

This is the type of experience that seems to be crucially involved in psychedelics' mechanism of therapeutic and transformative action. It is also the kind of experience that led intellectuals such as Aldous Huxley, Alan Watts, and Timothy Leary to connect psychedelics with the consciousness alterations aimed at by the meditative disciplines of Hinduism and Buddhism (Huxley 1954, Watts 1962, Leary et al. 1964). Detailed descriptions of psychedelic-induced mystical experiences are available elsewhere (e.g., Masters and Houston 1966, Shanon 2002, Estevez 2013) and I will discuss their phenomenology more in Chapter 3. For now, suffice it to say that, despite considerable debate, these drug-induced experiences seem to be very similar to prototypical mystical experiences that occur spontaneously or are occasioned by non-pharmacological methods. Not only are blind raters unable to distinguish reports of psychedelic and non-psychedelic mystical experiences (Smith 1964) but the former are experienced by those who undergo them as *more* intensely mystical and beneficially transformative than the latter (Yaden et al. 2017). It is the apparent centrality of such experiences to psychedelic therapy that invites the worry I am exploring in this book.

2.5 The Comforting Delusion Objection

There is no denying that many psychedelic experiences, especially overwhelming and transformative ones, involve subjectively compelling experiences of an apparently supernatural or transcendent dimension to existence. It is not for nothing that many traditional cultures view ritual psychedelic use as a method for communicating with deities or the spirit world (Metzner 1998, Shanon 2002). And such beliefs are not confined to participants in traditional rituals. In the clinical study of psilocybin for OCD mentioned earlier, nearly half of the subjects reported experiences such as 'exploration of other planets, visiting past-life reincarnations, and interacting with deities' (Moreno et al. 2006, p. 1739). It is unclear whether these subjects believed that their experiences were veridical or not. But some subjects do adopt metaphysical beliefs on the basis of psychedelic experiences. Consider the following report from a patient treated in the 1970s with the classic psychedelic dipropyltryptamine (DPT):

I seemed to transcend time and space and I lost complete identification with the 'real' world. The experience seemed to me to be as if I was going from this world back to another world before this life had occurred ... I felt that I had been in that mass of energy at one time before. When I was there everything seemed to make sense ... It was a very beautiful world, one in which love was very much a part ... The basic theme that I perceived ... was that life continues to go on and we are basically some form of essence from a Supreme Being and we are part of that Supreme Being ... The results of the use of the hallucinogenic drug on my life have been very profound. I seem to have a much deeper understanding of life and death. I don't have the fear of death that I once had ... I have found that everyday living

seems to be much more enjoyable ... *I am a much more content individual, having had the great opportunity to just glimpse for a very short moment the overall thinking of God ... to be reassured that there is a very beautiful, loving masterful plan in this Universe for all of us.*

(Richards 1978, p. 124; my emphasis).

According to the eminent religious scholar Huston Smith, the ‘basic message of the entheogens [is] that there is another Reality that puts this one in the shade’ (Smith 2000, p. 133). We have already seen evidence that the mystical experience is a key part of psychedelics’ transformative mechanism, and a defining element of the mystical experience is the noetic quality: the powerful sense of direct, undeniable knowledge—the compelling feeling that the transcendent Reality encountered is ‘more real than real’.

But what if there is *not* ‘another Reality that puts this one in the shade’? In that case, the mystical experience would seem to be nothing more than a ‘metaphysical hallucination’ (Flanagan and Graham 2017): an intense and vivid conscious experience that misrepresents the metaphysical nature of reality. This possibility raises disquieting questions about the use of psychedelics in psychiatry, including the one posed forcefully by Michael Pollan (2015): ‘Is psychedelic therapy simply foisting a comforting delusion on the sick and dying?’

Call this the Comforting Delusion Objection to psychedelic therapy.⁴ The Objection is simple: it says that psychedelics induce their salutary psychological effects mainly by inducing metaphysical beliefs that are comforting but probably false, and we should therefore hesitate to use these substances for therapeutic or transformative purposes. The Objection gains much force from the intellectual and cultural dominance of philosophical naturalism: roughly, the view that there is no other Reality that puts this one in the shade; that the natural world is the only reality there is. Naturalism is difficult to define in a precise and uncontroversial manner, but it is typically taken to entail at least the rejection of non-natural or supernatural entities and forces, and the acceptance that the universe is populated solely by the kinds of in-principle-detectable entities, processes, properties, and forces studied by the natural sciences. Naturalism of one kind or another is the dominant view in the philosophy of mind today (Papineau 2016). And differences of detail aside, card-carrying naturalists share a commitment to rejecting the literal existence of disembodied minds, spirits, and transcendent forms of consciousness not dependent on any specific brain or other material cognitive system.

There are three common responses to the Comforting Delusion Objection. One is to say that there is no problem, because the transcendent dimensions seemingly accessed in psychedelic experience are in fact real—at least when it comes to the

⁴ I am using Pollan’s phrase because it vividly and memorably evokes the relevant concern, not because I think that all non-naturalistic metaphysical beliefs qualify as delusions in a clinical sense (although this position might find sympathy in some philosophical quarters!)

Ultimate Reality or Ground of Being, often described as a cosmic consciousness that underlies, gives rise to, or is identical with the entire manifest universe. This quintessentially psychedelic metaphysic has been described as ‘idealistic monism with pantheistic overtones’ (Shanon 2002, p. 163)—the view that reality is, despite appearances, entirely constituted by a single, unitary mind or consciousness, and that this consciousness is in some sense divine or sacred. After interviewing hundreds of ayahuasca users, Benny Shanon reported that most of them believed ‘truly existing other realities [were] being revealed’ in their psychedelic experiences (Shanon 2002, p. 165). The popularity of this kind of position among psychedelic researchers over the years attests to the fact that many people really do have psychedelic experiences with compelling apparent metaphysical implications, and do take these experiences to disclose genuine truths about the nature of reality. Explicit endorsements of something like this view can be found in the writings of (inter alia) William Richards (2015), Huston Smith (2000), Aldous Huxley (1954), Alan Watts (1962), Stanislav Grof (1975), and Frances Vaughan (1983). These scholars and others like them believe that psychedelic mysticism discloses objectively real transcendent dimensions or levels of existence, including forms of consciousness or intelligence that are ontologically (not just phenomenologically) outside time, prior to evolution, and independent of any material substrate. As such, they reject naturalism, at least in the way that I have characterised it.

A second common response is to say that, ultimately, it is not so important whether psychedelic-induced mystical experiences are veridical or not. Instead, we should judge these experiences by their fruits: whether they produce good results in people’s lives by making them happier, more altruistic, less fearful of death, and so forth. This kind of response can be found among those who are highly sceptical of mystical metaphysics, such as Owen Flanagan (2018), and among those who are highly sympathetic to it, such as William Richards (quoted in Pollan 2015).⁵ Flanagan describes the psychedelic mystical vision as ‘existentially meaningful, morally motivating and also likely to be false’ (2018, p. 1). He nonetheless argues that the existential meaning and moral motivation outweigh the falsity: in this case, at least, the Good and the Beautiful outweigh the True. This is part of his broader project of protesting the pathologisation of various mental states on solely epistemic grounds. On this view, what is most important is not whether the mystical experience is veridical (which cannot be established with certainty, as advocates of this position stress) but whether it benefits people who undergo it and those around them. Many psychedelic researchers take this view. One of the scientists interviewed by Michael Pollan quipped that the question of whether the mystical experience is veridical was ‘above [his] pay grade’ (Pollan 2015).

⁵ Shortly before this book went to press, Greif and Šurkala (2020) published a thoughtful article about the compassionate use of psychedelics in which they respond to the Comforting Delusion Objection. Their response is not readily classified by the schema I am using here. I will discuss it briefly in section 10.2, Chapter 10.

For better or worse, as a philosopher, this question is not above my pay grade: it is right there in the job description. And I agree with Flanagan, as well as with proponents of the third response such as Andrea Lavazza (2017) that, insofar as it represents reality as grounded in a transcendent universal consciousness, the mystical experience is probably not veridical. What distinguishes Lavazza's response is that he thinks the epistemic status of the experience is indeed important. Contrasting 'realistic' forms of well-being, based on accurate understanding of reality, with 'unrealistic' ones based on misrepresentation, Lavazza argues that the former are preferable, but that psychedelic experience belongs to the latter kind. Thus, he takes a naturalistic view according to which the epistemic credentials of psychedelic therapy are (a) important and (b) poor; thus, he concludes that we should be wary of this particular path to well-being. Something like this view has been defended by others (e.g., Roche 2010) and continues a philosophically influential tradition of scepticism about altered states of consciousness and their epistemic credentials (cf. Windt 2011).

At a first pass, one might formulate the Comforting Delusion Objection as follows:

1. Naturalism is true.
2. If the epistemic status of psychedelic therapy is poor, then we should hesitate to recommend or prescribe it.
3. Therefore, we should hesitate to recommend or prescribe psychedelic therapy.

On this way of construing the argument, the various responses canvassed thus far would amount to rejecting premise one (Richards, Smith, Huxley et al.); rejecting premise two (Flanagan et al.); or accepting the conclusion (Lavazza, Roche et al.).

However, it should be apparent that the argument, as I have just formulated it, is an *enthymeme*: it has a hidden or suppressed premise, without which it is invalid. When this premise is made explicit, the argument goes like this:

1. Naturalism is true
2. If the epistemic status of psychedelic therapy is poor, then we should hesitate to recommend or prescribe it
3. If naturalism is true, then the epistemic status of psychedelic therapy is poor
4. Therefore, we should hesitate to recommend or prescribe psychedelic therapy

In my opinion, the weakest link in this reformulated argument is premise three. My strategy will be to try to undermine this claim. As such, the fourth response to the Comforting Delusion Objection—the response that I plan to defend—involves accepting premises one and two: that (a) naturalism is true, so pantheistic idealism and other 'cosmic consciousness'-type views (e.g., Shani 2015, Albahari 2019a) are false, and (b) the epistemic credentials of psychedelic therapy are indeed important. However, I contend that, *even if* naturalism is true, psychedelic therapy still has significant epistemic benefits, and can even accurately be described as involving authentic spiritual experience.

Specifically, I will argue for three claims:

- (i) Psychedelic therapy, given naturalism, involves *less epistemic risk* than one might suppose: its mechanism of action, despite first appearances, does not constitutively involve the promotion of non-naturalistic metaphysical beliefs, nor is such promotion an inevitable side effect.
- (ii) Psychedelic therapy, given naturalism, is ‘epistemically innocent’ (Bortolotti 2015), meaning that, despite its real epistemic risks, it nonetheless has *significant epistemic benefits* that are often unavailable by any alternative means.
- (iii) Some of the key components of psychedelic therapy are elements of a viable *naturalistic spirituality*.

To argue for these claims, I will be using conceptual and methodological tools from philosophy and the cognitive sciences to attempt a speculative synthesis of evidence concerning the nature and mechanisms of psychedelic transformation. This synthesis will reveal that the *prima facie* picture of psychedelic therapy I have painted in this chapter is misleading in important respects. It is true that psychometric constructs such as ‘mystical-type experience’ strongly predict beneficial outcomes from psychedelic therapy. But it will turn out that not every experience captured by these constructs is a non-naturalistic metaphysical hallucination. Some transformative psychedelic experiences feature apparent encounters with a cosmic consciousness or divine Reality, but others do not.

Thus, I will argue that the picture of psychedelic therapy underlying the Comforting Delusion Objection is empirically implausible. It is simply false that the central mechanism of this treatment is the induction or strengthening of non-naturalistic metaphysical beliefs. The induction or strengthening of such beliefs sometimes accompanies the process, but not always. The common factor that unites these therapeutically valuable experiences is profound changes to the sense of self. These changes enable subjects to access new perspectives on themselves and their lives, new ways of seeing themselves and experiencing their worlds.

Before getting underway, however, there is an obvious question to be addressed: why accept premises one and two of the Comforting Delusion Objection? That is, why accept that naturalism is true, and that the epistemic status of psychedelic transformation is important? Why not simply accept the claim, which seems plausible to many psychedelic subjects and researchers, that the cosmic consciousness is real—that mystical states of consciousness reveal genuine truths about the metaphysical nature of reality? Or why not follow others in holding that that the epistemic status of psychedelic experience is relatively unimportant?

Taking these questions in reverse order, I cannot hope to *demonstrate* that we should care about epistemic status in our evaluation of treatment and enhancement modalities. The most I can do, without delving into foundational debates on value theory, is to gesture at the sorts of considerations that I find persuasive, and hope that others share my intuitions to some extent. There is a famous thought experiment that

aims to demonstrate the importance of epistemic factors in paths to well-being. This is Robert Nozick's (1974) Experience Machine. The hypothetical Machine provides users with a lifelong stream of virtual reality experiences as pleasurable and varied as one can wish for. Moreover, one can remain ignorant of the virtual status of these experiences, so that one's life in the Machine is subjectively indistinguishable from a maximally rich and excellent life in the real world. Should one plug in?

A common intuition, which Nozick invites us to share, is that plugging in would be a mistake: despite its hedonic excellence, there is something inferior about life in the Machine. An obvious candidate, of course, is that life in the Machine is not *real*: it is merely a subjectively satisfying hallucination. The thought experiment is meant to show that the hedonic quality of our experiences is not all that we value, or ought to: it also matters that our experiences are real, and that we engage in genuine relationships with an actual external world and real, autonomous others. Truth, knowledge, and reality are important in their own right. Indeed, Nozick, writing in the early 1970s, explicitly relates the Machine to the ongoing debate about 'psychoactive drugs'—by which I believe he means psychedelics, specifically:

... plugging into an experience machine limits us to a man-made reality, to a world no deeper or more important than that which people can construct. There is no *actual* contact with any deeper reality, though the experience of it can be simulated. Many persons desire to leave themselves open to such contact and to a plumbing of deeper significance. This clarifies the intensity of the conflict over psychoactive drugs, which some view as mere local experience machines, and others view as avenues to a deeper reality; what some view as equivalent to surrender to the experience machine, others view as following one of the reasons *not* to surrender!

(Nozick 1974, p. 49; emphasis original).

This sums up a long-running tension between two distinct conceptions of psychedelics, as epistemically detrimental agents of hallucination ('mere local experience machines') and as agents of knowledge, insight, and spirituality ('avenues to a deeper reality'). We will return to this tension momentarily. My position is this: I agree with Nozick that it *matters* whether psychedelics are mere local experience machines or avenues to a deeper reality. Ultimately, I will argue that each of these conceptions has some of the truth, but the latter has enough of it to carry the day. However, the question must be posed.

The intuition that epistemic factors matter can be pumped further. One way is to consider hypothetical treatments that caricature the apparent features of psychedelic therapy that underlie the Comforting Delusion Objection. Imagine, for instance, a pill that causes immediate, dramatic, and lasting reductions in symptoms of anxiety, depression, and addiction, as well as positive personality change in healthy subjects. However, this pill also has the ineliminable side effect of inducing a deep and unshakeable conviction in conspiracy theories about the Illuminati, or flat-earthism, or any

epistemically poor belief you care to name. Should we really simply *disregard* the distinctively epistemic harms of this treatment in our overall evaluation of its costs and benefits? In my view, we should not. My point is not that we could never be justified in recommending or prescribing such a treatment. We might conclude, on balance, that its benefits outweigh its costs. My point is simply that we should do the calculation, and factor its epistemic costs and benefits into our overall deliberations, rather than simply deeming its epistemic profile unimportant and unworthy of consideration.

What, then, of the first premise of the Objection? This is not the place to mount a full exposition and defence of philosophical naturalism. Much ink has been spilled on that project, which requires at least a book of its own. However, I will indicate briefly how I understand ‘naturalism’ in the present context, and some of the main reasons why I find it more plausible than alternative views. I invite any readers who are unpersuaded to treat this book as a conditional exercise in seeing how much sense can be made of psychedelic phenomena within naturalistic constraints. I suggest that the answer is: a surprising amount. We can do justice not only to the body of scientific evidence, but also to much of what seems important to psychedelic subjects—including the epistemic and spiritual dimensions of psychedelic experience—without invoking non-naturalistic posits. My contention that the Comforting Delusion Objection fails is unaffected even if *all* the premises of the Objection turn out to be false. I am simply taking a relatively untrodden path to the conclusion that the Objection fails: trying to reconcile psychedelic therapy with (a) a naturalistic outlook and (b) a concern for epistemic responsibility, or intellectual honesty (cf. Metzinger 2013a).

2.6 Naturalising the Entheogenic Conception

‘Naturalism’ is a notoriously ambiguous term in contemporary philosophy. Many philosophers describe themselves as naturalists, but there is considerable disagreement about the core commitments of the doctrine (Horst 2009). All versions have in common some kind of endorsement of the natural sciences as an especially effective means of acquiring knowledge of the world, and some kind of disavowal of supernatural entities or forces—which of course raises the question of what counts as ‘natural’ or ‘supernatural’; and on what principled criteria a theory or view could be deemed non-naturalistic.

We can start with the common distinction between metaphysical and methodological naturalism. Methodological naturalists believe that philosophy is, or ought to be, continuous with the natural sciences, and they reject the idea of a ‘first philosophy’ that could support an a priori critique of scientific method. Adherents of this view criticise armchair reasoning and pure conceptual analysis, insisting that philosophical conclusions must be not only consistent with, but based upon and integrated with, the best-supported theories in the sciences. The overwhelming success of natural science in describing the detailed structure of the external world, easily taken for granted but evidenced by the stunning technological and medical

achievements of the past few centuries, suggests that scientific methods are getting something very right about how to investigate reality—and a key aspect of scientific method is the attempt to subordinate a priori intuitions to the evidence of observation and experiment. Methodological naturalists recommend that we take this epistemological lesson seriously and treat the deliverances of the sciences as our starting point and best guide to what the world is really like. One way to cash this out is to view philosophy as a limiting case of theorising, perhaps a type of ‘meta-theory’ at one end of a continuum of abstraction, with observation and experiment at the other (Audi 2000, Forrest 2000).

Metaphysical naturalism, on the other hand, also known as ‘ontological’ or ‘philosophical’ naturalism, is not a claim about how we should do philosophy but a claim about what exists. This is where the rejection of non-natural or supernatural entities comes in. As I have said, it is difficult to make this rejection both precise and principled. But one common form that metaphysical naturalism takes in the philosophy of mind is adherence to some species of materialism or physicalism: the claim that paradigmatically mental phenomena such as thought, perception, and consciousness are wholly material or physical in character (Horst 2009). Of course, this raises the question of what it is to be ‘material’ or ‘physical’, which hardly seems easier than what it is to be natural (cf. Hempel 1980).

Fortunately, we do not need precise definitions of these terms to give a suitable working characterisation of naturalism. According to Steven Horst, the broad view that travels by this name in current philosophy of mind is that ‘all mental phenomena are to be accommodated within the framework of nature as it is understood by the natural sciences’ (2009, p. 225). Further, according to Horst, naturalistic philosophical accounts of the mind do not ‘(a) [allow] the existence of paradigmatically non-natural *entities* such as God, angels or Cartesian souls or non-natural *properties*, or (b) [treat] the world of nature as understood within the sciences as non-fundamental’ (Horst 2009, p. 225; emphasis original).

This is the type of view that I have in mind when I speak of a *naturalistic* account of psychedelic transformation. It is condition (b) that makes this view incompatible with mystical metaphysical views such as the pantheistic idealism of Shanon’s ayahuasca subjects.⁶ An adherent of idealism or related views can allow that the natural sciences describe the manifest world accurately, but nonetheless maintain that the world of nature as understood *within the sciences* is non-fundamental. Science describes and treats various entities, properties, and forces—such as quarks, electrons, gravity, and galaxies—as merely physical, in the sense of lacking mental properties. But idealists claim that such things are, in some sense, ultimately or essentially mental. The view that I will assume also includes the premise that phenomenal consciousness specifically—the famous ‘what-it-is-likeness’ of subjective experience (Nagel 1974)—is an evolved, natural, intracranial phenomenon (Revonsuo 2006). Conscious

⁶ Of course, a pantheistic cosmic consciousness of the kind that Shanon’s subjects describe probably runs afoul of condition (a) too; it is hard to imagine a more paradigmatically non-natural entity.

experiences are simply identical, in some sense, to states or processes occurring entirely within the brain (Smart 1959, Bechtel and McCauley 1999)—even if the relevant states or processes are better characterised in functional than chemical or physiological terms (Putnam 1967).

Since the metaphysical content of my view is that conscious experiences are in some sense brain processes of some kind, why use the label ‘naturalism’ rather than terms such as ‘physicalism’ and ‘materialism’, which refer more specifically to metaphysical theses about the mind? One reason is that I want to situate my account of psychedelic transformation in the context of the broader *naturalising* programme in recent philosophy. For the past few decades, philosophers have been examining various phenomena that initially seem like poor fits for a naturalistic worldview, such as morality (Sturgeon 2006), free will (Dennett 1984), and mental representation or ‘intentionality’ (Dretske 1995). The project is to develop thoroughly naturalistic theories of these phenomena. The aim is thereby to show that certain familiar or important features of our lives and the world do not require us to believe in anything non-natural or supernatural, but are ultimately unmysterious parts of the one closed causal system described by the natural sciences.

This is the project that I am attempting in relation to psychedelics. The history of psychedelic research has seen many different conceptions of these substances, involving different beliefs about their essential nature, their most significant effects, and so forth. In particular, there has been a long-running tension between an Entheogenic Conception of psychedelics as agents of knowledge, insight, and spirituality—typically packaged with non-naturalistic metaphysical claims—and a *psychotomimetic* (or ‘hallucinogenic’) conception, bound up with naturalism and a scientific approach, that views psychedelics primarily as agents of cognitive distortion and hallucination: in short, as epistemically harmful by definition (Langlitz 2013). My project here is to *naturalise* the Entheogenic Conception: to show that a conception of psychedelics as agents of knowledge, insight, and spirituality is, despite first appearances, perfectly compatible with a naturalistic worldview and a scientific outlook.

This is intended as a contribution to the ‘progressive initiative to demystify the psychedelic experience’ being pursued explicitly by some researchers in the area (Carhart-Harris et al. 2018a, p. 549). It can also be seen, philosophically, in terms of the clash between Wilfrid Sellars’ (1963) ‘manifest’ and ‘scientific’ images of human-kind: our reflective everyday conception of ourselves and the world, and the worldview disclosed by the sciences, respectively. The Entheogenic Conception, as I have described it, is part of the *manifest image* of psychedelic transformation: it is part of the reflective but pre-scientific picture of this phenomenon endorsed and expressed by many who are familiar with it. I will try to show that it need not conflict, and can indeed be integrated, with the scientific image of this phenomenon. So in my attempt to answer the Comforting Delusion Objection, I will be developing an account of psychedelics as agents of knowledge gain and spiritual experience in a wholly naturalistic world. In so doing, I aim to provide a conceptual framework for thinking about psychedelics’ putative epistemic and spiritual benefits that can interface with scientific

research on these topics and that does not depend on a metaphysical commitment to anything non-natural or supernatural.

I am also using the term ‘naturalism’ to signal the methodological orientation, not just the metaphysical constraints, of my project. Here I am following the kind of methodological naturalism mentioned earlier, which sees philosophy as continuous with the natural sciences. On one version of this approach, philosophy has three key functions:

(1) Philosophy’s most basic task is to reflect upon, and integrate, the results of investigations in the particular sciences to form a coherent overall view of the universe and our place in it.

(2) Philosophy is concerned with certain problems in particular sciences, for example, in physics, biology, psychology, and mathematics. These problems arise in the most speculative and conceptually difficult parts of the sciences.

(3) Some sciences, or areas of sciences, are traditionally done in philosophy, in some cases, but certainly not all, because they are not mature enough to go out on their own: epistemology, logic, morals, politics and aesthetics.

(Devitt and Sterelny 1999, pp. 275–276).

All of these are relevant to my purposes. What I am attempting is, to my knowledge, a novel project: a *natural philosophy* of psychedelics (cf. Thagard 2019), by which I mean an overarching, big-picture synthesis that integrates findings from various scientific disciplines in order to answer quintessentially philosophical questions about psychedelics. These questions, involving such concepts as *self*, *knowledge*, and *spirituality*, are either not addressed explicitly or not (yet) answerable fully by empirical investigations. This kind of synthetic exercise (Schliesser 2019) in natural philosophy, similar in spirit to the movement known as ‘neurophilosophy’ (Churchland 1989), has been pursued fruitfully in relation to the emotions (Prinz 2004), self-awareness (Metzinger 2003), morality (Churchland 2011), and clinical delusions (Gerrans 2014), to name just a few. Psychedelic experience is an obvious subject for such an inquiry, given the Big Questions that it raises and the complex nature of the research, which spans disciplines and levels of scale and explanation.

There remains the question: Why metaphysical naturalism about the mind? Why prefer the view that conscious experiences are brain processes to mystical idealism? One answer comes by way of methodological naturalism. Natural science has proven itself over the past few centuries to be our most reliable way of finding out about reality, and our current best science of consciousness, cognitive neuroscience, overwhelmingly endorses the claim that consciousness is a phenomenon that occurs solely within the brain. Cognitive neuroscience is based on the ‘heuristic identity theory’, the assumption that mind and brain are in some sense identical, and the remarkable and rapid success of this research programme constitutes a *prima facie* vindication of this foundational postulate (Bechtel and McCauley 1999).

Moreover, there are positive discoveries within cognitive neuroscience that support more directly an identification of consciousness with brain activity. All the instances of phenomenal experience in which we have compelling reason to believe (from introspection, others' verbal reports, or behavioural and physiological analogies) are intimately correlated with specific types of brain activity. Phenomena such as phantom limbs and dreaming suggest that brain activity is sufficient for consciousness: the usual external triggers of certain experiences are not required for experiences to occur. And cases of deafferented limbs and cortical lesions suggest that brain activity is necessary for consciousness: even if all the right extracranial events occur, the relevant signals must be processed in the brain for experience to eventuate (Revonsuo 2006).

Not only are conscious experiences intimately correlated with specific intracranial processes that seem to be both necessary and sufficient for them: they are also intimately correlated with specific cognitive functions that evolved to enable the adaptive success of the organism. This is most simply explained by the assumption that consciousness either contributes something itself to adaptive success, or is an unavoidable concomitant of cognitive adaptations. Consciousness is a 'biological data format' (Metzinger 2009, p. 8).

Nonetheless, non-physicalist views are making a comeback in philosophy. More and more thinkers are turning to such views as idealism, panpsychism, and variants thereof (e.g., Shani 2015, Albahari 2019a, Goff 2019). One of the key motivations is the perceived inability of physicalism to solve the Hard Problem of Consciousness. It cannot be denied that consciousness, as experienced from the inside, and brain activity, as viewed from the outside, seem about as different as two things could possibly be. Explaining how the former could possibly 'emerge from', or be identical with, the latter is rightly viewed as one of the great intellectual challenges of our age. The perceived failure of physicalism to provide anything approaching a plausible solution leads some to conclude that the problem is insoluble and so consciousness must not emerge from, or be identical to, complex brain activity: it must somehow be fundamental and ubiquitous in the universe, as idealists and panpsychists claim.

I think that this inference is premature. Unlike some naturalists (e.g., Dennett 1991, Churchland 1996, Seth 2016, Carruthers and Schier 2017) I think that the Hard Problem is very real, very Hard, and very much unsolved. But this does not mean that it can never be solved within physicalist constraints. The modern sciences of mind and brain are young: scientific psychology little more than a century old, cognitive science about 60 years, cognitive neuroscience about 40. Perhaps the conceptual breakthrough or revolution that will allow us to comprehend how the trick is done is decades or centuries away. Less than a century ago, vitalists were still maintaining that organic life could never be explained in chemical terms—a prediction that now looks short-sighted (Dennett 1991). As Thomas Nagel (1974) has pointed out, we may have good reason to believe that physicalism is true even if we cannot yet understand how it *could* be true. This is roughly the position that I think we are in. The fact that

nobody can yet imagine what kind of conceptual revolution could solve the Hard Problem is no conclusive reason for pessimism: such is simply the nature of conceptual revolutions.

Importantly, even if the Hard Problem is never solved, the falsity of physicalism does not follow. In the philosophy of mind, *Mysterianism* is the position that human beings are too cognitively limited to solve the mind–body problem. We are very smart, but not infinitely so—and consciousness, according to Mysterians, is where we meet our limit (McGinn 1989). What the possibility of Mysterianism shows is this: even strong pessimism about the prospects for an intellectually satisfying resolution of the Hard Problem does not constitute strong grounds for rejecting physicalism in favour of non-physicalist views (cf. Prinz 2003). Such pessimism is an epistemological stance with no direct consequences for metaphysics (Cummins et al. 2014).

In my view, we have sufficient grounds to tentatively accept physicalism about the mind, and the Hard Problem is not reason enough to reject it. Of course, a very common view in psychedelic circles is that the nature of psychedelic experience, mystical or otherwise, *is* reason enough. These experiences render many who undergo them incredulous that consciousness could be ‘mere’ neural information processing. But undermining this inference is one of the central burdens of this book. I intend to show that a naturalistic view of the mind has ample resources to explain the many strange and striking phenomena encountered in psychedelic experience—including those that most readily evoke non-naturalistic interpretations.

The task of a natural philosophy of psychedelic therapy is to answer the question *Are psychedelic experiences an existential medicine, metaphysical hallucinations, both, or neither?* on the basis of an interdisciplinary synthesis integrating our best current evidence and theory concerning these experiences and their causes and consequences. In the spirit of such a natural philosophy, let us begin with close attention to the phenomena: in this case, the psychedelic experience itself.