Panpsychism and the Problem of Consciousness

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It is early days – or years – but it is already possible to glimpse a significant, possibly epochal difference between this century and the last. The difference concerns consciousness. For much of the 20th century scientists and philosophers generally ignored or dismissed consciousness as a subject unworthy of study. It was a subject that brought a 'risk to one's reputation' as Annaka Harris, the author of a recent popular introduction to the topic put it. (1)

Now two decades into a new century and consciousness has gained respectability in academic circles. Serious debate is going on. The outcome could be the most fundamental change in the scientific understanding of reality in a long time – or to be precise, since Galileo, as we shall see. Here I want to sketch the debate and show why it is significant. Revolutions are rare, but their effects far reaching.

The mystery of consciousness

Is it not odd that scientists and philosophers should have largely ignored consciousness in recent centuries? After all, as the philosopher Thomas Nagel reminds us: "The experience of consciousness is both one of the most familiar and one of the most astounding things about the world." (3) Indeed, it is "the only thing we know for certain is real" as Philip Goff, a leading contributor to the new debates, puts it. (4)

Goff uses the pronoun 'we' but strictly that should have been 'I'. Like Descartes – whose "*cogito ego sum"* ("I think, therefore I am") became a foundational realisation for the scientific revolution – I know that I am conscious but there is nothing else about reality that a skeptic could not raise plausible doubt about. That includes knowing whether other people also have consciousness. It could be that everyone I meet is actually a very sophisticated A.I. robot or 'philosophical zombie' as Goff terms them – beings who are programmed to behave as if they are conscious but are not. The point is that consciousness is personal. I cannot get inside another person's head to experience and so know their consciousness. And despite all their efforts, neither can any neuroscientist. As Harris puts it "… we can't find reliable external evidence of consciousness, nor can we conclusively point to any specific function it serves. These are both deeply counterintuitive outcomes…." (5)

So consciousness is at one and the same time both the most real of phenomena and the most elusive. Its very nature means, Goff maintains, that "… nothing is harder to incorporate into our scientific picture of the world." (6). But as Charles Schulz had Linus say in the *Peanuts* cartoon*:* "No

problem is so big or so complicated that it can't be run away from." And this is how western science has responded to the question of consciousness – run away, ignored or denied it.

Goff argues that the blame for this failure or dereliction of duty can be pinpointed at the very beginning of modern science. It was Galileo's error 400 years ago that has blinded scientists and philosophers to this most quintessential of human properties. The Tuscan genius proposed that two classes of phenomena should be recognised and so distinguished. There were those that could be objectively measured – namely size, shape, location and motion – and those that could not – sensory phenomena, such as colour and taste, which were not amenable to quantification. As Goff explains, science confined itself to the former. "Galileo took the sensory qualities … out of the domain of inquiry by reimagining them as forms of consciousness residing in the incorporeal soul' (7) Hence "Galileo's error was to commit us to a theory of nature which entailed that consciousness was essentially and inevitably mysterious." (8)

Science has progressed since then on the basis of Galileo's prospectus: measure and mathematise what you can; ignore what you cannot. He can hardly have imagined how successful such a method of enquiry would be. Now scientists can measure and model photons of light, brain neurons firing, galaxies moving billions of light years away. Yet for all that it has achieved science has failed to find a Theory of Everything, cannot account for 96% (yes, 96%!) of the mass and energy of the universe, and cannot 'incorporate' consciousness, the most subjectively real of phenomenon.

The renewed interest in consciousness

It is perhaps the very success of science which explains why it has got away with ignoring consciousness for so long. What then accounts for it recently becoming a serious subject for scientists and philosophers? One can speculate that the rise of A.I. has provoked questions about whether intelligent machines could also be conscious. Then there has been the advance of neuroscience and the inevitable questioning of what the brain is actually doing, and the inability of physics to find the foundational elements of matter. But possibly more than anything, it was simply three little words.

The words were spoken in Arizona in 1994 by David Chalmers, a man whom Goff describes as being at the time 'the rock star philosopher'. Chalmers rocked (to coin a phrase) the philosophers and scientists who had gathered at the first 'Science and Consciousness' conference in Tucson – an event which had itself been inspired by the rapid growth in consciousness studies during the 80s and 90s. Chalmers told these pioneers that they were only studying 'easy' problems, such as what happens in the brain when we learn, remember or recognise. But the problem that needed addressing, he said, was "The Hard Problem*,'*... the problem of *experienc*e. When we see, for example, we *experience* visual sensations: the felt quality of redness, the experience of dark and light, the quality of depth in a visual field." "Why", Chalmers asked "should physical processing

give rise to a rich inner life?" (9) According to Goff, "With his simple three-word phrase, Chalmers swept away decades of evasion and forced us to confront the real mystery head-on." (10).

So how can a material thing, the brain, be linked to immaterial consciousness? In attempting the answer, philosophers have come up with a number of different solutions. Maybe mind and matter are essentially different but somehow interact, as dualism has it. Or maybe consciousness is actually a material product of a material brain, real but as insubstantial as a shadow compared to what produces it? This is the materialist approach. A third and most radical explanation is offered by panpsychism, which is basically the theory that consciousness pervades everything – the name is derived from the Greek *pan* meaning all and *psyche* meaning mind or spirit. This is the theory which is animating the current debates about consciousness and is the one which Goff himself embraces.

There is a possible fourth answer. There are philosophers, such as Daniel Dennet, who say that there is nothing to be explained (11). Consciousness can be ignored because it is simply an illusion. However, as the philosopher Galen Strawson has said: "… this particular denial is the strangest thing that has ever happened in the whole history of human thought, not just the whole history of philosophy". (12) Most philosophers speedily reject the non-reality of consciousness by remarking that to experience an illusion is itself to have a conscious experience. Conscious experience, Chalmers has said, '… is the most central and manifest aspect of our mental lives…. A theory which denies the phenomenon "solves' the problem by ducking the question.' (13). So if consciousness is not an illusion, how does contemporary science and philosophy attempt to explain it?

Dualism

In a certain sense, the most widely held theory is that of dualism. This theory acknowledges the reality of consciousness but regards it as something essentially different from the reality of matter. Reality as a whole therefore comprises two things: material things, such as bodies and brains (as well as stars, tables and much else); and immaterial minds or consciousness.

Dualism's most famous philosophical advocate was Descartes but it has a much longer and wider support. As Goff remarks: "Most cultures and religions we know about have embraced dualism in some form or other…. [it] is a very natural way to think about ourselves.' (14) The biologist Rupert Sheldrake, who has challenged many aspects of the western scientific view, concurs: "In practice, most people take a dualist view for granted, as long as they are not called upon to defend it." (15) What needs explaining is the interaction problem. How can something immaterial (mind) bring about change in something material (body)? I think I want to raise my arm and up it goes, but how is that possible?

Descartes thought the pineal gland was the seat of the soul and exercised control of the body from there. That answer has not been persuasive. A more contemporary and sophisticated solution which Goff outlines might be offered by quantum mechanics. In the sub-atomic world, he explains "… observation seems to make a difference to how the universe behaves." (16) This has encouraged some philosophers, including David Chalmers, to seek the phenomenon of consciousness in 'quantum dualism'. Though Goff thinks this is "… a fascinating approach that deserves to be explored in detail", (17) he is critical of it. As he explains, quantum dualism ultimately severely limits the role of consciousness to " … far less … than we intuitively suppose the mind to have." (18) Raising my arm would then be largely a product of non-conscious, physical quantum behaviour: it would not really be *my* behaviour in the way that we experience it..

Hence the standard objection to dualism is simply that in the 400 years since Descartes formalised it, no satisfactory solution to the mind-body problem has been found. Goff himself rejects dualism by appealing to the wisdom of Ockham's razor, the principle of parsimony. There are alternative solutions to the problem of consciousness which regard reality as being one thing rather than two. The best known of these is materialism.

Materialism

According to materialists, we live in a material universe. Everything from the smallest atom to the largest galaxy is made up of matter – or matter and energy, for Einstein showed these to be just two aspects of the one coin. Furthermore, the characteristics and behaviour of matter can in principle be explained in terms of mechanistic, cause-effect relationships between material objects and forces.

As the working assumption, materialism has served science and technology extraordinarily well over the past centuries. We can appreciate, then, that scientists and philosophers would want to explain consciousness in physical terms as a material phenomenon. And even if materialistic science cannot currently explain consciousness, does this mean that in the future it will not be successful? Materialists can appeal to history. Look at Galileo himself. Galileo thought that colour was something immaterial. However, following his advice to measure and model, it relatively quickly became apparent that the yellow of a banana, for example, could be explained in terms of the physical properties of light, of the banana skin, and of the eye. Likewise materialists argue that the idea of consciousness as something categorically distinct from material neurological processes is a flawed – though understandable – misconception. Scientific investigation will eventually and completely dispel this misunderstanding.(19)

It is this belief that Chalmers so radically challenged in his 1994 conference talk. What he called 'the hard problem' of consciousness has revealed the fundamental dilemma at the heart of materialism. He points out that science can only explain the performance of cognitive functions; there are sophisticated theories available to explain learning, or how the brain processes information

and so enables vision, for example. But cognitive science never has, and never can tell us "*why is the performance of [such] functions accompanied by experience?*" (original italics, 20)

Chalmer's criticism is illustrated and made clearer by Goff when he cites the famous case (in philosophy circles) of 'Black and White Mary'. In this thought experiment poor Mary has been condemned to be confined to a monochromatic room. All she sees are black and white and shades of grey. She is, however, encouraged to learn all there is to know about colour. She could discourse authoritatively on how a banana radiates yellowness. Then one day Mary is released and so experiences the world of colour. For the first time she actually sees a yellow banana.

The argument is that in seeing it she will know something of yellow that no book had taught her, and could ever have taught her. The conscious *experience* of yellow is in fact something separate and additional to the material, physical accounts of this colour which she had studied and knew (21).

It was Nagel who first highlighted that to be consciousness means to have experience: to know what it is like to be seeing colour, or in his seminal paper 'What is it like to be a bat?" to truly understand, from the inside, the experience of another being. (22) More recently he has set out another reason to doubt that materialism can explain consciousness – the problem of emergence.

Given that consciousness exists, where has it come from? How could it have arisen? Materialist science can give authoritative accounts of the history of the universe from the Big Bang to today. Thanks to Darwin, the story of the evolution of life on earth from the first single cell organisms 3.8 billion years ago to the variety and complexity of life can now be described. However, Nagel points out, nowhere in these accounts is there an explanation of when or how consciousness appeared. Where in the span of 13.5 billion years or the narrower span of 4 billion years did matter acquire consciousness? "The existence of conscious minds …[is something] a theory of the world … has yet to explain," he says (23). "But if we …want to pursue a unified world picture … we will have to leave materialism behind. Conscious subjects and their mental lives are inescapable components of reality not describable by their physical sciences." (24)

If the critiques of Chalmers and Nagel were not enough, there is a third and even more damming criticism. Materialistic science rests on a belief in the reality of something it cannot explain – material itself.

Whatever else it can do, materialism cannot tell us is what material things actually *are*. Science as inherited from Galileo is very well able to describe things. The descriptions are necessarily how material things (matter, energy) interact with other things (for example, with measuring instruments or with each other). The descriptions, then, tell us what things *do.* But however good such descriptions are – and Galileo would no doubt be amazed at just how good they are at predicting

behavior – they say nothing about what things essentially *are*. To express it pithily if a little technically: physics describes the *extrinsic* properties of matter but has nothing to say about its *intrinsic*, inner nature (25) Goff illustrates the difference by considering a chess bishop. Knowing what a chess bishop does (it moves diagonally, its extrinsic property) tells us nothing about what it is made of (eg, wood or plastic, its intrinsic nature). (26) Magritte's famous 'non-pipe' illustrates the same point.

This major lacuna of science was recognised a hundred years ago (around Magritte's time) by the British philosopher Bertrand Russell and Einsteins's collaborator, the astronomer Arthur Eddington. Drawing on Russell's book *The Philosophy of Matter* and the new ideas of their contemporary Alfred North Whitehead, Eddington argued that the intrinsic nature of matter is consciousness (27), which leads us neatly on to the third possible way of explaining consciousness; panpsychism. (28)

Panpsychism

Simply put, panpsychism is the view that 'consciousness is fundamental and ubiquitous in nature' This is how the editor of a recent anthology of the subject, *The Routledge Handbook of Panpsychism*, introduces it. However, he goes on to acknowledge that: "It is undeniable that panpsychism is intuitively implausible." (28)

But is this really the case? Sheldrake remarks that:

> "Panpsychism is not a new idea. Most people used to believe in it, and many still do. All over the world, traditional people saw the world around them as alive and in some sense conscious or aware: the planets, stars, the earth, plants and animals all had spirits or souls." (29).

Panpsychism at first glance seems to be a theory of the world akin to animism and polytheism (30). Polytheism has of course long been rejected by the monotheistic religions, whilst animism is regarded as a primitive belief by modern westerners – okay in children's stories but not to be taken any further (31). It is little wonder that advocates of panpsychism have found it difficult to get a hearing and even now, Harris says, it "still carries the stink of the New Age". (32)

So why should this revolutionary theory now be entertained by mainstream scientists and philosophers? Goff offers two arguments in its support.

First off, TINA, as Margaret Thatcher used to say to justify policy: there is no alternative. (33) If we acknowledge that matter must have an intrinsic nature, and also accept that consciousness is real, then it has to integrate with the rest of reality. Consciousness as the intrinsic property of matter therefore plugs the hole at the centre of our scientific story (34). Secondly, we all know an actual example of matter whose intrinsic property is consciousness: our own brains. The simplest hypothesis is therefore that consciousness is also the intrinsic nature of all other matter. (35)

Additionally there is growing empirical support for panpsychism. Consciousness was traditionally thought to be confined to animals, but recent research has demonstrated that plants have memory and can exhibit purposeful behaviour (36) This suggests that they have a form of consciousness (which may trouble vegetarians and vegans, Goff notes as an aside).

As for the so-called inanimate realm, Goff brings the example of quantum entanglement. Quantum entanglement is an extraordinary and puzzling phenomenon in which the behaviour of two sub-atomic, quantum particles can be shown to be correlated even though they are so widely separated that no signal can pass between them even at the speed of light (the separation can even be millions of light years). An explanation could be that both particles share a common source of consciousness (37). There is also the idea that electrons are guided by information (they are 'in-formed') and this receptivity to information can be seen as a form of consciousness (38).

There is panpsychism and there is panpsychism

However, while all panpsychists philosophers share the belief that consciousness is inseparable from matter there are differing ideas about how consciousness integrates with it. There are two broad sorts of explanation: bottom-up and top-down.

The bottom-up theory is called 'micropsychism' It is a theory compatible with the general, analytic methodology of science, referred to as 'smallism', that is "… the view that facts about big things are grounded in facts about little things, e.g., the table exists and is the way it is because the particles making it up are related in certain extremely complicated ways.' (39). So micropsychism tries to explain a larger consciousness such as a brain in terms of the consciousness of its individual neurons. But how is this achieved? This is the combination problem which Goff tells us is '… currently the main focus of the panpsychism research program.' (40).

He goes on to sketch the work that is being done to solve the problem. One is way is relatively straightforward, the attempt to explain how how individual 'blocks' of consciousness can be assembled into bigger wholes with a bigger consciousness. A more sophisticated solution requires understanding that a whole can be '…more than the sum of its parts'.(41) How this could work requires Goff to be more technical than usual, involving the reader coming to terms with 'emergenist panpsychism' and the Integrated Information Theory of consciousness (42).

Perhaps the details do not matter too much because there is another way to deal with the combination problem: dissolve it by substituting another problem for it. Rather than trying to grasp how consciousness builds up, consider instead how it might devolve down. This is 'cosmopsychism', an alternative understanding of how consciousness integrates with matter; it is the top-down one. This is more radical as it runs counter to the long-standing credo of 'smallism'. Here consciousness does not develop out of basic elements but appears in matter having come down

from a larger consciousness. Rather than smallism, explanations are sought in holism. As Goff explained in a recent article:

> "… a number of scientists and philosophers of science have recently argued that [the] 'bottom-up' picture of the Universe is outdated, and that contemporary physics suggests that in fact we live in a 'top-down' – or 'holist' – Universe, in which complex wholes are more fundamental than their parts. According to holism, the table in front of you does not derive its existence from the sub-atomic particles that compose it; rather, those sub-atomic particles derive their existence from the table. Ultimately, everything that exists derives its existence from the ultimate complex system: the Universe as a whole." (43)

So my consciousness has come down from a larger 'cosmic consciousness', and my consciousness is devolved in turn to the components of my brain.

There is no combination problem but there certainly are problems. How does cosmic consciousness, a unified whole, devolve? Why would it do so? And if my consciousness is piece of this cosmic consciousness, why does it feel as if my consciousness is my own, not a part of something very much bigger?

These are the questions that now appear to be central because cosmopsychism has recently become much more the focus for panpsychist thinkers. A sign of this is Sheldrake's description of panpsychism cited above. Back in 2012 when his words appeared his account of panpsychism seemed close to polytheism; cosmopsychism was not mentioned. Now Goff himself states ' … there is increasing attention being given to the 'top-down 'version of … panpsychism: … Cosmopsychism – All facts – including the facts about [human] consciousness – are grounded in consciousness-involving facts concerning the universe.' (44). This is the version Goff supports; he now explicitly rejects micropsychism (45).

Why have philosophers turned away from micropsychism? Was it because of the intractability of the combination problem? That was significant but perhaps more essential was the recognition that there was actually nothing to combine.

The fact is that it is not matter all the way down. The search for the ultimate stuff out of which reality, the physical world is composed has yielded the surprise that there is none to be found. Matter simply does not exist.'It turns out that matter is nothing at all like 'matter 'was supposed to be,' Seager writes. Instead "Our best quantum theory asserts that fundamental reality is composed not of material particles at all but rather strange universal fields, the temporary excitations of which can appear to our experiments as particle-like apparitions." (46) So Chalmers concludes, "…there are no fundamental micro-entities to be realized by microsubjects, and there are no fundamental properties possessed by these entities to be realized by microexperiences." (47) The absence of

matter would also seem to be an additional and fundamental objection to all materialist theories of consciousness.

If there's nothing down there, then consciousness cannot emerge from the micro depths. But given that consciousness is real it has to come from somewhere, and if not below then from above. But as anticipated, imagining the source of consciousness to be the cosmos yields its own problems.

To begin with, how are we supposed to grasp the idea of cosmic consciousness, something which somehow is the sole reality? Shani says that 'the absolute can be likened to a vast, dynamically fluctuating ocean.. this ocean has two complementary sides: concealed and revealed…. its revealed side … appears as what, in common parlance, we identify as physical nature. The concealed side, however, is presumed… to be a vast ocean of consciousness.' (48). Kastrup likens absolute reality as an 'oscillating membrane' (49) Mathews simply says it is a field (50). Goff puts forward a theory, in which spacetime is not considered to be an empty container within which material objects are located and forces play out; rather spacetime is the *only* reality. So called objects are actually 'massy' regions of spacetime … 'formless consciousness' is the intrinsic nature of spacetime, while ordinary consciousness is the intrinsic nature of the massy regions. (51)

Chalmers has a difficulty with the idea of a cosmic consciousness, what he calls the 'austerity problem'. "The issue here is that the cosmic mind in the present picture …looks extremely austere, and very much unlike a mind as we normally think of it… There seems to be little or no rationality in this structure. There seems to be very little thinking, valuing, or reasoning. It is not really clear why, if there is to be a cosmic mind, it should be as austere as this." (52)

Why would an austere, 'formless conscious' bother to reveal itself? (53) And how could it do so? This is the decomposition problem. Mathews does not recognise such an austere 'Self'. Rather he sees the cosmic consciousness Self being characterised by meaning. For this meaning to be brought out, communication is necessary. 'Interaction with (real though relative) finite selves constellated through Self-differentiation on the part of the cosmic Self offers the only opportunity of exchange for such a Self.' (54) Shani explains devolution from the absolute to the relative subjects in terms of 'perspectives'. Each relative subjects (i.e. conscious beings such as ourselves) enjoy a unique perspective or outlook on reality not otherwise available to the absolute. Kastrup regards the desire by the absolute for 'self-reflective awareness' as the explanation for its devolution. Furthermore we exist not just to receive knowledge but to generate it. (56).

The relative selves can be regarded as vortices in the ocean of consciousness. (57). Necessarily the devolved, relative selves have "… a cognitive illusion that makes the nature of consciousness appear intrinsically confined to the focal perspective of a personal subject." (58). Thus though intimately and essentially an aspect of the absolute, cosmic consciousness, we regard ourselves as

separate from it. The illusion of duality can perhaps be overcome through meditation or found within eastern traditions (59).

Consciousness and the theory of life

Try to imagine that panpsychism has become the normal, commonly accepted way of seeing reality. That is not easy because we have all grown up in a world in which, at best, matter and consciousness are understood to be separate. But if all matter, all of nature, were regarded as having intrinsic worth then Goff imagines that there would have to be a new covenant with nature. Rather than the exploitive one that Francis Bacon bequeathed us, the commitment would be to caring for the world. Panpsychism could therefore have a vital role in dealing with environmental crises such as global warming (60).

A perennial question for philosophers, if not for each of us, concerns the issue of free will. Is it an illusion or are we autonomous and so responsible agents? This is a big question which Goff does address, albeit relatively briefly considering its significance. He asks, can panpsychism be reconciled with free will? Whether micro- or cosmopsychist, does panpsychism imply that although we are conscious our thoughts are not our own? He concludes that the consciousness which is part of us, or of which we are, a part inclines us to actions but does not determine them. We are free. (61)

Accepting consciousness as the foundation of reality has very significant implications for epistemology, our understanding of what counts as knowledge. Currently, of course, that means knowledge acquired by the methods of science. Acknowledging panpsychism involves understanding that there are limits to what can be known using these methods (62). This in turn suggests that other methods need to be developed or accepted, such as the dreaming of Australian aboriginals and other practices of traditional cultures (63). The already familiar techniques meditation and mindfulness would be better understood and appreciated. Both these and the more foreign ones of indigenous peoples can reveal not only knowledge of what things are but also unveil answers to questions of morality. Goff gives the example of what mysticism can offer. The mystical experience of directly encountering the universal consciousness which we all share makes nonsense of selfish conduct, he argues (64).

It is impossible here to detail the consequences that such a radical change in the world view will bring about. Galileo could surely not have imagined quantum mechanics, Netflix or global warming. But even to get a glimpse of what a paradigm shift entails is barely possible because it is analogous to a gestalt switch. Try, for example, to experience the ground under your feet as not being solid material but as a massy region of consciousness; your chair as ‘an abode of consciousness’ (65) and yourself as ‘a particular protrusion of the membrane of [cosmic] mind’ (66). Such ways of knowing reality is what panpsychism enjoins. Abandoning the comfortable

familiarity of the material world won't be easy but if panpsychism is right, for the sake of the world and ourselves we need to do so.

Conclusion

Since the birth of quantum physics a century ago, scientists have been trying to tell us that we do not live in a material world. Interviewed for this magazine Vasileios Basios cited Max Planck as a foremost example of someone conveying the message, 'Planck saw consciousness not as an epiphenomenon of the brain', Vassos explained, 'but a fundamental reality behind the matrix of reality – meaning, behind the reality of everything we encounter.' (67) Why has the message not been heard?

Goff identifies Galileo as the culprit. Whatever his particular role, and there were others such as Descartes, treating reality as if it is material has by many measures been successful. So it is understandable that giving up this self-reinforcing belief would be resisted. Now the real threats of global warming and the most recent one posed by a pandemic are not whispers but are shouts at us to review our most trusted theories and values.

The review will be radical. Thanks to philosophers like Nagel, Chalmers and Goff consciousness has come in from the dark, or out from the deep shadow cast by materialism. In retrospect it may already seem extraordinary that consciousness was so long ignored given that it is, as Goff wrote, 'the only thing we know for certain is real' (4). What has emerged now that they and many other philosophers have focussed on 'the Problem of Consciousness' this century? Nothing less than that consciousness has to be restored to its rightful principal place in ontology, our understanding of reality.

Their work shows that there is little place for materialism. There is no need to ponder how body and mind interact because there is no body. Nor is there need to wonder how consciousness could emerge from matter during the course of evolution or from within a brain because there was never anything there to emerge from. There is only consciousness.

Initially panpsychist philosophers were tempted by the traditional approach of science, atomism and reductionism — or 'smallism' (68). They tried to contemplate larger forms of consciousness, such as the human, as somehow being an assembly of smaller elements of consciousness. That path has proved fruitless, reaching only the dead ends posed by the combination problem and, thanks to the physicists, the realisation that reality's depths are not material.

So now philosophers are looking up. Individual consciousness, and indeed all that appears to be material, derives from the largest of consciousnesses, in fact the only consciousness, the universal cosmic consciousness (69). This is an astonishing conclusion. To describe it as 'implausible' seems restrained and the 'stink of the New Age' inadequate.

Nevertheless shooting messengers or simply ignoring them cannot affect the truth of the message. The philosophers will continue reflecting and probably will widen and deepen their search as they endeavour to articulate an appropriate metaphysics of consciousness. We are likely to be hearing more of Whitehead and process philosophy in the future for example. As philosophers there is a reluctance to consider theistic sources. However, regarding the absolute as formless and austere is unlikely to yield explanations for the richness of devolved existence. There are signs that some may overcome their trepidation (70). They may recognise correspondences between these early strivings of panpsychist philosophers and the metaphysics of Ibn 'Arabi. (71)

Right now panpsychism and studies of consciousness remain of interest to a minority of philosophers and scientists within their ivory towers. But ideas filter out. Galileo was once a lone and condemned voice. Goff's own prediction is that "In twenty years' time the idea that panpsychism can quickly be dismissed as 'crazy' will seem, well, crazy" (72). He concludes:

> "Panpsychism offers a way of 're-enchanting' the universe, …[it] can help humans once again … feel that they have a place in the universe. At home in the cosmos, we might begin to dream about — and perhaps make real — a better world." (73)

I cannot quarrel with the dream instead I say Amen to that.

Notes and references

1. Harris, p.81
2. '*2019: A Great Year for Panpsychism*', 29 December 2019, Conscience and Consciousness https://conscienceandconsciousness.com/
3. Nagel (2012) p.53
4. Goff (2019) p.4. This essay was inspired by my reading of Goff's book, *Galileo's Error.* This book is Goff's attempt 'to convey to a broader audience 'new thinking about consciousness (p.121-2). It is based upon his earlier, more academic and technical work *Consciousness and Fundamental Reality* (Goff, 2017) . In *Galileo's Error*, Goff keeps it simple as far as he can. The language is lively, there is humour and helpful analogies conjured up to make what might seem obtuse clear. It is not quite bedtime reading, the reader needs to keep focussed, but any effort will be well rewarded. Because of its accessibility I will frequently cite or refer to *Galileo's Error* here. Philip Goff has website where you can learn more about him and his research: https://www.philipgoffphilosophy.com/
5. Harris, p.65
6. Goff (2019) p.5
7. Goff (2019) p.19
8. Goff (2019), pp. 21-2).
9. Chalmers 1995 p.2)
10. Goff (2019), pp.30-1)

11. Goff (2019), p.77 and Seager, p.7
12 Sheldrake quoting Galen Strawson, p.114
13. Chalmers 1995 pp.7-8)
14 Goff (2019), p.27
15. Sheldrake pp. 110-111
16 Goff (2019) p.41
17. Goff (2019) p.46
18, Goff (2019) p.48
19. Nagel (2012) describes this faith and finds it 'puzzling', pp.18-20
20. Chalmers 1994 conference presentation formed the basis of his subsequent 1995 paper. The citation here is from the 1995 paper, p.4.
21. Goff,(2019) pp.71-5.
22 Nagel, 1974
23. '… it remains the case that we are the products of the long history of the universe since the big bang, descended from bacteria over billions of years of natural selection….Our own existence presents us with the fact that somehow the world generates conscious beings…. We don't know how this happens… The existence of conscious minds …[is something] a theory of the world … has yet to explain.' (Nagel 2012 pp.30-1)
24. Nagel (2012) p.41.
25. Goff (2019), pp. 124-9. Naydler (2018) comments on the problem electricity posed and poses for science. Scientists, he remarks, have described ever better what electricity does: "however, the appeal to the electrical structure of matter does not leave us any the wiser about what electricity actually *is*." (p.276. original italics) See also the review of Naydler by Gault (2019)
26. Goff (2019), p.126. The essential and vital difference between the extrinsic and intrinsic features of matter was recognised by Alfred North Whitehead a century ago. Whitehead was a distinguished British mathematician (he co-authored the classic Principia Mathematica with Bertrand Russell) turned philosopher. His criticism of materialism runs something like this. What is a banana? We describe it in terms of its (extrinsic) qualities, for illustrative brevity, 'a banana is yellow and bent'. So there appear to be two sorts of things, the subject (the banana) and its qualities. Now imagine stripping these qualities away in order to get at the actual, intrinsic substance, the banana itself. According to Whitehead, you cannot do this. Remove the qualities and you are left with nothing – no material thing anyway. A thing which lacks qualities, not yellow, not bent, nor anything else is not a material substance. See Mesle p.46.
27. Eddington (1928)
28. A good introduction to panpsychism is this 40-minute youtube video: *The Metaphysics of Panpsychism* https://www.youtube.com/watch?v=6Uy5—mOGgC8
28 Seager, p.1. Pylkkänen (p.287) expresses it this way: '… the doctrine is just very implausible. Note in particular how the arguments against panpsychism appeal to our intuitions about elementary particles. It is assumed to be obvious that electrons cannot make decisions, nuclei cannot harbour intentions,

photons cannot have sensory experiences, intentional states or existential Angst, and atoms cannot have proto-mental properties. Thus, anyone who feels the pull of panpsychism but also shares these common anti-panpsychist intuitions is likely to experience bouts of panphobia.' For an example of a rejection of panpsychism see Frankish (2016). However, note that he writes of a particular form of panpsychism, micropsychism, a form rejected by Goff himself as shown later (note 45).

29. Sheldrake, p.116. Sheldrake gives a good outline of the history of panpsychism from ancient times to the twentieth century (pp.115-22). This goes from 'primitive' polytheism via Ancient Greece, medieval Europe, some of the foremost thinkers since the start of the scientific revolution such as Spinoza, Leibniz, Diderot, Schopenhauer and Bergson before reaching Whitehead (his list is not exhaustive, missing for example William James and more recently David Bohm). So the idea of matter being imbued with consciousness never completely disappeared but remained peripheral in recent western thinking.
30. Nagasawa, p.261
31 'Among educated people, in the world of work, business and politics, nature is mechanistic, an inanimate source of natural resources, exploitable for economic development. Modern economies are built on these foundations. On the other hand, children are often brought up in an animistic atmosphere of fairy tales, talking animals and magical transformations.' Sheldrake, p.39
32 Harris, p.82.
33. Goff 2019, pp.132-3.
34. Goff 2019, p.132
35. Goff 2019, pp.134.
36. Goff 2019 pp.191-5. The idea that trees are conscious, social beings is brought out in Wohlleben (2016)
37. Goff 2019, pp.154-60
38. Pylkkänen elaborates the ideas of David Bohm. 'The idea is that the electron is moving under its own energy that is being in-formed by the quantum field. Bohm proposed that this is an instance of a general feature of active information that we see operating at many levels of nature.' (p.291). Pylkkänen continues, '… the idea that information is a mind-like quality is one of the key options in contemporary discussions about the nature of mental states.' (p.292) This lead to an '… argument for panpsychism [that] has to do with the relation between consciousness and information. The idea is that an important function of consciousness is to integrate information and to monitor external and internal states.' (p.296)
39. https://plato.stanford.edu/entries/panpsychism/#MicrVersCosm This links to an explanation of smallism but the site offers much more on panpsychism including discussion of topics not covered in this essay, in particular Russellian monism.
40. Goff (2019) (p148). Seager also acknowledges this, 'The most vexing difficulty facing panpsychism is the so-called 'combination problem ' (Seager, p.8) as does Mendelovici. 'Perhaps the most pressing worry for panpsychism is the combination problem, the problem of explaining how the hypothesized microexperiences combine to form macroexperiences….' (Mendelovici, p.304). It is basically an unsolved problem - the hard problem of panpsychism. Mendelovici has a novel take on the combination problem. It cannot, she suggests, be solved in principle. However, this does not weaken the case for

panpsychism because the alternative, materialism, has its own, and more significant unsolvable problems.

41. Goff (2019) p.163
42. Goff (2019) pp.(161-9).
43. Goff (2018) and also Goff (2020) where he describes the top-down, holistic approach as 'priority monism' (p.148)
44. Goff (2020) p.144
45. Having examined micropsychism, Goff concludes 'it should be rejected' (Goff 2020, p.151)
46. Seager (2020) pp.4 & 5. Seager cites a range of physicists to support his statement. For accessible accounts of the non-material ground of reality see Carlo Rovelli (2017) and Amanda Gefter (2014). Gefter's hunt for the invariant basis of reality (i.e. a feature of reality which is not observer dependent) is a frustrating one for her. She discovers that it is 'nothing'. Recall too that Whitehead had concluded that the concept of substance was a misapprehension (see note 26).
47. Chalmers (2020) p.363
48. Shani (2015) p.411
49. Kastrup (2014), Ch 6
50. Mathews (2020) , p.137
51. Goff (2019) p.208
52. Chalmers (2020) p.368
53. Chalmers (2020) p.366 ' … one can conceive of the cosmic subject with all of its cosmic mental states without any further distinct subjects, and in particular without any macrosubjects [i.e. conscious beings, humans]'.
54. Mathews (2020) p.138. Kastrup (p.208) also sees meaning as central and quotes Lao-tzu's description of the Tao:

    'There is something formless, yet complete
    That existed before heaven and earth.
    How still! How empty!
    Dependent on nothing, unchanging
    All pervading, unfailing.
    One may think of it as the mother of all things under heaven.
    I do not know its name,
    But I call it "Meaning'.
55. Shani (2020) Section 7.3, pp.422-8.
56. Kastrup (2014) p172 and p.176
57. Mathews p123, Shani pp.414-8, Kastrup, p.114.
58. Albahari (2020) p.120 and Shani ' ' … each relative subject enjoys an individual sense of selfhood … despite the fact that … all core-selves are grounded in an undivided universal selfhood.' (p.427).
59. Albahari (2020) draws on Advaita Vedanta tradition, p.119; Shani (2015), says that 'cosmic consciousness is on par with the Vedic notion of *pure consciousness.*' (p.412) and in his note 38 he

notes a correspondence between his ideas and those of 'the classic Hindu doctrine of the Atman' (p.427); Chalmers (2020) refers to Buddhism and the 'so-called "non-dual" views of experience in the Eastern traditions' as offering ways of resolving some of the problems he describes for cosmo-idealism' (pp.367-8). Schwartz (2019) argues that it would lead to 'well-being' rather than profit becoming the priority, which in turn would revolutionise thinking about agriculture , use of carbon fuels and genetic engineering.

60. Goff (2019) pp.184-91. Freya Mathews considers in some depth how panpsychism could affect and effect our relationship with the world, its nature and our environment. She concludes that ' …we may expect to discover in the fabric of reality a normative grain or intimation of how to live.' (Mathews, p.139).
61. Goff (2019) 195-205.
62. Harris (2018 p 98-9) quotes Rebecca Goldstein: 'Mathematical physics has yielded knowledge of so many of the properties of matter. However, the fact that we material objects have experiences should convince us that it cannot, alas, yield knowledge of them all. Unless a new Galileo appears, who offers us a way of getting at properties of matter that need not be mathematically expressible, we will never make any scientific progress on the hard problem of consciousness.' It should also be stressed that panpsychists generally do not dispute the successes of science. Chalmers in particular explains that panpsychism is 'motivated through the success of science' (p.360 and p.364). The baby need not be thrown out with the bath water.
63. Mathews (2020, pp.140-1) outlines how indigenous peoples, such as the Aboriginals, listen to how 'the world speaks' and so learn about it; Kastrup (2014, pp.186-7) describes how within traditional cultures shared, '*empirical* observations' (his emphasis) of the 'other world' were recorded. Pollan looks at how now, in the West, we can change our minds (to paraphrase him) and move toward 'the future of consciousness'. His advocacy of psychedelics certainly carries the stink of the New Age.
64. See Goff (2019) p.213. The knowledge the aborigines gather, as described by Mathews (see previous note), includes 'the Law'.
65. Shani (2020), p.418
66. Kastrup (2014), p.147
67. Basios (2017)
68. In introducing his seminal paper Shani explains that '… cosmophyschism … in its holistic commitments functions as an alternative to the atomistic thinking which dominates work on panpsychism in contemporary analytic philosophy.' (Shani, 2015, p.390).
69. This essay is an attempt to distil recent and current thinking about the origin and reality of consciousness. As a distillation many details have been glossed over. For example, I have presented panpsychism as having two forms, micropsychism and cosmopsychism. In practice there are many more divisions. For example, and in particular, Chalmers (2020) distinguishes between cosmopsychism and cosmic idealism (p.363). 'The key respect in which cosmic idealism goes beyond … cosmopsychism is its purity: it holds that all (and not merely some) fundamental properties of the cosmic subject are mental.' (p.364). Chalmers also discusses an analogous micro idealism. He concludes, 'I think cosmic idealism is the most promising version of idealism, and is about as promising as any version of

panpsychism.' (p.369). Kastrup (2015) is much more direct. He is a committed philosophical idealist. So sees any form of panpsychism as a danger because in his view each retains a misguided belief in material reality. The distinction between (panpsychist) theories in which consciousness exists within material things and (idealist) ones in which the material itself is a mental manifestation is not always clear. Rather than extend the main text, I have deliberately kept it simple but at the possible cost of misleading by consistently using the terms micro- and cosmopsychism where Chalmers would generally have distinguished occasions where they are correct and others where micro or cosmo idealism were more proper. The conclusions of this essay clearly favour cosmo idealism.

70. Chalmers (2020) introduces cosmo idealism as 'the thesis that all concrete facts are grounded in facts about the mental states of … a single cosmic entity, such as the universe as a whole or perhaps a god.' (That he writes of 'a god' rather than 'God' when he is considering 'a single cosmic entity' reveals something of the philosopher's wariness.) Nagasawa (2020) considers the parallels between cosmopsychism and pantheism. They are clearly distinct: '… pantheists are likely to identify the phenomenality of the cosmos with the phenomenality of God …Yet some cosmopsychists might reject the existence of a higher self and postulate the phenomenality of the cosmos as a whole without assuming the self as its bearer.' (p.262). Recall also note 59.
71. For example, Ibn 'Arabi distinguishes the extrinsic aspect of phenomena, their outer, material appearance, and their intrinsic, hidden inner essence (*Khalq* and *Haqq* - *s*ee Affifi, p.11). The explanations by cosmo psychist philospsphers for the devolution of cosmic conscious, its desire for self revelation (recall notes,54,55 and 56) is central in Ibn 'Arabi's metaphysic (Affifi, pp.30-2).
72. Goff (2019) p.172. Nagel has a similar intuition. 'I would be willing to bet that the present right-thinking consensus will come to seem laughable in a generation or two …' Nagel (2012) p.128
73. Goff (2019) p.217

Bibliography

A.E. Affifi (1998) *The Twenty-Nine Pages: an introduction to Ibn 'Arabi's metaphysics of unity,* Beshara Publications, Roberton, Scotland

Miri Albahari (2020) 'Beyond Cosmopsychism and the Great I Am: How the World Might be Grounded in Universal 'Advaitic 'Consciousness' in Seager (2020) 119-30.

Vasileios Basios (2017) 'The century of complexity' *Beshara Magazine,* 6, https://besharamagazine.org/science-technology/dr-vasileios-basios-the-century-of-complexity/

David Chalmers (1995) 'Facing up to the problem of consciousness' *Journal of Consciousness Studies* 2, no. 3 (1995): 200−19. Available via this link: http://www.cogprints.org/316/1/consciousness.html

David Chalmers (2020) 'Idealism and the Mind-Body Problem' in Seager (2020) 353-73.

Arthur Eddington (1928) *The Nature of the Physical World,* London, Macmillan

Keith Frankish (2016) 'Why panpsychism is probably wrong', *The Atlantic* https://www.theatlantic.com/science/archive/2016/09/panpsychism-is-wrong/500774/

Richard Gault (2019) 'Consciousness and the Computer', Beshara Magazine, https://besharamagazine.org/newsandviews/consciousness-and-the-computer/

Amanda Gefter (2014) *Trespassing on Einstein's Lawn,* Bantam Books, New York

Philip Goff (2017) *Consciousness and Fundamental Reality*, New York, OUP

Philip Goff(2018) https://aeon.co/essays/cosmopsychism-explains-why-the-universe-is-fine-tuned-for-life

Philip Goff (2019) *Galileo's Error: Foundations for a new science of consciousness,* Rider, London

Philip Goff (2020) 'Cosmopsychism, Micropsychism and the Grounding Relation' in Seager (2020) 144-56.

Annaka Harris (2019) *Conscious: a brief guide to the fundamental mystery of the mind.* Harper. Kindle Edition.

Bernardo Kastrup (2014) *Why Materialism Is Baloney* iFF Books, Winchester UK and Washington USA

Bernardo Kastrup (2015) 'The threat of panpsychism; a warning' https://www.bernardokastrup.com/2015/05/the-threat-of-panpsychism-warning.html

Freya Mathews (2020) 'Living cosmos panpsychism' in Seager (2020), 131-43

Angela Mendelovici 'Panpsychism's Combination Problem Is a Problem for Everyone' in Seager (2020) 303-16.

C.Robert Mesle (2008) *Process-Relational Philosophy: an introduction to Alfred-North Whitehead,* Templeton Press, West Conshohocken, PA,

Yujin Nagasawa (2020) 'Panpsychism Versus Pantheism, Polytheism, and Cosmopsychism' in Seager (2020), 259-68.

Thomas Nagel (1974) "What is it like to be a bat?" *Philosophical Review* 83, no.4, 435-50

Thomas Nagel (2012) *Mind and Cosmos,* Oxford University Press

Jeremy Naydler (2018) *In the Shadow of the Machine: a prehistory of the computer and the evolution of consciousness*, Forest Row, Temple Lodge Publishing.

Michael Pollan (2018) *How to Change Your Mind; The New science of Psychedelics,* Allen Lane, UK.

Paavo Pylkkänen (2020) 'A quantum cure for panphobia' in Seager (2020) 285-302

Carlo Rovelli (2017) *Reality is not what it seems,* Penguin Books I

Stephen Schwartz (2020) ‘What would the world be like if the matrix of consciousness were recognized’, Explore, 16, 81-84

William Seager (ed) *Routledge Handbook of Panpsychism*, London, New York: Routledge,2020

Itay Shani (2015) ‘Cosmopsychism: A Holistic Approach to the Metaphysics of Experience’, *Philosophical Papers*, 44:3, 389-437

Rupert Sheldrake (2012) *The Science Delusion: Feeling the Spirit of Enquiry* Hodder & Stoughton. Kindle Edition.

Peter Wohlleben (2016) *The Hidden Life of Trees,* Greystone Books, Vancouver ISBN978-1-77164-4