

The Epistemology of Physics and Metaphysics.

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Howard Resnick, PhD (Sanskrit and Indian Studies); Director, Krishna West; Los Angeles, CA
<hr@ivs.edu>

Abstract: If Aristotle, Newton, Jefferson and countless other great thinkers were right, we all live in a bi-dimensional universe — physical and metaphysical. This view can also be demonstrated by basic epistemology. For two and a half thousand years of recorded Western history, physics and metaphysics have at times lived in peace, at times gone to war as allies, and at times gone to war against each other. This history clearly shows that human society has most prospered in times of peace and cooperation between those focused on both the physical and the metaphysical dimension of reality. Today, how would such cooperation impact the rational and scientific study of consciousness? Is there an epistemically justifiable way to integrate physical and metaphysical insights into the nature and potential of consciousness? What would that integral view of consciousness look like? I will address these questions.

To explore the topic of consciousness in science, I begin with a simple, and hopefully uncontroversial, dictionary definition of science: “Science is an intellectual and practical activity encompassing the systematic study of the structure and behavior of the physical and natural world through observation and experiment. Scientists tend to assume that the physical world follows discoverable natural laws and thus behaves within causal relations that are quantifiable, deterministic, and thus predictable.” Apart from this, the vlog, “livescience.com,” adds that “anything considered supernatural does not fit into the definition of a science.” Indeed, the dictionary defines supernatural as “a manifestation or event attributed to some force beyond scientific understanding or the laws of nature.”

Thus, to be a science in the “normal” sense of the above definitions, a science of consciousness must focus on deterministic, predictable laws governing consciousness. Here, however, a problem arises: most of us are convinced that we conscious beings possess free will – that human life is not fully deterministic like the life of a machine. This is the exact reason that those branches of science which study unconscious phenomena are called “hard” or “precise,” whereas those that study human behavior and consciousness, such as psychology and sociology, are considered “soft,” or only approximate.

One thing that philosophy, history and our own consciousness show us, however, is that neither a hard nor soft science – as science – can ever fully describe reality, including the reality of consciousness itself. This is because science, by its own rules, can only study the physical dimension of an irreducibly bi-dimensional universe that is both physical and metaphysical. Thus, if consciousness ultimately proves to be a metaphysical entity, then neither hard sciences like neurology nor soft sciences like psychology can provide a complete explanation of consciousness. I am to provide clear evidence that a metaphysical realm exists. If it does, what is the metaphysical realm?

Guy Kahane, who teaches philosophy at Oxford, asks: “Does God exist? Do we have free will? Are there subjective moral facts? These are familiar metaphysical questions.” The Encyclopedia Britannica tells us that “metaphysics was a term used by early students of Aristotle to refer to the contents of Aristotle’s treatise on what he himself called ‘First Philosophy’... which Aristotle had also referred to as ‘theology’ (because God was the ‘unmoved mover’ in his system).”

Stanford Encyclopedia of Philosophy accepts as a metaphysical issue the question of “whether mind is a material mechanism, subject to deterministic laws, or whether it is something else that entails free will.” It further notes that the problem of free will (or the problem of the mental and the physical) is among the philosophical problems now considered to be metaphysical in nature, and then makes a key logical point: “Ancient and medieval philosophers might have said that metaphysics was the science that studies being as such, or the first cause... A philosopher who denied the existence of those things would now be considered to be making thereby a metaphysical assertion.”

In other words, to affirm or deny a claim or proposition in a particular field of knowledge is to locate oneself – i.e., make a claim – within that particular field. For example, regardless of whether an algebra teacher marks an equation right or wrong, the teacher is making a claim about algebra; regardless of whether one considers a proposed cause of the American Revolution to be correct or incorrect, one is making a claim about history.

Analogously, were a professor at a public university to seriously claim that Zeus is the god of sky and thunder, they would likely be fired for preaching religion. On the other hand, should that same professor claim that Zeus is not the god of sky and thunder, and that there are various neurological and historical reasons that people believed such nonsense, she would be considered a scholar – even though by denying that Zeus is the god of sky and thunder she is equally making a religious claim. Thus, in public universities – and basically all non-religious universities – you are free to preach metaphysical religious positions so long as they are negative, even though both positive and negative claims are within the same domain. This is just one logical point that is routinely overlooked in our incredibly brilliant philosophical age!

Similarly, to claim that consciousness is wholly material is to make not a scientific, but rather a metaphysical claim. One cannot scientifically claim that consciousness is wholly physical because the claim itself is metaphysical in nature. And, by the way, I have nothing against real science; indeed, when scientists are really doing science, I’m actually a great fan. Certainly, rational persons are deeply grateful for all the pain and suffering that science has alleviated. And from a purely intellectual point of view, science has enriched our lives immeasurably and actually saved us from very dangerous, violent forms of religious fanaticism; although sometimes, science itself becomes a dangerous form of religious fanaticism.

In this regard, I will attempt to show that what is called philosophical materialism entails inescapable philosophical and historical problems of great magnitude. This bears on the topic of consciousness since the key issue concerns whether consciousness is simply matter – e.g., a neural epiphenomenon of the brain – or a different kind of thing that is essentially metaphysical.

The highly influential Declaration of Independence declares: “We hold these truths to be self-evident, that all men are created equal, that they are endowed by their creator with certain

unalienable rights.” Now Jefferson was very intelligent; while once hosting a White House dinner for Noble Laureates, John Kennedy remarked that this was “the greatest gathering of intelligence at a White House dinner since Thomas Jefferson dined alone.” Here we focus on the term “self-evident,” which is a key epistemological term, more or less introduced by Aristotle. The idea is that if you make a claim about anything – history, science, God, whatever – people can demand proof; and they can demand that you show proof of the proof. In other words, if one claims that water boils at 100 degrees Celsius and someone doubts this claim, one can place a pot of water on a stove, stick in a thermometer, and allow the doubter to watch as the water boils at 100 degrees. But then that person can question the purity of the water or whether the mercury in the thermometer is real. One must then test the water, then, the water-testing chemicals, and so on and so forth. In this way, one can be pushed into an infinite regress of proofs. To escape this regress, Aristotle teaches that we must take an earnest stand and declare that something is self-evident – that it proves itself.

An example of a self-evident truth that cannot be empirically verified is the claim that there is a real world outside our brain. Now there are certain things that logic forbids. For example, if one claims to have seen a round square, there is no need to empirically test that claim. We know by the meaning of the words that there cannot be a round square; logic forbids it. Descartes, however, raised the point that one can make apparently absurd claims without contradicting logic. For example, the claim that we are simply brains controlled by an evil genius that makes us imagine there is a real world outside of ourselves is certainly very eccentric and difficult to believe, but it does not contradict logic. This shows that without contradicting the rules of logic, one can radically doubt that there is a real world outside one’s mind. In modern philosophy, this is called the “brain in a vat” problem: you might be a brain in a vat, being kept alive and hooked up to a super computer.

The fact that we can doubt that there is a real world outside our mind without contradicting logic indicates that in order to do science, one must make a “foundational assumption” (another key epistemological term): one must assert as a self-evident fact that there is a real world outside the mind and that the laws of nature operate more or less uniformly throughout the universe. This assumption serves as an epistemological foundation for empirical science.

However, why do most people, including scientists, assume that there’s a real world outside our minds? Because the quality and nature of our experience of the world convinces us that there is no other reasonable explanation. While dreaming, we are absolutely convinced that we are experiencing the “real world,” but when we wake up we make a quick comparison and conclude that our waking consciousness is ontologically superior to our dream consciousness. In other words, we consider it to be more real. How do we do that? Why do we do that? There is no way to empirically prove that the world of our waking consciousness is more real than the world of our dream, but we make that assumption because it is self-evident to us that this is indeed the case.

And this is true for every field of knowledge: one must begin with a foundational assumption that something proves itself. Now, of course there are anti-foundationalists; because, in academic philosophy, no one has ever made a claim that at least nine-thousand people didn’t try to problematize. But, every anti-foundationalist theory I’ve seen is itself foundational. Certain forms of philosophical postmodernism, for example, claim that there are no “great truths” – which, of course, is itself a “great truth.” Indeed, one of the hallmarks of postmodern philosophy

is its great capacity for self-contradiction. Their foundational great truth is that there are no foundational great truths. Ultimately, foundationalism seems to be all-pervading, even among anti-foundationalists, when one closely examines what they are saying.

Here I want to emphasize that just as we make the foundational assumption that there is a real world outside our minds, we also have certain metaphysical views that we hold to be self-evident as well. One such self-evident metaphysical view is that all persons are created equal – an empirically unprovable assumption that forms the basis of democratic society, despite the fact that it is completely contradicted by all empirical science. Democracy, at least in its modern form, is based on the notion of equality, yet science shows that we are not at all equal in terms of beauty, intellectual ability, artistic giftedness, athletic prowess, and so forth. One cannot imagine any empirical test that would prove everyone to be equal. And yet, we have founded our society on this unscientific principle. Why? Because equality is for us a self-evident, foundational metaphysical assumption. And we reject as irrelevant, all empirical scientific evidence to the contrary. Indeed Jefferson himself, in response to Hume's radical skepticisms, declared as self-evident truth that we are all created equal.

Now, one of the main things that David Hume explained, and that basically still stands, is that one cannot derive an "ought" from an "is," meaning that one cannot derive a metaphysical fact from a physical fact. Let's say, for example, that someone commits a non-controversially evil act, such as killing an innocent person with no extenuating circumstances. Analyzing that physical act in terms of forensic evidence, the physiology of the killer and victim, and every other empirical angle will never reveal to us the evil of the act; and yet we hold the act to be evil, one that would traumatize almost anyone that witnessed it for the remainder of their lives. So when we say that such things as murder, genocide, slavery, rape and so forth are evil, we certainly do not mean that blind physical laws of nature and evolution have neurologically wired us to believe in fairy tales. Think of the logical moral implications of such an evolutionary view: genocide is not really wrong; it's just a fairy tale that blind evolution has neurologically wired us to believe. To call an evil act evil is like teaching children about the tooth fairy. In fact, we live in a solely material world in which there are no metaphysical realities. So once we transcend fairy tales, once we stop believing in the tooth fairy, once we stop believing that genocide is wrong, what kind of world will we get?

In his critique of pure reason, Kant attempted to defend metaphysics against the onslaught of Hume's skepticism and the powerful, almost hegemonic, rise of science. Unfortunately, his defense basically threw metaphysics under the bus, more or less killing it within the academic world. But even Kant, with his tragic epistemology, believed that our moral intuitions are self-evidently true and cannot be rationally denied. Thus our understanding that genocide is bad, that racism is bad, that it is wrong to murder innocents, is just as epistemically grounded and self-evident as our understanding that we live in a real world, that our senses give us reliable information (something that has been more philosophically contested, and at times refuted, than our moral instincts).

Therefore, in regard to epistemic structure, physics and metaphysics are epistemically parallel. Empiricism has a self-evident foundation upon which we build science. Otherwise, as Aristotle showed, we are pushed into an infinite regress of proofs or we descend into circularity. In parallel fashion, we have a self-evident metaphysical foundation upon which we build our metaphysical systems, such as a national constitution or the laws of the land. Thus, for

example, there can be a profound objective sense in which we are equal, and conversely there is a true and objective sense in which racism, sexism and violence toward innocent sentient creatures is wrong. If we want to give that up and claim that the only reality is matter – that murder, rape, thievery and so forth are not objectively wrong – then at least we're being honest materialists. And if we claim that such things are objectively wrong, but still remain materialists, then we're being philosophical hypocrites (apparently not a problem these days).

Previously, I mentioned Darwinism – a theory that has become extremely important in the world. I want to explore just what happens in the real world when you put forward a powerful physical theory while living in a world in which scientists claim that there are no objective metaphysical facts. As I will show, that toxic mixture throws the world out of balance, and leads to disaster. And, by the way, the same thing happens when imbalance occurs on the metaphysical side of the equation, as the history of religion demonstrates.

Looking, first, at the ancient Greco-Roman world, one finds that it was very much syncretistic in its metaphysical views. The Greeks and Romans strongly believed that when encountering other cultures with a different religion, you should do a comparative study and see that the other group is basically saying what you're saying, but with different language, different names for the same metaphysical deities and so forth. The Roman Pliny the Elder, who probably wrote the first encyclopedia, noted long ago that there is actually one reality, but it takes different names. The same view is found in verse 1.164.46 of the R̥g Veda, the earliest Sanskrit text and perhaps the oldest book in the world: "Truth is one, but sages describe it in many ways."

So into this syncretistic, tolerant world (much like our own, with exceptions) enters an extremely fanatical group, which claims that only they worship a living God, whereas everyone else worships dead gods, only they have a true religion, whereas everyone else has a false religion (we've all heard that preaching before). The Romans, as seen in the writings of Tacitus, one of the greatest Roman historians, believed that this type of fanaticism posed an existential threat to culture and civilization. None of this, of course, is meant to justify the cruel persecution of Christians by Romans, which tended to be sporadic and local. In contrast, we have the Christian persecution of pagans after Constantine, which was incessant, categorical and ubiquitous. It continued into the middle ages and even up to the renaissance. The great Renaissance scientist Giordano Bruno said the wrong thing, and was burned at the stake; and Galileo had to make a retraction in order to avoid an attack on both his work and his person.

This violent fanaticism continued into early modernity, and its role in two neighboring countries in the 17th and 18th centuries, France and England, explains much about the course of Western intellectual history. England was often moderate, while France swung to the far right with an absolutist monarchy and church that forbade dissent. For example, in 1685, Louis XIV revoked the Edict of Nantes, which allowed French Protestants to remain in France without being slaughtered.

In England, on the other hand, Elizabeth I (1533-1603) had declared a type of religious tolerance that was quite new in Europe at the time. The Glorious Revolution of 1688 established the rule of parliamentary government over English monarchy. Newton (1643-1727), both the best scientist of his day and deeply religious, played a key role in establishing an independent role for science that was impossible in France. With the Newtonian synthesis – a balance

between the physical and the metaphysical – the relative freedom of science and religion both flourished in England.

Back in France, a metaphysical fanaticism – the tyranny of church and divine right monarch – led to an equal and opposite anti-religious fanaticism in the form of Diderot's hugely influential *Encyclopedie*, and the murderous French Revolution.

In both England and France, we see the clear workings of a dialectical epistemological process, in the well-known form of thesis, antithesis, synthesis. The process is also known as the pendulum effect, or Newton's third law of motion: "for every action, there is an equal and opposite reaction."

Throughout the West's intellectual history, which is deeply affected by political, economic, sociocultural, and military forces, we find that the Western world is merely swinging between two positions. What basically set the pendulum swinging was this intrusion of murderously fanatical metaphysics into what had been in ancient times a syncretistic, tolerant, super-multicultural Europe. During that more tolerant European phase there was a balance between the physical and the metaphysical, and thus most people did not tend to be fanatical in one way or the other. In other words, scientists (or proto-scientists) didn't feel that in order to do their science they needed to bash religion or become philosophically atheist or agnostic; nor did they see religion as the enemy of rational thought, nor insist on strict methodological atheism. For example, the great philosopher Plato rejected the irrational religion of Homer but offered in its place a rational metaphysics. Physics and metaphysics basically worked together to explore different dimensions of reality.

Looking back at the scientific revolution, we find that leaders like Copernicus, Brahe, Galileo and Newton were all religious people. Even Galileo saw the Bible as authoritative in metaphysical matter – i.e. telling how to go to heaven, but not how the heavens go. Many forget that Descartes made an enormous contribution. Today, he is largely remembered as the person who wrongly taught substance dualism – ironically a view that is now making a comeback among a growing number of philosophers.

Historically, when murderously metaphysical extremism arose after Emperor Constantine, civilization collapsed before a full antithetical reaction could manifest. At that time, the Roman Empire collapsed and people were fighting to survive in very dark, chaotic times. At any moment, one could be invaded, raped, or murdered, and there was little time for philosophical pursuits. Europe plunged into the Dark Ages – literacy almost vanished. In the High Middle Ages, however, Europe began to emerge from the darkness and move toward the Renaissance. Ironically, one of the seeds of the renaissance was planted by the crusades, which are generally not appreciated. The crusades produced the first major contact that Europe had had with the outside world in a long time.

For example, at the time that Vasco Da Gama landed on the shore of southwest India in 1498, Europeans believed that India was Christian, converted by an apostle of Jesus who miraculously converted the entire population.

The Renaissance actually began in the Islamic world, which the crusaders were basically trying to annihilate. Inevitably Crusaders brought back information and culture from this hostile contact with a more advanced culture.

Then, the invention of the printing press stimulated growing literacy, because prior to its creation only the rich could own a book, not to speak of a library, since books were expensively hand copied.

Then the Protestant Reformation did much to democratize religious belief. This dividing and conquering of religion in the West greatly facilitated the rise of secularism, not least as an antidote to endless brutal European religious wars.

Luther was the most unwilling, inadvertent promoter of modernism one could ever imagine. Rejecting science and philosophy, he had mottos like sola scriptura, “only scripture” and sola fide, “the only faith.” And yet Luther promoted epistemological egalitarianism. Indeed, it was Luther who wanted to get back to the Bible’s affirmation of a priesthood of all believers. With the advent of the printing press and Luther’s production of a Bible in the German vernacular, all persons could directly read the scripture without having to go through a priest. Prior to that, no ordinary person was able to read the Bible. The first person to make an English translation of the Bible, William Tyndale, was executed in 1536 by Henry the Eighth for revealing a “state secret” (i.e., the Bible).

So with the rise of egalitarian epistemology, people start to read, different opinions arise, and this enormously contributes to an explosion of science – also stimulated by the age of exploration when nations needed faster boats, better weapons, better cartography and so forth. Also, as people read the Bible, many thought, “Wait a second, the priests tell us this, but it is not in the Bible; they have all these mystic sacraments that look like the very same magic for which witches were killed.” Thus the search was on for a real science beyond magic, either pagan or Church magic.

This leads to the dramatic rise of science. And when science gets enough power, it goes on the offensive against religion. It’s payback time – time for the intellectual, academic persecution of religion.

Thus Gibbons reasons that the Roman Empire fell because it became Christian. Marx adds that religion is a drug that makes people stupid and delusional. To this Freud adds that religion is a serious emotional disorder – basically psychopathology. I have a list that goes on and on and on – a war on religion.

And then, of course, science ran into a brick wall in the form of quantum mechanics, with all its problems and weirdness. Quantum physicists routinely describe the most advanced physics as strange, weird, mysterious and so on – the exact language that science used to denigrate magic and religion! And, of course, this admission unleashed a resurgence of magic and religion, as exemplified by 60s books such as *The Dancing Woolly Masters*, *The Tao of Physics*, and so on.

I compiled a great deal of logical, historical and philosophical evidence for all these points; unfortunately, there’s no time to present most of that information here. I will conclude by saying that what’s really needed today is an epistemological balance – the restoration of the classical

balance between physics and metaphysics. As much as I admire the physical sciences and benefit from their findings in thousands of ways, they are not the absolute gatekeepers of objectivity. They may be the gatekeepers of a certain realm of objectivity and knowledge, but they are not the gatekeepers of all knowledge. Indeed, it is self-evident that we live in a bi-dimensional universe. Even the greatest Western skeptic, Hume, acknowledges that! It is in our Declaration of Independence; it is the foundation of our political system; and it is the foundation of our moral views against sexism and racism. Even prominent atheist philosophers have said, "If there actually are objective moral facts then there must be a supernatural explanation."

My argument is that, given all the facts, it is not possible to be a fully rational materialist; and it is equally impossible to be a rational religious fanatic – religious fanaticism being clearly irrational. We need to get away from fanaticism – whether it pretends to be science or religion. Working together, we should restore the balance between the physical and the metaphysical. The scientific revolution was conducted by scientists that derived essential ideas from their religion. And religious people benefit greatly from reason and science. Let us move forward together along those lines.