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Positive Affect and Letheby's Naturalization of Psychedelic Therapy

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Abstract
Letheby's naturalistic theory of psychedelic therapy argues that the therapeutic power of psychedelics lies in their ability to allow individuals "to discover the contingency, mutability and simulatory nature of their own sense of identity and habitual modes of attention." The general shape of this project is persuasive; it is hard to see how the claim that successful therapy must involve changes to the self could be objected to, and Letheby sketches a consistent, if speculative, picture of psychedelic experience. But the role of affect in psychedelic therapy is insufficiently explored by Letheby as a comparison with MDMA-assisted therapy indicates. This comparison further suggests that Letheby's reliance on a particular conceptualization of ego dissolution experiences is in need of further explanation and justification.

Keywords
MDMA therapy · positive affect · psychedelic · Psychedelic therapy · self-model

This article is part of a symposium on Chris Letheby's book "Philosophy of Psychedelics" (OUP 2021), edited by Chiara Caporuscio and Sascha Benjamin Fink.

Given the resurgence of interest in psychedelic drugs as therapeutic adjuncts and in personal transformation, Letheby's naturalizing account of psychedelic experience and therapy *Philosophy of Psychedelics* is timely and welcome. The theory he presents claims that psychedelic drugs facilitate positive change via opening a window through which individuals can "learn directly that there are other ways of being, and other ways of seeing, because their ordinary ways of being and seeing result from a malleable modeling process" (Letheby, 2021, p. 125). Alterations in a subject's self-model during the acute phase of their use and the capacity of these drugs to facilitate the consolidation of positive changes over the longer term are thus the mechanisms through which he asserts psychedelics can effect positive change. This approach strikes me as on the right track. For one thing, the

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therapeutic effects of psychedelics are psychological in nature and thus must in some sense involve the self, which then, if we follow Letheby's view, implicates changes to the self-model. While such changes could be brought about without the causal mechanism itself being psychological or experiential, as is perhaps the case for treatments with selective serotonin reuptake inhibitors such as Prozac, this appears not to be the case here. As Letheby also points out, psychedelics seem to be working in a way that involves increasing the capacity for exercising mindfulness-related skills, which indicates the mechanism involves at least some alterations to the way someone is paying attention to their mental contents. Moreover, as long as evidence continues to support the induction of a mystical-type experience as the best predictor of therapeutic effects, it makes sense that the profound changes to the sense of self that occur in psychedelic experience are part of the story of how this happens.[1] Understanding these experiences, uncovering which aspects of them are responsible for their benefits, and explaining just how they are responsible requires handling both neuroscientific evidence and some fairly speculative hypotheses about normal and psychedelic consciousness. The model Letheby develops thus draws on a wide range of often very recent and tentative data about the effects of psychedelics on the brain, with both first-person accounts of psychedelics experiences in therapy and ideas from contemporary philosophy of mind and cognitive sciences playing an essential role. There are of necessity a lot of moving parts and speculative aspects to the theory.

I won't be challenging most of this. As already indicated I think the general shape of his project is persuasive. It is hard to see how the claim that successful therapy must involve changes to the self could be objected to, and the clinical and imaging data marshaled by Letheby sketch a consistent, if speculative, picture of psychedelic experience involving changes to the Default Mode Network that facilitate a healthier resetting of the narrative self. The claim that psychedelic experience results in increased psychological insight and increased mindfulness-related capacities is also supported by his self-representation change theory. But once the mechanism he proposes to account for this — his self-unbinding — is examined more closely, some elements of the account seem more persuasive than others. In particular, and to its detriment, the role of affect in psychedelic therapy is insufficiently explored by Letheby. General considerations about the psychometrics of psychedelic-induced mystical-type experiences suggest that the positive valence of these experiences play a central role in successful psychedelic therapy. And a comparison with MDMA-facilitated therapy further supports this. Affect can of course be accommodated by Letheby's account given its intimate connection to the self and self-modeling. But the role it plays in psychedelic experience and the psychological processes that lead to positive change indicate to me that this is an

[1] I use Letheby's phrase "mystical-type experience" for simplicity and to indicate agreement that experiences scoring high enough on psychometric measures like the Mystical Experiences Questionnaire to count as complete mystical experiences can be naturalized and need not "involve the apparent apprehension of a non-natural or supernatural Reality" (Letheby, 2021, p. 73).

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important dimension in need of more investigation. Further, the relative absence of focus on feeling connects to the way Letheby conceptualizes psychedelic ego dissolution as the limit case of, and so the model for, the unbinding of the self. This is absolutely central to Letheby's account given that self-unbinding is the mechanism he claims to play the major role in the positive outcomes of psychedelic experience and therapy. What I argue is thus not intended to challenge the framework through which Letheby explains psychedelic experience and therapy nor his confidence that these can be naturalized and the Comforting Delusion Objection countered. But it may be that the soundness of his approach taken at a general level is independent of some of his commitments in philosophy of mind, and it is worth teasing out elements that warrant more discussion and defense.

On the one hand, why think that the role of positive valence and affect deserves more attention than Letheby has given it? One reason is found right in psychedelic-induced mystical-type experiences. Given that evidence currently suggests the best predictor of therapeutically positive outcomes is the induction of these experiences, it is reasonable to think that some aspects of mystical-type experiences are where we will locate the responsible psychological mechanisms, and so understanding their nature and structure is crucial. Letheby's discussion tries to come to grips with the complicated current state of the science of measuring and understanding the factors at work, but fails to feature positive valence as a demonstrable dimension of mystical-type experiences. Positive mood is a measurably independent factor in the psychometrics of the Mystical Experiences Questionnaire (MEQ), independent, that is, from the other three factors—transcendence of space and time, ineffability and mystical quality (Barrett et al., 2015). While there is some dispute about the correct way to understand the current data, no one to my knowledge has questioned that positive mood is an independent factor and nothing Letheby says challenges this.

On the other hand, if positive affect is the main mechanism of psychedelic therapy one might expect the positive mood factor of the MEQ to be the best predictor of good therapeutic outcomes. While to my knowledge this strong claim has not been supported, there is evidence indicating that affect is nevertheless central to mystical experiences, warranting further exploration. The mystical and positive mood factors of the MEQ are independent, but they are also very highly correlated (Barrett et al., 2015). This is unsurprising given that many items in the mystical factor seem to involve positive affect (for example, feelings of the sacred and holiness, freedom from limitations, experience of pure being, a sense of being at a spiritual height, and a sense of reverence). Additionally, Roseman et al. (2017) shows many of the items from the Altered States of Consciousness (ASC) most highly correlated with clinical outcomes to be those with positively valenced feeling—notably, "I felt particularly profound" and "I experienced a profound inner peace" come in first and third.

That positive valence is playing a role makes sense if we think in the abstract about positive therapeutic outcomes. For one, many of the mental health problems helped by psychedelic therapy involve dysfunctional patterns of engagement with

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difficult material or its outright suppression and avoidance. Inducing a blissful state to facilitate productive engagement with painful material might be as good a description of what happens in the psychedelic state and therapy as facilitating changes to self-representation. There is research investigating this line of thinking, some of which might be taken to conflict with my focus on positive valence because it associates negative feeling states with therapeutic outcomes. The data, however, is not univocal as to their relationship. Carbonaro et al. (2016) indicates that the occurrence of negatively valanced affect as measured by the Challenging Experiences Questionnaire is associated with good therapeutic outcomes, whereas Haijen et al. (2018) shows a negative correlation between well-being and higher scores on the CEQ. Carhart-Harris et al. (2018) indicates that peak experiences are less predictive of psychological well-being when challenging experiences also occur. Roseman et al. (2017) shows that higher scores on the Oceanic Boundlessness factor of the ASC, combined with low scores on the Dread of Ego Dissolution factor (which includes negative affect), predict positive therapeutic outcomes. Roseman et al. (2019) shows challenging experiences are beneficial if they resolve with an emotional breakthrough and sense of relief. So positive affect seems also to be playing an important role in conjunction with challenging experiences here which highlights the importance of affect to the therapeutic process, and thus the importance of expanding Letheby's theory to more explicitly consider it.

Ultimately, engaging with difficult material through the lens of positive valence does have to do with a person's self-experience and thus helping alleviate problems is, as Letheby has asserted, a matter of revising self-models. So what I am pointing out is consistent with his general theory. Letheby say that he "is not claiming that changes to self-representation are the *only* psychological mechanism in psychedelic therapy" (Letheby, 2021, p. 87). The same observation holds for my suggestion, which is not that positive affect independently accounts for good therapeutic outcomes, but that including it is crucial. The ultimate aim of psychedelic research is confidence we have identified all the relevant factors and understood their interaction. Certainly it would be unfair to demand of Letheby that he produces such an account, as the state of the field is such that no one could currently do this. My suggestion is not that, but rather that more attention to the role of affect in the process of positive change to self-representation is an essential and potentially fruitful line of inquiry.

MDMA-assisted therapy provides a reason to focus on positive affect in psychedelic therapy and, as I will argue below, also points to a possible weakness in Letheby's account. MDMA is not a classic psychedelic, so strictly falls outside the scope of Letheby's theory. He focuses specifically on those substances which are thought to exert their psychoactive effects "primarily by mimicking the action of the neurotransmitter serotonin (5-HT) at a specific receptor subtype: the serotonin-2a (5-HT2A) receptor" (Letheby, 2021, p. 9). But as with classic psychedelics, a growing data set supports the therapeutic use of MDMA. MDMA is pharmacologically complex, having known effects on many subtypes of serotonin receptors (including sharing with classic psychedelics action at 5-HT2A

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receptors); in addition to increasing levels of serotonin MDMA also increases levels of dopamine and noradrenaline, and it may cause the release of oxytocin (Sessa, 2018). As an adjunct to therapy it shows promise for not only the treatment of PTSD, but also anxiety and anxiety disorders (Danforth et al., 2018; Wolfson et al., 2020), substance use disorder (Sessa et al., 2019, 2021) and, more generally, trauma-related psychosocial difficulties (Brewerton et al., 2021; Mithoefer et al., 2019). While it is not currently understood exactly how MDMA facilitates the reduction of PTSD symptoms, suggested mechanisms involve the role of serotonin and oxytocin in social cognition, feelings of connection, and feelings of compassion, particularly self-compassion that it induces. The enhancement of feelings of sociability, trust and communicative motivation may accelerate productive interpersonal and intrapersonal therapeutic work. In particular it has also been proposed that the positive feeling states that MDMA induces allow productive revisiting of fearful and negative memories without becoming overwhelmed by them. Moreover, though most of the current clinical evidence for MDMA-assisted therapy relates to PTSD, recent small scale and exploratory studies of MDMA-assisted therapy for alcohol use disorders demonstrated not only reduction in problematic drinking but, importantly for the comparison I am making, also "improvements in quality of life, mindfulness, self-compassion, anxiety and depression scores" (Sessa et al., 2019, p. 3; see also Sessa et al., 2021). There are thus important parallels between classic psychedelic and MDMA-assisted therapeutic experiences with positive outcomes. The underlying neurochemical mechanisms are of course very unlikely to be identical given their differing psychopharmacology, but the important point for my argument is that at the experiential level, both involve experiences that can be understood as unbinding the self in Letheby's terms, they share the induction of emotional breakthroughs and psychological insights, and, crucially, the aspect of positive valence of both seems to be an important element of the mechanism.

But there is a revealing contrast between MDMA and classic psychedelics in their relative capacity to cause mystical-type experiences. A recent prospective study comparing LSD and MDMA in both compassionate use patients and healthy subjects indicates that while acute effects of MDMA significantly increase scores on the Mystical Experiences Questionnaire, unlike with LSD, these effects are insufficient to count as the induction of a total mystical experience (Schmid et al., 2021). This comports with anecdotal accounts of MDMA in which we do not find the sorts of descriptions paralleling those in classic psychedelic experience that Letheby cites to support his conjecture of psychedelics "inducing global phenomenal opacity" (Letheby, 2021, p. 144). I think this contrast then reveals something else in need of further explanation in Letheby: his conceptualization of psychedelic ego dissolution as the limit case of the *therapeutic* process of self-unbinding. His model posits self-unbinding as a process in which self-related mental contents become less *phenomenally* transparent. This also seems to be why "simulatory nature" appears in the claim that the power of psychedelics lies instead in their ability to allow individuals "to discover the contingency, mutability and simulatory

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nature of their own sense of identity and habitual modes of attention." (Letheby, 2021, p. 125) Given the predictive processing framework to which Letheby is committed, the self is a posit the neurocognitive system makes in its attempts to minimize prediction errors and in order to organize the ongoing flow of information. That is, the self performs a binding function. This framework additionally has the consequence that the self is a simulation, albeit an indirectly constrained one. According to Letheby's account, then, in the psychedelic experience the subject becomes aware of the simulatory nature of this process because these drugs disrupt the normal neurocognitive functioning that constitutes the self as a binder. The self-model is normally transparent but under psychedelics becomes more opaque and is thereby experienced as a simulatory cognitive or modeling process rather than as a self actually in the world. That the self is a mental simulation, in other words, is directly experienced. Fair enough, if we are willing to endorse the predictive processing framework and the way Letheby uses it to understand the nature of the self and self-modeling, something he has argued for in previous work (see Letheby & Gerrans, 2017).

But this way of describing things requires a commitment to the predictive processing account, which opens the theory to objections coming from philosophy of mind and cognitive science more generally. It also hides an ambiguity between cognitive and phenomenal opacity. And this ambiguity complicates the idea that a direct experience of the simulatory nature of the self is doing the therapeutic work in psychedelic therapy. That psychedelics induce phenomenal opacity is a plausible way to understand certain aspects of psychedelic experience, particularly perceptual. For example, understanding phenomenal opacity in terms of the attentional availability of earlier processing stages of some process of mental representation explains what is happening in the typical morphing geometric pseudohallucinations that classic psychedelics induce (Metzinger, 2003, p. 243). The phenomenology of these pseudohallucinations is then one in which our visual experience, something that is normally transparent in that we see 'through' it to what it represents, has become phenomenally more opaque as we have phenomenal experience of aspects of the modelling process normally unavailable to us. That psychedelics cause such experiences lends some support to the idea that they have the capacity to opacify aspects of consciousness in this way, and this is what Letheby extends in his understanding of the case of full psychedelic ego dissolution as kind of selfless phenomenal consciousness. The first-person testimonial evidence can also be explained in this way, as he asserts, and this may be of significant philosophical interest in what it implies about the possibility of selfless consciousness. These experiences could be understood as the limit case of opacification in which the neurocognitive system implemented in the brain "operates under a phenomenally opaque *system*-model, but not under a self-model." (Metzinger, 2003, p. 566). But it isn't clear to me that this is necessarily what is going on in self-unbinding at the experiential level in the less-than-full ego dissolution but still therapeutically effective psychedelic experiences. After all, metacognitions about the self will always make those parts of the self-model that are their objects

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more opaque *but not typically phenomenally opaque.* And if this is right, then the phenomenal opacity of the self-model is not necessary for positive therapeutic outcomes. Full ego dissolution, psychedelically-induced or otherwise, is philosophically interesting and might shed some light on questions about the self, consciousness and self-consciousness, but may have less importance to psychedelic therapy than Letheby seems to give it. In light of this, and given the data I discussed above implicating the importance of the affective dimensions of therapeutic psychedelic experience, a shift to the ways they contribute to changes in the self-model looks to me like a promising direction in which to develop Letheby's account.

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