

No Ontological Leaps: A Primer on Scientific Materialism

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Abstract: When the issue is intelligence in nature, arguments about whether science supports neo-Darwinian theory or intelligent design miss the point. The details of evolution or the structure of the brain are irrelevant because biology and neuroscience have nothing to say about consciousness. Science informs us only about the *physical* world. However, consciousness/mind/intelligence is *non-physical*, and no amount of evolution or complexity of purely physical processes could ever produce anything non-physical. There are no ontological jumps. You don't get something from nothing—or, more precisely, you don't get “no-thing” from anything. How, then, do we account for the fact that consciousness exists in an otherwise physical universe? It all comes down to our basic metaphysical beliefs.

Keywords: Consciousness, dualism, emanation, emergence, idealism, interaction, materialism, ontology, panpsychism, performative contradiction, philosophy of mind.

Every truth passes through three stages before it is recognized. In the first place it is ridiculed. In the second it is opposed. In the third it is regarded as self-evident. — *Arthur Schopenhauer*

My focus here is whether evolutionary science—or, more accurately, its philosophical underpinnings—can account for the experiential fact that consciousness exists in an otherwise physical universe.

Looking for evidence of intelligence or intention in nature by arguing over details in the data or theory of evolution is a fool's errand. It is an impossible dream, just like searching for the location of mind in the brain. Getting sidetracked in the minutiae of biological or paleontological evidence misses the simple fact that no amount (or lack) of physical evidence can inform us about non-physical mind or consciousness.

Promissory Materialism

The standard, almost unquestioned, belief in mainstream science and philosophy today is that materialism (i.e., neuroscience) can, or one day will, explain how mind could emerge from

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wholly mindless matter. However, despite this great faith in the explanatory power of neuroscience, the fact remains that materialism completely fails to account for such a “miracle.” This belief that mind can be reduced to, or explained by, physical events is merely a statement of faith, not science—because not the slightest trace of empirical evidence or rational argument supports or explains such emergence. I lay out the details in my book *Radical Nature* (de Quincey, 2010). Exposing scientific faith in the miracle of ontological emergence typically requires a return to “Metaphysics 101”—an attempt to get people to think through more carefully the implications of their basic assumptions about the fundamental nature of reality.

I’d like to make something very clear: I am no less free of basic metaphysical assumptions than anyone in the materialist camp. We all, necessarily, begin any contemplation or investigation of the world with some set of fundamental metaphysical assumptions. That’s a given. It’s unavoidable.

What good philosophy does (and good science should do), however, is lay bare those assumptions, and examine them to see (a) if they are internally coherent (rationalism), and (b) if they are consistent with the actual world revealed through experience (empiricism).

Then we ask: Which set of fundamental metaphysical assumptions best “cashes out”—which metaphysical propositions best fit what we actually know about the world? What, in short, is the most “likely story”?

I base my case for “radical naturalism” (panpsychism) on a metaphysical assumption best summed up colloquially as “nothing comes from nothing” or “you can’t get something from nothing”—no free ontological lunches. If you start with a mindless universe, then that’s all you’d ever get.

Four Major Worldviews

I have spent a career in philosophy focused on examining and evaluating the various alternative metaphysical starting points to see which one best accounts for the fact that we are embodied beings with consciousness. Technically, in philosophy, it’s called “the mind-body” problem. Despite multiple variations, all ontological positions on the mind-body issue resolve into just four alternatives: dualism, materialism, idealism, and panpsychism. All, except panpsychism, fail the two-part test outlined above: rational coherence, and consistency with experience.

Dualism

This claims that the fundamental nature of reality consists of two radically different and separate kinds of substance (extended matter and non-extended mind), and is a non-starter. Notoriously, it runs into the hoary problem of interaction. How could two radically different and separate substances ever come together and influence each other? Nobody has succeeded in explaining that. In short, it would require some kind of miracle.

Materialism

Recognizing the insuperable problem facing dualism, materialism lops off half of reality and claims that the ultimate nature of existence is purely physical (energy/matter). That's one way to avoid the interaction problem. It's an understandable and pragmatic strategy, and it has worked well as a foundation for exploring the physical aspects of the natural world. But it fails utterly to explain the undeniable fact of experience, of consciousness itself. Given its starting point, materialism is forced to claim that consciousness must have "emerged" from purely non-conscious precursors. But such emergence is unaccounted for (and unaccountable) either through science or philosophy.

In fact, "emergence" of mind from wholly mindless matter would also require a miracle—and miracles (supernatural interventions) are precisely what materialism rules out. This leaves materialism in an embarrassingly awkward position: in order to be true, it must be false! Unaware of this lurking logical bomb, materialists continue to believe that science can explain how consciousness emerged from purely mindless matter. Of course, science can do nothing of the sort. Neither science nor philosophy can even begin to explain how wholly physical, objective ingredients could ever produce non-physical, subjective minds.

Idealism

This is the direct opposite of materialism. It claims that the ultimate nature of reality is pure spirit (consciousness/mind) and that what we call "matter" is either (a) an illusion, or (b) something that "emanates" from pure spirit. The notion that real matter could "emanate" from pure spirit is just as incoherent as the materialist conceit that mind could "emerge" from wholly mindless matter. Such an ontological "jump" would also require a miracle. (However, the possibility of miracles is not such a problem for idealists—for whom everything is ultimately supernatural). But miracles have no place in science or philosophy because they explain nothing. Miracles are gaps in explanation.

That leaves us with the second option called "maya idealism." Here, the reality of matter is denied, and assumed to be nothing but an "illusion," a concoction in consciousness. This position is logically irrefutable. (It is impossible to step outside mind to know or indicate a reality beyond mind. Everything known and knowable necessarily occurs in some mind.) However, even though logically unproblematic, maya idealism runs headlong into another kind of problem—a performative contradiction. Everyone who claims that matter is illusory necessarily lives (performs, acts, behaves) in the world as though matter is real. Every idealist I have met eats food, drinks water, wears clothes, lives in houses, avoids cars on the freeway, doesn't walk through walls . . . you get the idea. In short, maya idealists don't (and can't) walk their talk. That's a pragmatic problem, even if it isn't a logical one.

As I explored and analyzed the implications of these three ontological worldviews, they all turned out to be deeply problematic one way or another. Either they required a miracle (unacceptable if we want to explain an event) or their claim is contradicted by how they act. That leaves one final alternative . . .

Panpsychism

This worldview claims that ultimate reality is both physical and non-physical (it consists of objective matter and subjective mind) and that mind and matter are inseparable. Mind and matter always go together—all the way down.

Although acknowledging the existence of two ontological types (physical matter/energy and non-physical mind/consciousness), panpsychism differs from ontological dualism because it denies that mind and matter are separate or separable. In fact, of the four major worldviews, panpsychism alone qualifies as a form of nondual dualism or a dual-aspect monism. Here, ultimate reality consists of a single, inseparable, nature—sentient energy. However, this single ultimate has a dual-aspect interior subjectivity and external objectivity. In short, the Creative Ultimate consists of intrinsically sentient energy. Matter itself tingles with the spark of spirit.

Summarizing the central idea of panpsychism: *Consciousness is the intrinsic capacity of matter/energy to feel, know, and purposefully direct itself.*

This native ability of matter/energy to purposefully direct itself accounts for the inherent exploratory drive in evolution. In fact, what we call “evolution” is the grand adventure of matter/energy exploring its own potentials—giving rise to the blooming, buzzing symphony of species that grace our planet (and, no doubt, countless other planets and galaxies, too). Yes, evolution also proceeds through physical processes of unpredictable mutations and natural selection. But these physical changes are guided from within by a native “urge” or “aim” operating within nature itself at all levels.

A major problem facing this panpsychist ontology is that it seems so counterintuitive: “Are you seriously asking me to believe that even non-living things such as molecules and atoms have consciousness?” It seems incredible. But the idea of intrinsically sentient matter is boggling only to minds that have, mostly unconsciously, assumed the materialist metaphysic that matter is intrinsically “dead,” vacuous, or insentient. But why start with that assumption—given the one undeniable fact we can all be certain of: Consciousness exists. Descartes, bless his heart, at least got that one right.

Materialism simply cannot account for the fact that the universe contains sentient embodied beings (each of us knows this to be true at least in our own case).

When we realize that the “interaction” of separate mind and matter is untenable, and that there is no way to explain how mind could “emerge” from mindless matter or how real matter could “emanate” from pure mind, and if we wish to avoid a stark “performative contradiction,” we are left with a single alternative: The only foundational metaphysical assumption that “cashes out” and accounts for the world as we actually experience it is that both matter and mind are real and that neither is reducible to the other—panpsychism.

Something from Nothing?

Now I know that for many, perhaps most, people (especially scientists and philosophers) this can be a hard metaphysical nut to swallow. However, given the alternatives, panpsychism turns out to be the most “likely story.”

After all, other than a mental habit or intellectual prejudice, why would anyone automatically reject the idea that sentience or consciousness could be built into the very fabric of the universe? Think about that.

Look, as humans we experience ourselves as conscious embodied beings. How can we account for that fact? We are made of cells, molecules, atoms, and subatomic particles—that’s our embodiment. However, we also feel and experience and make choices. Given the failure of any of the other worldviews to account for these two fundamental facts, the only option is to assume that whatever we are made of (cells, molecules, atoms, etc.) must also have some form or degree of consciousness, too—all the way down. Otherwise, we face the problem of deciding where to place the “consciousness cut.” Anywhere you decide beyond this point, there’s no sentience, the same problem shows up over and over. If, for instance, you decide that consciousness could not exist in non-living things like atoms and molecules you are then at a loss to explain how living beings became conscious. How did subjectivity emerge from wholly objective things? Ontological jumps don’t happen without miracles. Quite simply: You can’t get something from nothing.

A Likely Story

Okay, that’s the general argument. Now to the specifics: Critics characterize panpsychism as an “untenable assumption.” By now, I hope it is clear that, on the contrary, panpsychism turns out to be the only tenable assumption. For example, one critic objected: “[panpsychism entails that] every particle of sand is sentient and has experience. I do not believe that that is the case. Sentience and experience, on the, by now, standard evolutionary account, have emerged gradually over millions of years, and are characteristic of complex organisms. A structural complexity of a certain kind is required for sentience or experience to exist.” (Barglow, 2010, personal communication).

Actually, panpsychism does not entail that “every particle of sand is sentient and has experience.” This objection misses a crucial distinction between “heaps” and “wholes,” between “aggregates” and “individuals.” I don’t have the space to go into that here, but suffice to say that my views entail that the individual molecules in each grain of sand have some form of sentience, even though the sand grain, or a rock, does not.

Critics who find it difficult to accept that something as small and as simple as a grain of sand could have sentience are even less likely to accept the notion of sentience in molecules. My point is that we are not made of grains of sand, but we are made of molecules and we are sentient—therefore it follows that whatever we are made of must be sentient, too (remember there can be no “consciousness cut” without an ontological jump).

Given their faith in emergence, it is understandable that materialists are not troubled by the idea of a consciousness cut—a level of reality below which (or stage in evolution before which) mind was entirely absent from nature. Therefore, they assert, mind must have emerged from wholly mindless precursors. After all, they claim, we know from numerous other physical processes that emergence happens all the time. But that belief is based on faulty assumptions about the nature of emergence. The claim that sentience and experience have “emerged gradually over millions of years” and that this is explained by the “standard evolutionary account” is simply not true. Not a single scientific paper or theory exists that even begins to explain how sentience emerged. The plain fact is that evolutionary biology has literally nothing to say about the emergence of mind or consciousness. Zero. Zilch. Evolutionary neuroscience deals only with the development of nervous systems and brains—physical systems. And then materialists assume that the evolution of complex neural systems “must have” produced minds. Not one iota of scientific evidence supports that view—for the very simple reason that science deals only with objective, physical, measurable processes.

As long as science relies on a methodology of sensory empiricism, itself rooted in the metaphysics of materialism, then science will remain utterly in the dark about consciousness. The best it can do is produce data about neural correlates of consciousness, but can say nothing about consciousness itself. When materialists dispute this, I challenge them to produce a single scientific datum about the miraculous moment when previously non-conscious molecules or cells jumped the ontological gap and became conscious. I am one-hundred percent confident this won't happen—ever.

The claim that “structural complexity of a certain kind is required for sentience or experience to exist” is nothing more than an unfounded assumption. What is that special complexity, and how does any complex arrangement of purely physical ingredients explain the existence (or “emergence”) of non-physical consciousness or sentience?

Seemingly unaware of logical bomb ticking away in the heart of materialism, scientific materialists think that science has explained the steps in evolution that led from “dead” insentient matter to feeling, thinking, choosing beings like us. But they never provide any evidence or offer any explanation for how this miracle could have occurred (they can't).

Instead, they try to deny any ontological difference between mind and matter. It's the only move available to materialists who want to avoid the ontological gap. But that kind of simple ontological reductionism flies in the face of our own direct experience.

Mind the Gap

Barglow objected:

[de Quincey] speaks of “the ‘ontological gap’ between two radically different kinds of reality.” But notice that it is the author himself here who is postulating a radical conceptual dualism. “Consciousness,” he says, “is notoriously non-physical (you cannot observe or measure it).” I don't find this radical physical/non-physical distinction tenable. There are so many ways in which consciousness and the domain of mental phenomena are bound up

with physical phenomena, and are indeed observable . . . (Barglow, 2010, personal communication)

Here, Barglow clearly misunderstands me when he says I speak of “the ontological gap between two radically different kinds of reality.” While there is a radical difference or distinction between physical and non-physical (between matter and mind), there is no “gap.” I emphasize this over and over in my work: Consciousness and energy always go together. In panpsychism, mind and matter are inseparable, while remaining ontologically distinct. The “gap” I refer to shows up in materialism when scientists or philosophers try (but fail) to explain how one kind of reality (nonphysical consciousness) emerges from a radically different kind of reality (physical matter). Barglow’s next move, typical of materialists, is to question the distinction between “physical” and “non-physical,” saying that he finds it “untenable”—implying that only what is physical is real.

Following other materialists such as Daniel Dennett, Barglow is here denying that anything non-physical exists, and, therefore, that consciousness is physical. When materialists make that move (very common), I invite them to explain how any of the qualities (or quantities or complexity) of physical objects could ever account for the qualities of consciousness (qualia) so familiar to each of us—qualities such as subjectivity, feeling, awareness, intentionality, purpose, meaning, value, etc. etc. Any attempt to characterize consciousness as physical completely misses the key experiential first-person essence of what philosopher Thomas Nagel famously referred to as “what it feels like to be.”

Unity is Not Identity

Barglow (2010, personal communication) confuses unity with identity. He says: “There are so many ways in which consciousness and the domain of mental phenomena are bound up with physical phenomena.” Yes, of course. But so what? The fact that mind is “bound up with” matter in no way implies that mind is nothing but matter. That is just sloppy thinking. Imagine holding a rubber ball in your hand. Now try to separate the shape from the substance. Of course, you can’t. However, when you twist or squeeze the ball the shape changes yet the substance remains exactly the same. Clearly if the shape changes and the substance doesn’t, they cannot be identical. Like shape and substance, mind and matter are inseparably unified but are always distinct.

From the perspective of panpsychism, mind and matter always go together—they form a unity—but they are not identical. Even though physical and non-physical are inseparable, they remain distinct. You need only pay attention to your own daily experience to confirm this. You observe (with your senses) that you and others have a body (with extension and volume in space). You also experience your own body from “within.” You have feelings, thoughts, and make choices—and none of these can be located in space or explained in terms of physical events in your body. The objective, observable, existence of your body (physical) is radically different from your subjective non-observable conscious experience (non-physical). It doesn’t take a philosophical genius to notice the “radical distinction” between body and mind, between physical and nonphysical.

When materialists deny any such distinction between objective physical existence and subjective nonphysical existence, they are simply not paying attention. They are too caught up in their own abstract thoughts about consciousness instead of actually experiencing their experience.

Barglow (2010, personal communication) had more to say; my responses are brief, as follows.

Barglow: “The scientific evolutionary hypothesis is that consciousness has emerged as organized matter. A sentient, experiencing being is one that is physically organized in a certain way.”

de Quincey: “This just begs the question: How on Earth (or anywhere else) can mere physical organization achieve this miracle and produce sentient experiencing beings? This claim is made over and over without any evidence to back it up. And what is this mysterious ‘certain way’ in which physical complexity is organized to make minds?”

Barglow: “The evolutionary process of this emergence took place over many millions of years. No ‘complete mystery’ here.”

de Quincey: “Really? Then please provide a complete (or even incomplete) step-by-step explanation—especially an account of what happened at the moment the miracle occurred.” (Barglow, 2010, personal communication).

Barglow goes on to cite the evolution of photo-sensitivity—from primitive chemical reactions to the development of the eye—as an example of emergence. But this (like the old and tired example of liquid water emerging from hydrogen and oxygen gases) is a familiar non-sequitur. Yes, *physical* emergence does occur in *physical* systems. No mystery there. However, descriptions of one physical process giving rise to some other physical process is radically different from explaining how a physical process could give rise to some *non-physical* product. Relying on examples of physical emergence completely misses the point, and demonstrates a profound misunderstanding about the nature of consciousness—its essential subjectivity.

Conclusion

Let me summarize the main points:

1. Arguing over details in evolutionary theory—about whether species developed only through mutations and natural selection or if some creative intelligence also guides the process—is pointless. No amount of biological data will ever illuminate the relationship between consciousness and the physical world.
2. The role of consciousness in evolution (biological or cosmological) is not a scientific issue, it is philosophical. As long as scientific methodology relies on sensory empiricism as the only valid way to gather data, science will forever remain in the dark about consciousness.
3. The senses can detect only physical objects. Consciousness is not a physical object—it is the non-physical subject that knows about physical objects.

4. The mind-body problem is conceptual, not empirical—both the problem and its resolution depend on how we organize our ideas.
5. Using the criteria of conceptual coherence, consistency, and adequacy, we can evaluate competing theories or metaphysical worldviews that attempt to explain the “hard problem”—how consciousness exists in an otherwise physical universe.
6. Of the four major worldviews—dualism, materialism, idealism, and panpsychism—only one satisfies the criteria of logical coherence and adequacy. Only one avoids falling into a fatal explanatory gap by not requiring some kind of supernatural miracle and does not contradict our direct experience as embodied sentient beings. No logical impasse or ontological leap, and no performative contradiction.
7. When theories involving “interaction,” “emergence,” “emanation,” or a “performative contradiction” run aground, by a process of elimination we are left with the option of “consciousness all the way down” as the most likely story—even if at first glance it strikes us as counterintuitive. The foundational metaphysical assumption that best “cashes out” by accounting for the facts of experience and embodiment is panpsychism.

I’ll end as I began with the percipient words of German philosopher Arthur Schopenhauer:

“Every truth passes through three stages before it is recognized. In the first place it is ridiculed. In the second, it is opposed. In the third it is regarded as self-evident.” (quoted in de Quincey, 2010)

Where are we now?

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