Difficulties in Scientific Materialism

For our purposes here materialism states that everything that truly exists is matter; everything is material, thus all phenomena we experience are a result of this material foundation and subsequent interactions.

My problem is that science during the last century has discovered problems in the materialist foundation. These problems have always existed, but we are finally advanced enough to see them honestly for the first time in our history. These difficulties arise primarily at the quantum level where their previously held material building blocks do not make sense as a material foundation.

Let’s simply list some of these facts that appear throughout current scientific literature. They can be found in a concise and clearly related manner in Halperin.

1. At the smallest levels of reality their building blocks have the qualities of particles. Excellent, that’s what they expected to find.

2. At the smallest level of reality these things behave like waves.

3. They behave like waves and particles at the same time.

4. The act of observing these things forces them to be one or the other.

5. The choice as to which one is going to become real cannot be predicted beforehand. Science believes it is both a particle and wave at the same time until observed, and what it will be when observed later is founded in probabilities. There is simply no way to know beforehand.

6. The choice is not due to some hidden variable. I do not believe that the hidden variable option is entirely cogent. It appears to lead to greater difficulties for science than it resolves.

7. The act of observation can even reach back through time to make the thing either a particle or wave—whichever will be observed later. You may notice here that even our language has trouble dealing with backward causation driven by observation.

8. Whatever is found by the first observer stays that way for others later.

9. One can know the location of one of these quantum things. One can know the momentum of it. You cannot know both. The closer you get to one of these goals—say location—the less you know about the other, and vice versa.

10.These building blocks can be at two distinct places at once (Halperin 2020).

The double-slit experiment (and its variations) has become a classic for its clarity in expressing the central puzzles of quantum mechanics. Because it demonstrates the fundamental limitation of the ability of the observer to predict experimental results, Richard Feynman called it “a phenomenon which is impossible […] to explain in any classical way” (Feynman 1965).

Scientists that work with the very small level of reality admit these facts. They work with them as best they can, and they often direct their efforts to pragmatic concerns. The materialist assumptions they have grown up with are not often questioned directly. I plan to force the issue. The first big problem for materialists is that observing their building blocks causes them to change what they are. If the building blocks are primary, as suggested in the definition of materialism, then observation should not cause their building blocks to change. Secondly, materialism depends upon the building blocks to be the foundation of observation; the facts show that observation comes first. Thirdly, materialists hold that subsequent interactions from these building blocks lead through cause and effect to everything that exists. They have since discovered that observation forces these building blocks to behave in different manners. Before observed, what happens to these building blocks is a matter of probabilities. Fourth, the notion of backward causation creates multiply logical difficulties in the materialist notion of causation. Fifth, the rules that govern the quantum level and the theories of general relativity are both demonstrated to be accurate. Unfortunately, scientists grudgingly admit that the theories are incompatible with each other. Finally, the supposed building blocks can be in several distinct locations, in a nontrivial manner, at the same time.

There are several main ways that materialists hope to circumvent these problems. One way is called the Copenhagen Interpretation. This introduces into the mix a thing called a wave function. They claim observation causes the wave function to collapse, which causes their building blocks to change (Halperin 2020). It is clear to anyone who seriously studies this notion that their wave function does not have actual ontological existence. Therefore, it does not actually address the problem of metaphysics and replaces this with an epistemological notion of a wave function, which lacks metaphysical grounding. Another approach to making a case against the Copenhagen Interpretation may be clarified this way.

1. For those who believe in the Copenhagen Interpretation. The wave function is a complete description of the state of a system.

2. The wave function evolves according to a linear dynamic.

3. All measurements have determined outcomes.

4. Number three is contradicted by the combination one and two, and number three is thought to be necessary to philosophical materialism.

An architect of the Copenhagen Interpretation to his credit pointed out the sort of logical problems that arise from its use.

Schrödinger’s Cat

Schrödinger, one the leading creators of the Copenhagen Interpretation, who eventually abandoned this formulation, suggested that it left us with clear, logical shortcomings. In its original formulation, a cat, a flask of poison, and a radioactive source are placed in a sealed box. If an internal monitor like a Geiger counter detects radioactivity the flask is shattered, releasing the poison, which kills the cat. When a Geiger counter is going to click is random according to modern science. The Copenhagen interpretation states that until an observation occurs the system is in all possible states. Therefore, the cat is both alive and dead at the same time until somebody looks at it (Halperin 2020). This is a real problem for his perspective. Since the employment of the Copenhagen Interpretation leads to logical conundrums, and because it replaces a metaphysical difficulty with an epistemological answer, I’ll take a hard pass on this explanation. Since my paper is about a metaphysical and ontological grounding for the scientific enterprise I’ll proceed,

The next main scientific approach to these problems holds that with each observation that is made a new universe arises. This is called the many-worlds-interpretation (Many-Worlds 2021). In this approach many problems arise. We cannot even theoretically find these many worlds, although adherents claim that exist regardless. While this can make for decent science fiction, I do not find it compelling. It cannot be even theoretically falsified, which is typically thought to be necessary for a scientific theory (Kuhn 2018). They cannot explain how you or I are conscious of what seems like one universe rather than one of the multitudes of other ones (Halperin 2020). It is hardly parsimonious either. Still, die-hard materialists claim it could be right. Let’s allow that it is within the realm of possibility. A lot of things are possible, but this approach seems to me a low order of probability.

A third contender is Quantum Bayesionism (Qbism). This theory considers an instrumental formulation of quantum effects. QBists hold that what one discovers at the quantum level represents the epistemological state of what subjects may experience at this level of knowing. It maintains that all quantum states represent subjective probabilities at the quantum level of decision making. To my mind, this theory replaces ontology and metaphysics with an instrumental epistemology. It is inordinately subjective. Its use of the Born rule in the form of an equation is primitive and incapable of empirical support from the relation of quantum states and laboratory outcomes (Bacciagaluppi 2014).

Another formulation is the De Broglie-Bohn theory. It suggests that a particle has a definite position that is in turn guided by a pilot wave that effects its motion. This gives us real particles, but like the previous three theories it directly conflicts with with general relativity. It produces faster than light effects. It also effectively scrambles causal relationships.

The difficulties in the main four theories arise not because they are not honestly considered by their proponents, it is because they arise from a flawed ontological underpinning of philosophical materialism.

Many scientists laboring at the quantum level know these materialist disqualifications abound. They claim that examining the quantum level logically is unwise; you simply ought to learn the facts, which were listed previously, and dump logic. For example, you don’t need to know how an engine works to drive to work, just get in the Buick and have at it. For those readers who could care less about metaphysics this approach makes sense. For those who desire more hang around a bit as I suggest further shortcomings in materialist metaphysics.

A fundamental problem with materialist science is their further inability to deal with consciousness. While they sometimes claim that they will eventually work this out, I do not agree. If you have one consciousness, perhaps a dog has 30% of one, a mouse less again, a mosquito has something like one ten thousandth of one (Ornstein 1991). Science cannot account for any whatsoever. Even given the computational power represented by the inter-connectivity of the internet doesn’t seem to have produced a smidgen. I believe that consciousness is, in principle, beyond the reach of materialist science.

Leon Kass said that one of the researchers of neuroscience at his University of Chicago claimed that he was near to a biochemical explanation of human love. While one could perhaps find some chemical that if correctly injected into the brain might produce a selected emotion. But as Dr. Kass cleverly stated, “No injection of no chemical can do justice to the experience of love,” or any other aspects of the conscious experience that we know directly. There is more to consciousness than material in motion (Kass 2003). Even bold attempts like the functionalist approach of Schiller, who suggests the required levels of causal integration, the necessary degree of continuity (being sufficiently continuous), and of the right level of material complexity are necessary for non living consciousness to emerge, while well considered and thoughtful are unlikely. It seems to effectively push the conscious enterprise towards the distant future, and is unlikely to pass the test of time (2024).

The next problem, qualia, is connected to the former. While I will use pain as my example, there are all sorts of these experiences. “I woke up Sunday morning with no way to hold my head that didn’t hurt. The beer I had for breakfast wasn’t bad, so I had one more for dessert.” I use this couplet from “Sunday Morning Coming Down” from the marvelous tune-smith Kris Kristofferson as it provides a comical springboard from which he eventually deals with the theme of human lack of connection—a serious problem in the human condition. That it raises issues in materialism is a bonus (1976).

Matter from the materialist perspective ought not to experience the pain of a hangover—an experience some of us have experienced to various degrees. Why should supposed material stuff hurt? Materialists may claim that some communication between different parts of the brain is equivalent to pain. I don’t deny this, but my contention is that what we perceive as a physical brain is the way our minds and senses have developed to help us deal with the outer world through the evolutionary process. When materialism is employed and wedded to reduction it is, in principle, doomed.

Intentionality is also problematical for the materialist. “The beer I had for breakfast wasn’t bad, so I had one more for dessert.” This alludes to intention and its fulfillment. Science generally claims that intention and the stuff we experience are emergent qualities. Emergent qualities can emerge at the level of nonliving things. I’ll grant this. It grows from a combination of the qualities of the material it grows out of. Like sand dunes emerge due to the combined qualities of sand and wind. Wetness emerges from the qualities of water molecules when thrown together, and so forth. I see no evidence that consciousness, on the other hand, can emerge from dead molecules. I’ve not seen any qualities in the non living material building blocks that are likely to lead to consciousness. My computer, for example, can often whoop me in chess, but I see no sign of it really fearing the agony of defeat like the skier in the old “Wild World of Sports” commercial.

Materialist cosmology presents more problems. Where did the big bang come from? I admit that we can hear microwave radiation, but I contend that what we hear is not material; it is a quality. Singularities like the “supposed” big bang are places where the laws of physics break down within the materialist perspective. Materialist scientists will have to admit this is problematical. For materialists singularities often seem to contradict the physical law that information is maintained. Furthermore, their view cannot effectively explain dark matter, the genesis of energy or mass. Worse yet, two of the materialists’ main theories—that of quantum mechanics and general relativity are incompatible with each other. Materialism cannot reasonably explain how life occurred. While they claim to do so on one level, they avoid the harder and more fundamental question. Imagine life without any sort of heavy elements.

The philosophical materialists believe all heavier elements come from atomic fusion in stars. The physical constraints necessary for star creation are so finely tuned and so unlikely it boggles credibility. There are seven constraints that must necessarily be balanced to make a working star that I’d rather bet on a penny being flipped on a flat solid surface and having it stop on its edge than wager on this occurring by happen-chance. Materialist philosophy holds that all these constraints are due to randomness (Fine-Tuning 2021). Obviously, life was possible though. Still, it is so unlikely to have stars occurring by accident that I’d rather bet on nearly anything else—it would be a darn poor wager.

For instance, a materialist devotee might seize upon the use of an instrument like an electron microscope to mock my view of the outside world. Let’s use this as an example. First, through your equipment all you will perceive are qualities magnified. Secondly, the photons you perceive through the electron microscope are absorbed in the retina and this is changed to an electrical impulse which eventually moves through your dark brain. Isn’t what you are honestly experiencing closer to an electrical reality program than something material? Next, they might suggest that the evolutionary process would be unlikely to mislead us about the world. This is silly. Evolution wants us to survive and propagate. It would almost certainly give everybody an instrumental version of the foundations of knowledge. This is a knowledge that works decently for navigating the world. Evolution could care less about metaphysical underpinnings.

There are more arguments against materialism, but since many materialist scientists have already become angry and stopped reading, I’m going to quit with a suggestion. The materialist view has been shaken by the rough seas of science in the last century. Perhaps rather than trying to continually patch up leaks up their materialist ship, materialist sciences might be better served by choosing another craft while the going’s good. As to what sort of idealism I have in mind to replace materialism, I must state at the outset I do not deny that we live in a world where personal experience correlates with what can be measured in the brain of the person who experiences. I argue that the brain and what we measure are produced by mind.

As argued for by the brilliant physicist, Bernardo Kastrup, the mind is primary, and everything that exists is part of the mind. I’ll call this primal mind the mind-at-large. The mind-at-large distantiates itself into two separate divisions. It is an accepted fact that minds are capable of such divisions, such as split personalities. The aspect of this division where you personally exist is the subjective state of existence where you can perhaps see a couch, feel it, hear the springs when you sit down, maybe smell it and so forth; I wouldn’t presume. Your senses receive these qualities, and your subjective mind connects these sensations into the mental construct of a couch. You are a part of the mind-at-large, yet you experience the world from your personal point of view (Kastrup 2020).

The mind-at-large also further divides itself into a boundary between the subjective and the mind-at-large. This boundary serves as a Markov Blanket that presents through the senses a coherent form with which science deals. The Markov Blanket is necessary to prevent the subjective from direct knowledge of the mind-at-large. This blanket also allows some level of interaction between the different levels that can be understood through Bayesian calculations. This border’s actions also allow the subjective (the individual) to experience the world. Without it, her individual awareness would merge again into the mind-at-large, and experience would vanish (Kastrup 2014).

As you notice, this is not panpsychism. I do not believe that quarks have simple minds. This confusion comes from a reduction that mistakes meta-consciousness with consciousness proper. This conflation of notions leads to a common category mistake. First, panpsychism falls prey to the problem of spatial-temporal location that plagues materialism. It is contradicted by the laws of physics, as well (Kastrup 2017).

One may consider this common conflation in this manner. One may naively assume that the body is compound; therefore, since we are made of cells, we must be compound too. Buicks are compound in this sense. They are assembled this way. We are not assembled like this. A human being is a unity that develops complex inner structure over time through growth and entelechy. Buicks are assembled from proper parts. On the contrary, we grow and develop consciousness through internal principles. Some of this category mistake becomes evident when one tries to reverse these notions. It would be weird to say that a Buick grows or a consciousness is assembled. Panpsychicism is probably not right. Attempting to make my views panpsychist are common but confused.

My approach to idealism as it applies in this paper distinguishes three distinct levels of reality which are often conflated in scientific discourse.

The first level depends upon subjective personal observation. Observers tend to experience it from their respective location and point of view. All these worlds are connected through entanglement which grants them consistency (Kastrup 2014). As all my friends in particle physics may appreciate, all observers are bound by the same wave function. The second level is that of thought. "This is the world we create in our thoughts. It can take the form of pure imagination and fantasy, or the form of a mental model based on observation, the mental model of a hypothetical world that exists out there" (Kastrup 2020).

The third and final level is the level of pure potentiality and mathematical abstraction. It describes the laws of physics and probabilities. This world is objective, but I contend that its existence is virtual.

This approach “also solves the main objection that has been traditionally made to philosophical idealism, the fact that all observers seem to perceive the same world. According to this interpretation, all observers see and experience the same world because they all are bound by the same laws of observation, the laws of physics" (Kastrup 2014). Since entanglement pervades our shared experiences, this also solves a problem of shared perceptions that has plagued idealism in the past.

Next, I will deal with a few confusions that may arise in this form of idealism. First, we may use our senses and logic to make a reasonable case against solipsism. There is no evidence that my subjective mind has the capability to dream up a world with the level of consistency and complexity we discover. My gosh, I walked into a door frame a few days ago. The possibility of solipsism exists but is an extremely low order of probability.

The human body (as part of mind) exists after physical death for a time not for the deceased, but due to the decease’s entanglement with survivors (Kastrup 2014). As one can see, even many small logical difficulties in this position should be easily answered.

Another concern arises about this view as to why mind-at-large would not be content to remain in its original state rather than creating this process of division. I would not pretend to know, but I will conjecture that mind delights in the myriad of states that arise in conscious experiences.

Where did mind-in-itself come from? Pure mind is not spatially bounded. I expect that mind-in-itself as an unchanging quality would not be bound by time (a precondition for experience). Time allows for change in entangled, subjective experiences. Space and time as we experience them are artifacts which arise through mind’s original divisions. Therefore, I suggest that when one inquires as the original cause of mind-at-large one is essentially asking what existed before time and space which is an incoherent question. My position would hold that space and time emerge as persistent illusions created by the mind-at-large, which are necessary to allow for change to occur in the world of experience.

One More Suggestion on Fixing Science

This paper last part of the paper makes a case that is closer to conjecture than undeniable fact. If wish to stop reading now, nothing bad will happen. But the following suggestions when added to my starting point will both simplify science, its mathematical connections, and fix problems like the arrow of time which have plagued science and philosophy.

I suspect that what we perceive as a three-dimensional universe might not have three dimensions. What we perceive is like a hologram of two dimensions. Our perceptions of the outer world are compelling illusions. My suggested system not only makes sense from the scientific perspective, but it is also superior in all sorts of ways.

A hologram is a three-dimensional image reproduced by the interference that happens when radiation sources come together. These sources of radiation must be logical and consistent, or it does not work right. Let’s next examine entropy. Entropy on the large-scale tells us that the universe tends towards disorder. Like my office tends to disorder. It gets worse with time. It does not spontaneously improve with the introduction of little kids, although they may inadvertently knock dust onto the floor. Things tend with time to become less orderly. This suggests an arrow of time.

This direction of time (its arrow) is a fundamental problem of scientific philosophy. Let's explain the dilemma like this. Imagine yourself in the middle of space somewhere. You can go up or down, east or west, and north or south, or a variety of combinations of these directions. What does it matter? The standards to measure location are the same in all directions. In the twentieth century science developed the idea of spacetime; think Einstein here. Who cares? I do, and science ought to. Well, time, which is connected to space, is different than space. I recall decades ago Lawrence Sklar made this case in a decades old lecture, and it stuck with me ever since. Time has a direction or aforementioned arrow. For example, one can stir cream into coffee, but you cannot stir it back out. Using a spacetime standard like materialist scientists do today is therefore weird and mysterious. Their standard now is like saying one may head up or down, east or west, north or south and later. This is scientifically and logically embarrassing (Sklar 1974). The holographic approach will mitigate this problem. Time itself creates logical problems that have been know by philosophers who were around since before Socrates. For the heck of it, I’ll briefly share two venerable ones here.

If time is made of instants, there is no space between instants, and instants have no duration how do things change? They have no opportunity (Halperin 2020). Secondly, the present instant, without duration, seems to exist between the past which is gone and the future which is not yet here. Where did the past go to? Where is the future coming from? This point of view makes time a line without width between two things that don’t exist (Halperin 2020).

I’m not playing games with words here. At the level of the materialist view of the world the arrow of time is such a mess many modern physicists hold that time must be a persistent illusion (Halperin 2020). There’s something right about this. Their way of making the illusion consistent often involves block universes full of memories and histories that all need to be represented over and over again at each moment (Barbour 1999). My view is a lot more simple and reasonable without a lot of unnecessary ad hoc material thrown in to hold it together. **Time is actually a persistent illusion created by the mind-at-large to allow for change at the level of the created world.**

Another embarrassment for materialist metaphysics is that it produces black holes, which can likely be tied to a loss of information (Hawking 1988). Scientists admit this should never occur. An advantage of the holographic model is that it can solve both spacetime and black hole problems. The mathematics that underlies science’s belief in spacetime is no longer a necessity. Instead, time and its connection to space grows out of a hologram in a system of two dimensions. Also, in the holographic approach the black hole can be seen to mimic changes in the direction of time within the system. With this view, information is never lost; this is a significant benefit to science (Belhaj 2020). This approach mitigates the arrow of time dilemma.

Another advantage of the holographic approach is that it makes strong mathematical connections at the tiny level. Gravity is so slight that it’s hard to make sense of mathematically at the small-scale level. This view works wonders for this problem of mathematics too (Belhaj 2020).

I believe that I can explain gravity in terms of the holographic position. These holographic ideas may even be instrumental in developing a workable approach to connecting Einstein’s theories on general relativity to the smallest level of physics. Further, this arrow of time component which was solved earlier in this essay, when tied to the holographic model can also be helpfully employed in making sense of which is called deep learning and its applications in the modern age (Belhaj 2020). (Deep learning is a machine learning technique that teaches computers to learn by example.) An instance of this would be driver-less cars that work better when they don't mistake stop signs and people with poles and trees and assorted decoys. While deep learning employs the method of science, it can be better understood through the holographic principle that it can be without.

Using the hologram notion and my assumption that mind is the foundation of reality together can also make sense of the fact that what we observe at the very small level causes science’s supposed building blocks to be secondary to knowing. This connection of theories can likewise be used to make sense of the growth of correlations that exist all over the place at the very small level of knowing (Belhaj 2020).

The interconnections of my earlier ideas and a holographic representation of the outside world can likewise be employed with greater success to make sense of the creation of the universe, even without the mind-at-large contribution (Belhaj 2020). It is much easier with it though.

I mention in passing that this connection of theories of mind (as reality) and the hologram can also be used to mitigate against the problems raised by dark matter, as well as the origins of both energy and mass (Belhaj 2020). They also make life and consciousness primary rather than the result of an unlikely accident that strains sensibilities. Even Stephan Hawking grudgingly came to accept the holographic model as a serious contender(Hawking 1988). Unfortunately, he remained wedded to the materialist world view.

The mathematics that will be used to further justify some of my ideas here has yet to be completed. You cannot hope for me to help either, as I could not do this level of mathematics on the best day I've ever had. But it is promising in these areas of science mentioned previously, even in the understanding of the difficulties in the origins of our world which were briefly mentioned above. A holographic metaphor may be valuable in these quests.

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