
1

When I reviewed Philip Goff’s thoroughly enjoyable book *Galileo’s Error*² I took issue with some of his historical claims, but principally with his definition of materialism, which led to the conclusion that materialism ‘involves a contradiction’ and falls into ‘incoherence’ (2019, pp. 65–66, 69). Something had gone wrong, for this was a *reductio ad absurdum* of his account. Materialism may be false as a philosophical or metaphysical doctrine, but it’s certainly not incoherent. And yet Philip had cause for his conclusion, given how far some people have twisted the notion of materialism away from its roots.

I want to pursue this matter a little way, not by examining the details of *Galileo’s Error*, but by giving an account of what materialism actually is—serious materialism, realistic, time-honoured, non-crazy, 2,500-year-old materialism, materialism that is—for a start—fully realist about something that certainly exists: *consciousness*. It’s worth doing because different uses of the term ‘materialism’ (and ‘physical’, and ‘consciousness’) have caused extraordinary confusion. A hideous amount of time has been wasted. It’s been particularly hard on the young, generation after generation of students.³

I think philosophers of mind should hold a great conference and try as far as possible to establish an agreed terminology. Pending that fabulous event, I’m going to define a number of key terms. I’m also going to use some of them—e.g. ‘conscious’ and ‘physical’—freely before I define them (we’re on Otto Neurath’s boat).⁴ I’m also going to quote Bertrand Russell a lot, since he usually puts things better than I can.

I’ve given up trying to persuade anyone of anything. Almost no one changes their mind once they’ve taken up a position on this issue. Abandoning the goal of persuasion liberates one to be blunt when considering views one believes to be folly. One doesn’t have to worry that bluntness usually strengthens people’s attachment to its target, and I find it helps me live with my intellectual despair about the current debate. I don’t think philosophy has ever sunk lower than it has in the last sixty years in discussion of the so-called mind–body problem—in spite of some beautiful work. I wish I could be as jolly

¹ Darwin 1838, p. 271, addressing himself in his notebook. ‘Why is thought, being a secretion of brain, more wonderful than gravity, a property of matter?’ (1838, p. 614; here Darwin follows Cabanis and others, and uses the word ‘thought’ in the then standard Cartesian way to mean conscious experience of any sort).

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. When I quote I use bold italics to mark the author’s emphases and plain italics to mark my own. In the case of quotations from languages other than English I give a reference to a standard translation but do not always use it.

² <https://www.theguardian.com/books/2019/dec/27/galileos-error-by-philip-goff-review>

³ The word ‘materialism’ dates from the seventeenth century, but the idea is old; it ‘aris[es] ‘almost at the beginning of Greek philosophy’ (Russell 1925, p. v). ‘Materialism is as old as philosophy’ (Lange 1865–75: 3). For discussion of the Cārvāka and Lokāyata Indian traditions, see e.g. Ganeri 201, Bhattacharya 2017.

⁴ ‘Neurath has likened science to a boat which, if we are to rebuild it, we must rebuild plank by plank while staying afloat in it. The philosopher and the scientist are in the same boat’ (Quine 1960: 2).

about folly as Erasmus, but my disposition is melancholic.⁵

2

Materialism is the view that

[1] everything in the universe is wholly material or physical.⁶

That's it. All things—chairs, pains, whisky, colour experiences, explosions, conscious thoughts, clouds, feelings of guilt, marshmallow, feeling sleepy, stainless steel, thirst, sunlight, nausea, plutonium—are made of the same single kind of fundamental stuff: material or physical stuff. We can put it in more dynamic terms, because stuff is best thought of as process, process-stuff: everything in the universe, conscious or not, is wholly a matter of physical process, physical goings-on.

I use 'stuff' as a theoretically uncluttered, entirely general term for concrete existence. All experiences are concrete occurrences, i.e. stuff. All intrinsic qualities of stuff are themselves stuff, for they concretely exist.⁷

Materialism doesn't have the consequence that ordinary people are wrong about what conscious experiences are, considered specifically as such, i.e. considered specifically in respect of their lived experiential character. They're not. There's a primordial respect in which conscious experiences are exactly as they seem. Necessarily so, for their seeming as they seem, in the having of them, is their being what they are, so far as their experiential character is concerned.⁸ Materialism simply says that they are, considered specifically in respect of their experiential character, wholly physical.

To adopt materialism, then, isn't to change anything in the ordinary view of conscious experience. It's only to change one's conception of the physical—if, that is, one's conception of the physical says that conscious experience can't be physical. This is precisely what has always been so striking—thrilling, shocking to some—about materialism. It states that *conscious experience*, of all things, is wholly physical!

Some use the term 'materialism' in other ways; I'll consider a few of them in §§8–10, but this must be where we start. This is the fundamental—I'm going to say the *true*—conception of materialism. Margaret Cavendish is an exemplary materialist in this respect, like her contemporary Anne Conway and her near contemporary Thomas Hobbes: 'nature', she says, 'is altogether material'; 'thoughts, ideas, conceptions, sympathies, antipathies ... and Soul, are all material', wholly a matter of 'corporeal motions'.⁹

Cavendish and Conway believe in God, and [1] must in their case (and in the case of

⁵ Erasmus *In Praise of Folly* (1509).

⁶ The *Oxford English Dictionary* defines the philosophical use of 'materialism' as follows: 'nothing exists except matter and its movements and modifications', and records a narrower use according to which 'mental phenomena' in particular 'are nothing more than ... the operation of material or physical agencies'.

⁷ It's impossible to get things right in metaphysics if one starts out from the (initially natural) picture according to which there is on the one hand stuff, and, on the other hand, its qualities, which somehow or other 'flavour' stuff *without themselves being stuff*. If one is tempted by this picture, it can help to ask oneself exactly where the qualities are located. See Strawson 2021.

⁸ The core sense in which ordinary people are not wrong is fully compatible with the kinds of errors they—we—make with respect to 'filling in', in 'change blindness', and so on (see e.g. Grimes 1996, Simons and Levin 1997, Chun and Marois 2002, Pessoa and de Weerd 2003).

⁹ 1664, pp. 12, 21. Conway states that 'by material and corporeal ... I mean something very different from Hobbes' (c 1673, p. 65).

some others) be modified to

[1*] everything in the universe except God is wholly material or physical.

They're still part of a great tradition which also includes, or so I propose (to name only a few, and speak only of the West), Leucippus, Democritus, Lucretius, Galen*, the Church Fathers Tertullian and Minucius Felix (and Origen, at least at one point), Regius, Spinoza, Toland, Collins, Hume*, Hartley, Priestley, Lawrence (W.), Darwin (E. and C.), Tyndall, Maudsley, Huxley, Fontenelle, De la Mettrie, d'Holbach, Diderot, Leopardi, Vogt, Moleschott, Büchner, Czolbe, Huschke, Du Bois-Reymond, Russell, Eddington, Whitehead, Einstein, Lorentz, Dirac, Schrödinger, Neurath, Schlick, Strong, Drake, Montague (W. P.), Sellars (R. and W.), Williams (D. C.), Feigl, Quine, Davidson, Place, Searle, Nagel (E. and T.). I go no further forward in time, because the terminological chaos intensifies around 1960.¹⁰

Materialism isn't in fact a radical thesis. The misapprehension stems, again, from our everyday conception of physical goings-on. This everyday conception is fine in its everyday place, but it can't be imported into philosophy, and in particular the metaphysics of mind. It has no philosophical or scientific justification. It has no philosophical or scientific justification precisely to the extent that it makes it seem that conscious goings-on can't be physical: precisely to the extent that it makes materialism seem radical.

Certainly *physics* provides no such justification. Physics, in Stephen Hawking's words, is 'just a set of rules and equations' (1988, p. 174). It provides no reason for thinking that consciousness isn't wholly physical.

This can be a hard idea. To see it clearly, to really get it, is to solve the so-called mind-body problem. Quite a few people have done so. They've solved the mind-body or consciousness-matter problem. I've done it myself. It took me a long time. To solve the mind-body problem is to cease to feel that there's a problem—for the right reason. It's to see there's no good reason to think there's a problem. It's to get into a certain state of mind. It can, as Russell observes, be hard to maintain. Then one has to work to get back into it.

Either way, all one is really doing is fighting a picture, a bad imaginative picture.

3

Is physicalism the same as materialism? I'm going to take 'materialism' and 'physicalism' to be synonymous and stick with 'materialism', following David Lewis:

all fundamental properties and relations that actually occur are physical. This is the

¹⁰ I've asterisked two who are probably materialists. There is plenty of scope for argument about this list: Democritus is regularly misquoted (see Strawson 2019, p. 37). Huxley has no doubt that 'consciousness is a function of the brain' (1886: 797), but forcibly rejects the view he calls 'materialism'. Du Bois-Reymond was regularly charged with being a materialist, but some question this. Some think Russell can't be counted a materialist; see p. 000 below. Some wrongly think a panpsychist can't be a materialist, in spite of Lewis's observation that 'a thesis that says [that] panpsychistic materialism ... is impossible ... is more than just materialism' (1983, p. 36). Spinoza's materialism may also be questioned. He is, like Eddington, Whitehead, Strong, Drake, and many other materialists, a panpsychist in every sense in which he's a materialist, but he also accepts [1], on one natural interpretation of 'wholly', given which being wholly physical doesn't exclude being wholly conscious (see e.g. Garrett 2017).

thesis of materialism It was so named when the best physics of the day was the physics of matter alone. Now our best physics acknowledges other bearers of fundamental properties: parts of pervasive fields, parts of causally active spacetime. But it would be pedantry to change the name [to 'physicalism'] on that account, and disown our intellectual ancestors. Or worse, it would be a tacky marketing ploy, akin to British Rail's decree that second class passengers shall now be called 'standard class customers' (1994, p. 293)

I agree with Lewis, except that I'm inclined to replace his use of the word 'fundamental' with something like 'natural, intrinsic, concrete'. The basic position is clear: the stuff of the universe that banged into existence in the Big Bang was all of the same single fundamental kind, in some sense of 'same' which is compatible with the fact that we take there to be different kinds of fundamental entities (e.g. fermions, i.e. leptons and quarks, and bosons) and different physical fields (e.g. electromagnetic, gravitational). This primordial stuff subsequently differentiated in many ways, but it remained of the same single fundamental kind, which we call 'physical'.

Physicalism, then, is materialism. It's a straightforwardly metaphysical thesis; this is how the word 'physicalism' is used today. It meant something completely different when first introduced into philosophy by Carnap and Neurath around 1928–9, as I'll explain in §6. It was then a thesis about language, in particular scientific language. It wasn't any sort of metaphysical thesis (the Vienna Circle wasn't keen on metaphysics). This wouldn't matter if there hadn't been a strange false leakage from the original use into the current use.

4

By 'consciousness', 'conscious experience', I mean things of a sort already mentioned, experiences of colour, of thinking, warmth, feeling depressed, in love, all the experiences you have as you listen to someone talking or read this. I mean what some call 'experiential what-it-is-likeness', experiential what-it-is-likeness of any sort whatever, however complex, however primitive, whether in human beings or in spiders (assuming they have conscious experience).

Others use 'consciousness' in different ways. 'Well was James Ward advised to call this "a sand-heap of a term"' (Strong 1934, p. 313). There's so much disagreement about the best use of the term, in fact, that I'm going to introduce a new term—'ψ' (*psi*, as in 'psych[ological]')—to cover what I mean by it: experiential-what-it-is-likeness as just characterized, 'phenomenological' quality, 'qualiality': absolutely everything that life is to one, experientially.

If you don't think this is an adequate characterization of what I mean, you're welcome to stop reading. All that needs to be added here is that we know that ψ exists. It's an ancient point: when it comes to concrete reality (as opposed to mathematics, for example) the only absolutely certain thing is the existence of ψ.

5

I need to say more about what I mean by the word 'physical', for some will already think I'm using it wrongly. But I want to first repeat the central point once again using the new

term:

[2] materialism (physicalism) has *nothing to do* with denial of the existence of ψ .

How could it? We know for certain that ψ exists. No serious theory of anything denies its existence. No materialist worthy of serious consideration, no one who brings Russell's 'robust sense of reality' (1919, p. 170) to philosophy, can deny its existence.

If you find [2] surprising, given what you've heard and read, you've been grievously misled. [2] is just a boring statement of fact about any theory worthy of the name 'materialism'. The idea that materialism might involve outright denial of the existence of ψ (I'll call this *the Denial*) took flight only in the twentieth century.¹¹ The claim that ψ is wholly physical has always been the true philosophical heart of materialism.

The pre-twentieth-century consensus is hardly surprising. It's not surprising because the Denial is, in C. D. Broad's technical sense of the term, 'silly':

by a 'silly' theory I mean one which may be held at the time when one is talking or writing professionally, but which only an inmate of a lunatic asylum would think of carrying into daily life (1925, p. 5).

The Denial is the silliest (or equal silliest) view that has ever been held by any human being.

It's also, of course, a radical view, and radicalism can be intensely seductive, even when, like the Denial, it's radicalism of the $2 + 2 = 17$ kind. One thing to do, when one comes across the Denial, also known as 'illusionism' or 'eliminativism' about ψ , is to remember that if the Deniers are right then there's no suffering and never has been any (never mind other kinds of experience).

Some Deniers say that suffering is an illusion because it's really just a matter of having a certain *belief*, being in a certain cognitive state, and so not an actual experience of suffering. They must then hold that it is not in any way unpleasant to have such a belief, not in any way a matter of actual pain or suffering—as one gives birth, say, or is tortured or crucified or burnt alive, or endures clinical depression, or is forced to watch as one's family is raped and murdered in front of one's eyes. This is an alarming view. But the strangest thing about it, and the current fashion for it, is that there isn't even any *prima facie* good reason to believe it (see §11).

6

What do I mean by 'physical'? I'm using it in the way Russell does in 1914:

The word 'physical', in all preliminary discussions, is to be understood as meaning 'what is dealt with by physics'. Physics, it is plain, tells us something about some of the constituents of the actual world; what these constituents are may be doubtful, but it is they that are to be called physical, *whatever their nature may prove to be* (1914, p. 150).

¹¹ There were flickerings in the nineteenth century, but Mary Calkins is wrong when she claims in 1930 that 'materialism in the broad old-fashioned sense of the term' is 'inconsistent with [the] conviction that mental realities exist' (1930: 200).

This seem exactly the right move to make, given the incompleteness of our knowledge of the nature of the stuff we call ‘physical’ (in spite of the knowledge we have of its nature in knowing various laws of physics and—I speak as a materialist—in having ψ). We need to recognize our ignorance. This is the first great step we need to take, when it comes to the supposed consciousness–matter problem. We need to keep our ignorance vivid.

It may help to replace the term ‘physical’ with a new term that doesn’t trigger misleading mental reflexes. The Greek letter ‘ ϕ ’ offers itself (*phi* as in ‘physical’ to match ‘ ψ ’ for ‘psych[olog]ical’), but I’m going to use ‘ χ ’ (*chi*), which resembles ‘X’, a traditional marker of the unknown. When we’re trying to vivify our ignorance, it’s better if the term replacing ‘physical’ doesn’t echo it in any way, given the false assumptions many build into their understanding of ‘physical’.

From now on, then, ‘ χ ’ has the same reference as ‘physical’ or ‘the physical’ (adjective or noun) in Russell’s use. One can always read ‘(the) physical’ where I use ‘ χ ’, as long as one keeps one’s sense of ignorance sharp. Russell is right, as already observed, that it can be hard to maintain.

7

Objection. ‘What your χ materialism comes down to, in effect, is simply “stuff monism”, the theory according to which everything is one single kind of fundamental stuff. You’ve deprived “physical”—“ χ ”—of any positively descriptive general meaning.’

Reply. If you say so. I’ve followed Russell (and Eddington and many others). That said, I’m also happy to follow Russell in including *spatiotemporality* and *causal connectedness* as among the known features of χ , and one may certainly think of the reference to these things as supplying some positively descriptive meaning to ‘ χ ’. But if one does this one must also follow Russell (and Moritz Schlick) in stressing that the space of physics is not to be confused with the space of perception on which our intuitive everyday notion of space is founded. (This is another hard idea.)

‘What is matter? the whole a mystery’ (Darwin 1838/1987, p. 614). There is much more to say. One should probably add that a number of leading physicists deny that spatiotemporality is a fundamental property of χ . For the moment let me just note that it was once a commonplace, and is becoming so again, that physics has nothing to say about the ultimate, non-structural, intrinsic ‘stuff nature’ of the physical = χ .

8

We can now say that materialism is the view that

[1] everything in the universe is wholly χ

—from which it follows immediately that

[3] all ψ is χ .

It's an interesting question whether

[4] all χ is ψ ,

i.e. whether all-out ('panexperientialist') panpsychism is true. I think, with Goff and others, including several winners of the Nobel Prize for physics, that it is, all things considered, the most natural, most parsimonious, least implausible view of the fundamental nature of χ , given that ψ certainly exists (Lewis reminds us that it is a possible position for a materialist). This, though, is a question for another time. Here I want to say something about some other uses of 'materialism' ('physicalism'). We become deeply habituated to particular uses of words, and this often blocks our ability to take in what other people are saying. I've certainly failed in this way.

(i) Some take materialism to imply commitment to a *mechanistic* physics. This use has no place here, and has largely faded away. Materialism is fully compatible with the latest instar of relativistic quantum field theory.

(ii) Some equate materialism with atheism, but there's no necessary connection between them. Neither implies the other (see p. 000).

One needs to bear uses (i) and (ii) in mind when reading older writings, but not otherwise.

(iii) Some refrain from calling themselves materialists even though they agree or at least strongly suspect that [1] is true—that everything in the universe is wholly χ (= physical). This is because they think the term 'materialist' suggests adherence to a conception of matter that has been refuted by science.

This seems to be Bertrand Russell's position. He called himself a 'neutral monist' from 1921 on, and when he was interviewed in 1964, forty-three years later, he was 'not conscious of any serious change in my philosophy since I adopted neutral monism' (Eames 1967, p. 510). At the same time he confirmed that he

would describe himself as a materialist, if it were not for the fact that, since the concept of solid matter had disappeared from physics, the label "materialist" had become ambiguous.¹²

It seems, then, that we may take Russell's neutral monism to be materialist. His 'neutral stuff', I propose, is what I call ' χ '. It's the subject matter of physics, whatever it is in itself. He thinks it most probable that the laws of physics cover everything that exists—which is not of course to deny the reality of ψ .¹³

Russell holds that our knowledge of the intrinsic nature of χ is restricted to knowledge of its causal–spatiotemporal structure, as expressible in the abstract logico-mathematical terms of physics, *except in one vital respect*. 'We know nothing of the intrinsic quality of physical [χ] phenomena', he writes,

¹² Eames 1967, p. 510. In 1944 Russell writes 'I find myself in ontology increasingly materialistic ... In ontology I start by accepting the truth of physics' (1944, p. 700). Matter after all 'has become as ghostly as anything in a spiritualist séance' (1927, p. 104), 'it has begun to seem that matter, like the Cheshire Cat, is becoming gradually diaphanous until nothing of it is left but the grin, caused, presumably, by amusement at those who still think it is there' (1950, p. 145).

¹³ There's a great debate about Russell's view, which I put aside here. See e.g. Wishon 2015, Stubenberg 2016.

except when they happen to be sensations [i.e. instances of ψ] ... therefore there is no reason to be surprised that some are sensations, or to suppose that the others are totally unlike sensations. The gap between mind and matter has been filled in, partly by new views on mind, but much more by the realisation that physics tells us nothing as to the intrinsic character of matter [χ].¹⁴

Here in 1927 Russell solves the mind–body or consciousness–matter problem. He holds the same view in 1950: ‘We know nothing about the intrinsic quality of physical events except when these are mental events that we directly experience’ (1950, p. 153). In his late book *My Philosophical Development* he records his conviction that he has ‘completely solved ... the problem of the relation of mind and matter’ I think he’s right. ‘It is true’, he continues, rather touchingly, ‘that nobody has accepted what seems to me the solution, but I believe and hope that this is only because my theory has not been understood’.¹⁵

Objection. ‘This can’t be right. ψ is essentially mental, so Russell’s χ isn’t genuinely neutral. He’s committed to some of it being mental.’

Reply. It seems a strong point. It fails, on Russell’s terms, because he denies that ψ is intrinsically mental. He never wavers in his definition of mind—mentality—as something essentially complex that essentially involves cognition, intentionality, deployment of memory and all the causal connection that that entails. An isolated bare sensation isn’t a mental occurrence, for Russell. Ignorance of this terminological point has led to a lot of misunderstanding.

I’ll end with a little more about this. Before that, let me record some more uses of ‘materialism’.

(iv) Some think materialism involves the belief that ‘the inner subjective world of experience is to be *explained* in terms of the chemistry of the brain, in something like the way the wetness of water is explained in terms of its molecular structure’ (Goff 2019, p. 53). This use seems to have become widespread in the nineteenth century. Certainly it’s clear in Tyndall:

you cannot satisfy the human understanding in its demand for logical continuity between molecular processes and the phenomena of consciousness. This is a rock on which materialism must inevitably split whenever it pretends to be a complete philosophy of the human mind (1868, p. 334).

But Tyndall remains a materialist in the classical sense—in the sense of [1]. The same goes for Emil Du Bois-Reymond.¹⁶

¹⁴ 1927b, p. 154; Russell doesn’t count a thing’s structural nature as part of its intrinsic nature. The point about our necessary ignorance was a commonplace at the time, and was built into the Vienna-Circle conception of physicalism: ‘physicalism ... maintain[s] ... that whatever is [scientifically] *knowable* in any field of inquiry is *structure*’ (Nagel 1936, p. 41).

¹⁵ 1959, p. 15. Schlick solves it too, and Eddington, and Whitehead, and C. A. Strong, and Durant Drake, and Herbert Feigl, Grover Maxwell, and others. It’s arguable that Kant’s solution (see e.g. Kant 1781–7, A358–60, A379–80, A391, B427–8) is marred only by his doctrine that ψ is ‘mere appearance’. I can’t speak for Mach.

¹⁶ See Tyndall’s once famous but now forgotten Belfast Address (1874), and Du Bois-Reymond’s equally famous but now mostly forgotten Leipzig address (1872). Du Bois-Reymond is certainly a monist, but some doubt (see note 10) that he is a materialist.

There is, certainly, an ‘explanatory gap’¹⁷ between the terms we use to denote ψ phenomena and the terms we use to denote phenomena that we ordinarily classify as physical (whether in physics or in everyday life). Tyndall, Huxley, and Du Bois-Reymond are the poets of this point. The gap is unbridgeable—it’s *obviously* unbridgeable. But to think that this constitutes an objection to materialism is to be philosophically lost. Sensible materialists know the gap can’t be bridged, and they know this is no objection to materialism.

(v) The version of materialism described in (iv) is close to the version according to which (v) ‘reality can [in principle] be *exhaustively described* in the objective vocabulary of physical science’ (Goff 2019, p. 68). (v) isn’t as bad as it may seem. On one reading it’s true (if materialism is true). (v) is true (if materialism is true) if one takes ‘exhaustive’ to mean that physical science can in principle give a description, in its own highly specialized descriptive terms, of absolutely everything that exists—every part and aspect of what exists.¹⁸ (v) is false only if one takes ‘exhaustive’ to mean that it can say—convey—*everything there is to say* about every part of what exists, i.e. that the description it gives is *descriptively* exhaustive.

‘Obviously’, you say. ‘There’s no such thing as exhaustive description of reality; reality outruns—infinately—all possible description.’

Yes, but the abstract numerico-structural descriptions of physical science are profoundly limited even when one puts this point aside. There are, to begin, no terms for emotions or sensory experiences.

This is not to say that physics can’t give an exhaustive *physics* description of the ψ/χ phenomena that constitute emotions and sensations. It can—if materialism is true. But it can’t say anything about what emotions and sensations are like, considered specifically as such. The mistaken move is from the true claim that

[a] physics can (in principle) give an exhaustive description *in physics terms* of everything that exists

(a crucial component of original—Vienna-Circle—physicalism) to the false claim that

[b] physics can say everything there is to say about everything that exists.

9

Actually, there’s a way to interpret [b] given which it too comes out as true (and also as part of what the Vienna Circle physicalists had in mind). All you have to do is to start by endorsing the doctrine of the ‘incommunicability of content’, a doctrine, intensely fashionable in the 1920s and beyond, about what can be truly meaningfully be said—genuinely, fully intersubjectively communicated—in language.

Why does this make [b] come out true? Because according to the doctrine of the incommunicability of content, very little of what we ordinarily think can be truly meaningfully said can really be truly meaningfully said. Certainly nothing can be said (genuinely fully communicated) about the nature or essence of any ψ . And this is so even

¹⁷ See Levine 1983.

¹⁸ This is what the members of the Vienna Circle who introduced the term ‘physicalism’ had in mind. Physicalism (to repeat) was a thesis about language, not any sort of metaphysical thesis.

though we are each individually ‘directly acquainted’ with ψ , in Schlick’s words, and indeed derive our ‘concept of reality’ from it (1925, p. 234).

The idea is old and simple. If I say ‘I’m experiencing pillar-box red’, you can’t know for sure what my experience is like. My words can’t nail it down. They can’t package it up for lossless transmission to you; and your experience of pillar-box red may be different. When they introduced the doctrine of physicalism, the Vienna-Circle philosophers were specifically concerned to mark the limits on the genuine content of specifically scientific language, but the point generalizes, and we can see it in action—spectacularly, paradoxically—in §304 of Wittgenstein’s *Philosophical Investigations*. His imaginary interlocutor speaks first:

‘But you will surely admit that there is a difference between pain-behaviour with pain and pain-behaviour without pain.’ —Admit it? What greater difference could there be? —‘And yet you again and again reach the conclusion that the sensation itself is a Nothing.’ —Not at all. It’s not a Something, but not a Nothing either! The conclusion was only that a Nothing would render the same service as a Something about which nothing could be said (c 1944, §304).

This may seem fairly strange, but one thing is clear. The denial of the existence of ψ (in this case pain) is of course held to be false (‘What greater difference could there be?’). We’re not pushed into denying its existence, in the way Wittgenstein’s interlocutor supposes, if we endorse the thesis of the incommunicability of content.¹⁹ The basic claim is simply that there’s much about reality that can’t be captured in language.²⁰ It hardly licenses a move to saying that the language of the physical sciences can fully capture everything. The transmogrification of the physicalism of the Vienna Circle into the present-day view that many call ‘physicalism’, and that I call *physics-alism*—the Denial-entailing view ‘that the nature or essence of all concrete reality can in principle be *fully captured* in the terms of *physics*’ (Strawson 2006, p. 4), to which we may add the terms of everyday physical description—is one of the great philosophical aberrations of our time.

10

(vi) The point about **(v)** made in §8 is open to misinterpretation. One way to restate it is to consider Goff’s variation of **(v)**, according to which **(vi)** ‘reality can be exhaustively *captured* in the quantitative language of physical science’ (2019, p. 68). There’s *no* reading of this claim according to which it comes out true—for reasons just given: ‘exhaustively capturing the nature of reality’ implies fully expressing its nature, and of course physical science can’t do this (that’s not its job). It can’t describe what it is like experientially to see the Ka’ba, or Carcassonne, or ‘attack ships on fire off the shoulder of Orion’ (to quote Roy Batty in *Bladerunner*). It can’t capture—convey—the (experiential) nature of any ψ at all. It really is ‘just a set of rules and equations’.

(vii) The various confusions that animate **(iv)**–**(vi)** culminate in **(vii)**. In the last 100

¹⁹ Should we endorse it? In *Mental Reality* I argue that we can in fact (and of course) communicate about ψ although there is (strictly speaking) a kind of hazard in it: ‘language leaps without looking and lands on its feet’ (1994, p. 230).

²⁰ There are some striking further complications. See Strawson 1994: ch. 8.

years or so, a very small number of people who have called themselves ‘materialists’ or ‘physicalists’ have not only denied the existence of ψ . They’ve also thought (vii) that this is part of materialism—that materialism requires them to do so. This, again, is the great aberration—the Denial—about which I’ve said enough. There’s irony in the fact that it thinks of itself as the perfection of materialism precisely as, and because, it rejects the central, shining materialist idea: the idea that ψ — ψ , no less, ψ , real ψ !—is wholly material.

11

The confusion that is fed by different uses of ‘materialism’ is intense. Let me repeat the principal point once again: *materialism, serious, realistic materialism, is and always has been fully realist about ψ* . I call such realistic materialism ‘real materialism’. The Deniers have lost touch with reality.

How could they? I’m not sure, but the all-too-human psychological mechanism that underwrites such silliness is the same as one finds in the QAnon and Flat Earth movements. The phenomenon is robustly confirmed by experimental psychologists: ‘we know that people can maintain an unshakable faith in *any proposition, however absurd*, when they are sustained by a community of like-minded believers’ (Kahneman 2011, p. 217). *Weh ist mir!* When Russell complained of ‘the subjectivistic madness which is characteristic of most modern philosophy’ (1948, p. 846), he can hardly have imagined what was to come.²¹

Perhaps the most poignant aspect of the Denial, from a philosophical point of view (to pick up the thread at the end of §5), is the fact that there is nothing in physics or everyday experience—nothing, absolutely nothing—that provides any good motivation for it. All there is is habit—or prejudice. Russell describes the mistake: however much people emphasize the unknown character of the physical cause of sensation

they still suppose themselves to know enough of it to be sure that it is very different from a mind. This comes, I think, of not having rid their imaginations of the conception of material things as something hard that you can bump into. You can bump into your friend’s body, but not into his mind; therefore his body is different from his mind. This sort of argument persists imaginatively in many people who have rejected it intellectually’ (1948, p. 244)

We can’t shrug it off overnight—the everyday distinction between mental and physical which makes it seem that ψ can’t be physical. Perhaps we can do a little better when we think instead that ψ can be χ , since ‘ χ ’ is a term designed to glow with ignorance, with

²¹ Objection. ‘You *can’t* say that the Deniers aren’t real materialists. They agree with [1]: they hold that everything that concretely exists is wholly physical, and that’s obviously—trivially—a sufficient condition of being a real materialist.’ Reply. Afraid not. The trouble is that they deny the existence of a vast part of what certainly (concretely) exists. So they don’t hold that everything that actually (concretely) exists is wholly physical. So they’re not real materialists—*serious* materialists. They’re the ultimate philosophical Procrustean. They simply lop off a vast part of concrete reality that doesn’t fit their theory. Objection. ‘You *can’t* just assert that ψ exists, for they specifically deny just this. So you’re begging the question. People can certainly legitimately argue about what concretely exists.’ Reply. When you come up against a view that denies something that is certain (a view that holds, for example, that there has never been any suffering), you’re bound to end up begging the question against them. Try arguing against someone who holds that $2 + 2 = 5$.

intense *descriptive* thinness—even while it has a clear *reference* (the subject matter of physics: everything in the universe).

Even so it takes work, philosophical work. Not the work of argument, or the usually much more difficult work of searching theoretical description. Philosophy here is a matter of dwelling with a kind of intense and delicate balance—equanimity—on certain thoughts: the thought that one’s conscious experience (one’s ψ) right now is wholly a matter of one’s neural goings-on. (I put my head in my hands.) It’s a matter of bringing the thought back to focus as it slips and slips again. One might try this for a minute every day, until it begins to work. It’s an astounding experience when it does—if, that is, you start out as benighted as I was. It is, as Durant Drake mildly says, ‘a very considerable mental wrench’ (1930, p. 286).

I’ll say it again. All one needs to solve the mind–body problem are two things, both of which one has: [1] knowledge of the reality of one’s current conscious (ψ) goings-on, knowledge that one has in the moment simply in having the experience one is having; [2] knowledge (it is far beyond reasonable doubt) that that reality is neural—or more generally bodily, or more generally χ —goings-on.

One may periodically hesitate about [2], and go back down into the bowels of the mind–body problem (*facilis est descensus averno philosophico*). What one mustn’t do is think that one has any good reason to suppose that one’s ψ can’t be neural goings-on.²²

One’s ψ , once again, is not other than one ordinarily supposes it to be. One’s fundamental *theoretico-imaginative* conception of ψ is essentially correct (we deal almost exclusively with such theoretico-imaginative elements when we study things like the mind–body problem). The trouble doesn’t lie here. It lies in one’s theoretico-imaginative conception of χ , which is certainly not correct—not unless one has completed a lot of the hard philosophical work just described.

It’s certainly not correct if it involves any element that makes it seem in any way puzzling that some of it is ψ :

the physical world is only known as regards certain abstract features of its space-time structure—features which, because of their abstractness, *do not suffice to show whether the physical world is, or is not, different in intrinsic character from the world of mind*.²³

Beyond certain very abstract mathematical properties, physics can tell us nothing about the character of the physical world. But there is one part of the physical world which we know otherwise than through physics, namely that part in which our thoughts and feelings are situated.²⁴

Schlick agrees, although he objects to calling our direct acquaintance with our conscious experience ‘knowledge’. He also solves the mind–body problem. This tradition of

²² I argue for this in several places, e.g. Strawson 2016.

²³ Russell 1948, p. 240. We may take him to be using ‘physical world’ to mean either simply χ , or, more narrowly, χ as described by physics.

²⁴ 1944, p. 706. A year later Russell suggests that ‘it would be better to substitute the word “physicalism” for the word “materialism”. ‘I should define “physicalism”’, he continues, ‘as the doctrine that [all] events are governed by the laws of physics’ (1945, p. 247). There is no (absurd) implication that physics can fully capture the nature of everything.

solution stretches back to neo-Kantians like Riehl and Helmholtz who are (unlike Kant himself) outright realists about ψ . The fundamental move is the same, for all the differences of detail. They too solve the mind–body problem. All one has to do to solve it is to fight a picture that has no scientific nor any other theoretical justification.²⁵

To the point that nothing in physics gives us good reason to think that ψ is not χ we can add the point that nothing in our ordinary everyday conception of χ does either. To think that it does is like thinking that it gives us good reason to hold that rock and air, flesh and steel, can't possibly be made of the same stuff.

12

There's a simple test for whether people understand what's at issue. If they think there are good reasons for believing that materialism—i.e. [1]—isn't true, they fail the test. They haven't yet done the necessary work. That's not to say that materialism—real materialism, ψ -acknowledging materialism—is true, although I have no doubt that it is.

One doesn't have to call it 'materialism' or 'physicalism'. One can simply call it 'monism', meaning stuff monism, the view that there is just one kind of fundamental stuff, while bearing in mind two points: [i] the stuff in question is the subject matter of physics, about which physics has a very great deal to say; [ii] at least some of it is ψ . We can signal our ignorance by calling it ' χ -ism', so long as we never forget that we know that ψ is real and know what it is. We can even call it 'neutral monism'—treating χ as something neutral between 'mind' and 'matter'—so long as we understand 'mind' and 'matter' in the way Russell does, as products of what he calls 'logical construction', and, again with Russell, never for a moment waver from the thought that we know something fundamental about the intrinsic nature of the neutral stuff simply in having ψ ; nor from the thought that 'we do not know enough of the intrinsic character of events outside us to say whether it does or does not differ from that of "mental" events' (1927b, p. 222).

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²⁵ See in particular Schlick 1918–25, §§31–35, Riehl 1887, Part 2 Chapter 2, Helmholtz 1887.

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