

Crossing the Threshold: Nonlocal Consciousness and the Burden of Proof

| Stephan A. Schwartz |

After decades in which the research into the nature of consciousness has been dismissed as “The Ghost in the Machine,” a fundamental change is going on in science. Still a minority position, it is nonetheless coming to the fore in a wide range of disciplines, from medicine to biology to physics. Whole new subdisciplines have emerged, driven by the results of this experimentation.

One such is quantum biology, which posits: Life is a molecular process; molecular processes operate under quantum rules. Thus, life must be a quantum process. Experimental evidence is beginning to accumulate that this quantum view of life processes is correct. Gregory S. Engel, a UC Berkeley chemist, led a team that ingeniously found a way to directly detect and observe quantum-level processes within a cell by using high-speed lasers.¹

In mind–body research particularly, the issue of consciousness has attained a new prominence, as evidenced by the growing number of placebo studies, research on meditation mindfulness and its effects on the brain, and its practical use in things like posttraumatic stress disorder (PTSD); studies on the role of psychophysical self-regulation in healing; prospective research on near-death experiences (NDE); studies suggesting the reality of reincarnation; and research into the relationship of genius and spirituality.

In the neurosciences, what used to be identified as spirituality, allocated to the-

ologists and not considered a proper area for science, has become a matter of importance. A search of the peer reviewed database PubMed on the terms “Spirituality, Health” returns 3,615 papers in the peer-reviewed literature. Samueli researchers are responsible for some of those papers. Prestigious academic publishers design major books that explicitly address consciousness. *The Oxford Handbook of Psychology and Spirituality*, edited by Yale’s Lisa Miller, is one such example. (In the interest of full-disclosure, Larry Dossey, *Explore’s* Executive Editor, and I have a chapter in this book.²)

Another of the new subdisciplines to emerge in this transition is neurotheology. By using standard imaging technologies, radiologist Andrew Newburg at the University of Pennsylvania has focused on monitoring the brain activity of spiritual practitioners as they engage in their practice. In addition, research data show collective effects as well. Johanna Sanger, leading a team at the Max Planck Institute for Human Development in Berlin, reports that when musicians play duets, their brains synchronize. The detail in the data is so fine that they can distinguish which musician is playing lead and which is playing backup. “When people coordinate actions with one another, small networks within the brain and, remarkably, between the brains are formed, especially when the activities need to be precisely aligned in time, for example at the joint play onset of a piece,” says Sanger.³

Threaded through all of this work is a growing awareness, either explicitly or by implication, that there exists an aspect of consciousness not limited by space time or originating entirely within an organism’s neuroanatomy – nonlocal consciousness.

As Max Planck, the father of Quantum Mechanics, framed it in an interview with the respected English newspaper, *The Observer*, January 25, 1931 edition, said: “I regard consciousness as fundamental. I regard matter as derivative from consciousness. We cannot get behind consciousness. Everything that we talk about, everything that we regard as existing, postulates consciousness.”

The validation of Planck’s truth proceeds on two fronts: One group of disciplines focuses on the local mind, the neuroscience, the mechanics of an organism’s consciousness. Yet even here, nonlocal awareness projects itself into the physiology of consciousness. The insight studies of Mark Jung-Beeman illustrate this. Beginning in 2003, and continuing with a shifting list of collaborators, he has steadily sought to understand the neurobiological process of insight, ie, that aspect of consciousness that solves problems that cannot be worked with the intellect alone.⁴ This work has yielded many insights, most notably: “We observed two objective neural correlates of insight. Functional magnetic resonance imaging revealed increased activity in the right hemisphere anterior superior temporal gyrus for insight relative to non-insight solutions.”⁵

Contemporaneously, Jeanne Achterberg’s studies show changes in the brain of the recipients towards whom a healer has expressed therapeutic intention. “Each healer selected a person with whom they felt a special connection as a recipient for Therapeutic Intention. Each recipient was placed in the MRI scanner and isolated from all forms of sensory contact from the healer. The healers sent forms of (TI) that related to their own healing practices at random 2-minute intervals that were unknown to the recipient. Significant differ-

The SchwartzReport tracks emerging trends that will affect the world, particularly the United States. For EXPLORE it focuses on matters of health in the broadest sense of that term, including medical issues, changes in the biosphere, technology, and policy considerations, all of which will shape our culture and our lives.

ences between experimental (send) and control (no send) procedures were found ($p = .000127$). Areas activated during the experimental procedures included the anterior and middle cingulate area, precuneus, and frontal area. It was concluded that instructions to a healer to make an intentional connection with a sensory isolated person can be correlated to changes in brain function of that individual.⁶

The other front is work that explicitly studies nonlocal consciousness through experimentation. This vector of research explores the nonlocality of consciousness with studies that fall basically into two categories: nonlocal perception, the acquisition of information that could not be known through psychological sense perception, and nonlocal perturbation, including therapeutic intention–healing.

WHAT IS THE STANDARD OF PROOF?

Two papers from the European Organization for Nuclear Research, one of the world's largest and most respected centers for scientific research, have just been published. Each is roughly 30 pages in length. Nineteen of those pages are the single-spaced list of approximately 6,000 names – the researchers who support the findings of the European Organization for Nuclear Research experiments. The papers conclude there is a 1-in-300-million chance that the Higgs Boson does not exist, thereby validating the theory on why elementary particles have mass. It is by this collective assessment that the elusive God particle has been recognized as real.

Today there are six stabilized parapsychological protocols used in laboratories around the world. Each of these six has independently produced six sigma results. Six sigma is 1 in 1,009,976,678, or the 99.9999990699 percentile.

Those that have been analyzed in detail are:

- RV, ie, remote viewing;
- REG, ie, random event generator;
- Ganzfeld;
- GCP, ie, global consciousness project;
- presentiment; and
- Retrocognition/precognition.

Two more have also achieved this level, although their results, at this stage, are still subject to differing interpretations:

- staring and
- precognition

Because these protocols have the same fundamental methodology and collectively seek to study nonlocal consciousness, I believe they cannot be considered independent. The figure taken as a single effort is 10^{54} against chance – a galactic number.

In addition to these laboratory protocols, recent well-conducted studies reveal that 4.2% of the American public has reported an NDE.⁷

The population in the United States is a bit more than 315 million. Therefore, 4.2% is 13 million people in the reported NDE population, which is equivalent to all the Jewish people, all the Mormons, and Muslims as well, and most of the Buddhists.

The NDE population is almost certainly much larger, however, than 13 million because research has also revealed many people do not immediately report experiences. Often they don't speak of it until years later, which is a problem for researchers because it makes it hard to do prospective studies, as Dutch cardiologist Pim Van Lommel reported in his 2001 landmark study published in the *Lancet*, which was a prospective study.⁸ Like the six-sigma protocols, this research has withstood repeated assault.⁹

Given this level of evidence, how is this disparity possible between the reception of the Higgs Boson discovery compared with the studies of nonlocal consciousness research? The short answer, I think, is that we are seeing a demonstration of how culturally mediated science is. The Higgs Boson discovery is far less than a six sigma result yet, because it confirms a theoretical prediction and pretty seamlessly fits into established physics, it is accepted. In contrast, the nonlocal consciousness research, where six-sigma results confirm phenomena because we do not yet have a satisfactory explanation as to how they happen. The objection is fundamentally cultural, not scientific. It is driven by paradigm.

The compact science has with society is the promise to explain. Nonlocal consciousness events are, perhaps, the most broadly experienced mystery for which the culture seeks an explanation because, at sometime in their lives, almost everyone has experienced *deja vu*, had a precognitive

dream, or a premonition that came true. It is this larger cultural context which gives these issues an importance extending deep into society.

If you consider all the religious services across human history, they have certain elements in common. There is a designated place to gather; appointed times for gathering; a statement of shared belief and intention; a period for music, dance, chant, or choir; and, then, a time when some but not all of the group will have a nonlocal experience, whether speaking in tongues, or Voodoo possession. The mysteries of subatomic particles are of great interest to scientists and of enormous importance, but average men and women are not confronted with them in their normal lives as they are with altered states of consciousness and the froward phenomena of nonlocal consciousness.

Kuhn and Paradigm

To understand the resistance of denierism, I think, requires some consideration as to what science is and is about. There is no better authority in this than physicist Thomas Kuhn, generally acknowledged to be the most influential historian and philosopher of science in the twentieth century. In 1962, Kuhn published his masterwork, the classic text, *The Structure of Scientific Revolutions*. In it Kuhn argues that the popular notion that science, through the gradual accumulation of information over centuries, consciously and purposefully moves toward the basic "truth" about the universe and everything in it is a myth. Kuhn describes the process thus:

The developmental process has been an evolution from primitive beginnings – a process whose successive stages are characterized by an increasingly detailed and refined understanding of nature. But nothing . . . makes it a process of evolution toward anything. Does it really help to imagine that there is some one full, objective, true account of nature and that the proper measure of scientific achievement is the extent to which it brings us closer to that ultimate goal? . . . The entire process may have occurred as we now suppose biological evolution did without benefit of a set goal, a permanent fixed scientific truth of which each stage in the development of scientific knowledge is [an improved] exemplar.¹⁰

As Kuhn explains it, scientists are a special self-selected community dedicated to solving certain very restricted and self-defined problems whose relevance is defined by a worldview or paradigm. Kuhn, who is the father of the concept, explains it thus: “universally recognized scientific achievements [in a given field] that *for a time* provide model *problems and solutions* to a community of practitioners” [emphasis added].⁴ For scientists who are immersed in it, a paradigm is their worldview. Its boundaries outline for them both what the universe contains and, equally important, what it does not contain. Its theories explain how this universe operates.

Paradigms are absolutely essential to science, although ultimately they become self-limiting. Without the set boundaries provided by the paradigm, no observation has any greater importance or weight than any other. Without this differentiation, western science is impossible. The benefit it confers is that with boundaries comes depth, and with depth comes detail. The narrowness of this definition increases as a science matures, and manifests itself in increased subspecialization; one is not simply a chemist but an *organic* chemist. It should be obvious then, to quote Kuhn again, that “one of the reasons why normal science seems to progress so rapidly is that its practitioners concentrate on problems that only their own lack of ingenuity should keep them from solving. . . intrinsic value is no criterion for a puzzle, the assured existence of a solution is.”⁴ This efficiency in puzzle solving collectively is “normal science.” Obviously, this normal science is accumulative, but does it also seek the Copernican leaps, the insights that will change the course of history? No, it specifically does not. Normal science, in fact, is specifically not interested in the very thing it is popularly supposed to be obsessed with doing. It is this which is the source of denierism. It threatens the paradigm.

Paradigm Problems

“The scientific enterprise as a whole does from time to time produce anomalies that open new territory, and test long-accepted beliefs. But the *individual* engaged on a normal research problem is almost never doing any one of these things [emphasis Kuhn].”² He finds himself instead working from a different motivation, the desire to demonstrate that he is capable of solving a problem within the paradigm that no

one has ever solved before, or has not solved as elegantly. “On most occasions any particular field of specialization offers nothing else to do, a fact that makes it no less fascinating to the proper sort of addict. . . Scientists normally [do not] aim to invent new theories, and they are often intolerant of those invented by others.”² In fact, most deniers of nonlocal consciousness are nearly illiterate concerning the actual research. It’s outside of the paradigm; it can’t be any good. QED.

The great irony is from where does an Einstein, a Newton, a Planck, a Ramanujan, a Jung, a Salk come? The answer, as each of them has said quite clearly, is that their great insight came in a special state of consciousness, when all things seemed interconnected and interdependent and out of space and time.^{11,12}

Science is by nature narrow and rigid – and this should not be construed as a pejorative description because the vast bulk of research could be practiced in no other way – normal science always produces anomalies in the course of its work, and as it proceeds inevitably to reach its boundaries the encounters with anomalies increase. The reason is simple: Before paradigm is achieved, clearly nothing can be anomalous; after paradigm, a great deal will be; and as the limits of paradigm are reached, what lies beyond is that much closer.

Normal science, however, abhors anomalies because they are not tailored to the scheme by which it defines the universe. At first, then, anomalies are ignored on the assumption that subsequent normal science research will deal with them when either instrumentation or theory articulation or both are improved. If this does not happen, an attempt is made to extend the endangered theory in the hope that an extension of the paradigm’s accepted propositions will bring the anomalies back into the fold.

In the beginning of a paradigm’s lifespan, better instrumentation or theory extension does eliminate most of the anomalies by making them conform; some, though, will not conform, no matter how artful the experiment or ingenious the development of the original premise. Most scientists are happy to leave these anomalies in a state of limbo, which is why parapsychology is both science and non-science at one and the same time. Everyone knows anomalies are out there, lurking on the edges of the paradigm like

hungry beasts around a campfire. But scientists assume, mostly correctly, that the majority of problems can still be contained within the paradigm, and so for a time at least normal science continues, and the paradigm provides a reasonably secure framework.

However, as normal-science research continues to get closer to the edge of the “known” it pushes so intensely and with such specific focus that its explorations produce just the opposite effect from that desired. Not only does such research fail to strengthen the paradigm, which was its original purpose, but it produces still more anomalies. Ironically, at the end of the paradigm’s lifespan, the better the instrumentation the more intractable the challenge presented by anomalies. These begin to cluster until so many exist that not only theory but the paradigm itself is called into question. When this happens, the science enters a state of crisis from which there is no turning back. This is the phase we are now entering.

Extraordinary Resistance

There is extraordinary resistance in the scientific trenches to this final phase – in an individual it might be called denial. Scientists hate crisis even more than anomalies. Researchers delay retooling as long as they can, because it is expensive, involves much aggravation, and threatens careers and hard-won status. Paradigm crisis is the last stage in a process of scientific death. When it becomes irresistible, and the limits of the paradigm’s lifespan are acknowledged by a critical consensus of its practitioners, several significant events take place. This is what is happening now.

The assumptions of normal science include (1) the researcher and the experiment can be isolated from affecting each other except in controlled and understood ways; and, (2) because the experiment exists in a time-space continuum, the conditions under which it is carried out can be duplicated and the experiment replicated by any other researcher if it is valid.

All of this, the common techniques, the various levels of the collective fundamental assumptions that often go unspoken, seem to irresistibly argue for the conception with which I began this paper, the Myth of Gradualism. Yet both that myth, and the materialism its supports are refuted by the undeniable reality of scien-

tific change, and how it actually comes about. Those individuals who produce extraordinary research do so not by force of intellect or will alone, although these are important, but because they have had nonlocal intuitional insights *at the same time that there was a crisis*.

It is on this point, that most commentators describing the development of scientific breakthroughs are uncomfortably silent. John Mihalasky invokes intuition as an overt explanation, but tentatively,¹³ and Kuhn notes only that it represents a change in gestalt, a change in “beingness.” “Normal science,” he says, “ultimately leads only to the recognition of anomalies and to crises. And these are terminated not by deliberation and interpretation, but by a relatively sudden and unstructured event like a gestalt switch. Scientists then often speak of the “scales falling from the eyes” or of the “lightning flash” that “inundates” a previously obscure puzzle, enabling its components to be seen in a new way that for the first time permits its solution.”⁷ To someone interested in the field of nonlocal informational interactions this wording is virtually identical to used by healers, remote viewers, spiritual pilgrims, and great artists.¹²

Anomalous and Congruent

Kuhn is willing – because the evidence is so great that it cannot be denied – to invoke the inspiration of dreams, although how this actually works he does not venture to say. He makes one speculation on the nonintellectual aspect of puzzle solving. He notes, “No ordinary sense of the term ‘interpretation’ fits these flashes of intuition through which a new paradigm is born. *Though such intuitions depend upon the experience, both anomalous and congruent, gained with the old paradigm, they are not logically or piecemeal linked to particular items of that experience as an interpretation would be* [emphasis added]”⁷ What makes these key figures revolutionaries, then, is not just the quality of their work. They are also revolutionaries because of the source, mechanism unknown, from which their information derives. At the deepest level the process by which the information is obtained is as revolutionary as the information itself.

Intellectual excellence and intuitive insight, however, are not the only criteria for success as a “paradigm shifter.” A careful analysis of the process also suggests that some kind of interconnectedness between

breakthrough researchers and their peer communities is involved; a kind of interactive collective awareness must coalesce that comprises a critical consensus.

As Gunther Stent demonstrates, if an intuitive researcher is premature, no matter how great the insight, the response of peers is indifference at best, and martyrdom at worst.¹⁴ We all know the story of Galileo. Not as well known is that Leonardo figured out what fossils were while excavating the St. Marcos Canal, but no one could absorb what he was saying. Only when intuition and crisis are correctly juxtaposed can the necessary change in gestalt occur. Genius is an individual experience, but its acceptance is a social phenomenon. We are getting there.

On the basis research being carried out across the spectrum of the sciences, I believe there are four relevant descriptors helping to define what the new paradigm might look like. They are: (1) Only certain aspects of the mind are the result of physiologic processes. (2) Consciousness is causal, and physical reality is its manifestation. (3) All consciousnesses, regardless of their physical manifestations, are part of a network of life which they both inform and influence and are informed and influenced by; there is a passage back and forth between the individual and the collective. (4) Some aspects of consciousness are not limited by the time/space continuum and do not originate entirely within an organism’s neuroanatomy.

The research is pushing us toward this new paradigm. One sign of this is that most scientists tend to cite in their papers only work within their discipline, or a related one. Physicists rarely cite medical journals, and physicians rarely cite physicists. As a result separate literatures dealing with consciousness, both local and nonlocal, are developing independent of one another. It is only when they are seen collectively that the full impact of this research can be comprehended. It becomes obvious that it is time to fearlessly examine the state of the science in this area. There are also several major seemingly unrelated trends at work in American society today whose confluence makes this a good time to start.

CLIMATE CHANGE

Climate change – will compel us to see that we are part of earth’s network of life,

not a special exception. Science and technology will increasingly be focused on this because recognizing the interdependence and interconnection of life will become essential to our survival in the climate of the future.

DNA AND GENETIC RESEARCH

DNA and genetic research – will be powerful drivers affecting consciousness research. Discipline subspecialties within the neuroscience, quantum mechanical, and biological communities, will explore how consciousness and matter interact.

PTSD

PTSD – The enormous number of service personnel suffering from PTSD has brought meditation, mindfulness, and psychophysical self-regulation techniques and research to the forefront in rehabilitation medicine. Good results have been achieved through these approaches, and the reports of practitioners experiencing a “timeless time, spaceless space” have excited a new interest in the nature of consciousness and the mind–body linkage.

NDE

NDE – Two things have happened in medicine to make it clear this area of research is going to grow. First, clinical practice in hospitals around the world has been sensitized to NDE so more are being recorded. Second, the already recorded 13 million near-death experiencers will increase in number thanks to increasingly sophisticated acute care medicine and cardiopulmonary resuscitation.

We are moving into a new world.

ENDNOTES

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