Philosophy: Challenging Materialism
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Philosophy

Challenging Materialism

We cling to a matter-based worldview, but physics, brain scienceand the definition of life itself all point to a non-material reality

By Jay Lakhani

All paradigms have a habit of cracking up. This is not a bad thing at all. Evolution in the world of ideas is as crucial as evolution in the biological realm. Both have to adapt themselves to changing circumstances else they stagnate or perish. Living organisms evolve, reflecting the changing environment; scientific theories evolve through newer discoveries that allow us a more economic and elegant grasp of reality.

Materialism originates in our earliest attempts to define reality using the norm of substances and their attributes. Explaining the universe in terms of sticks and stones or smaller versions of sticks and stones (elementary particles with mass, charge and spin, etc.) is a tried and tested paradigm that has produced durable results for over 2,000 years. The paradigm of materialism is enshrined at the heart of physical sciences and influences all branches of scientific thinking. The 1929 proclamation of the Vienna Circle that "only those statements that can be supported by empirical evidence are meaningful" reflects this strict materialism.

One of the endearing aspects of science is its theoretical preparedness to test all its hypotheses to destruction. But this is not so easy to put into practice. Scientists are human and prone to becoming emotionally attached to their pet paradigms. Let us explore and challenge science's pet paradigm of materialism with challenges from discoveries at the cutting edge of science itself.

The Quantum: Since the 1920s the dramatic discovery of the quantum phenomenon has been stupendously successful in explaining the workings of almost everything from a computer chip to DNA. Though the mathematical formalism is extremely successful, there is complete lack of conceptual grasp of the phenomenon, because the quantum that underpins matter is essentially non-material. Einstein desperately tried to capture the quantum in a materialistic framework, but failed every time. Consider these three intriguing features:

1) Quanta do not behave like matter. If we were to smash two bricks together we still get two bricks-- part as rubble and part as energy. But if we smash two quanta together, we can get anything from two quanta to no quanta as a result, without the slightest trace of them or even a ripple of energy.

2) Observer problem: Science finds that reality is not material. This is non-negotiable. So what is reality? The best science can do is to say that it is mathematical (or metaphysical in contrast to material). But a problem still arises: who or what is able to turn a non-material reality into the material reality we call the objective world? In Quantum Mechanics this very serious issue is labelled "wave collapse" or "the observer problem." 3) Non-locality: If two elementary entities (like photons) that were once "entangled" get separated by billions of light years; when we squeeze one, the other knows it instantly! How does it know? There is clearly a non-local or a non-material linkage.

The reason such conceptual anomalies will not go away is that we continue to dignify matter as primary and demote the quantum discovery to a mere mathematical ploy invoked to handle the unexpected shenanigans of matter. This is not only like putting the cart before the horse but attempting to show how the cart is pulling the horse! Most physicists are so fixated on matter that it is almost impossible for them to think outside a materialistic box.

But quanta obviously point to a non-material phenomenon that is primary. Matter has to be demoted to a secondary feature, as Schrodinger had suggested: Particles are just schaumkommen (appearances). The empirical world of matter that we are so sure about is just one aspect of appearance rigorously validating another aspect of appearance. When we rub two pebbles together and hear the satisfying empirical click, all we have done is given credence to one aspect of the appearance (pebble) using another aspect (pebble) of appearance. We define this process as crisp empirical science. The reason material reality appears so solid and objective is that

not only is the world of appearance incredibly self-consistent, it is shared universally by all observers.

Neuroscience: At the heart of neuroscience sits consciousness, another intriguing phenomenon. We can be forgiven for thinking that consciousness is an epiphenomenon of brain activity. However, investigations attempting to find the seat of consciousness in the brain reveal a highly versatile phenomenon that defies a simplistic reductionist approach. This is referred to as the hard problem in neuroscience. Can we find a slice of the brain (or a region in the brain) that produces consciousness? How are we going to verify that experimentally? Consciousness is a subjective phenomenon and every tool we come up with is bound to be an object. So how can we possibly carry out an experiment to find the seat of consciousness using material tools?

Let us do a thought experiment: Imagine that we have a highly sensitive probe which we can use to prod any part of the brain. Exactly how are we expecting the probe to detect consciousness? Remember, we are not exploring matter or motion or even a complex process associated with a living cell. We are in search of consciousness. How do we do that? This is the problem. Only consciousness can validate consciousness and neither are objective by definition.

A host of thinkers keep churning up volumes of literature to explain consciousness away in material or social or psychological or computational terms. This is how one brain scientist explains consciousness: "Consciousness is short-term memory combined with awareness." All he has done is to replace one unknown (consciousness) with another unknown (awareness). This is perhaps forgivable, but what is unforgivable is when some authors generate a jungle of jargon to circumvent their confusion. Employing a string of clever words does not necessarily mean that we have grasped what we are talking about. Let us look at a classic example from Dennett who comments, "Conscious human minds are more-or-less serial virtual machines implemented inefficiently on the parallel hardware that evolution has provided for us." This is supposed to lull us into thinking that he has explained consciousness away! Why are so many intelligent thinkers keen to explain consciousness away as a secondary feature of matter rather than acknowledge and dignify it as a primary phenomenon? The answer comes from John Searle who says:, "If one had to describe the deepest motivation for materialism, one might say that it is simply a terror of consciousness. It challenges science's pet paradigm of materialism."

Biology: In life sciences, the definition of life itself poses a similar problem. A live entity is defined as a complex string of molecules undergoing complex processes like homeostasis, metabolism, growth, adaptation, response to stimulus, reproduction, etc.

Life makes its appearance when an entity throws up a membrane to separate itself from the rest of the environment. This separation offers it a chance to build a kind of individuality for itself. After separation, it exhibits its uniqueness by interacting with its environment in a selective manner! The word "selective" is the crucial term that hides the non-material underpinning to life. The best definition of life I have come across is: Life is that which is not in conformity with its environment but in defiance of it! Even the simplest form of life does not roll over and play dead when nature prods it. It does not like being dictated by nature. When we see a bacteria buzzing, it is fighting against natural forces. When it stops its fight, external forces will tear it apart. A biologist offered this tongue-in-cheek example of how to distinguish between living and non-living things. If you kick a piece of rock you can work out its trajectory to the nearest millimeter. But if you kick a dog, its trajectory is the last thing you can work out--though it is quite likely that it will go for your leg!

So when we hear the idyllic saying, "Let us go back to nature," don't listen. They are asking us to die! Everything humanity stands for has been achieved by standing up against nature and its forces, and not by playing ball with it. An evolutionary biologist may object to this explanation and suggest that life is just complexified nature (the apex being mankind) that is standing up to less complex nature! But then they have slipped in a meta-term, "complex," that hides the non-material aspect of what life is all about. The study of life belongs to a new field of science: "complexification" which does not use a reductionist materialistic approach.

To suggest that life is an epiphenomenon of matter and its attributes is an oversimplification. It is fine to suggest that human beings are a continuation of the animal kingdom but this is not necessarily the same as suggesting that life is a continuation of the material kingdom. The signature of life is that it does not like being buffeted by material forces; it stands up to them and attempts to harness them. Modern humanity reflects the culmination of this process.

Leap Beyond Matter: Quanta, consciousness, or the definition of life itself: none of them sit well within the paradigm of materialism. This does not mean that we have

to throw this paradigm out the window. Even though we know that Newton's theory of gravitation is just an approximation of Einstein's more elegant theory, we still use Newton's theory to do our day-to-day calculations. In the same way, a materialistic paradigm should be accommodated as a ploy that gives us a handle to relate to the world around us. However, this should not stop us from taking a conceptual leap beyond matter. Schrodinger was aware that the quantum phenomenon resonates well with the insights of Eastern metaphysics. Let us explore that avenue.

Esoteric, non-theistic Hinduism offers an interesting insight into the nature of reality. It claims that the underpinning to everything including ourselves is Brahman. The best linguistic expression for Brahman is captured through the words: Existence (Asti) and Consciousness (Bhati).

When Brahman shudders, the world of appearance comes into being. The subject/object divide, too, is part of this appearance. Such stuff could be written off as poetry if it were not so incredibly close to what quantum and consciousness are pointing at. If we were to ask a physicist to give a physical interpretation to the quantum function, he will immediately say it is the probability of existence!

Trying to explain the quantum in terms of matter fails because it is trying to capture reality through its appearance. The reason why neuroscience struggles to capture the essence of consciousness is that it ends up focusing on what we are conscious about, rather than on what consciousness actually is. This again is an attempt to capture reality through the world of appearance. What life reflects is the struggle of consciousness to find greater and better expression in the material world. This is why we have evolved from a single cell organism to this complex being and this is why we are so keen to make sense of the world around us. The question still remains why all this; why this subject/object divide? Shelly provides an eloquent answer in Song of Apollo : "I am the eye with which the universe beholds itself and knows itself as divine."

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