



Psychedelics Favour Understanding Rather Than Knowledge

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Abstract

Chris Letheby argues in *Philosophy of Psychedelics* that psychedelics and knowledge are compatible. Psychedelics may cause new mental states, some of which can be states of knowledge. But the influence of psychedelics is largely psychological, and not all psychological processes are epistemic. Building on the distinction between processes of discovery and processes of justification, I aim to criticise some aspects of Letheby's epistemology of psychedelics. Unarguably, psychedelics can trigger processes of discovery. Yet, I hold, they can hardly contribute either to the epistemic success (i.e., truth, veridicality, aptness, skillfulness, etc.) of a mental state or to processes of justification. As these are central for a mental state to be a state of knowledge and are largely uninfluenced by psychedelics, the contributions of psychedelics to knowledge are rather indirect than direct: The heavy epistemic lifting—what turns a mental state into a state of knowledge—is, in its epistemic aspects, largely independent of the influences of psychedelics on our psyche. Positively, while the mechanisms that Letheby points to need not be associated with knowledge, they do provide crucial epistemic benefits if they are associated with *understanding*. Reading them as facilitating understanding provides a broader picture because it covers also cases of comforting delusions or placebo insights where truth and justification are lacking.

Keywords

Psychedelics · Philosophy · Epistemology · Understanding · Knowledge · REBUS model · Process of discovery · Process of justification · Epistemic benefits · Epistemic Standards

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.

Chris Letheby's book *Philosophy of Psychedelics* (Letheby, 2021) delivers an empirically informed, philosophically subtle, and very clear and illuminating explanation for the efficacy of psychedelic-assisted therapy. Importantly, Letheby rejects the

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idea that the success of psychedelic-assisted therapy rests on the acquisition of comforting delusions, i.e. persistent false beliefs that make us feel good.

One thesis defended by Letheby in Chapter 8 is that the use of psychedelics can be *epistemically* beneficial: “Some claims to psychedelic-assisted epistemic benefit are accurate” (Letheby, 2021, p. 160). So there is knowledge to be gained beyond the doors of perception (Huxley, 1954). Here, I will critique one general aspect of this chapter before expanding on Letheby’s theme of possible epistemic benefits from psychedelic use: I suggest that they further *understanding* rather than *knowing*. For reasons of space, I will focus on only a few of the forms of knowledge discussed, mainly *knowing-that* and *knowing-how*. Still, I suspect that most of the points I raise generalise.

As a starting point, it is important to emphasise that even if knowledge is possible under the influence of psychedelics, it is not guaranteed. That is, one does not necessarily gain knowledge by using psychedelics. In some cases, we may end up with comforting delusions or placebo insights, i.e. beliefs that are comforting but probably false (Letheby, 2021, p. 28; see also Jopling, 2001). What we primarily gain by using psychedelics are mental states, most of them new, original, and unusual if compared to our everyday mind. The influences of psychedelics on the neural and psychological side of these mental processes are becoming more and more fully understood. The outstanding epistemic question is whether and why some of these new mental states amount to *knowledge*.

Letheby claims that, under the right circumstances, psychedelics can contribute to our epistemic state. He thereby rejects an epistemic impossibility claim, which he characterises as follows: “It is impossible to gain epistemic benefits by taking psychedelics” (Letheby, 2021, p. 163).

I agree that this epistemic impossibility claim is false. As Letheby (2021, p. 165) points out, we can distinguish between the *processes of discovery* of a fact and the *processes of justification* for knowing that fact (Hoyningen-Huene, 1986).¹ Via some processes (for example, during a psychedelic episode), we may step into new cognitive territory. But access to these new mental states need not be lost after the initial eliciting process (e.g. the trip). Indeed, once we have gotten to know these states, we may be able to re-elicite them, even without the tools we used the first time. Now, if these mental states are epistemic, then the psychedelic episode can count as a process of discovery.

Although the underlying neural mechanism in the case of psychedelic episodes are special, they are not epistemically different from other unusual contexts of discovery, such as Kekulé’s “Ouroboros dream” of a snake eating its own tail that led him to discover the chemical structure of the benzene ring. Yes, psychedelics offer the benefit of getting us into new cognitive territory. But given the vast range of routes to discovery, this benefit cannot be considered unique to psychedelics.

¹Letheby calls these processes “contexts”, but Hoyningen-Huene (1986, p. 503f) convincingly argues that they are better called “processes” because talking of “contexts” is too vague—a point he attributes to Herbert Feigl.

Furthermore, because some of the processes altered by psychedelic compounds that lead us to novel mental states may also lead us to comfortable illusions or placebo insights, I would not consider this contribution necessarily epistemic. The contribution of psychedelics to knowledge, if there is any, is coincidental.²

I argue that the heavy epistemic lifting—what makes the difference between these new mental states constituting states of knowledge or not—is done by processes of justification. Letheby (2021, p. 165) suggests that justification (as well as truth) can come from outside the psychedelic episode. For example, we may gain new ideas *during* a trip, but the justification for them being knowledge is not dependent on psychedelics; it can be added *after* the trip. If psychedelics need not contribute to these justificatory aspects of knowledge in order to be epistemically beneficial, then it is hard to see why psychedelics and knowledge need be incompatible. Letheby is right to attest that the impossibility claim must be rejected.

But could a more modest version of the impossibility claim survive Letheby's criticism? I wonder whether the current version needs rejecting simply because the formulation is too strong. The distinction between processes of discovery and justification may hint at a more defensible version of impossibilism.

Consider a more subtle impossibility claim: not that psychedelics preclude the formation of mental states that have the status of knowledge, but that psychedelics cannot contribute to their status *as knowledge*. That is, psychedelics may have psychological benefits, indirect epistemic benefits, or be beneficial for processes of discovery (Letheby, 2021, pp. 191–194), but they lack direct epistemic benefits for processes of justification. Call this *psychedelic justification impossibilism*.

An impossibilist about psychedelic justification may point out that, generally, the mechanisms underlying the formation of mental states, especially those altered under psychedelics, are primarily a matter of psychology, not necessarily a matter of epistemology. Even if psychedelically formed mental states are largely correct, apt, true, veridical, etc., it does not follow that these states are states of knowledge. For this, we need processes of justification. And a psychedelic justification impossibilist holds that psychedelics will not contribute there. If we maintain the distinction between processes of discovery and justification, this impossibilist will deny that the psychological mechanisms that are altered by psychedelic compounds can be classified as processes of justification. This type of impossibilist may successfully deal with some of Letheby's examples, intended to illustrate the epistemic benefits of psychedelics, e.g. that psychedelics allow one to experience one's potential or reveal the mutability of the self-model. Here, those impossibilists grant *indirect* epistemic benefits in that psychedelic compounds, experiences, or episodes may contribute to forming states that, as a matter of fact, are knowledge – but deny *direct* epistemic benefits in that they contribute to such states' status *as knowledge*, i.e. to processes of justification or to them being correct, apt, successful, true, veridical, etc. I sympathise with this type of justification impossibilism.

²In the sense of *accidental*, i.e. neither necessarily related nor necessarily incompatible.

Psychedelic justification impossibilism will re-interpret most of Letheby's examples of epistemic benefits as being indirect, but there are some caveats and comments to be added. First, any indirect epistemic benefits not contributing to processes of justification (e.g. being more open-minded, see [Letheby, 2021](#), ch. 8.7) are untouched by this type of impossibilism.

Second, there might be some instances where what is known concerns psychedelics directly, e.g. if a person believes that they have taken psychedelics. Here, psychedelics may contribute not only to a belief but also to its truth.³ That psychedelics contribute to truth also extends to cases where psychedelics change psychic processes such that they fit our beliefs. If the self-model, for example, is altered during psychedelics and then coincidentally fits our beliefs about ourselves, then psychedelics contributed directly to the truth of a belief. There are also borderline cases, e.g. where psychedelic ingestion caused a belief b_ψ about an element of one's psyche and b_ψ subsequently affects, via processes of cognitive penetration, its subject matter such that b_ψ comes out true. For example, if psychedelic ingestion caused me to believe that I am a more kind person and *that belief* causes me to be a more kind person, I then end up knowing that I am a kind person. In this case, psychedelics affected the truth of a belief, but indirectly. Some of these examples closely mirror cases that Letheby discusses. But I will ignore these because here psychedelics directly affect the subject matter rather than the status of a mental state as knowledge. Instead, I focus on justification.

Third, some forms of knowledge do not allow for the distinction between processes of discovery and justification. One example is phenomenal knowledge, knowing what it feels like. Simply by virtue of having an experience, we immediately get the requisite justification for the phenomenal knowledge gained. For these cases, the justification impossibilist must grant psychedelics a direct contribution to knowledge.

Fourth, this type of impossibilism crucially depends on the distinction between processes of discovery and processes of justification. One may, as e.g. [Quine \(1969\)](#) did, simply reject the distinction by pointing out that epistemology is, as a discipline, dependent on our theories of psychological mechanisms. However, this claim seems too strong, since justification has a social and normative dimension that does not reduce to psychology. A more defensible position would be that psychology is *relevant* to epistemology even though none reduces to the other. Under these circumstances, what amounts to a good or adequate justification will still be largely independent of any given individual, because the standards for justi-

³One may even construe psychedelic Gettier cases. Consider, for example, that *A* meets *B* for tea and cookies. *A* sees *B* enter a room. Subsequently, *A* believes that *B* is in the other room because *A* saw *B* enter it. *A* may then infer the following: *B* is in the other room or *A* is high. This proposition is made true by either disjunct, and it is justified by the observation of the first disjunct. Now, unbeknownst to *A*, *B* has left the other room to get something from the shop. So *B* is not in the room—and the first disjunct is false. However, *A* did not realise that the cookies *B* served were laced with a psychedelic compound. So the inferred proposition *B is in the other room or A is high* is true and it is true due to psychedelics.

fication are established socially or extra-individually. And because psychedelics affect only an individual's state, leaving the standards of justification untouched, they do not affect which processes can be counted as processes of justification—even if processes of justification are in the end psychological processes and are indeed affected by psychedelics. The epistemic lifting is done not by psychedelically influenced processes, but by the extra-individual circumstances that turn these processes into processes of justification.⁴

⁴The REBUS model (Carhart-Harris et al., 2015) is an interesting case to discuss here. In some sections of Chapter 8, this model is presented as playing an epistemic role and in some sense, it can be read as a psychological processes that is a process of justification by default. However, I have doubts.

Why might it be read epistemically? As a predictive coding model, it builds on the idea that hypotheses are updated based on their fit to incoming signals in a largely Bayesian manner. As such, it seems to follow the principles of Bayesian epistemology. REBUS, specifically, models the psychological influences of psychedelic compounds in the following manner: bottom-up processing (i.e. information flow from levels closer to sensory input to those more distant to it) gains greater influence either by (i) a relaxation of the precision of higher-level priors or (ii) by an increase in the precision of the ascending signals. The idea is that, if we are in such states, our preconceptions have less influence on how we experience the world. Thereby, we are more in touch with the ways the world beyond our Markov blanket affects us.

But can REBUS, a descriptive psychological model, truly provide such heavy epistemic lifting? I have doubts. After all, REBUS is a prominent and highly influential model on the *algorithmic* level of description. In Marr's account (Marr, 1982), such algorithmic models are constrained by observations on the implementational and descriptive levels. On both these accounts, REBUS appears to have some difficulties, I suggest. First, concerning the implementation: The influences on precision (both of the priors or of the ascending signal) is supposedly facilitated by the 5-HT_{2A}R receptor (Carhart-Harris et al., 2015, p. 318). These receptors, to which most serotonergic psychedelics bind, are widespread in the cortex—but not only in the higher areas of the neural hierarchy but also in lower sensory areas. It is “richly expressed in the visual cortex” (Carhart-Harris & Friston, 2019, p. 321). If so, it is unclear why a compound like LSD, which binds all over the brain, should affect only one part of the hierarchy or one direction of processing: the precision of higher-level priors or ascending signals. In principle, if the mechanisms are the same elsewhere, serotonergic compounds should increase precision everywhere, not only in the ascending signal or higher levels of the hierarchy. Then, depending on circumstances, bottom-up *or* top-down processing can be the driver of one's phenomenal experiences in a psychedelic state. Entropy is increased in the brain, not only locally but globally. (Letheby is not averse to the idea that psychedelics may affect higher cognitive processes as well: He stresses that we are more willing to entertain other possibilities, contemplating them as true.) But, first, if the uncertainty is increased all over, this does not allow us to presume that we are more in tune with perception *per se*. And second, the contemplation of new possibilities is an indirect not a direct epistemic benefit: I might end up believing fewer truths than before.

I also have reservations that REBUS accounts well for phenomenology. Why? Psychedelic states are not always characterised by greater influence of bottom-up processes. Indeed, some reports suggest that psychedelic experiences can be driven by previously held beliefs about the metaphysics of the universe rather than by incoming sensory evidence.

How about behavioral evidence? Even experimental results suggesting that, under psilocybin, participants are more inclined to see a hollow face as hollow need not be attributed to a relaxation of higher priors. These data might instead be explained by the fact that individuals *know inferentially* that the face must be hollow and are able, thanks to their cognitive insight, to finally *see* it as hollow.

Fifth, the alterations in our psychological processes triggered by psychedelics could be processes of justification if they were *reliable* (Goldman, 1979). In reliabilism, what justifies the results of some processes as being knowledge is the amount of past successes of these processes for tracking truth—even if they have involved some failures. However, it is the history of the processes *in the individual*, i.e. what caused and causally sustains the mental state in a specific individual (Goldman & Beddor, 2021), that determines the reliability of that individual's processes. In practice, the few doses that we are concerned with in psychedelic-assisted therapy do not suffice to establish reliability of psychedelically influenced processes in an individual.⁵ Additionally, the high prevalence of placebo insights and comforting delusions as well as the increased suggestibility that is characteristic of these states (Carhart-Harris et al., 2015) makes it implausible that psychedelically altered mechanisms are reliable in an epistemic sense.

Beyond these caveats, psychedelic justification impossibilists grant that ingesting psychedelics may be a way to form mental states that amount to knowledge—maybe even the easiest or most reliable way to attain some states of knowledge. But they will also hold that (a) any process of justification for a psychedelically attained state of knowledge is independent of psychedelics and (b) what determines which processes are processes of justification is also independent of psychedelics. Except for some special cases, whatever we got to know *by* psychedelics, it is not knowledge *due to* psychedelics. In my view, this is a more sensible impossibility claim.

Because the distinction between processes of discovery and processes of justification has been applied primarily to propositional knowledge, one may read this as a very restricted form of impossibilism—a form that leaves most of Letheby's epistemic points untouched. However, I am convinced that some of it carries over to other forms of knowledge. There, justification is needed as well, e.g. when we need to justify that the success of an act—e.g. hitting bullseye—is not just lucky but due to know-how or skill. Unfortunately, I lack the space to expand on this line of argument here.

There is something to be said, though, for Letheby's proposal that thanks to psychedelic use, one gains new knowledge of old facts, i.e. sees already known

Although REBUS is stimulating, its attachment to neural mechanisms (the implementational level) or to phenomenology (the descriptive level) is still too loose to be read realistically rather than instrumentally (see also Zednik & Jäkel, 2016). So I am not denying that there is something we can describe as a weakening of priors in higher parts of the neural hierarchy. However, in an instrumental reading, it is unclear how much is gained for the epistemological story Letheby tells. I am therefore sceptical that REBUS model of altered belief formation is one that establishes psychedelics' direct epistemic benefits.

⁵Letheby circumvents this by citing studies using data from many individuals, akin to how we experimentally establish, for example, that some processes of perception like seeing are reliable. But I remain skeptical that these studies are capable of showing this because reliability cannot be established with only a few trials in individuals. Using data from many individuals does not solve this problem, it seems to me.

facts in a new way. Reading Buddhist texts may lead me to a belief that the self is not a real thing but rather an idea or model, and that this model is mutable. But this differs from *experiencing* the self as a mutable model. I find this the most compelling case for the epistemic benefits of psychedelics. But I propose that we reconceptualise this process as *understanding* rather than *knowing*. Let me elaborate.

Despite my doubts about the direct benefits of psychedelics to processes of justification, I agree with Letheby that psychedelics can contribute indirectly to our epistemic state in a meaningful way. Letheby offers two examples: that psychedelics increase psychosocial functioning, which in turn influences epistemic functioning; and that they increase our capacity for modal knowledge or reduce biases or narrow mindedness (Letheby, 2021, ch. 8.7). I would add that, thirdly, psychedelics may contribute to our *understanding* of a proposition.

In what way may the usage of psychedelics favour understanding? Following Davidson (1973), understanding can be conceived of as distinct from knowledge: While a known proposition p has to be true in order to be known, we can understand p even if it is false. But we understand p if and only if we know what needs to be the case in order for p to be true. That is, proper understanding involves homing in on what makes a proposition true, *even if that proposition is de facto false*.

Such an “understanding of what is already believed” seems to be captured in some trip reports. For example, we see evidence of it in two reports contributed to the Erowid experience vaults: “I can’t articulate now the depth of what I learned (or what I discovered I already knew intrinsically to be true)” (erowid.org/exp/53057) or “The DMT death and rebirth experience had just confirmed what I already knew deep down” (erowid.org/exp/96614). The mechanisms behind this type of new understanding of a pre-existing belief are still unclear. But I suggest that the increased brain connectivity of sensory-somatomotor areas, mediated by the 5-HT_{2A} receptor (Preller et al., 2018), may lead to an endogenously facilitated, nonconceptual “me-in-a-world-where- p -is-the-case” representation of p (or to a simulation of oneself in a world where p is true) rather than to a conceptual representation of p . I may already have abstractly known thanks to evolutionary theory that I and a bird are distantly related, but now I can *feel* related to the bird. I may already have known by studying Buddhist texts that the self is an illusion, but now I can *feel* it as an illusion.

That we gain new understanding of old beliefs mirrors and builds on Letheby’s suggestion that we may gain new knowledge of old facts. But it should not be confused with it: Knowing old facts in a new light presupposes that what comes in a new disguise is indeed a *fact*. But the same mechanisms that Letheby (2021, ch. 8.6) points to for facilitating new knowledge of old facts also extend to falsities. In contrast, understanding does not share the presupposition that what is understood is a fact: I can also understand counterfactuals and falsities. This reconceptualisation has the benefit of capturing not only the good but also the bad cases,

i.e. comforting delusions and placebo insights. I therefore suggest that some of the mechanisms contributing to epistemic benefits derived from psychedelic use should be associated with *understanding* rather than with *knowing*.

The knowing/understanding distinction also gives us purchase on the flipside of epistemic growth. Because understanding is not reliant on factuality, it may to some degree also be detrimental to our epistemic state. “Old delusions in new disguises” may be misunderstood as new *evidence* and thereby even strengthen some false beliefs. This, I believe, provides a good explanation for the persistence of some comforting delusions, independent of the comfort they may offer. It also raises the question of why processes facilitating understanding should be seen as epistemically beneficial. Let me propose an argument in favour of this.

First, and importantly, understanding is not needed for knowledge. I can believe that some statement *s* expresses a true proposition because some expert told me. If that person truly is an expert, I may even be justified in believing that I express a justified truth when uttering *s*. In that sense, I know that *p* if *s* expresses *p*. But I may not quite understand what *s* means. In that sense, I don’t know *which p* I now know when muttering *s* to myself. That is, I may know that what *s* expresses is true in this world, but I may not be able to track its truth into other possible worlds. I may fail to exclude some worlds where *p* is false and fail to track it in others where *p* is true—simply because I don’t understand which *p* this statement *s* expresses.

Second, understanding is not needed for believing either. In mathematics, this is an old hat (Williams, 1982). Archimedes, Cusanus, and Snellius believed that they could find a way to square the circle by constructive means. That is, they believed that for any given circle one can construe a square with the corresponding area only with a straightedge and a compass. In 1882, however, Lindemann proved that there cannot be such a correspondence because of the transcendence (and, thereby, non-constructability) of π . The idea of such constructive means to find the square/circle correspondence, then, is not only false, it is self-contradictory if we grasp the transcendental nature of π . Mathematicians of old believed that they could square the circle, but they did not quite understand what they were believing. If they had, they would have seen the futility of it—and would thereupon have stopped believing it. Similar examples are found in all areas of science, e.g. in the belief that heavy objects fall faster than lighter ones (Galilei, 1638, p. 334), as well as in religion, e.g. the widespread Christian belief that humans ascend in their own bodies at the day of reckoning (Aquinas, 1259-65, pp. 1259–1265, IV.80). These beliefs are self-contradictory: Accepting them immediately allows us to construe paradoxes. For example, if we attach a lighter body attached to a heavier one by a chain, this compound object must fall both faster *and* slower than the heavier one—on the one hand, because the lighter ball slows the heavier ball down and, on the other hand, because the lighter and the heavier ball joined together must fall faster than the heavier one by itself. But seeing this self-contradiction means understanding the proposition and tracking its implications for such unusual cases.

We are now in a position to see the epistemic benefits of understanding. Consider this: If an expert is discredited for whatever reason (e.g. plagiarism, political affiliation, association with psychedelics), a person may start to disbelieve what the expert says. Say the discredited expert asserted the sentence s . If we don't understand s , we may start to disbelieve that s expresses a truth, even if p (which is expressed by s) remains true. However, if we understand s , we are in a better position to understand whether these allegations should lead us to stop thinking that s expresses a truth. Knowledge *that is also understood* is therefore more stable by virtue of being more attuned to those facts that determine whether it is still justified or not: I know when I should reject a statement s if I understand which proposition s expresses. Conversely, understanding a falsity q may lead to easier rejection if understanding a proposition entails being more attuned to its possible truth-makers: If none of them fits the actual world, we are more likely to reject q . Additionally, understanding also means seeing connections to other propositions: Semantic inferences from p can be drawn only if we understand p . For example, Lindemann's better understanding of π allowed for the proof that one cannot square the circle. Understanding therefore has two direct epistemic benefits: greater incorporation into the web of belief and better attunement to truth-makers.

Ultimately, understanding p means knowing what a truth-maker for p might be. And this may be close to how Letheby conceives of new knowledge of old facts: I may have known before that p , but now I have seen what it would mean for p to be true. However, the notion of understanding also covers all the cases where p is false, i.e. where I have only believed that p (but not known). In those cases, I may still have an experience of what it would mean for p to be true.

The epistemic benefit of psychedelics therefore accrues, I argue, not by gaining new knowledge of any kind, but simply by increasing our understanding of what we believe. And if what we believed was true and justified, we gain an epistemic understanding, a deeper appreciation of what it is that we knew before or have come to know after the trip. In that sense, psychedelics "contribute to the *context of justification*, in which ideas are scrutinised for plausibility" (Letheby, 2021, p. 172) because understanding allows for a deeper appreciation of plausibility. The contribution of psychedelics is, however, still indirect because false beliefs can also be plausible and understood.

That psychological mechanisms influenced by psychedelics favour understanding but not knowledge intersects with Letheby's suggestion that we gain understanding of how to perform (e.g. certain meditative practices, see Letheby, 2021, p. 178) as well as his suggestion that psychedelics make us more open to alternatives: If psychedelic states favour our understanding of these alternatives, we may more easily come to reject some false ones. But understanding does not encourage the rejection of most false alternatives, because mechanisms for rejection are not always truth-sensitive: Comforting delusions may not be rejected because of their comfort. Instead, they may even become more stable, simply because they

are now understood and felt as well as believed. Again, that psychedelics favour understanding rather than knowledge provides a broader picture, giving us tools to explain both the cases where our horizon broadens or our delusions harden. In this sense, even some impossibilists might accept that psychedelics have epistemic benefits—but that these are decidedly indirect.

References

- Aquinas, T. (1259-65). *Summa contra gentiles*. Vat. lat. 9850.
- Carhart-Harris, R. L., & Friston, K. J. (2019). REBUS and the anarchic brain: Toward a unified model of the brain action of psychedelics. *Pharmacological Reviews*, 71(3), 316–344. <https://doi.org/https://doi.org/10.1124/pr.118.017160>
- Carhart-Harris, R. L., Kaelen, M., Whalley, M., Bolstridge, M., Feilding, A., & Nutt, D. J. (2015). LSD enhances suggestibility in healthy volunteers. *Psychopharmacology*, 232(4), 785–794. <https://doi.org/https://doi.org/10.1007/s00213-014-3714-z>
- Davidson, D. (1973). Radical interpretation. *Dialectica*, 27(1), 314–328. <https://doi.org/10.1111/j.1746-8361.1973.tb00623.x>
- Galilei, G. (1638). *Discorsi*. Leida, Apresso gli Elsevirii.
- Goldman, A. (1979). What is justified belief? In G. Pappas (Ed.), *Justification and knowledge* (pp. 1–25). Boston: D. Reidel.
- Goldman, A., & Beddor, B. (2021). Reliabilist Epistemology. In E. N. Zalta (Ed.), *The Stanford encyclopedia of philosophy* (Summer 2021). <https://plato.stanford.edu/archives/sum2021/entries/reliabilism/>; Metaphysics Research Lab, Stanford University.
- Hoyningen-Huene, P. (1986). Context of discovery and context of justification. *Studies in History and Philosophy of Science Part A*, 18(4), 501–515. [https://doi.org/10.1016/0039-3681\(87\)90005-7](https://doi.org/10.1016/0039-3681(87)90005-7)
- Huxley, A. (1954). *The Doors of Perception*. Chatto & Windus.
- Jopling, D. A. (2001). Placebo insight: The rationality of insight-oriented psychotherapy. *Journal of Clinical Psychology*, 57(1), 19–36. [https://doi.org/https://doi.org/10.1002/1097-4679\(200101\)57:1%3C19::AID-JCLP4%3E3.0.CO;2-Z](https://doi.org/https://doi.org/10.1002/1097-4679(200101)57:1%3C19::AID-JCLP4%3E3.0.CO;2-Z)
- Letheby, C. (2021). *Philosophy of Psychedelics*. Oxford, UK: Oxford University Press.
- Marr, D. (1982). *Vision*. W. H. Freeman.
- Preller, K. H., Burt, J. B., Ji, J. L., Schleifer, C. H., Adkinson, B. D., Stämpfli, P., et al. (2018). Changes in global and thalamic brain connectivity in LSD-induced altered states of consciousness are attributable to the 5-HT_{2A} receptor. *Elife*, 7, e35082. <https://doi.org/10.7554/eLife.35082>
- Quine, W. V. (1969). Epistemology naturalized. In J. Kim & E. Sosa (Eds.) *Ontological Relativity and Other Essays*. New York: Columbia University Press.
- Williams, J. N. (1982). Believing the self-contradictory. *American Philosophical Quarterly*, 19(3), 279–285.
- Zednik, C., & Jäkel, F. (2016). Bayesian reverse-engineering considered as a research strategy for cognitive science. *Synthese*, 193(12), 3951–3985. <https://doi.org/10.1007/s11229-016-1180-3>

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