

0 Introduction

I'll start with a metaphysical creed—four propositions. I'm confident that the first three are true, and I suspect that the fourth is true, but I don't think one has to accept any of them to agree with my principal thesis—the thesis of *the primacy of panpsychism*, the highly unoriginal thesis that there are compelling reasons for favouring panpsychism above all other positive substantive proposals about the fundamental nature of concrete reality.

I'll state the four propositions first in German because I like the way they sound in German. [1] *Stoff ist Kraft*, [2] *Wesen ist Werden*, [3] *Sein ist Sosein*, [4] *Ansichsein ist Fürsichsein*. These are identity claims—fully reversible. I'm not going to argue for them but I'll provide a few glosses.¹

1 Stoff ist Kraft

[1] *Stoff ist Kraft*.

Matter is force or as I will say energy:

[1] *matter is energy*.

Strictly speaking matter is only one form of concrete being, but I'll use the word loosely to mean all concrete stuff: all concrete being is energy—energy-activity, energy-stuff.

I'm using the word 'energy' as Heisenberg does when he writes that "energy is a substance", "all particles are made of the same substance: energy" (1958: 63, 71), and putting aside the common use according to which 'energy' denotes the power of 'doing work' contained in or possessed by a body or system of bodies.

I take this general position to be orthodoxy today. It's also an old view, if Aristotelian *energeia* can be understood as energy: "in Aristotle the concept *energeia* coincides with that of reality. And Leibniz, too, declared: '*quod non agit, non existit*'" (Schlick 1918-25, 181): what doesn't act doesn't exist. The most fundamental characterization of substance is *that which acts*: "activity ... is of the essence of substance" (Leibniz 1714, 65).²

¹ In this paper I'm concerned with concrete being—the universe. I don't know whether it's helpful to say that there is abstract being, as opposed to and in addition to concrete being, but I'm going to put this question aside.

² See also, strikingly, Faraday (1844, 140ff), Bohm (1957, §1.6), and many others (when I cite a work I give the date of first publication, or occasionally the date of composition, while the page reference is to the edition listed in the bibliography). I'm inclined to include Plato, who holds (*c* 360 BCE, 247d-e) that "being is nothing other than *dunamis*", i.e. potency, power, force. But this would need to be vigorously argued, given

Some may find the equation of force, energy, power, and activity too quick or easy. I think it's eminently defensible—the evolution of the old notions *dunamis* and *energeia* into the notions of dynamism and energy is highly significant. I also take it that the existence of *causation*—of the “because something is, something else must be” phenomenon as it concretely exists in nature³—is nothing over and above the existence of energy. One might say that the causal laws for our universe describe the particular form of energy as it exists in our universe—the behavioural form of energy as it exists in our universe.⁴

If spacetime is itself a concrete existent, something substantial, as I'm inclined to suppose along with many others, rather than a mere container for concrete being, and if it is in fact the only concrete existent, as a good number of physicists and cosmologists suppose, if in other words spacetime is the universe, if

[A] *Sein ist Raumzeit*,

if [A] *being is spacetime*—then, given [1], spacetime is energy.⁵ If the existence of spacetime is the existence of certain fields (electromagnetic, weak and strong nuclear, gravitational, Higgs), or ultimately only one field, then the existence of the field or fields is just a matter of the existence of energy.⁶

We may be wildly wrong about the nature of spacetime, insofar as our conception of spacetime goes in any way beyond our best equations—even if our best equations are essentially correct. So be it. I'll take the word 'spacetime' to be a name for the actual dimensionality of reality, the actual existence-dimension or *Existenzraum* of concrete reality *whatever its ultimate nature*—a term that leaves room for the possibility (the likelihood) that we are in certain ways bewilderingly wrong about it.

One point is worth noting straight away (I'll return to it later). We certainly shouldn't suppose that having spatial existence entails having some sort of irreducible non-experiential being any more than we should suppose something we already know to be false (given that there is space): that having spatial existence is incompatible with experiential being.

I'm inclined to think that [1] is at bottom an *a priori* truth. Aristotle didn't wait for it to be presented as a scientific discovery. The once popular idea of inert or powerless concrete

the way in which Plato distinguishes between *dunamis*, potency, and *energeia*, actuality.

³ Kant 1781–7: B288. Kant's formulation is entirely general and can be taken non-temporally.

⁴ The existence of power can't be equated with the existence of something 'merely' dispositional—given one common understanding of the word 'disposition'. Just as there's no energy without power so there's no power without actual, live energy (it would be superficial to think that the existence of *vis inertiae* doesn't involve the existence of energy).

⁵ I'll use letters rather than numbers for primary propositions that I don't positively endorse in this paper although I think some of them may be true.

⁶ Descartes endorses [A] with respect to the material world. Samuel Alexander endorses it quite generally: “Space-Time is the stuff of which matter and all things are specifications” (Alexander 1924, vi). I'm leaving aside the 'relational' conception of space because no one has ever managed to make any sense of it as a metaphysical position.

being is I believe incoherent,⁷ and the natural thought that powers require ‘categorical grounds’ doesn’t require one to think that there is or can be any ‘real distinction’, in Descartes’s sense, between a thing’s possession of the powers it possesses and the existence of those powers’ categorical grounds, or that the existence of the categorical grounds can’t be wholly a matter of the existence of energy. Granted that you can’t have powers without ‘categorical grounds’, so too you can’t have categorical grounds without powers. Imagine an exhaustive specification of a thing x ’s powers P and categorical properties C (the specification of powers will be—benignly—infinite if it’s given in terms of x ’s possible effects on other things). It’s plausible that only something identical to x in respect of C can possibly have precisely P and conversely that anything identical to x in respect of C must have precisely P . In this case neither C nor P can possibly exist apart from the other, so there’s no real distinction between them in Descartes’s sense, and where there’s no real distinction between two things it’s plausible that they’re really identical.

So much for the first proposition.

2 Wesen ist Werden

[2] *Wesen ist Werden*,

i.e.

[2] *being is becoming*.

This is the essential (*Wesen*) nature of concrete being, of nature (*Wesen*). Everything is process in other familiar terms. Being is process. Being is doing, activity. A through-and-through processual view of reality is mandatory. All concrete being is essentially time-being—whatever exactly time is. Being is *being*. All being is in Kant’s phrase ‘always already’ behaving, becoming, and of course conversely (Kant 1781–7, A346/B404).

[1] and [2] are close to

[5] *Wirklich ist, was wirkt*

—the actual is what has an effect.⁸ In the case of matter, Schopenhauer observes, “its being [*Daseyn*] is its acting [*Wirken*]: and it is inconceivable that matter has any other being”.⁹ To say this is not to ‘desubstantialize’ matter in any way, and it is most emphatically not to suggest that matter is really only what we can possibly observe (as per the fatal modern tendency to epistemologize metaphysics). It’s simply to express in a certain way the point

⁷ See Strawson (*forthcoming b*)

⁸ “Wirklich ist, was wirkt, was eine Macht, eine Potenz ist” (Frauenstädt 1840, 341).

⁹ Schopenhauer 1819–59, §1.4; matter is “causality itself, objectively conceived” (Schopenhauer 1819–59, §2.1.4); “matter is throughout pure Causality, its essence is Action in general” (Schopenhauer 1813, 97).

that the nature of concrete being is energy. The point is old, but we periodically lose hold of it. David Lewis has misled many with his extraordinary view (perhaps a legacy of positivistic empiricism) that the intrinsic nature of matter is or could be independent of its behaviour.¹⁰ (You can't vary the laws of nature while keeping the nature of a thing constant, because the laws are essentially constitutive of its nature.)

So much very briefly for [2]. There is of course a great deal more to be said about this.

3 Sein ist Sosein

[3] *Sein ist Sosein*.

This is harder to render in a single English sentence. I propose

[3] *being is quality*.

There's no metaphysically fundamental distinction between substance and attribute (as Descartes, Spinoza, Leibniz, Kant, Nietzsche, and many others agree). There's no metaphysically fundamental distinction between the concrete being of substance, 'thatness', and the concrete being of (intrinsic) propertiedness, 'howness', 'thusness', qualitativity. There is no *real distinction*, in Descartes's terms, between a concrete entity's *Sein* and its *Sosein*, when that entity is considered at any particular time. There's no difference between bare being (the barest that being can get) and how-being: between being and being-some-way. Lewis is again wrong to suppose that a thing's behaviour (in any given context) could fail to be wholly a function of its intrinsic nature, for a thing's behaviour in any given context is simply (and wholly) part of its being, its intrinsic nature. He is, however, right, on the present view, that concrete reality is "an arrangement of qualities. And that is all" (Lewis 1986, x).

It's obvious that there can't be *Sein* without *Sosein* or *Sosein* without *Sein*. To be at all is necessarily to be somehow, and to be somehow is necessarily to exist. The present stronger claim—that there's no real distinction, in the case of any particular thing or object *o*, considered at any particular time *t*, between the totality of what constitutes the existence of *o* at *t* and the totality of what constitutes the existence of the (intrinsic instantiated) propertiedness of *o* at that time—may seem less obvious, but it's no less secure. Neither *o* at *t* nor *o*'s (intrinsic instantiated) propertiedness at *t* can coherently be supposed to exist apart from the other in any respect at all, let the counterfactuals fall as they may. They are metaphysically identical—the same thing. We can express this as a subthesis of [3]:

¹⁰ Two quick points on this view. [1] You can't vary the nomic circumstances of a thing *x*—the laws of nature governing *x*—while keeping *x*'s nature constant, because the laws are essentially constitutive of its nature. [2] Even if you could, there would be no independence of behaviour from intrinsic nature. For *x* would behave in the way it did, say W1, in nomic circumstances N1, wholly because of its intrinsic nature, and it would behave in way W2 in nomic circumstances N2 wholly because of its intrinsic nature; etc.

[3*] *An object considered at any given time t = its (intrinsic instantiated concrete) propertiedness at t.*

The way in which object words and property words operate in everyday thought means that this outright identity statement can sound plainly incorrect. In particular, the ease and naturalness with which we use counterfactual idioms when talking about objects and their properties can mislead us. We may for example be tempted to think that it is a sufficient objection to [3*] to say something like: ‘This very object considered now at *t* could have had different properties now at *t* from the properties it does in fact have’. In fact this is no objection to [3*], but it can take a certain amount of effort to rethink one’s conception of the phenomena that lead us to talk of objects, on the one hand, and the phenomena that lead us to talk of instantiated properties, on the other hand, up to the point at which [3*] no longer seems incorrect, but rather evidently true.¹¹

Kant gets this exactly right, I think, when he says that “in their relation to substance, accidents [or properties] are not really subordinated to it, but are the mode of existing of the substance itself” (Kant 1781-7, A414/B441). There’s no sort of ontic subordinacy of the object’s properties to the object itself, no sort of existential inequality or priority or superiority or inferiority of any sort, no ontic dependence of either on the other, no independence of either from the other. In the case of any concrete entity, again, its *Sosein* (its being the way it is) is identical to its *Sein* (its being).

I take this claim to be *a priori*, however much language beguiles us to think otherwise. There is really no other possible relation of thatness to howness. But it is also perhaps the hardest of the four claims to grasp. Or rather it’s the hardest to hold onto in such a way as to be able to deploy it properly in one’s philosophical thinking. One can lose a theoretically live grasp of it when one isn’t concentrating even if one endorses it whenever one focuses on it without trying to do anything else. I think this is principally because of our deep natural tendency to think of objects and their properties in counterfactual ways. These ways of thinking are perfectly in order, and crucial for many ordinary purposes but they pull against [3] and [3*] in a way that can easily throw us off track in metaphysics.

So much for the third proposition.

4 Ansichsein ist Fürsichsein

[4] *Ansichsein ist Fürsichsein.*

For something to be, to be at all, to be what it is considered wholly *in itself* or *an sich* in Kant’s sense, is essentially for it to be *for itself*, in the familiar sense of this phrase

¹¹ See Strawson (2008, 279-281). We lose hold of the key point if we take the identity claim in [3*] to be just a version of the ‘bundle’ theory of objects. The bundle theory of objects as standardly presented will always seem intuitively unacceptable, and rightly so, because it retains the everyday conception of, and distinction between, ‘object’ and ‘property’—the very conception that is undermined by insight into the identity claim.

according to which for a being to be ‘for itself’ is for there to be something it is like to be it, experientially. It is for it to be a conscious or experiencing being. So

[4] *being is mind*.

Being is experience, experientiality. [4] is a form of panpsychism or panexperientialism (I use these terms interchangeably, taking the psychical to be essentially a matter of conscious—experiential—goings-on).¹² It’s equivalent to

[6] *Sein ist Bewusstsein*.

It’s a form of *pure* panpsychism, the view that experientiality is all there is to the intrinsic nature of concrete reality (note that on this view, the existence of subjects of experience can’t be supposed to be anything ontologically over and above the existence of experiencing). The milder version says that this is how things are in this universe. The stronger version says that this is all that being can be—that panpsychism is necessarily true. I think this may be so—that concrete being has in fact no other possible form than energy, and that energy has in fact no other possible form than experientiality. But it certainly isn’t *a priori* viewed from here. We can’t hope to prove that the notion of non-experiential concrete being is incoherent, even if it’s *a priori* in God’s physics, or rather his entirely general theory of being, his ‘concretics’, his necessarily utterly comprehensive account of what can concretely exist. Still, the great William James holds that “our only intelligible notion of an object *in itself* is that it should be an object *for itself*”, and that “a thing in itself ... must be an experience *for itself*” (Perry 1935, 446). (See §21 below for a suggestion about why this might be so.)

5 The Basic Creed

So here’s the basic creed: being is energy, process, quality, mind. These four things are, in this universe, all the same thing—which may be spacetime (in which case there is no real distinction between concrete being and its *Existenzraum* or dimensionality). Once the restriction to concrete being is in place the four initial terms—*Stoff, Wesen, Sein, Ansichsein*—come to the same thing: *Wirklichkeit*—the actual. That’s the proposal. It’s the backbone of the metaphysics I favour: *identity metaphysics*. The principal characteristic of identity metaphysics is that it finds identity where other metaphysical positions, dancing to the panpipes of language, find distinctness and difference. In the background stand powerful thinkers—Spinoza, Leibniz, James, Nietzsche among others, perhaps also Whitehead—although none, perhaps, would accept the whole of the basic creed

¹² ‘Psyche’ was a mass term before it was a count noun. The term ‘panpsychism’ doesn’t imply that there are subjects of experience in addition to experiential reality, or that everything that exists involves the existence of a subject of experience in addition to the existence of experiential reality.

unreservedly.

Perhaps I should say that I'm not arguing, so I'm not begging questions. I'm offering a picture of how things are.

6 *Natura Non Facit Saltum*: No Radical Emergence

Let me now add an ancient metaphysical thesis to the ontological theses [1]–[6]:

[7] *natura non facit saltum*.

I take [7]—No Jumps—to be a solid part of any sound naturalism, and from [7], as I understand it, one can derive the *No Radical Emergence* thesis as I understand it, i.e.

[8] there is no radical emergence

(some may think that [8] is effectively the same as [7]). And from [8], I submit, we can derive

[9] the experiential (experiential being) can't emerge from the wholly and utterly non-experiential (wholly and utterly non-experiential being)

—because any such emergence would have to be radical in the impossible way.

I'm not going to argue for [8] and [9]. The general idea is simple. Emergence—*emergence*, no less—can't be brute. In all genuine (non-radical) cases of *emergence of one thing from another* there's a fundamental sense in which the emergent phenomenon, say Y, is wholly dependent on—somehow wholly flows from—that which it emerges from, say X. Otherwise it simply won't be true after all to say that Y is emergent from X, for some part or aspect of Y will have come from somewhere else. (I understand emergence in what I take to be a standard way as paradigmatically a matter of constitution, not causation: in the present case, it would be a matter of individually non-experiential phenomena coming to constitute experiential phenomena simply by coming together or being arranged in a certain way—as non-liquid H₂O molecules together come to constitute something liquid.)¹³

Many will agree. Others won't. Two things seem worth saying straight away. The first is that it's metaphysically far more extravagant and anti-naturalistic to reject [7] the No Jumps thesis, and postulate radical emergence of the experiential from the non-experiential, than it is to postulate non-radical emergence of the human experiential from the non-human experiential—whatever difficulties the second idea may also seem to raise (e.g. the 'combination problem'—see §19 below).

Secondly, and more importantly, one doesn't need to meet those who don't agree with

¹³ For some arguments see Strawson (2006, 60-7); see also Seager (2012). Compare Jackson's arguments for 'a priori physicalism' (see e.g. Jackson 2003).

No Radical Emergence with an argument to support it. All one has to do is ask them politely why they think anything non-experiential exists; especially when this belief forces them to endorse radical emergence, given that they're realists about experience.

On this more later. First, some more declarations.

7 Real Naturalism

Like many, I'm a *monist*, a *stuff monist*, an only one-kind-of-stuff monist:

[10] stuff/kind monism is true.

I'm putting aside only-one-thing monism, *thing monism*, according to which

[B] there is only one thing (object, entity, substance) in concrete reality,

for purposes of discussion, although, like many, I'm attracted to one version of it, i.e. [A]: the view that spacetime is a single thing—the universe.¹⁴

I'm not only a stuff monist. Like many again, I'm a *materialist* or *physicalist* monist (I use the words 'materialist' and 'physicalist' interchangeably)—someone who holds that everything that concretely exists in our universe is wholly physical:

[11] materialism/physicalism is true.

I also take it that everything that concretely exists is wholly *natural*—in no way supernatural or non-natural. So I'm an outright ontological naturalist.¹⁵

I am however a real naturalist, a real materialist—unlike some who call themselves 'naturalists'. I don't disagree with them because they believe in the existence of something I judge to be supernatural. On the contrary: I disagree with them because, overtly or (more often) covertly, they doubt or deny the existence of a wholly natural concrete phenomenon we know to exist: the phenomenon of consciousness—conscious experience—experiential 'what-it's-likeness'—the phenomenological character of experience—the subjective qualitative character of experience. I understand all these five common phrases to denote the same thing, which I'll call 'experience', instead of 'consciousness', because the word 'consciousness' has been used in too many different ways.

So I'm an outright realist about experience, a real realist about experience:

¹⁴ Descartes holds [B] with respect to concrete material reality; Spinoza holds it with respect to all concrete reality. Among those who endorse this view today are Horgan and Potrč (2008). Schaffer calls this view 'existence monism' (see e.g. Schaffer 2007; 2010).

¹⁵ I'm putting aside ethics where I'm not a naturalist—*if* being a moral realist excludes being a naturalist.

[12] there is experiential concrete reality.¹⁶

Any real naturalist must be a real realist about experience, because experience is the most certainly known concretely existing general natural phenomenon, and is indeed the first thing any scientist encounters when they try to do science.

I say that I'm a *real* realist about experience because some who claim to be realists about experience aren't really any such thing. What do I mean by real realism about experience? The quickest way to say what it is is to say that it's to hold exactly the same general view about what experience is (colour experience, say, or pain experience, or taste experience), considered specifically as experience, that one held *before one did any philosophy*, e.g. when one was thirteen or ten or six. One then had an entirely correct view. If people ask what that view is I'll ask them to think back to their childhood. If they say they still don't know I won't believe them.

So I'm a real naturalist and a real materialist—a materialist in the sense in which every single materialist was a materialist until some time well into the twentieth century. That is, I'm someone who thinks that everything that exists is wholly physical and who is also fully realist about experience or consciousness. At the same time I know that 'physical' is a 'natural-kind' term, like 'gold', or 'tiger', and that we may be very ignorant (or plain wrong) about the nature of the physical in various ways—if and insofar as the physical is anything more than experience. So really the core meaning of 'physical' for me is just: 'concretely real'.

But in that case why do I say I'm a materialist? Because I believe that

[13] the claims of physics apply to everything that concretely exists

and also that

[14] many of the claims of physics are true of everything that concretely exists

(e.g. $f = ma$, the inverse square laws, etc.). And I also know something that was a philosophical commonplace in the early twentieth century, and indeed earlier, and is fortunately becoming one again. I know that physics is "just a set of rules and equations", in Hawking's words (Hawking 1988, 174).¹⁷ I know that

[15] physics can't characterize the intrinsic non-structural nature of concrete reality in any respect at all

¹⁶ One can always substitute the word 'consciousness' if one wishes.

¹⁷ See also Greg Rosenberg (1999; 2004) and Ladyman et al. (2007). Compare Descartes: "all the properties" of material things "which I clearly and distinctly understand are ... comprised within the subject matter of pure mathematics" (Descartes 1641, 2.55). Poincaré puts the point very vividly in ch. 10 of *Science and Hypothesis* (1903).

and *a fortiori* that

[16] physics has no terms with which to characterize the intrinsic *experiential-qualitative* nature of concrete reality,

whether only part of concrete reality has an experiential-qualitative nature, as we usually suppose, or whether all of it does, as panpsychists suppose. I know that physics is simply silent on the question of the intrinsic non-structural nature of reality.

We ordinarily suppose that we have some positive non-structural conception of the intrinsic nature of space or spacetime. So be it—so long as we’re clear that this conception of space or spacetime goes beyond anything that the equations of physics tell us. One of the greatest difficulties that arise in the metaphysics of mind is precisely that we standardly and perhaps irrepressibly suppose that *physics* supports the accuracy of our basic imaginative picture (I mean ‘imaginative’ literally) of what spatiality is—and of what matter is.

So physics is silent about the intrinsic non-structural nature of reality. The question is then this (it’s an ancient question, but I’ll give it again in Hawking’s words): “What is it that breathes fire into the equations and makes a universe for them to describe?” (Hawking 1988, 174). What is it that the equations are true of? What is the fundamental, intrinsic, *non-structural* nature of the concrete reality that the true statements of physics are true of?

Call this fundamental intrinsic non-structural nature x . The relevant options are (i) x is wholly experiential (the pure panpsychist option), and (ii) x is partly experiential and partly non-experiential (as most people suppose). I’m ignoring the third option, (iii) x is wholly non-experiential, because it denies the existence of experience.¹⁸ The central claim of this paper is that (i) is the best option—that panpsychism is the most plausible theory of x , given a naturalist—materialist monist—outlook.

I’ll now flag an assumption that is built into the question, and then make one more general metaphysical assumption specifically for the purposes of discussion.

8 Two more Assumptions

The assumption built into the question is that for any concrete entity x one can always distinguish between x ’s structural features and something about x that isn’t just a matter of structure, something in virtue of which x has or exemplifies the structure it does, something that is therefore not itself just a matter of structure.

The assumption can seem very secure but it has been questioned. Ontic structural realists¹⁹ claim precisely that structure is all that concretely exists:

¹⁸ All theories that claim to give a reductive account of experience in terms of non-experiential phenomena—e.g. behaviourism in all its forms and all full-on versions of functionalism—deny the existence of experience. They claim not to on the ground that reduction is not elimination; but reduction is elimination in this case (see Strawson *forthcoming a*).

¹⁹ See e.g. Ladyman et al. (2007).

[C] concrete being is (wholly a matter of) structure.

And while Max Newman's claim that "it seems necessary to give up the 'structure-quality' division of knowledge in its strict form" (Newman 1928, 147) is an epistemological claim, it may be thought to point forward to an ontological proposal.

If one takes the structural properties of a concrete thing x to be properties that can be fully characterized in abstract, logico-mathematical terms, as I do, then I think one can safely conclude that [C] must be false. One can conclude that there must be more to x than merely its structural properties, on the seemingly secure ground that there must be more to concrete being than abstract being.²⁰ If, however, one understands structure in a richer way as something concrete—as 'causal structure' or 'spacetime structure' or (in a Schopenhauerian-Russellian fashion) 'spacetimecause structure'—then one may be able to link [C] to [A], and also—via the power-energy-causality equation—to the basic creed [1]-[5].²¹

The further assumption that I'm going to make for the purposes of discussion is that

[D] there are a great many ultimate constituents of physical reality.

[D] is sometimes called 'smallism'.²² It's very widely accepted, but—as is now clear—I'm not sure it's true. It would obviously be false if any version of [B] (thing monism) were true, and although it seems extraordinarily difficult to understand how any version of [B] could be true, given the seemingly evident and irreducible plurality of concrete things, it may yet be, as already remarked, that [A] there is a fundamental sense in which spacetime is indeed the only thing there is, and that all the particle phenomena recognized in the current standard model are just "various modes of vibration of tiny one-dimensional rips in spacetime known as strings" (Weinberg 1997, 20). On another thing-monist view, the wave function is the only thing that exists.

Nevertheless I'll assume [D] at this point, for many philosophers believe it to be true. They also take it to give rise to a special and acute difficulty for any panpsychist theory: the so-called 'combination problem'. So they might not be impressed by any argument for the primacy of panpsychism that assumed [B], thing monism, and so assumed that [D] was false.

9 The Hylal

With this in place, consider the proposal that

²⁰ Ladyman and Ross appear to bite this bullet: "we reject the dichotomy between the abstract and the concrete, and between the substantial and the structural" (Ladyman et al. 2007, 186).

²¹ It's also arguable that [C] entails [B] on the ground that the universe must be correctly describable as a single structure if [C] is true.

²² See e.g. Wilson (2004), Coleman (2006).

[17] experientiality is one possible fundamental kind of stuff and non-experientiality is another.

This seems unexceptionable at first. ‘Experiential’ and ‘non-experiential’ are mutually exclusive high-level type terms or ‘kind-determinables’ both of which, we may suppose, can have very different more determinate values.²³ We know this is so in the case of experiential stuff, in having sound experience, colour-experience, taste-experience, and so on, and we naturally assume it may also be so in the case of non-experiential stuff. We take it that there is wholly non-experiential stuff in our universe and the supposition that there might be radically different kinds of wholly non-experiential stuff (X-stuff, Y-stuff, Z-stuff) in other possible universes seems plainly coherent.²⁴

There is however an asymmetry when it comes to our understanding of the experiential and our understanding of the non-experiential. In the case of experience we have a positive grasp of the sense in which all possible experience is, simply in being experience, the same fundamental kind of thing. Even if the particular qualitative character of Martian experience is radically unimaginable by us we still have a firm positive grasp of the fundamental kind of thing it is simply in knowing in general what experience is. When we consider the *non-experiential*, by contrast, we suppose that we could possibly have a good grasp of the fundamental nature of the local non-experiential stuff while really having no idea at all about the fundamental nature of X-stuff or Y-stuff or Z-stuff in other possible worlds. We know what experience is in an extremely general but still positively substantive way that allows us to see that experientiality constitutes a single fundamental kind, a single fundamental natural kind—a single fundamental *qualitative* kind, one might say, using ‘qualitative’ in a natural highly general way that has nothing specially to do with experience. The trouble is that we don’t know what the non-experiential is in the same sort of way, a way that allows us to say that it constitutes a single fundamental natural kind.

It’s not hard to see why this is so: it’s that we don’t have a positive, substantive, general conception of the non-experiential at all. ‘Non-experiential’ is a merely negative, maximally general word that can as far as we know sweep up radical qualitative differences that don’t fall under a single qualitative kind in the way that all kinds of experience knowably do.

How can we adjust the proposal so that it concerns two genuine fundamental kinds? It suffices to relativize the experiential/non-experiential opposition to a particular universe, e.g. our own, replacing the maximally general negative term ‘non-experiential’ by a more specific positive term that denotes the particular fundamental kind of non-experiential stuff we take ourselves to encounter in our actual world.

Which term will suit? We obviously can’t use the term ‘physical’ or ‘material’, as real materialists who hold that experientiality is wholly physical. I propose ‘hylal’, derived from

²³ Compare ‘colour’, ‘shape’, and ‘animal’, each of which have many more determinate ‘values’—‘red’, ‘blue’, ‘round’, ‘square’, ‘cat’, ‘dog’.

²⁴ It may be, in fact, that non-experiential concrete stuff is not possible. I’ll consider this suggestion at the end.

the old Greek word for wood, which came to be used as a general term for matter conceived of as something entirely non-experiential (consider Berkeley's 'Hylas'). All we need to stipulate for present purposes is that 'x is or has hylal being' entails 'x is or has non-experiential being'—whatever else is or isn't true of *x*.

10 Experiential-Hylal Monism?

With the term 'hylal' in place, [18] becomes

[18] experientiality is one possible fundamental kind of stuff and *hylality* is another.

We can then consider the proposal that

[19] reality may be *fundamentally* both experiential and hylal in nature

– where this is put forward as a stuff-monist proposal. On this view, the fundamental natural intrinsic properties of concrete reality include both experiential and hylal (hence non-experiential) properties, even though [10] stuff monism is true. When we consider physical stuff, the only fundamental kind of stuff there is, we find both experiential stuff and hylal stuff.

If [10] stuff monism is true, as we are assuming, [18] rules out [19]. For if [18] is true, [19] posits two fundamental kinds of stuff and is a version of dualism. So if one wants to continue to be a monist, and a real realist about experience, and hang on to non-experiential stuff, in this case hylal stuff, as many do (it's the only way to resist panpsychism), one has to suppose that the single fundamental kind of stuff may be fundamentally *both-experiential-and-non-experiential* in nature: that experientiality and non-experientiality, although essentially opposed, can possibly co-exist as a single kind of stuff.²⁵

I'll call this position 'experiential-hylal monism'—'EH monism' for short: 'E' for experiential and 'H' for 'hylal'. Is EH monism possible? We can see straight away that no portion of E being can be H being, given that being H entails being non-E. And here I think we see the gain in clarity of giving up 'property' talk for 'being' talk.

Objection: It isn't a gain in clarity. It's an occlusion of a crucial metaphysical possibility. Of course H being can't be E being, but a portion of concrete being can possess both E *properties* and H *properties*. This is plain even when we restrict attention to 'fundamental

²⁵ This is Regius's suggestion, and there is little doubt that he is reporting a view that Descartes also entertained: 'some philosophers ... hold that consciousness [*cogitatio*] and extension are attributes which are present in certain substances, as in subjects; [and] since these attributes are not opposites but [merely] different, there is no reason why the mental [consciousness experience] should not be an attribute of some sort co-existing with extension in the same subject, though the one [attribute] is not included in the concept of the other. For whatever we can conceive of can exist. Now, it is conceivable that the mental is something of this sort; for it does not imply a contradiction. Therefore it is possible that the mental is something of this sort. So those who assert that we clearly and distinctly conceive human mentality as necessarily really distinct [in Descartes's sense] from body are mistaken' (Regius 1647: 294–5).

natural intrinsic' properties, as you are doing here. Look, a *human being* can possess both E and H parts and properties.

Well, this could possibly be true of human beings—if there is some H stuff in our universe (so that pure panpsychism is false). But, first, it directly begs the question to say that it's obviously true because human beings certainly have both experiential properties and spatial properties, if one understands 'spatial' in the ordinary way according to which spatial properties are essentially or at least certainly non-experiential properties. Our ignorance of the nature of the spatial rules out this proposal—even apart from the tendency among leading cosmologists to deny that spacetime exists.

Secondly, even if it could be true that things like human beings possess both E properties and H properties, I don't think it could true in such a way that *EH monism* is or could be true. This, I think, is precisely one of the places where property talk leads us grievously astray. It beguiles us into believing in the coherence of metaphysical possibilities that are in fact illusory, given *Sein ist Sosein*. It seems to allow for the possibility that a portion of concrete being may possess both fundamental natural intrinsic E properties and fundamental natural intrinsic H properties *without being ultimately wholly factorable into wholly E portions and wholly H portions*. In that case, however, some not-further-factorable or ultimate parts are both irreducibly E and irreducibly H, i.e. impossibly, irreducibly both E stuff and non-E stuff.

Sein ist Sosein shows up the impossibility. Whatever one thinks about how properties may possibly co-exist, concrete being is wholly qualitativity, concrete qualitativity, according to *Sein ist Sosein*, and E qualitativity can't be non-E qualitativity and conversely. So E qualitativity and H qualitativity can't possibly coexist in one non-factorable portion of being (a portion of being that isn't ultimately made up of distinct non-overlapping portions of E qualitativity and H qualitativity). In order to do this they would need something—the object-as-opposed-to-the-properties, the 'subject' or 'bearer' of the properties—that 'has' them and that is not itself wholly a matter of qualitativity. But there is no such thing—for *Sein ist Sosein*.

If this is right, EH monism fails. The attempt to describe it while respecting *Sein ist Sosein* pushes us inexorably back to dualism.

The picture will continue to appeal—the picture according to which a portion of single-stuff being can have both E and H properties without being factorable into E portions and H portions. I think this is the way many aspiring real materialists tend to think—in a vague quasi-pictorial way—about neural goings-on that are experiential goings-on. It's very easy to slip back into this, in my experience. One pictures the neural goings-on—the sweeping nets and waves of electrochemical activity flickering across great connected skeins of neurons—as having intrinsically irreducibly H (hence non-E) features. One then thinks that these intrinsically H goings-on are in at least some of their parts or features also E goings-on. But *Sein ist Sosein* blocks this when it's thought through. For again, and crudely, (i) things are in the end wholly 'made of' qualities (*Sein ist Sosein*), (ii) and E and H are

incompatible qualities, so (iii) nothing can be made of both at exactly the same place.²⁶

There's wide scope for missing the point, given the plasticity of property talk. I can't hope to meet all objections or convince those committed to the traditional conception of properties. I think many who count themselves as materialists will be unable to give up the idea that we know in some fundamental—perhaps Moorean—way what space is. (I was unable to give it up in Strawson 2003a, §8.) We are confident we know in some deep way what space is, however wrong we also are about it, and in particular know that spatial properties like shape properties are essentially non-E properties, and so know—given that we accept that experiences of red are brain states—that there are things that have both E properties and non-E properties.

A first reply may be that a thing's particular shape isn't a matter of the intrinsic nature of the stuff it's made of, and that we already know that experiential stuff can be spatial stuff. The main reply targets the presumption that a thing can't possibly occupy space without having without some non-experiential being. This presumption is an inderacinable part of our fundamental intuitive conception of space, as just remarked, and some are too deeply committed to it to take seriously the possibility that it may be false—in spite of the fact that it's under pressure in physics and cosmology. They will have to face the fact that it appears to be incompatible with any realistic (genuinely experience-acknowledging) version of stuff monism that retains the idea that concrete reality is spatial.

11 The Untenability of Neutral Monism

EH monism isn't a version of neutral monism—the view, to quote Russell, that “both mind [E, on the present terms] and matter [H, on the present terms] are composed of a neutral-stuff which, in isolation, is neither mental [E] nor material [H]” (Russell 1921, 25). It's the precise opposite—not *neutral* monism but *doubly committed* monism, *both-and* monism as opposed to *neither-nor* neutral monism. What the two views have in common as monisms is that they want to accord the same reality status to E being and H being while remaining monist.

Can neutral monism do better than EH monism in this respect? Could E and H be genuinely real properties of things while somehow emerging from some more fundamental underlying stuff which is neither E nor H but rather—let us say— ξ (pronounced “*ayn*”),

²⁶ *Objection:* we allow that monism—physicalism—may be true even if there are irreducibly different (perhaps essentially non-interconvertible) ‘fundamental particles’. Why can't we similarly allow that monism may be true when there are irreducibly different (essentially non-interconvertible) types of fundamental stuff—E stuff and H (non-E) stuff?

The first reply is a question: why bother, given that there is no reason to posit H stuff? A further reply is that particles are emergent phenomena according to quantum field theory, plausibly all ‘made of’ the same kind of stuff. One can also question the non-interconvertibility of fundamental particles (see the discussion of ‘fungibility’ in §16) and note that the view that the fundamental entities are strings with different vibrational characteristics creates no evident difficulty for stuff monism. More generally, we take ourselves to have strong reasons for holding that all the fundamental particles are of the same fundamental kind. In the case of E stuff and H stuff, by contrast, we know the fundamental nature of E stuff, and H stuff is *defined* as non-E.

where to be fundamentally ξ is to be fundamentally both wholly non-E and wholly non-H?

The short answer is no, but I'll spell it out a bit. ξ can't be *neither E nor non-E*, on pain of logical impossibility. And it has to be non-E, since it would otherwise be E, and so not neutral between E and H (it would also be panpsychist). ξ must therefore be a kind of non-E stuff which is different from H non-E stuff. There is no other possibility.

But this isn't a real possibility on the present view. It's ruled out by [7] No Jumps or equally [8] No Radical Emergence, which not only lead to

[9] E stuff can't emerge from wholly and utterly non-E stuff (e.g. ξ)

but also to

[20] H stuff can't emerge from wholly and utterly non-H stuff (e.g. ξ)

Objection: How can you rule out the possibility that something is in itself wholly non-E and wholly non-H but is nonetheless genuinely *protoexperiential* and *protohylal* in such a way that E and H can emerge from it? After all, you yourself allow there are deep respects in which we're radically ignorant of the fundamental nature of things.²⁷

I admit our ignorance, but remain firm in my commitment to No Jumps and No Radical Emergence. The idea that something can be wholly non-experiential but nonetheless 'protoexperiential' will always seem attractive. It is after all the standard view of the evolution of consciousness like ours, according to which biological experientiality (human or canine or feline, etc) evolved from wholly non-experiential origins. But No Jumps and No Radical Emergence are part of the deep structure of naturalism. We have no reason to believe that nature ever makes ontological jumps of the sort forbidden by [7] and we have very good reason to believe that it doesn't.

I don't, however, need to make this move. All I need to do is to reissue the polite enquiry I made earlier. Why does anyone think anything non-experiential exists at all? I think the polite enquiry is devastating and I'll return to it. I know that some will be unimpressed by it, and by the commitment to [7] and [8], so it's fortunate that there's another way of showing the inadequacy of neutral monism.

The term 'neutral monism' is used in many ways (most of which appear to be ultimately panpsychist or 'idealist'). But there's one central straightforwardly ontological way of understanding what it is given which it can be proved to be impossible for independent reasons. It's ruled out by *Sein ist Sosein*. *Sein ist Sosein* rules out genuinely ontological neutral monism because it states that the existence and nature of a thing isn't really distinct from the existence and nature of its intrinsic propertiedness. So if E and H really are *real*

²⁷ See Stoljar (2006a). Stoljar points out that I sometimes appeal to radical ignorance in argument, e.g. citing 'the silence of physics' against the view that we have any reason to believe in non-experiential being, and at other times reject appeals to radical ignorance in arguments made against me, e.g. when standing up for No Radical Emergence. This is true but it is not I think a difficulty.

properties of concrete reality, as genuinely ontological neutral monism supposes—it holds that they're *really real* properties of concrete reality, *irreducibly real* properties of concrete reality, not just *appearances* of some sort, even if it also holds that they're not *fundamental* properties of concrete reality—then we can't suppose that the intrinsic nature of concrete reality is ultimately neither E nor H. Concrete reality is really (irreducibly really) both E and H on this view. So neutral monism fails given *Sein ist Sosein*. There is no defensible sense in which reality is *really* made only of the fundamental stuff. The words 'ultimate' and 'intrinsic' can't help.

So neutral monism can't help with the 'mind-body problem'. So if EH monism is no better, as I have argued, it looks as if we must either we go back to dualism, which is not I think a serious option, or head in the direction of panpsychism.²⁸

12 Experience Entails an Experiencer

So here I stand—a naturalist materialist monist who's wondering about the nature of concrete reality and who knows that the only general thing he knows for certain about concrete reality is that experience exists. I find myself being pushed to acknowledge that panpsychism is the most plausible form of monism or indeed materialism. I'm aware that

[21] experience entails an experiencer

so I'm going to have to allow that there are as many experiencers as there are genuinely ontologically distinct portions of experience—even though this may appear to make things more difficult for me as a fledgling panpsychist.

Some philosophers have questioned [21]—wrongly because all experience is necessarily *experience-for*; experience for someone-or-something. Experience is necessarily *experiencing*. It's necessarily had, felt, experienced by something. In this immoveable sense there is necessarily an experiencer whenever there's experience. So anyone who prefers the term 'panexperientialism' to the term 'panpsychism', on the ground that 'panexperientialism' allows for the possibility that there can be experience without an experiencer, has gone wrong (in a way that isn't endorsed by Hume, it should be said, or by Buddhists). Note that to insist that an experience entails an experiencer isn't to claim that the experiencer must be irreducibly ontically distinct from the experience or last longer than the experience. It's not to favour any particular hypothesis about the actual concrete realization of the *experiencer/experiential-content* structure that is provably essential to any episode of experience.

13 A Global Replace

²⁸ In Strawson (2003a, 50) I argue that we could never have good reason to prefer dualism (or any pluralism) over monism.

So here I am. I already know that the most parsimonious hypothesis compatible with the data is that concrete reality—the stuff that realizes the concretely existing structure that physics picks up on—is wholly a matter of experience, experiencing, experientiality. Experience like ours certainly exists and it follows, given No Jumps or No Radical Emergence, that experience must be among the fundamental properties of concrete reality. (To try to hold on to non-experiential being by holding that reality is non-experiential in its fundamental nature but is nevertheless and at the same time ‘protoexperiential’ seems to be to try to paper over a crack in reality with a word. The crack—or chasm—remains untouched.)

So when it comes to considering the question of the fundamental nature of concrete reality the choice lies between supposing that both experientiality and some form of non-experientiality like hylality are among the fundamental properties and supposing that only experientiality is. I haven’t been able to make sense of the dual option, compatibly with retaining monism, and I don’t think there could ever be a good argument for dualism, so long as the two stuffs posited by dualism are supposed to interact causally (briefly, I don’t see what argument could undermine the claim that causal interaction is a sufficient condition of same substancehood). So I seem to be forced into panpsychism.

Can this last position really be said to be a form of materialism? Surely—the point should be familiar by now. Many materialists hold that all concrete being is simply energy existing in one form or another—i.e. [1]. The panpsychist proposal is simply that the intrinsic nature of this energy is experientiality. The panpsychist hypothesis performs a ‘global replace’ on physics as ordinarily conceived. In so doing leaves the whole of physics—everything that is true in physics—in place. So too for all the other sciences. I’m a robust realist about physical reality, the theory of evolution, and so on, but I know of no argument that gives us any good reason to suppose that there is any non-experiential concrete reality.

The claim that experience is all that exists isn’t the incoherent claim that everything that exists only in or ‘in’ some mind or other (that’s incoherent because a mind can’t exist only in or ‘in’ itself). It has nothing to do with standard idealism or phenomenalism, and it certainly isn’t committed to the implausible view that tables and chairs are subjects of experience. It leaves the physical world untouched, as ‘out there’, relative to each one of us, as it ever was—however inadequate our idea of its *Existenzraum* or dimensionality.

Objection: so there’s no distinction between materialism and what amounts to a form of ‘absolute idealism’.

Not if ‘absolute idealism’ strictly implies [B] thing monism; but yes insofar as it’s a form of pure panpsychism. I hope you don’t think this is comic or absurd, because it looks as if it’s materialism’s best guess as to the nature of the concrete reality about which physics says many true things. Eddington and Whitehead saw this clearly nearly 100 years ago. You don’t have to call it ‘materialism’ (‘physicalism’) if you don’t want to. I continue to call it ‘materialism’ (‘physicalism’) because, once again, concrete reality understood in this way is what physics describes in its own magnificent and highly abstract way and says many true things about ($e = mc^2$, the inverse square laws, the periodic table, etc.), things

which I take to hold good of everything that concretely exists.

Objection: But still—why not suppose that the basic nature of concrete reality is *non-experiential* rather than experiential?

In that case we face again all the problems posed by No Jumps and No Radical Emergence. Suppose those problems solved. Then I reply to your question—‘Why suppose that the basic nature of concrete reality is experiential?’—with another question: ‘Why suppose that it’s non-experiential—either in its basic nature or in any respect at all?’ What evidence is there for the existence of non-experiential reality, as opposed to experiential reality? None. There is zero observational evidence for the existence of non-experiential reality—even after we allow in a standard realist way that each of us encounters a great deal in concrete reality that is not his or her own experience. Nor will there ever be any. All there is is one great big wholly ungrounded wholly question-begging theoretical intuition or conviction.

Objection: There isn’t any evidence that the intrinsic nature of reality is wholly experiential either.

True—but we know that some of it is experiential. We know it for certain because

[22] In the case of experience, the having is the knowing.

To have experience is not only to be directly acquainted with the fundamental nature of experience—at least in certain respects. It’s also of course to know that the experiential exists. The view that there is any non-experiential concrete reality is, by contrast, wholly ungrounded. It’s a radically and irredeemably verification-transcendent belief. Hume knew this. So did many others, including Quine, who famously judged that physical objects that are assumed to be non-experiential are “posits comparable, epistemologically, to the gods of Homer” (Quine 1981, 44)

14 Ignorance and Repugnance

Objection: It’s an old point that there’s an evident and fundamental ‘repugnance’ or incompatibility between the spatial on the one hand and the conscious or experiential on the other. We encounter things in space, we know them to be in space, and since we have powerful reasons, given the repugnance, for thinking that spatial things can’t in themselves be experiential things, or at least can’t be wholly experiential things, we have decisive evidence that there is non-experiential reality.

This issue arose in §10. One doesn’t have to agree with Kant that space isn’t ultimately real, but just a ‘form of sensible intuition’, to grant that we may be very ignorant of the nature of space or spacetime. The intuition of knowable repugnance went south long ago. It was understandable in the seventeenth century, the age of classical contact mechanics, but it doesn’t look very good in the twenty-first. We know the experiential is real and we also know—about as well as we know anything in science—that it’s literally located in the brain:

[23] human experience is neural activity.

This is by now far beyond reasonable doubt. So we know, about as well as we know anything in science, that the spatial can be experiential—given that the world is spatial. And in the present state of our knowledge we have to treat ‘space’ and ‘spacetime’ as names for some real dimensionality whose nature we aren’t clear about, although we know that it must be such as to allow the existence of experientiality.

What can we say in general about this dimensionality, given that pure panpsychism is the most parsimonious hypothesis about the nature of concrete reality? Not much but not nothing. As pure panpsychists we may take it that (a) the dimensionality of the concrete real, however ill understood by us, is something that fits smoothly with (b) the nature of the concrete real conceived of as nothing but experientiality in exactly the same way as the way in which (c) the dimensionality of the concrete real understood as spatial in the conventional way is seen to fit smoothly with (d) the nature of the concrete real understood as good old fashioned non-experientially propertied extended physical stuff (plainly any difficulty lies in the idea of space, not of time).

It may be said that we must retain the idea of dimensional *position*, even when we figure the dimensionality of the concrete real as something that fits smoothly with the idea that the concrete real is wholly experiential, because the idea of position and difference of position is essentially built into the idea of dimensionality. It may then be said that the property of having some dimensional position, at least, is something essentially non-experiential. But this may be readily granted because it raises no difficulty for the idea that the whole intrinsic nature of the concrete real is a matter of experientiality.

We find it quite incredibly hard to think clearly about these things, as Russell stressed. Almost all of us are in his words “guilty, unconsciously and in spite of explicit disavowals, of a confusion in [our] imaginative picture of reality” (Russell 1927, 382). Even when we admit and dwell on our ignorance—even perhaps, when we have seen the force of the argument that all that concretely exists is the wave function—we tend to revert to a conviction that we have a basic grasp on things that allows us to be sure that the matter/energy whose spatiotemporal manifestations are all around us couldn’t literally be nothing but experientiality.

15 Pictures of Matter

There’s no direct remedy for this. But there are some mental exercises one can perform. It’s helpful to keep a few well known physical facts vividly in mind and constantly remind oneself of them when facing the ‘mind-body problem’. Consider first the fact that the spatial volume occupied by one’s brain—equivalent to the volume of a sphere about five inches across—is, intuitively, almost completely empty. (More accurately, it’s almost all ‘quantum vacuum’ and is arguably a *plenum*, like all spacetime, i.e. the precise opposite of a vacuum; while still being, intuitively, almost completely empty.) Add the fact that it

contains about 100 billion non-neuronal cells, although it's almost completely empty, and an approximately equal number of neuronal cells that have up to a thousand trillion synaptic connections between them—plus the fact that about 700 billion solar neutrinos (and heaven knows what else) pass through it every second.

From one intuitively natural perspective matter is quite astoundingly insubstantial, an intricately shimmering almost-nothing. And this is so even when we consider a pebble or a mountain. When we go on to consider a brain we find many further layers of staggeringly intricate organization—in an almost entirely empty space. Such is matter. Such is the material brain. It helps to maintain this picture when we're wondering how experience can be physical. It helps to resist the picture of a mammalian brain as a 'sludgy mass', a piece of meat that can be diced and fried with garlic; although it's also that.

I think it's also very important to habituate to *Wesen ist Werden*—the processual view of reality. It has to become something more than book learning. The same goes for *Sein ist Sosein*. We need to be able to put aside as far as possible the object-property distinction that serves so well in many other areas of philosophy and everyday life but easily leads us into an intractably misleading picture according to which, when it comes to the 'mind-body problem', we have to think first that we have a *thing*, a physical thing, and then have to wonder how such a thing can possibly have experiential *properties*.

The improved picture represents matter soberly and realistically as an almost inconceivably sparse shimmering skein of energy, energy-stuff. On one view, this is what spacetime is. But insofar as this picture has positive imaginative (quasi-pictorial) content for us, it still builds in some version of our ordinary conception or picture of space. And if we now try to exert ourselves further imaginatively, in the way philosophy so regularly demands, in the attempt to put aside any standard conception or picture of space, we're returned to the 'epistemic structural realist' point that we know nothing at all about the intrinsic nature of the physical in so far as its intrinsic nature is more than its scientifically detectable structure; except of course, and again, and as always, when we have experience. As Russell says: "we know nothing about the intrinsic quality of physical events except when these are mental events that we directly experience" (Russell 1956, 153).

We have then to allow again that our picture of space may be entirely misleading. This doesn't prevent us from appreciating the extraordinary insubstantiality of the physical, even if we can't shake off the conventional spatial imaginings that come with it. But those who (like my former self) can't shake their commitment to the idea that we know what space is in some truly fundamental and Moorean respect may simply be unable to engage fully with the 'mind-body problem'.

16 Fungibility

We know experience exists. We've assumed that stuff monism is true and that everything is physical. It seems that

[24] there is no good reason to believe that anything non-experiential exists²⁹

because there's zero evidence for the existence of non-experiential reality. One thing we now need to consider is the idea that

[25] all physical stuff is *fungible*

in the sense that any form of it can in principle be transformed into any other—so that if for example one broke hydrogen down into leptons and quarks one could reassemble it as gold.³⁰ If this is so then it seems plausible to suppose that all physical stuff can potentially be part of what constitutes—is—experientiality like ours in living conscious brains like ours, i.e. that

[26] all physical stuff can constitute (be) experientiality, experiential being.

And if so, then—given [8] that there is no radical emergence, given that one can't get the experiential out of the non-experiential by any kind of re-arrangement of the non-experiential—it seems we can advance from [24], according to which there is no good reason to believe that anything non-experiential exists, to

[27] we have good reason to believe that nothing non-experiential exists.

But never mind [27] which does after all rely on [8]. The weaker [24] is enough for now. One of the most important experiences that a philosopher brought up in the (recent) Western tradition can undergo is the realization that [24] is true: the belief in irreducibly non-experiential reality has no respectable foundation, even given a fully realist commitment to belief in an external world of tables and chairs—a world that exists wholly independently of one's own mind and one's experiences—and a conviction that physics and cosmology—and indeed the other sciences—get a very great deal right about the nature and structure of reality. The experience is life-changing, philosophically.

It's natural for many to think that it is nevertheless essentially theoretically cheaper to suppose that the fundamental nature of concrete reality is non-experiential—rather than splurging on universal experientiality. But this is simply a mistake. The postulation of

²⁹ This is not the unintelligibility claim made by Berkeley (1710; see Foster 1982 and Robinson 2009), according to which the notion of the non-experiential is wholly unintelligible: I'm happy to allow that the general notion of non-experiential reality is wholly intelligible.

³⁰ I don't know if this is unrestrictedly true; one contrary line of thought runs as follows. It seems plain that [1] experientiality has something essentially to do with electricality—in our world at least, and perhaps in all possible worlds. One might accordingly suppose that [2] all electricality is experientiality, and perhaps also that [3] all experientiality is electricality. One might then hypothesize that [4] ultimate constituents of reality lacking electricality (chargeless particles—neutrinos, photons, 'chameleons') are intrinsically non-experiential and can't directly constitute (be) experientiality, and that fungibility fails between ultimate constituents of reality possessing electricality and ultimate constituents lacking it.

fundamental non-experientiality not only commits one to something for whose existence there is no evidence; it also commits one to belief in radical emergence. It's far more expensive, theoretically speaking.

17 No Mystery

Many say that experience (consciousness) is a mystery. But what is mysterious? We know what experience is. We know exactly what certain types of experiences are simply in having them. More precisely: we know exactly what certain types of experiences are considered specifically in respect of what they're like for us experientially. And, again, we not only know in this way what particular types of experience are. We also know what experience is generally considered—even though we have direct experience only of certain limited kinds of experience (cf. Sprigge 1999).

'We know exactly what certain types of experiences are considered specifically in respect of what they're like for us experientially.' The 'considered as' qualification makes room for the idea that our experiences have some further intrinsic nature that transcends what we know in knowing their phenomenological character in having them. It seems wise—necessary—to allow for this, given that experiences are neural goings-on, and given all the wonderfully precise numerical things physics and neurophysiology can say about them considered as things whose existence involves subatomic particles, atoms, molecules, individual cells, and so on. We needn't however suppose that any aspect of the being of our experiences that transcends what we know of their being simply in having them involves anything non-experiential. The (pure) panpsychist proposal is precisely that all the subatomic, atomic, molecular and cellular energy phenomena about which physics and neurophysiology say true and extraordinarily precise numerical things are themselves experiential phenomena—microexperiential phenomena.

Call these microexperiential phenomena *Es*. *Es* may have phenomenological features of which we have no knowledge, in having the kinds of experiences we have, even though they somehow jointly wholly constitute our experiences. The energy that is an electron is wholly a matter of experiencing, on the present view, but the specific phenomenological character of this experiencing may be radically unimaginable by us. This doesn't change the fact that we know its nature in a fundamental general way. We do, because we know what experience is in a fundamental general way simply in having experience. The psychophysics (to give this term a new use—the point is that physics is psychics) of the universe is mysterious to us; we don't know how it is that energy is experientiality. But in God's physics asking how it is that energy is experientiality may be like asking how it is that energy is energy and there is, for all our ignorance, a fundamental sense in which we know the nature of the stuff out of which everything is made in knowing what experientiality is.³¹

³¹ It may be doubted whether there is any robust sense in which an electron is a genuinely individual or persisting thing. On one reading, relativistic quantum field theory has it that the phenomena that lead us to

I don't know anything about the Laws of Experiential Combination that govern the way *Es* constitute macroexperiential phenomena like human and canine experience. On one view *Es* undergo radical fusion in such a way that there's nothing more to their experiential being—hence their being *tout court*—than what we experience in having experiences. I don't see how this can be so, because phenomenological being is all there is to the being of experiences, according to pure panpsychism, and the complexity revealed by physics and neurophysiology isn't phenomenologically given in our experience. On another fusion-like view the fundents (the *fundentia*, the elements that fuse) somehow continue to possess their own intrinsic experiential character even as they unite in such a way as to jointly constitute experience like ours. One hypothesis is that these fusions or unities are what show up as gusts—waves, bursts—of synchronized activity in the brain. Perhaps they involve massive quantum entanglement effects or other strongly unificatory phenomena that can be identified as such by physics even though physics can characterize them only in non-experiential terms. I don't know. What I do know is that we can't demand more intelligibility from the Laws of Experiential Combination (experiential chemistry) than we demand from quantum mechanics and physics in general.

What remains is the respect in which there is no fundamental mystery if panpsychism is true—even though we have no idea how the macroexperiential arises out of the microexperiential. Radical mystery is introduced only by the hypothesis that the intrinsic non-structural nature of matter is (i) *non-experiential* (hylal), at least in part, and hence radically distinct from anything we know in knowing what experience is, and is furthermore (ii) of such a nature that we are utterly unable to see how it relates ontologically to experience (the 'explanatory gap').³² We have, again, no idea of the intrinsic non-structural nature of the physical insofar as the physical is something other than the experiential, except insofar as we know that it is something that exemplifies the structures that physics detects.³³ The point is not just that the numbers and equations of physics don't capture the *whole* basic or essential nature of reality; it's that they tell us nothing about the intrinsic nature of concrete reality insofar as its intrinsic nature is more than its structure.

The fact that physics is full of mystery—things we can't claim to understand at all—is universally conceded quite independently of this point. Bohr, Einstein, Feynman, Penrose, Schrödinger, Wheeler all agree. No doubt the experiential is a mystery relative to physics. But to be a mystery relative to physics is to be a mystery relative to a mystery; and if something is a mystery relative to a mystery it may not itself be a mystery. It may be that it's only relative to a mystery that it looks like a mystery. And the point that physics is silent about the intrinsic nature of the physical, insofar as the intrinsic nature of the physical

talk in terms of particles are simply manifestations of the quantization of the energy of fields, and aren't well thought of as entities that can be said to endure over any significant period of time.

³² See Leibniz 1704, §17, Levine 1983.

³³ Russell writes that “we know nothing about the intrinsic quality of physical events except when these are mental events that we directly experience” (Russell 1956, 153). Unlike Russell, I take a concrete thing's structural nature to be part of its intrinsic nature.

is more than its structure, is entirely general. It has nothing specially to do with experience. It holds equally on the supposition that the intrinsic (non-structural) nature of the physical is wholly non-experiential. So there's no special puzzle or problem in the fact that physics finds no place for experience (consciousness). It finds no place for any positive characterization of the intrinsic non-structural features of concrete reality. "If you want a concrete definition of matter it is no use looking to physics" (Eddington: 1928: 95).

18 Occam

So what should we real materialists do—if and when we try to do metaphysics? Like many I think we should start from something we know to exist and whose nature we know—the human experiential. It's beyond reasonable doubt that human experience is wholly a matter of neural goings-on and it seems no less clear that the most parsimonious scientific hypothesis about the nature of physical reality is that everything is experiential.

The experiential starting point isn't chosen for reasons of epistemological or ontological caution. It's just that it's usually best to start from something one knows to exist if one wants to try to give an account of how things are. I'm not particularly cautious when it comes to metaphysics. I'd postulate non-experiential reality in a flash if I could see how postulating it could help in any way with any problem in real metaphysics or make a contribution to any view of how things are that we have any good reason to believe. As remarked, it's scientific orthodoxy that concrete reality consists entirely of energy. The present proposal, once again, is simply that the intrinsic nature of the energy is experientiality. I'm ready to change my mind if someone can show me that the hypothesis that the energy phenomena that physics studies have some intrinsic non-experiential nature is superior to the hypothesis that their intrinsic non-structural nature is wholly experiential—perhaps by showing some special difficulty in the hypothesis that they are wholly experiential. As far as I can see, however, there isn't a scintilla of a reason for postulating anything non-experiential. Occam's razor, according to which one shouldn't as a theorist posit more entities than one needs to explain the data,

[28] *entia non sunt multiplicanda praeter necessitatem*

slices away the non-experiential even if one is an all-out external-world realist.

19 The Combination Problem

This is naturalist monist 'global replace' materialist panpsychism. It denies the existence of something for which there is no evidence, i.e. non-experiential reality (eliminating the need to postulate radical emergence), even as it admits to being clueless about how biological (e.g. mammalian) experientiality emerges (non-radically) from the overall energy-experientiality of the fundamental constituents of brains.

At this point real-materialist opponents of panpsychism bring up the so-called

combination problem.³⁴ They accept [10] monism, and [11]/[12] real realism about experience. They believe [13]/[14] that the equations and numbers of physics cotton on accurately to something real. And they endorse [D] ‘smallism’. They also grant—indeed insist—that [21] every distinct experience necessarily involves a subject.

It’s the last two claims that directly underlie the combination problem. The central idea is that a group of distinct experiencings or patches of experientiality, each of which necessarily has its own subject, can’t physical objects to constitute or generate a single experience with a single subject. Why not? Simply because

[E] a plurality of subjects can’t possibly combine to form or generate a single subject.

If [E] could be proved true, I’d give up [D], which is highly questionable, according to certain leading conceptions of physics and cosmology. But as things stand I see no good reason to accept [E] even given [D]. When I figure matter as a shimmering skein of energy/experientiality as best as I can; when I factor in my imperfect lay grasp of the phenomena of quantum entanglement and the extraordinary difficulties that arise when it comes to questions of synchronic and diachronic identity in fundamental physics; when I factor in my imperfect grasp of the fundamentality of field-theoretic conceptions of those phenomena that lead us to talk in an arguably misleading way of ‘particles’; when I form an imaginative picture of small patches of local influence fusing into larger transient local patches (adding, perhaps, a flavouring of dark energy and dark matter)—I can’t feel any deep difficulty in the subject combination problem.³⁵ Once again, we can’t expect the Laws of Experiential Combination to be more open to human understanding than the laws of quantum mechanics.

Nor can I feel any deep difficulty in the ‘grain problem’—the fact that “there seems to be a profound *structural mismatch* between the contents of one’s consciousness at any given time, and what science would tell us is simultaneously going on in the brain” (Lockwood 2003, 453).³⁶ So too, when I consider the two groups of three parameters that account for all the colours and sounds, or the five that account for all the tastes, or the combinatorial possibilities of leptons and quarks—the astonishing variety of stuffs (lead, neurons, marshmallow) they constitute—I feel no difficulty in what Chalmers has called the ‘palette problem’ (Chalmers *this volume*): the numerical gap between the relatively small number of fundamental entities postulated in the standard model of physics and the seemingly vast number of different types of experiences.³⁷

The basic point is simple. [1] We have no good grounds for thinking that we know

³⁴ The combination problem was clearly stated by Lucretius two thousand years ago (Lucretius 50, 2.865-972). See also Clarke (1707–1718), James (1890, ch. 6), Goff (2006), Chalmers (*this volume*), and Coleman (*this volume*).

³⁵ See Seager’s discussion of ‘combinatorial infusion’ (Seager 2010)

³⁶ See also Lockwood (1993). For one interesting form of reply to the ‘grain problem’, see Stoljar (2006b, 117-18).

³⁷ I’m mindful, also, of Turausky’s suggestion that particular experiences may be formed by subtraction—reduction—sculpting—of a base of experiential ‘white noise’ (see Turausky *unpublished*).

enough about the physical to have good reason to think that these problems are serious difficulties for panpsychism.³⁸ [2] More positively: we have strikingly good grounds for thinking that many of our intuitions of irreducible ontological separateness and distinctness are profoundly mistaken. [3] The problems that arise for a physicalism that postulates fundamental non-experiential reality and so rejects panpsychism are far greater than the problems that arise for panpsychism (e.g. zero evidence for non-experiential reality, contravention of No Jumps and No Radical Emergence).

I also believe (with Descartes, pre-Critical Kant, and many others, including William James) that there's a metaphysically primordial way of thinking about what a subject of experience is given which there is, in the case of any particular episode of experiencing, no real distinction between the subject of experience or experiencer and the experience or experiencing (see e.g. Strawson 2003b). This may contribute to my failure to feel worried by the combination problem. I don't, however, think that this particular belief is indispensable to the lack of worry—except insofar as it's linked to the *Sein ist Sosein* claim.

And now a further question arises. The idea that there's nothing but experiential reality is supposed to give rise to certain distinctive problems; but how can the supposition that there is non-experiential reality improve things?³⁹ It may be said that it does remove the supposed 'combination problem'. But I've already lost any sense that we have good reason to think that this is a serious difficulty, and the problem of how pluralities of distinct non-experiential processes can combine to form necessarily single-subject-involving experiencings like your and my current experience looms no less large, given that it requires (among other things) radical emergence of the experiential from the non-experiential.

20 The Primacy of Panpsychism

I'm not claiming to know that there is no non-experiential reality. I'm just considering the most plausible scientific hypothesis—'global replace' real materialist panpsychism—and wondering why the self-styled hard-nosed naturalists of our day (a) deny the existence of something that knowably exists and (b) assume the existence of something for which they have no evidence: non-experiential reality. My bet is that

[29] everything is experiential

– that the intrinsic (non-structural) nature of the energy that is widely agreed to wholly constitute physical reality is experientiality.

I can't prove this, of course. Some will think that the combination of [7] No Jumps and

³⁸ Remember that these proponents of the combination problem hold that the experiential is wholly physical—or at least, as monists, that it is wholly of the same stuff as whatever stuff they postulate.

³⁹ Perhaps the best move at this point is Coleman's (see e.g. *this volume*). Note, though, that the kind of phenomenally qualified non-experiential reality he posits is very far from any standard conception of non-experiential being—and that the problem posed by No Radical Emergence remains as acute as ever.

[28] Occam's Razor is very close to proof but I'm content to argue for something weaker—
for

[30] the primacy of panpsychism

as advertised at the outset—the view that

[30] we should favour panpsychism over all other substantive theories of the fundamental
nature of reality.

It's not the only game in town, when it comes to speculating about the ultimate nature of
reality—unless William of Occam is the Sheriff—but it's the best theory we have.

21 Awareness of Awareness; the World-Knot

I'll end with a very brief, more positive, and much more speculative thought. It begins with
Aristotle, at least in the Western tradition, who observes that “if we are aware, we are
aware that we are aware” (*Nicomachean Ethics* 9.9.1170a29-b1).⁴⁰ I'm going to take this
claim to be correct in saying that all experience, all *awareness*, as I'll now also call it—
using ‘awareness’ to refer only to conscious awareness and taking it to be synonymous with
‘experience’ used as above—somehow or other involves awareness of that very awareness.

This can be read in at least two ways, as is well known: in a higher-order way and a
same-order ‘self-intimationist’ way. I favour the same-order view, the view that

[31] all awareness on the part of a subject comports awareness, on the part of that subject,
of that very awareness

where ‘comports’ is used to mean something like (and at least) ‘contains within itself’ (as
in French *comporter*); so that the awareness of awareness isn't anything ontically over and
above the awareness considered as a whole.

We can rewrite [31] more simply as

[31] all awareness comports awareness of that very awareness.

I'll call this the Self-Intimation thesis.

There's an enormous quantity of discussion of this matter. I'm not going to add to it here.⁴¹
I'm simply going to endorse the Self-Intimation thesis in order to propose a further Very

⁴⁰ See also *De Anima* 425b12-25. It is I believe a mistake to read the explicitly propositional formulation
‘aware *that* we are aware’ in such a way that the claim isn't also true of non-human animals.

⁴¹ See e.g. Zahavi (1999; 2005), Kriegel and Williford (2006). I try to characterize it in Strawson (2015).

Large Step: perhaps the self-intimation—the fundamental self-reflexivity, the *Fürsichsein*—characteristic of experience is of the essence not only of experience—mind, consciousness—but of all concrete being. Perhaps it's only this kind of turnedness-on-itself that can catapult or bootstrap being into being. This would explain why *Sein*—*Ansichsein*—is *Fürsichsein*: there is no other possibility:

[32] all concrete reality is necessarily experiential.

Catapulting and bootstrapping are bad metaphors insofar as they suggest that experience is somehow *causa sui*—the cause of itself. I don't think anything can be *causa sui*. A thing can be somehow self-sustaining, perhaps, but not self-caused. Slightly better, perhaps, is the proposal that this sort of self-reflexivity or self-relatedness or self-intimation is an internal sprungness—a self-sprungness—that characterizes not only awareness but being in general. It's what holds off its collapse into nothing (as it were). It is perhaps one good way to characterize what energy is, and the whole of concrete being is energy in one form or another: *Stoff ist Kraft*.

This perhaps is the real 'world-knot'—Schopenhauer's term for the point of contact between subject and world. It really is a kind of knot inasmuch as a knot is essentially turned on itself. This perhaps is the real remarkableness of experience as it emerges in our attempt to theorize about it. And it's nothing other than the remarkableness of concrete being.

This is entirely speculative. The notion of being self-sprung is metaphorical. But I think that something about it smells right—the idea that the 'self-sprungness' or 'self-intimation' of experience is the fundamental form or self-sustaining structure of the energy which is concrete reality. Self-sprungness makes—constitutes—*force*, and *Stoff ist Kraft*. Matter—more generally, the physical, all concrete being—is force or activity or power or energy. Matter-force is essentially dynamic, being is essentially becoming: *Wesen ist Werden*. We travel smoothly down the chain of terms which—it now appears—forms a circle: a panpsychist circle. We already know that we neither have nor can have any good reason to think that anything non-experiential exists in concrete reality and we've now noted a fundamental feature of experience—a kind of self-loopedness that seems uniquely characteristic of experience—that offers itself as a fundamental feature of any kind of concrete being at all. With Eddington, Russell, Whitehead, and many others, including Spinoza and Leibniz, and perhaps Kant, and many others, I suspect we're wrong to think that awareness or *Fürsichsein* is a special—rare—feature of the universe. On the present view it's the most common thing there is. In fact it's the only kind of thing there is. All being in-itself, i.e. all being, all being period, is being for-itself. This is an essential part of its intrinsic or ultimate nature. This is what energy is, the energy treated of in physics, the energy of which matter is one form among others, and about whose intrinsic nature, over and above its structural nature, physics has, provably and forever, nothing to say.

“Apart from the experiences of subjects there is nothing, nothing, nothing, bare nothingness” (Whitehead 1929, 167). I don't know exactly why Whitehead came to this

conclusion, but we know—to say it one more time—that experience exists in the universe, and we don't know that anything else exists. This isn't any sort of argument that nothing non-experiential exists, but all those who are genuinely committed to monism ought to prefer the hypothesis that everything is experiential to all hypotheses that suppose that the fundamental nature of reality is wholly non-experiential because all these hypotheses require that one posit radical emergence. They require experiential phenomena to emerge from phenomena that are in themselves wholly and utterly non-experiential. Long familiarity with a picture according to which experientiality emerged from non-experientiality in the course of biological evolution has softened our thinking in such a way that we can no longer clearly see what an extravagant hypothesis this is—especially for someone who is convinced, as I am, of the truth of the theory of evolution.^{42,43}

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⁴² On this last point see James (1890, ch. 6). Panpsychism also solves what some see as a major problem for the theory of evolution—the problem of why experience evolved at all. (Nietzsche expresses this problem vividly at the beginning of §354 of *The Gay Science*, although I don't agree with his solution later in the paragraph.)

⁴³ This is an abridgement of a longer work. I am grateful to many for their comments. I remember in particular Pierfrancesco Basile, Dave Chalmers, Sam Coleman, Philip Goff, Hedda Hassel Mørch, James Ladyman, Anna Marmodoro, Michelle Montague, Pat Lewtas, Udo Thiel, and audiences in München, New York University, Rice University, Rutgers University, Oxford, Mississippi, and at the Czech Academy of Sciences in Prague.

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