

THE RETURN OF CONSCIOUSNESS

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Consciousness persists in being recognized. Despite a century of efforts to ignore it and even declare it an illusion, it is back, demanding to be understood as part of the universe. Science, led by physics, has had a spectacular career in the last four centuries, resulting in profound theories supported by massive evidence and displayed in technology that has revolutionized our world. Quantum theory, the discovery of DNA, and advances in materials science are all stunning. But science has been missing something: consciousness.

In a book recently published,¹⁰⁰ philosopher Philip Goff argues that Galileo (1534-1642) made a fundamental error in unintentionally setting science on its present course. Galileo distinguished between primary and secondary qualities of objects in the world. Primary qualities are those which exist independently of our observations, such as shape, extension or size, number and location. Secondary qualities are those that involve an interaction of things in the world and our capacities for perception. The color of an apple is a secondary quality because color is the response of consciousness to the wavelengths of light bouncing off the apple and into our eyes. Receptors in the back of the eye register these wavelengths and send electrochemical messages to the brain, thus giving rise to perceptions of color. The apple has no color of its own; it only absorbs some wavelengths of light and reflects others.

This distinction led Galileo to set the rules of science. Science explores only what it can measure, and it can measure only primary qualities. For Galileo, this meant that science cannot be qualitative but must be quantitative, and its natural language is mathematics. This separation allowed science to develop in all the remarkable ways we know but it ignored consciousness entirely. It suggested that consciousness, typically conceived of as the mind or soul, could be set aside in

¹⁰⁰ Philip Goff, *Galileo's Error: Foundations for a New Science of Consciousness*, Pantheon Books, New York, 2019.

understanding the physical world. Philosophers after Galileo tended to put consciousness into this mind or soul, a subject for philosophy and theology but not for science. Isaac Newton (1642-1726), a deeply religious man with great interest in theology (his theological writings are longer than his scientific works), gave a warning sign when he discovered the law of gravity. He explained how gravity works, how bodies with mass attract one another and how that force of attraction falls off with distance. But he acknowledged that he did not explain why it works the way it does. That is, he did not attempt to explain what gravity *is*. And this “action at a distance” troubled him throughout his life. It was resolved only with Albert Einstein’s (1879-1955) general theory of relativity.

The great philosopher Immanuel Kant (1724-1804), influenced by the empiricist David Hume (1711-1776), held that we could not know the external world as it is but only as it appears to us. Even space and time, Kant said, are categories of consciousness, ways we perceive the world, and we cannot say that they exist independent of consciousness. We cannot know things-in-themselves (*Dingen an sich*). This assertion sparked a great deal of philosophical thought regarding just what we can know, and the German Idealists following him discussed the limits of discursive reasoning and sense-perception in understanding reality.

But the ever-increasing success of theoretical and experimental science plunged ahead, right into the present. When a young man, I was amazed at what my maternal grandmother had experienced. Born in the 1880’s, she was a young woman when electricity came to her area in Colorado (United States) and when the Wright Brothers flew their first airplane. She last visited us in the 1960’s, flying to California in a jet plane. Now that I’m much older, I can recall the appearance of color television, atomic bomb tests, the first computer for private use, the Internet, the cell phone, the first moon landing, and recently the space flight past Pluto. We owe much to science that is both positive and foreboding. Yet what Goff calls Galileo’s Error—leaving consciousness out of science—persists in part because of these successes in science, and especially in physics.

In the latter half of the nineteenth century, consciousness slowly reappeared in psychology and psychiatry. Philosopher and psychologist William James (1842-1910), in his famous *The Varieties of Religious Experience*, published in 1902, declared the reality of the unseen. He meant that subjective experience, including mystical experiences, were real in that they happened and should be subject to empirical study as much as objects in the world are. While his philosophy and psychology

affected students of those fields, so-called hard science simply thought it irrelevant to their “real” work. Their scientific methods simply could not deal with subjective experience.

In the first quarter of the twentieth century, the Vienna Circle and others reconceived empiricism. Karl Popper (1902-1994), born in Vienna, was aware of the Circle and sympathetic to some of its concerns but was not a member and worked independently. He developed the principle of falsifiability. In simple terms, any theory or claim is meaningless unless one can specify how it can be falsified. The classic assertion that all swans are white is falsifiable and therefore meaningful. It was falsified in the 1700’s with the discovery of the Australian black swan. In Popper’s view, a claim that cannot be falsified has no meaning. Put in extreme form, an unfalsifiable assertion is nonsense. Hence the claim “There is a God” which is not falsifiable (What would prove it false?) is meaningless. Such assertions may reveal our attitudes, dispositions, emotions and evaluations, but they have no meaning in any way relating to reality. Though it did not take long to discern that the falsifiability principle is not itself falsifiable, because it is the criterion of falsifiability and so cannot apply to itself. Yet the perspective it embodied influenced scientific thinking for years.¹⁰¹

During the first quarter of the twentieth century, two remarkable events in science shook the world. One was Albert Einstein’s (1879-1955) relativity theory, dealing with the very large, and quantum theory championed by Niels Bohr (1885-1962), dealing with the very small. Nothing in science would be the same after these two theories emerged and were refined in the following decades. Space and time were no longer seen as separate features of reality but as one four-dimensional spacetime continuum. Bohr’s version of quantum theory, called the Copenhagen interpretation¹⁰², put limits on what science can know. Simply stated, Bohr held that we can know only what we can measure. Since a quantum entity is known only when observed, what it was before observation is unknown. Our observation possibilities are limited. As expressed in Werner Heisenberg’s (1901-1976) Uncertainty Principle, observing some feature of a particle prevents observation of another. For example, observing the

¹⁰¹ No complex scientific theory is falsified merely by observation or experiment. One can always change an assumption or alter some part of the theory, and experiment again. If the theory fails to explain many observations and experiments, it may be judged incomplete, but it will typically be maintained until another theory is developed that is consistent with, and accounts for, all the observations and experiments. Then the new theory is accepted and said to have more explanatory power.

¹⁰² There are several versions of the Copenhagen interpretation. These subtleties are ignored here.

spin of a particle prevents observing its momentum and vice-versa. As measurement of spin is made more precise, measurement of momentum is increasingly diminished. As Bohr recognized, such features of the quantum world place limitations on epistemology (what we can know) and rules out ontology (what reality is). Our knowledge is limited and we have no knowledge of reality outside observation and measurement. Einstein, who felt that science should be describing reality, was deeply disturbed by this view of quantum theory and made numerous attempts to show that the theory was incomplete. He failed. Bohr's approach, the predominant one today, is silent on reality. In other words, physics, on which all the sciences are built, can say a lot about *how* the world works but cannot say *why* it works that way or what reality is.

Of course, reality did not simply disappear. Erwin Schrödinger (1887-1961) developed a statistical equation providing a view of where a subatomic particle, such as a photon or electron, is likely to be before it is observed. When observed, this wave "collapses" into a precise location. Unobserved reality, then, is merely a collection of statistical possibilities. In attempting to get rid of this mysterious collapse of a particle when observed, the multiworlds theory was developed, in which all possibilities are realized in an ever-splitting (due to observation) universe into parallel worlds that cannot communicate with one another. All such views are based on what is known in quantum physics, but clearly involve philosophical, and especially metaphysical, assertions.

Sir Arthur Eddington (1882-1944) gave the name 'wavicle' to Einstein's discovery that light sometimes acts as a wave and sometimes as a particle, the photon. Bohr set out his principle of complementarity, which holds that no single model of a particle fully describes it. For example, we need both the wave model and the particle model to fully describe light. The same is true for other subatomic particles. Once again, there is a gap between what we can know and what reality is.

This brief and inadequate sketch of where we are in science frames what has happened in studies of consciousness. In psychology, the positivist¹⁰³ approach led to something called behaviorism, the view that consciousness had nothing to do with a person: only behavior, that is, speech and actions, could be studied and only they counted for explaining human beings, because subjective states cannot be studied by positivist

¹⁰³ Positivism is the claim that the only justifiable assertions are those that can be scientifically verified or logically or mathematically proven. This, of course, rules out any metaphysics and much of philosophy and theology.

criteria. This was in part a reaction to the perceived fuzziness of Sigmund Freud's (1856-1939) subconscious and Carl Jung's (1875-1961) unconscious, which came to include a collective unconscious. Behaviorism was shown to be inadequate (incoherent according to Noam Chomsky¹⁰⁴), but both Freudian psychoanalysis and Jungian depth psychology are with us in various forms today. Both Freud and Jung eschew philosophy, though Jung's psychology is suffused with it. Psychiatry has taken a largely materialist perspective, assuming that consciousness is chemically-based and developing therapies that reflect that position.

In the second half of the twentieth century, consciousness returned in significant ways. Novelist and believer in a perennial philosophy Aldous Huxley (1894-1963) published *The Doors of Perception* in 1954, anticipating the interest in alternate states of consciousness that arose in the 1960's in the United States. Huxley recounted his experiments with mescaline, and then there was Timothy Leary (1920-1996) who experimented with LSD in and out of the lab. While these efforts were eventually suppressed under United States law, they heralded a renewed interest in the nature of consciousness and its relation to reality. Philosophers and many scientists have found three possibilities: dualism, in which consciousness and matter are distinct substances; materialism, in which consciousness is a by-product of the organization of matter; and panpsychism, in which the substance of existence has both physical and mental properties. All three general views have many variations.

In the 1990's David Chalmers (b. 1966) proposed a form of dualism to explain consciousness. The root idea goes back to the scientist, mathematician and philosopher René Descartes (1596-1650) who held that reality consisted of two substances, *res extensa* (extended stuff, matter) and *res cogitans* (thinking stuff, mind). The two were utterly unlike one another, and Descartes could never satisfactorily explain how they are connected, as in, for instance, a human being. He was attempting to save soul or mind from the creeping materialism of his day. The failure to show how the two are connected and thus can affect one another led to a general rejection of his view. Chalmers has resurrected a sophisticated version of this position.

Chalmers points to three problems with consciousness. The "easy" problem is the correlation of brain states with mental states, complex enough in itself, but a problem which has seen great advances in the last

¹⁰⁴ Noam Chomsky, "The Case Against B.F. Skinner," *New York Review of Books*, December 30, 1971. This is a review of Skinner's *Beyond Freedom and Dignity*.

fifty years. The “hard” problem is how mind and matter are connected, the problem that dogged Descartes. There is also the “combination problem” which arises if one thinks of consciousness as somehow a property of matter. If atoms have some mental, psychic or conscious property, how does an aggregate of atoms give rise to the unified consciousness we experience? That is, how do trillions of atoms that form the human body collectively exhibit consciousness and self-consciousness? These problems are in the forefront of consciousness philosophy today.

Many materialists argue that consciousness is actually an illusion. Conscious states are only brain states, electrochemical configurations and activities of the brain, and absolutely nothing more. Paul (b. 1942) and Patricia Churchland (b. 1943) are philosophers deeply studied in neuroscience who hold this view. Since I find it difficult to understand how a self-conscious being can use its consciousness to discover that there is no consciousness, I will not pursue this avenue. Consciousness is so rooted in the nature of the universe that thinking of it as a kind of effluvia cast off by the brain is not appealing. The view that consciousness somehow arises from the organization of non-conscious matter, perhaps as smoke arises from fire, is difficult to substantiate, because the idea of emergence now popular in biology and evolution studies is not explained in materialist detail¹⁰⁵. Just *how* does consciousness emerge from non-conscious stuff is the problem. Put another way, how does subjective experience arise from objective stuff? Science has no answer or even an idea of what an answer might look like. We have no convincing model that we can test.

Dualism, of course, has the problem Descartes had, though in modern form. Again we cannot explain how two different fundamental substances interact. Just saying that they do will not work. Again, we currently have no viable model.

This leaves the panpsychist view, and I include in this pantheism, given the close relation of the two. Philip Goff, already mentioned, takes the panpsychist view. This approach has a long history, going back at least to the universal mind of Anaxagoras (b. about 500 B.C.), hinted at by Plato (424-348 B.C.) and featured by the neo-Platonists, notably Plotinus (204-270), Iamblichus (245-325) and Proclus (412-485), among others. And the German Idealists, notably Fredrich Wilhelm von Schelling (1775-1854),

¹⁰⁵ Emergence is the view that as matter organizes itself, a new level of being arises, such as living forms from lifeless chemical interactions. What emerges are new laws and states of being. So far, this view remains something of a vague label, since we cannot explain either how or why emergence occurs.

pursued a panpsychist approach in different ways. Though Leibniz (1646-1716) believed in a creator God, he held that God created monads, each of which reflected the whole universe from its own point of view and each of which had a mental or psychic component, from mineral to the human being.¹⁰⁶ And Baruch Spinoza (1632-1677) held that God or Nature was the sole reality, only two aspects of which, mind and body, are known to the human being.

Panpsychism, then, is hardly new. And it often occurred among those who were both philosophers and scientists. The same is true now. The great explorers of quantum theory, already mentioned, along with others of equal stature, were open to panpsychist views. This is shown in their writings where they reflect on the meaning of their joint discoveries. The scientists of today who take panpsychism seriously are not suddenly departing from the past; they are continuing a tradition that is as longstanding as science itself, even though suppressed in the late nineteenth and most of the twentieth century. In fact, the border between science and philosophy has always been porous, and it is even more open today.

Among contemporary thinkers, we see philosopher Thomas Nagel (b. 1937) arguing that Darwinian evolutionary theory is fine as far as it goes but is inadequate to explain consciousness and will only be correct when it embraces some form of panpsychism.¹⁰⁷ Even more recently, Paul Levy has made a remarkable attempt to bring science and consciousness together in his book *The Quantum Revelation*.¹⁰⁸ He provides a deep analysis of quantum theory and the fact that the observer cannot be left out of the experimental (observational) situation. For him, Schrödinger's wave equation expresses potential and observation (that is, consciousness) makes it actual. Consciousness, then, is fundamental to reality, which does not exist except as potential, until observed. Our consciousness creates the reality in which we live. But in one sense, this is obvious, since we are separate from one another. We both observe a rainbow, but given our spatial separation, no matter how small, we see "different" rainbows, since rainbows are only the interaction of reflected light from water drops and the eye and mind.

¹⁰⁶ For Leibniz, God is all these points of view simultaneously. Any object, including a human being, is a vast collection of monads "controlled" by a ruling monad, such as the human mind.

¹⁰⁷ Thomas Nagel, *Mind and Cosmos: Why the Materialist Neo-Darwinian Conception of Nature Is Almost Certainly Wrong*, Oxford University Press, Oxford, 2012.

¹⁰⁸ Paul Levy, *The Quantum Revelation: A Radical Synthesis of Science and Spirituality*, SelectBooks, New York, 2018.

Yet Levy goes beyond that trivial statement by pointing to quantum entanglement of particles. Two particles, once entangled, can be separated by cosmic distances, and yet when one is observed, we can know the other's spin state instantly. If the spin of one particle is up, the other will be down, and so on for the various observations we might make. Yet, since nothing can travel faster than the speed of light, the observed particle cannot inform the other of how it was observed in time for the other particle to adjust accordingly. Put simply, two entangled particles act as one "entity" no matter how far apart they might be. But, Levy points out, the whole universe is entangled since the early inflation of the Big Bang, and while entanglements can be broken, they are everywhere. Particles are fields, like whirlpools in a moving river, seemingly stable, but the water of the river is constantly moving through them. The whirlpools are ever different in substance but the structure looks the same to us because of our perspective, which is gross compared to the particles themselves. We cannot even say that two observations of an electron, for example, are observations of the same electron. What is in fact ever-changing appears to us to remain the same. Levy applies this understanding to all objects.

If we were standing with a friend looking out over a lake from the shore, we would not notice the differences in our perspectives because they are so slight on the macroscale. And we do not notice quantum effects on our scale, since trillions upon trillions of atoms are involved in our view. Further, consciousness is entangled, so our consciousness and our perceptions are not just ours. When the mechanical typewriter was invented in the nineteenth century, it took a long time for secretaries to become accomplished typists. After a number of people managed to learn typing, rather suddenly others could master typing much more quickly. It is as if those who first learned made a path that others could follow more easily. This phenomenon has been seen in other cases of learning and discovery and even among some animals.¹⁰⁹

For Levy, consciousness is the fundamental feature of all existence. In this sense, he says we dream up the universe. It is not as if there is something to be observed before observation: there are only potentials, possibilities of observation. As we observe, we turn potentials into actualities. And so for him panpsychism is not just the way things are:

¹⁰⁹ Biologist Rupert Sheldrake developed the idea of morphogenetic resonance to explain such phenomena, the view that previous structures (including structures of consciousness, such as those developed by the first typists) affect subsequent similar structures (such as the consciousness of later typists) across time, space and minds. His view is, of course, largely rejected, yet has inspired other thinkers.

consciousness is the very root of what is. Again, such an idea is hardly new. One finds it in some form in many traditions, including Hindu and Buddhist philosophies, as well as in the Western world. What is radical, Levy argues, is that the most up to date science, quantum physics, supports such a view as the only plausible one.

My own understanding of the world is a little different. From ancient times, the world of typical experience has often been considered an illusion, a dream. In the Middle Ages, philosophers and theologians turned this idea on its head, arguing that reality came in degrees, of which the material world was the lowest. The soul inhabited a higher degree of reality, and its powers of thought and intuition could reach even higher, toward the ultimately Real, which they called God. Whether one thinks in terms of ascending degrees of reality or descending degrees of illusion, the idea is the same. This God is of course not a being, but the root of all existence. And what is missing from much philosophical discourse is this concept of levels of consciousness, each level attuned to, or dreaming, a level of reality, all of which are illusory compared to their ultimate source, sometimes called God, sometimes the Absolute, the One (Parmenides, 5th century B.C.), or just ‘Tat’ (the Hindu Sanskrit demonstrative pronoun ‘that’).

Outside transcendent experiences as found in meditation, mystic states, or other numinous experiences, we are typically unaware of levels of consciousness. Thomas Nagel, already referred to, published the now famous article “What Is It Like to Be a Bat?”¹¹⁰ He argued that we cannot possibly know what it is like to be a bat. If we try, we imagine ourselves as humans in bat form. There is no way we can imagine navigating through the air and finding dinner in the form of insects by echolocation, sending out high-pitched sounds and determining the location, speed and direction of travel of an insect by the reflected sound returning to finely-tuned bat ears. Yet bats are conscious. We have no way of experiencing that consciousness, for the bat world is quite different from ours. As we move down the chain of conscious beings, knowing the consciousness of a fish, a plant, and so on is utterly impossible. For this reason, I tend to use the word ‘mind’ rather than consciousness, only because the word is more open-textured than we may take the word consciousness to be. Panpsychism is the view that mind pervades all existence, down to the mineral, even atomic and subatomic level, and the version espoused by

¹¹⁰ Thomas Nagel, “What Is It Like to Be a Bat?,” *Philosophical Review*, vol 83, No. 4 (October, 1974), Pp. 435-450.

Levy has all mind or consciousness interconnected. Together we realize a universe.

If this idea sounds familiar, though the language is different, it is because it is a core teaching of Helena Blavatsky, the co-founder of the modern Theosophical movement. She was born here (thank you, Dnipro and Ukraine!) and she insisted that all existence, all manifestation visible and invisible, is One Life, one unified existence, differentiated by levels of consciousness. One of her teachers said that he did not mind being called a materialist, but not a materialist in the sense that physical stuff is all there is. From the Source, all that unfolds is material, including mind and consciousness, in level upon level of differentiation. And, of course, quantum theory has dematerialized matter into quarks and fields, perhaps just the vibrations postulated by string theory. For quantum science, there is no matter in the traditional sense.

Just as ordinary human self-aware consciousness is only one level, we cannot claim to experientially know lower levels of consciousness. Theosophy disturbs many people because it holds that there are beings whose levels of consciousness are far above the ordinary human level, including creative beings that in some sense help evolution as well as beings in human form that are enlightened in various degrees.¹¹¹ But once we realize that we cannot know what it is like to be a bat, so we cannot know what it is like to be such beings. Of course, we can use analogies to sense something of bat consciousness, even of plant consciousness, though the farther away from our own ordinary consciousness, the less we can sense them. And so with “higher” beings. We can learn something of them since the One Life is all there is, but we cannot presume to know what their mind or consciousness is like. Hence those traditions that accept levels of consciousness advocate techniques for both sensing what such levels are and for self-consciously moving toward those levels. Deepest thought about such matters and meditation are the most common practices these traditions teach. And these practices cannot be successful if one does not live them out with integrity and compassion, since the mental and the physical, thought and behavior, are one in the light of the One Life. But it all begins with giving consciousness, including one’s own consciousness, the right place in the scheme of things, which is the One Life. That is the first step in transforming one’s own consciousness into something more

¹¹¹ These levels of increasing enlightenment are closely tied to universality of consciousness, that is, to extension of consciousness beyond the separate ego into increasingly inclusive experiential awareness of the One Life and of oneself as part of it.

than it presently seems to be. In this view, proper preparation of consciousness allows for the infusion of higher levels of consciousness into the lower structures of consciousness we typically experience.¹¹²

At least as practiced in the Western world, science, one might say, has not shown such possibilities to be real. But science, beyond the neurosciences which correlate brain activity with aspects of consciousness, has hardly attempted to do so. It took years of development in theory and billions of dollars to discover the Higgs boson at the Large Hadron Collider. What if we spent as much effort in theory development and in money on the exploration of consciousness? Who knows the result? Doing so would also revolutionize current conceptions of what science is. Whatever we think, the gap between so-called subjective experience and so-called objective reality is narrowing, thanks to quantum science, in which the observer cannot be separated from what is observed. We have a long way to go, but the future looks promising.

THEOSOPHY AND ECOLOGICAL CONSCIOUSNESS

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Theosophical perspectives can serve to reorient a basis of thought which can elevate and illuminate hidden connections in modern ecological consciousness. Theosophy points to man's capability to perfect himself and to ascend in states of consciousness, co-evolving with all of living Nature. Theosophy speaks of the living power of human thought to awaken and unfold in consciousness more ethical and encompassing views of unity, universal interdependence, and harmony—all of which are central concepts in modern ecological consciousness.

Theosophy as a Divine Science posits the unity of all life in Spirit. It is from spirit, H. P. Blavatsky tells us, that Man and Nature emanate from

¹¹² The problem of emergence, mentioned before, might be solved by a view such as this. Rather than thinking of consciousness “emerging” from an organization of matter, one might think of consciousness manifesting in the appropriate organization. It would have its own principles which were always present but latent rather than miraculously emerging from such organization. (See footnote 6).