Life, Death, and the Quantum Soul

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Rudy Tanzi

Thomas Kuhn was a well-known historian of science. More precisely, he is a legend. He has helped shed any illusion that our scientific models of reality are objective and absolute. His now-classic book *The Structure of Scientific Revolutions* explored the idea that our paradigms of reality are socially constructed. Further, he showed that throughout history they shift periodically in ways that are revolutionary. Even in hard sciences like physics and chemistry, nothing is fixed.

Kuhn drew upon what is called the Copernican Revolution to illustrate a major paradigm shift. It was the Italian astronomer Copernicus who, during the Renaissance, discovered that the sun and not the earth is the center of our universe. His then-heretical discovery is today called the heliocentric model and predicts how the planets revolve around the sun, not around the earth. This radical idea led people of the time to rethink their worldviews, including their understanding of themselves, God, and the heavens. This catalytic worldview transformation ultimately led to the development of natural science and methods of empirical observation.

When paradigm shifts occur, according to Kuhn, new approaches and questions emerge. These shifts are disruptive, because competing paradigms are often incommensurable and not easily reconciled. In the Renaissance and other times in history, those who challenged pervading

paradigms have been labeled heretics, banished from the prevailing religious institutions, and even burned at the stake. Today they might be ostracized from their community of scientists or medical professionals, for example, or they and their work might be the targets of smear campaigns. But paradigm shifts can also be moments of breakthrough, when a new vision of reality is seen from many different scientific vantage points. Ideas that were previously dismissed are reconsidered in new light. In this chapter we consider some of the indicators of a new paradigm that may help answer the age old question: what happens when we die?

The Consciousness Revolution

Many observers of science and religion report that we are currently living in the midst of a paradigm shift. While the billiard-ball logic of Newtonian physics continues to predict the physical world, reality is now being redefined as a complex quantum soup filled with nonlocality, probabilistic outcomes, string theory, cyberspace, cloud computing, bio-fields, potentialities in information fields, and even an uncertainty principle. Things are becoming faster and faster, smaller and smaller, and infinitely more complex and challenging to keep up with. In the midst of this shift, insights that bridge science and spirituality are now coming together to reveal new ways of understanding the nature of reality. Consciousness has become a spark that is shifting scientific, academic, religious, and social discourse.

Research on the survival of consciousness after death is a question that a small group of post-materialist scientists are considering in clinics, laboratories and field settings around the world. Different models are being hotly contested. Careers are on the line. On one hand, there is the strictly materialist view that characterizes the contemporary mainstream scientific worldview about the survival question: when you're dead, you're dead. That's it. At the same time, a

science of consciousness is emerging that is fundamentally challenging this conventional materialist worldview about who we are and what we are capable of becoming.

The implications of this paradigm shift are profound. It appears that who we are is fundamentally different than what we thought even a few years ago before the neurosciences and molecular biology came on the scene. In this context, our understanding of identity, personhood, and consciousness are being defined in new ways. And so this paradigm shift is momentous. It is also disruptive.

Being present at the convergence of diverse and often conflicting definitions of reality offers mindboggling challenges. It also offers us an opportunity to reflect on our own worldview and to formulate—or reformulate—our understanding of life, death, and what may lie after. The worldview transformation model predicts that social transformation follows the same general pattern as individual transformation, and it recognizes that the paths of both are more fractal than linear. Transformation can be messy. The breakthroughs that are emerging today are appearing at the intersections of worldviews, disciplines, and ways of knowing and being. The shift that is upon us represents a new ontology, or model of reality, beyond the senses and into expanded realms of being.

An Emerging Theory of Identity

In this reformulation comes the potential for an expanded view of human identity that includes experiences of extended consciousness, such as near-death experiences, mediumship and reincarnation. Bridging insights from both inner and outer ways of knowing may well help us live into a new view of human possibility that transcends the boundaries between science and spirituality.

Rudolph E. Tanzi, PhD, is one of the best spokespersons for this emerging worldview. His work combines impeccable scientific credentials with a deep spiritual practice. Tanzi is a professor of neurology at Harvard University. He also directs the Genetics and Aging Research Unit at Massachusetts General Hospital. Grounded firmly in research on the genetic causes of Alzheimer's disease, Tanzi also sees consciousness beyond the body. He is committed to establishing links between the seen realms of materialism and the unseen realms that lie beyond our physical embodiment. His views on consciousness and what may lie beyond bodily death are both unconventional and provocative. As he explained to me:

> Scientifically we don't know if identity, self-awareness, can survive death. But one would think that in terms of developing a web of consciousness around yourself that interacts with all the consciousness in the universe, that's information. And information is the most basic thing in the universe.
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> Information can be the structure of matter. It can be how energy is configured. We believe information cannot be destroyed. So we at least know that all of the consciousness we have experienced in our lives cannot be destroyed; it's stored somewhere.
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> A neuroscientist will tell you that your identity is just within your neural network—that everything you do and learn is just associated with what you already know. So that leaves us with the question, when you die and the brain is gone, the electrical activity is turned off, is everything gone?
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> The other side of the coin that most neuroscientists don't want to talk about is, where is consciousness? Where are memories? When you think about the past, where were they [the memories] stored? We don't have an answer for that in neuroscience. I ask students, I ask other professors this all the time. They say—it's all this hand waving—"You know, it's in your neural network." I'm like, "Where exactly?" "Oh, in the synapses." No, the synapses fire. [They fire] to

> recall the memory, but where's the actual memory? Where's my mother's face if I see it? What's the thumb drive of the brain that stores the jpg of my mother's face? We have no idea.
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> Then the question becomes, is it stored here [pointing to his head], but not as a unified mass, which you would need for identity? Or is it actually coalescing as a global energy within a unified mass that we can call identity. And for lack of a better word, we have the word *soul.* The soul is then the keeper of the identity. The consciousness you experienced over your life stays intact. I believe that. That's more of a spiritual belief right now than a scientific belief. But I trust my intuition more than anything, and my intuition says yes, this is probably the case.

For Tanzi, who we are is not defined by our physical experience. This may be surprising to hear from someone who has forged his career in mapping the molecules and mechanisms of awareness through our brains and bodies. In his unique way, he has found a worldview that offers an integration of what he knows from his scientific training and his own intuitive knowing. Tanzi, like other post materialist scientists, is suggesting that who we are transcends our brains and bodies. This idea points us toward new connections between personal experience and the soul as keeper of our identity. This is a compelling idea that characterizes this twenty-first-century scientist and offers an emerging new paradigm for us all.

Consciousness and an Interconnected Universe

Tanzi is not alone in his views of consciousness as a fundamental force in nature. Lothar Schafer sees a similar vista of possibilities. Shafer is retired from the University of Arkansas, where he taught physical chemistry for forty-three years. Harbinger of a new worldview, Schafer is optimistic that science is reaching a new way of understanding consciousness. Like Tanzi and other post-materialist scientists, he speaks about wholeness as the core of reality, countering the

materialist and reductionist worldview that reduces the world to the parts. While he made his career in physical chemistry, measuring and manipulating the microscopic world, he sees the basis of matter as nonmaterial and the universe as interconnected.

"All things are connected," he explained to me, "Not in the empirical world, but in their nonempirical roots."

> The argument is this: if the universe is wholeness, everything comes out of it, everything belongs to it, including our consciousness. In that case, consciousness is a cosmic principle. The only chance you have that your consciousness survives when you die is that there is some consciousness outside. What may be in us is perhaps not our consciousness, but a cosmic consciousness.

In discussing his own cosmology, Shafer acknowledges that a personal transformation linked his views of death with his scientific worldview. When he was younger, he was frightened about death. Today he finds nothing frightening about it. Not that he has any clear opinion on what happens after. Still, as a post-materialist scientist, he grounds his own beliefs and assumptions in the meeting of science and spirit.

> In a way, there is not really a duality. That is kind of phrased in the mindset of classical physics. I think there are different states of existence. Like when you leave a particle alone, it spontaneously goes over into a wave state of potentiality. This is why we can see interference patterns with double slits and electrons and so on. So there really is no duality at different states.
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> Take an ice cube. Put it into your drink. All of the sudden it's gone. That's what particles do, except they don't become something else material. No, they become a potentiality wave. That's what they do, and then if you do the right thing to it, the particle comes out. Where the mass was or went, I have no idea. I've asked a lot of physicists, and nobody has given me an answer to this.

> If the universe is what classical physics says, what Newton thought . . . then the universe is a machine. It's nothing but particles running around following Newton's laws. It's closed because the state of the present determines the future. So there can be nothing unexpected. It's like a clock.
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> In a mechanical universe, people have a problem with the notion that our life is completely useless. We live at the edges of an alien world that doesn't care for our hopes, or for our pains, or for our crimes. It's a completely useless life. It's a life without dignity. The only way we can have dignity is that the universe is not a machine. It's an organism like we are an organism. There is a cosmic mind with which we are connected. If there is a cosmic mind, it would be strange if it wasn't connected with ours.

Quantum Holography

Edgar Mitchell has been exploring the mystery of consciousness by bridging science and noetic insights. Mitchell is one of the Apollo 14 astronauts and founder of the Institute of Noetic Sciences. His background is in engineering. His passion is asking the big questions about life and the nature of reality. For him, the ancient questions of death and a possible life after are fundamental to our understanding of reality. With new data coming from sources like the Hubble telescope, Mitchell notes, we are coming to a whole new understanding of the universe and what life is all about in the broadest sense. Like Hameroff, the former astronaut looks to quantum physics and holography to help explain a concept such as reincarnation.

To help illuminate the connection, Mitchell first described how German scientist Max Planck, who won the 1918 Nobel Prize in Physics, discovered that all physical matter emits radiation. Some of that radiation has an associated charge—an electromagnetic area. Some of the radiation is just photonic, with no charge. Then in the 1990s, another German scientist, Walter Schempp, used complex mathematics to describe the radioactive emissions of every physical

body photonically. He called his photonic description of the emissions a hologram, a three dimensional image made from coherent light. It is a concept that has led to the development of modern medical technology, including the fMRI.

Mitchell has built a model that applies holographic information to our understanding of consciousness, arguing that there is a record of our thoughts and feelings in a holographic field. Like Tanzi, he argues that there is a real record of stored information. Such a hypothesis may reveal a mechanism to explain concepts like nonlocal consciousness and reincarnation. Equating quantum holography with the ancient idea of Akashic Records, Mitchell argues that "nature doesn't lose its experience."

> That would mean that the experience of every life is preserved in the record somehow. And presumably it's recallable . . . So if it is possible, for example, for a person to use the quantum holographic record of a prior person, to load it into the mind just the way you would load a computer program into a new computer, if that is true, that would thereby emulate that person's life and thought and reality.

He continued to elaborate on this theory to understand our identity, acknowledging that at this point it is still speculative.

> Our identity could be in some ways stored as photons in a quantum hologram. Is that an all-definitive statement? Not yet. Nevertheless, it is a correct statement. And exactly how much testing or what other testing might come out, or other laboratory experiments we might devise to either better authenticate or find the limitations on those applications remain to be seen. We're right on the frontier here.

Ultimately, Mitchell sees the question of death and what lies beyond as informing how we live our lives. Pondering his own immortality, he expressed his own worldview about the survival of consciousness after bodily death, and why it is important for how we live our lives.

> I think the more important thing for we humans is learn to feel pleasurable, happy, successful in what we do in this life, and feel that we're being productive, caring, and helpful to each other and to our families. That that's really more important than whether we really have all the answers to what happens after this life. Living this life to its fullest and properly and happily, to me, is far more fundamental.

Gleanings

We are living at a time of enormous change. The new science of consciousness speaks to the emergence of a new paradigm that focuses on the powers and potentials of our minds. Post-materialist scientists have innovative ideas about the nature of reality—ideas informed by both their scientific training and their own spiritual beliefs and practices. Living into new discoveries that our identity exists independent of space and time can give us a fresh new understanding of who we are—and what we may become beyond death. If we are, in fact, patterns of information, we may be both more, and less, than our personal identity.

This new worldview offers an expanded understanding of self that bridges both our physical and our metaphysical beliefs. We are finding new ways of understanding life as part of a nonlocal, interconnected universe that exists outside of linear space and time. The reality that is emerging in the twenty-first century is dynamic, inclusive, and in some ways beyond words. In the next chapter we will see how, as this paradigm shift impacts science, it also impacts society at large. In particular, a new worldview about death and the afterlife is impacting our system of healthcare. As we transition to a new worldview that transcends simple reductionism and materialism, we may create a new vision for our human nature. And in doing so, we may find new paths to healing our cultural denial of death.