

TOWARD A LARGER UNIVERSE: REALITY OUTGROWS THE BOUNDS OF PHYSICS

The physical universe in the twentieth-first century has turned out to surpass our wildest expectations in scope, comprising over a trillion galaxies spread over an area that is at least 84 billion light-years across. Yet conventional science holds fast to the view that the known universe is *all there is*. The assumption underlying modern science is that what's *real* is what can be discovered by science (both natural and social sciences). Everything else is merely subjective or sheer fantasy. If this is so, then it

indeed follows that the physical world in space and time must be all there is.

Of course this contradicts thousands of years of human experience. Virtually all of the world's religions subscribe to the general idea that consciousness or the soul survives physical death and continues on in a heavenly realm that exists apart from space and time. For the past thirty years, an extensive literature on near-death experiences has provided compelling (though not indubitable) evidence that this may be true. A strong case could be made for the ability of consciousness to separate from the body, in that many individuals near death claim they are in a remote position relative to their

bodies and are able to give detailed descriptions of objects and events they cannot have possibly seen. They also report meeting already deceased relatives that they didn't know about (but whose existence is independently confirmed by other relatives). Just this evidence alone implies a cosmos larger than the physical, space-time universe familiar to conventional science.

Paranormal Events

Beyond the argument for life after death, the field of parapsychology points in multiple directions to a universe larger in scope than what is presently understood. The evidence for basic processes of telepathy and clairvoyance (remote viewing) is strong, based on a number

of well- controlled double-blind experiments done at multiple universities throughout the world. These cases are nicely summarized in Dean Radin's book *The Conscious Universe* (Radin, 2009). While many conventional scientists remain skeptical, most of them either have not seriously reviewed the experimental evidence or they require a standard of proof considerably higher than that held in physics. Their usual argument is that because parapsychology has not provided a satisfactory theoretical explanation of the data, then the data must be wrong. However, the experimental methodology of many of these experiments has been of high quality. If even one experiment demonstrating the existence of telepathy or

clairvoyance turns out to be valid, then we would have a universe where nonlocal, acausal events happen. Nonlocal events imply conscious perceptions that supersede spatial or temporal boundaries. Clairvoyance is the perception of an object remote in space from the position of the observer. Telepathy implies conscious communion of one individual with another individual's consciousness that is remote in space and/or time from the mind of the first individual.

In physics itself, the existence of nonlocal connections is well established *for particle phenomena*: two particles remote from one another change their spin in exactly the same

way at exactly the same time, without any intervening causal connection. The connection occurs instantaneously, without any intervening signal traveling at the speed of light or slower. However, it remains unclear how nonlocality in physics might relate to the nonlocality of consciousness implied by telepathy and clairvoyance.

At any rate, the existence of telepathy and clairvoyance requires a universe where acausal processes occur. It also requires explanation in terms of *forces other than the four known forces that operate causally in the universe of conventional physics: gravity, electromagnetic forces, and strong and weak nuclear forces.* Once again,

parapsychological evidence requires a larger universe than what is presently understood.

While experimental evidence for telepathy, clairvoyance and precognition is the strongest, there are hundreds of independent reports from cultures around the world supporting numerous other phenomena in parapsychology. These include accounts of ghosts, poltergeists, channeling and the existence of spirit guides, materialization and dematerialization (generation of material forms out of nowhere, or disappearance of material forms), levitation (elevating the human body in space), thought photography (in which a held image or mental state results in an image on photographic film),

and psychic healing (healing occurring locally or at a distance without the intervention of any known physical forces), to name a few. Though such occurrences are difficult to study experimentally in the lab, their frequent reporting throughout history and in many cultures, not to mention hundreds of reports by impartial observers in both the *British* and *American Societies of Psychical Research*, point again to a cosmos broader than what is understood by conventional physics.

At the most basic level, the implication is that there must be a dimension or dimensions beyond physical space-time as we presently understand it.

There is an interesting parallel between modern physics and the multidimensional universe implied by paranormal events. Current paradigms in physics that attempt to *unify the four known physical forces mathematically require the assumption of multiple dimensions (up to ten)* beyond the four known dimensions comprising space- time. Whether this mathematical requirement of contemporary models of the universe (such superstring theory, discussed in physicist Brian Greene's *The Elegant Universe: Superstrings, Hidden Dimensions, and the Quest for the Ultimate Theory* (Greene, 1999) has anything to do with the multidimensional universe implied by survival and paranormal phenomena, remains to be seen.

Human Consciousness

The most obvious, close-to-home example of a seemingly “subtle,” nonphysical phenomenon is the human mind. No matter how hard one looks inside the physical brain or body, one will never find thoughts, feelings, desires, memories, or sensations as we experience them. Do thoughts and feelings really arise out of millions of neuronal signals and synaptic transmissions that occur every moment in the brain? We can certainly *observe* the activities of the brain using electroencephalograms or positron emission scans, but where would we ever “see” -- as an outside observer looking at the physical brain -- the color purple or a feeling of mirth?

Consciousness does not easily fit into a materialist definition of reality, so from a scientific standpoint, consciousness is often reduced to physical processes. The mind is assumed to be either identical with brain processes or an epiphenomenon of brain processes. This kind of materialist model of the mind is still prevalent among scientists.

But how can feelings, sentiments, motivations, personal meanings, and creativity be reduced to the neurophysiological and neuroendocrine processes of brain cells? The two seem categorically and fundamentally different. Saying mind is identical with brain merely evades, rather than answers, two fundamental

questions: 1) What is the mind (or consciousness)? and 2) How does mind/consciousness interact with the physical brain?

This brings up the long-standing “mind-body” problem in philosophy. There is no obvious way in which mental events can be reduced to brain events. We cannot eke sympathy or joy out of neurons and neurotransmitters.

For one thing, mental events appear to be of a more holistic order than micro neural brain events. One thought, however rapid, takes place over a longer period of time than each of the thousands of neurophysiological events that co-occur with it. So the thought is likely to be of a

“higher” order than neural brain events in the hierarchy of systems that make up a human being. It’s likely that a particular thought process organizes or subsumes hundreds of neurophysiological processes, much like a command in a computer program orchestrates many electrical processes in the computer’s hardware.

The Mind-Body Interaction

But what is a thought? If we say it’s an altogether different category of stuff from matter, like Descartes, we have to invoke metaphysical explanations for how mental and physical stuff might interact. On the other hand, if we say mind and brain are simply interior and exterior

aspects of some common underlying reality, we are probably getting closer to the truth. Yet we still haven't explained how the two interact. To be sure, mind is an *interior* phenomenon— it is the interior “side” or aspect of something experienced “from the inside out.” We are not going to find the stream of *consciousness as we experience it* to ever be an *object* of our five senses. We cannot view our own consciousness as an object of our senses, since we *are* it. Nor can we *see* another person's stream of consciousness as an object either. However, we can perhaps *experience* it empathically.

If we could in some way “see” or “vision” the mind of another person in an *objective* way, we

might “intuit” (rather than visually see) some kind of “subtle energy” phenomenon. Psychics have been known to see shifting appearances (in multiple colors) around people, commonly called the “aura” or “auric field.” Perhaps this is as close as we’re going to get to an *objective, exterior* aspect of what we subjectively experience as mind/consciousness. These subtle “fields” are *not* physical fields as we understand them; they do not appear to involve any of the four known physical forces as we know them. Otherwise, we could measure them or perhaps find their correlation with electrical nerve impulses or brain waves. The fact that we cannot measure them or observe them with instruments suggests that they are not really

physical or spatial. They are in some sense of the word “active,” yet they are not recognizably spatial. *Dynamic but nonspatial*. If they comprise some type of “energy,” *it’s not a type of energy we can observe scientifically at this point in time*.

The Nature of Thought

There is a fundamental question here: If we could view mental processes *objectively* (not subjectively as we experience them from the inside out), what would they actually be? Are they field fluctuations within the brain that can be explained in terms of known energies, perhaps the global electrical activity of the brain measured by an electroencephalograph, or possibly quantum fluctuations of photons

generated at a very microscopic level? Is consciousness “from the outside” simply a global type of electrical or quantum energetic phenomena? Certain considerations would argue against this. If there is any *survival of consciousness* following the death of the body, then consciousness (again, in its objective aspect) cannot be reduced to any type of electrical or even quantum activity of the brain, both of which would end at death. While consciousness may in part depend on such brain activity while one is alive, the fact that it persists after death implies a nonphysical sort of process independent of known forces understood by physics.

Furthermore, if telepathy, clairvoyance, and precognition occur -- and again, the evidence that they do is very strong -- then consciousness can behave in a nonlocal, acausal way. Remote viewing implies the mind can easily cross spatial boundaries; precognition (knowledge of the future) implies it can operate outside of linear time as well. Such behavior defies the known forces and laws of conventional physics, suggesting again that consciousness is fundamentally nonphysical and capable of operating independently of the physical world as we presently understand it.

So we are still left with the question "What is consciousness?" While more is said about this in

the essay “Reflections on Consciousness,” two basic approaches to the answer will be mentioned here.

One approach, called *energy monism* by philosopher Mark Woodhouse (1996), views consciousness (in its objective aspect) as a subtle, *nonphysical form of energy*. Energy monism assumes that *everything that exists is a form of energy*, whether part of the physical space-time universe of physics or more subtle, transcendent realms or dimensions beyond the physical. This has been a popular view throughout the history of philosophy.

In his classic study, *The Great Chain of Being* (1960), Arthur Lovejoy states, “The conception

of the universe as ranging in hierarchical order from the meagerest kinds of existents through every possible grade up to perfection has, in one form or other, been the dominant official philosophy of the larger part of civilized mankind through most of history.” (Woodhouse, 1996). While modern science has preserved only the lower part of the chain (matter, physical energy, and the four forces of nature), virtually all religions and many other metaphysical models of the cosmos speak of subtle domains (heavens, bardos, astral and causal planes, nirvana) where activities still go on, presumably involving some “subtle” forms of energy.

A main difference suggested between the physical universe and the subtle realms is not that the latter are *nonenergetic* but that they simply exist at *higher frequencies* or are *faster-vibrating forms* of energy. Presumably they would have to move or vibrate *faster than the speed of light*, the cosmic speed limit for anything existing in physical space-time. Physics has no explanation for such energies, because Einstein's general relativity theory proposes that nothing in the known universe can travel faster than the speed of light, approximately 186,000 miles per second.

Subtle energies operate in hypothetical realms beyond the known physical universe. From a

metaphysical point of view, thoughts are still considered energies, they're just "higher-frequency" or "highly vibrational" energies. Though energy monism has its roots in ancient Hindu philosophy, two modern offshoots of it are theosophy (which proposes nonphysical astral, causal, and spiritual planes of reality) and the popular late-twentieth-century philosophy of Ken Wilber. Wilber proposes a spectrum model of the universe consisting of a hierarchy of eight progressively subtler levels, physical matter being the "lowest" and a transcendent formlessness being the "highest" (Wilber, 1996). Energy monism is certainly elegant. It claims that everything is made of the same ultimate

“stuff.” The main difference between what exists in the physical universe of space-time and what exists in transcendent, nonphysical dimensions (the abode of ghosts, angels, devas, and a host of other spirits, depending on your theology) is *not qualitative but quantitative*. Energy that vibrates/moves slower than light speed is in the physical universe; energies that vibrate/move faster than light speed are in the subtle realms.

Most physicists reject this model on the grounds that it conflicts with Einstein’s general theory of relativity, which maintains *nothing with mass can exceed the speed of light*. Proponents of energy monism reply that Einstein’s theory is simply one paradigm that may likely someday be

replaced by a new view of the cosmos that allows things to happen at faster than light speed.

Even if such a paradigm emerges, however, we are left with the paradox of how events can take place *apart from space or time as presently understood*. The notion of angels or ghosts interacting with the physical world from outside of space is hard enough for many to accept, but the idea of subtle events occurring outside of time is truly paradoxical. The paradox of *nontemporal* processes and events is a significant problem for energy monism, unless the theory can be moderated to allow some other kind of “time.” Perhaps this type of time might exist in a

different form—something like the time experienced in dreams (“dream time”)—in a different, subtle dimension that is parallel to the physical universe.

The alternative to energy monism is the proposal that what happens outside of space-time is *not* energy or a field phenomena at all, but something else that we cannot fully conceptualize or understand. Perhaps *only information* exists outside of space-time, but if so, *how does anything get done in the transcendent realms?* The concept of information by itself is totally static; it doesn’t do anything. Yet religions propose that souls continue to go about their lives in heaven (or hell) and angels or

guides are constantly assisting us from some dimension beyond the world. The very existence of subtle or transcendent phenomena seems to imply *some* type of energy, or energy-like aspect, by virtue of the fact that these phenomena *act*—indeed, they *interact* among themselves and with the physical world. How they do this, or how any process could occur apart from linear time as we understand it, remains paradoxical. It is difficult to even conceive of events without time.

Some Mysteries Remain

While the evidence for a cosmos larger than the physical universe is quite compelling, perhaps beyond serious dispute, most of us are hard put to conceptualize exactly how it works. Perhaps

there is a different form of time in the transcendent realms -- not the kind of clock time we measure here on Earth. Perhaps "time" in other dimensions is more like the "dream time" we experience while sleeping. This may be the closest we can get to understanding the nature of processes and events in so-called subtle dimensions. Since the notion of events without time is truly paradoxical, it seems plausible to believe there must be some form of time in the afterlife.

Let's assume, for now, that that objective aspect or substrate of consciousness is some type of invisible or subtle "energy." As yet we don't have a very clear idea of what a nonphysical

energy might be like. (When psychics talk about astral bodies, discarnate spirits, or angels that they perceive in another “realm,” can we assume they are tuning in to this nonphysical level of energy? Perhaps.) It would seem that for mind (as subtle energy or fields) and brain to *interact*, there would need to be some kind of energy exchange between them. That means somehow that energy, as defined here, could extend from the observable physical world to other dimensions beyond the physical world.

We are back to energy monism or a “spectrum” model of the cosmos, the speculative position this website suggests. Such “energy” transactions can cross dimensional lines. When

you decide to raise your hand, some form of energy somehow moves from subtle to physical—between the mental process involved in your decision (actually the “objective” substrate of such processes) and the motor cortex of your brain that initiates raising your arm. So “energy,” as it is defined broadly here, is whatever gets something done“ (in physics terminology, we would say “whatever does *work*,” as the term “work” is used in physics). When mental intention actually moves my hand, then some kind of energy had to be involved in getting it done.

If this understanding of “energy” and consciousness is even partially correct, then

nature *has to be* larger than the physical world. It has to include other, nonphysical dimensions in which mental and spiritual phenomena/processes occur. These processes are nonspatial and perhaps “nonlocal” in origin, but they *can* and *do* interact with the physical world. Perhaps the brain is a “device” for “localizing” the nonlocal (mental- spiritual) aspect of our identity so that we can negotiate the physical world. After the body dies, consciousness remains, embedded in a nonmaterial “subtle” vehicle or not, depending on which branch of metaphysics you happen to believe. Perhaps we will have evidence enough someday to get a clear idea of *what* actually survives death.

Reality Includes Matter and Consciousness

The model of reality implied here is neither strictly materialistic nor idealistic. The world isn't fundamentally only matter or fundamentally only mind; it is both. *Both matter and consciousness (mind) are equally real.* Both should be considered to be part of "nature," if we allow nature to expand to encompass *all phenomena that exist*, not just those in physical space-time. The two interact with each other constantly and can influence each other by transfer of energy/information. From the standpoint of energy monism, *both are different levels of order of some underlying phenomena.*

Whatever this “substrate phenomena” might be, it is difficult to describe or even comprehend.

These two different “levels” — body and mind-- of which it is comprised are not just distinct conceptually *but also ontologically* (they are fundamentally different orders of existence).

Nonphysical energy/field phenomena directly associated with consciousness (thoughts, feelings, etc.) are nonlocal and not visible in space-time. By contrast, objective material phenomena that are accessible to our ordinary senses do exist in space-time (for example, activities of the brain observed in a PET scan).

It seems compelling to assume that while consciousness certainly involves information, it

also involves a certain types of dynamic energy phenomena. Consciousness is intelligent information that *acts*. If we adopt the view of energy monism, we are left with the rather paradoxical implication that consciousness and material reality are both distinct aspects of some common underlying fabric, the nature of which remains inscrutable (at least to this author).

Conclusion

The main point of this essay has been to suggest that reality—the Cosmos in the broadest sense of the word—exceeds the bounds of the physical, material universe studied by science. Paranormal events such as clairvoyance and precognition imply the existence of processes

independent of space and time. Much closer to home, the subjective contents of consciousness itself—the *qualities* of a person’s feelings, sensations, desires, and inspirations—cannot be found anywhere in the physical brain or body. They can be experienced directly in the present moment (existentially) but only become objects to awareness in memory.

Two hypotheses about the relationship of subjective mind to the brain (or material events) have been suggested. One proposes that the subjective mind is purely informational and does not require any form of energy as its substrate.

A problem for this model is explaining the interaction of consciousness with the physical brain.

Energy monism, the other hypothesis described, proposes that subjective consciousness is based in a subtle form of energy that is not electromagnetic but interacts with electromagnetic fields in the brain. Energy monism implies a spectrum of energies of varying frequencies, with slower frequencies appearing as matter in the physical world and higher, faster frequencies operating beyond space-time in other dimensions. It is compatible with the great chain of being proposed by many philosophical traditions as well as Ken Wilber's

developmental model of consciousness (1977, 1996). The difficulty with this hypothesis is explaining how subtle energy can “operate” beyond ordinary space and time as we understand it.

In sum, the jury is still out on exactly what consciousness is and how it interacts with the physical world. Although “reality” currently exceeds the bounds of contemporary physics, a future physics (perhaps already known to advanced civilizations) may provide us with a more complete understanding of the Cosmos.

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