1016/j.euroneuro.2016.03.012>.
- Vollenweider, F. X., M. F. Vollenweider-Scherpenhuyzen, A. Bäbler, H. Vogel, and D. Hell. 1998. "Psilocybin Induces Schizophrenia-like Psychosis in Humans Via a Serotonin-2 Agonist Action." *Neuroreport* 9(17): 3897–3902. <https://doi.org/10.1097/00001756-199812010-00024>.
- Wilber, K., J. Engler, and D. P. Brown. 1986. *Transformations of Consciousness: Conventional and Contemplative Perspectives on Development*. Boston, MA: Shambhala.

How to cite this article: Tempone-Wiltshire, Julien and Floren Matthews. 2024. "The Nature of Nonduality: The Epistemic Implications of Meditative and Psychedelic Experiences." *Anthropology of Consciousness* 00 (0): 1–15. <https://doi.org/10.1111/anoc.12233>.