The Cosmos --"Is a Conscious Universe" | The Daily Galaxy

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The question that intrigued the great American quantum physicist John Archibald Wheeler in the last decades of his life was: “Are life and mind irrelevant to the structure of the universe, or are they central to it?” Wheeler originated the notion of a “participatory,” conscious universe, a cosmos in which all of us are embedded as co-creators, replacing the accepted universe “out there,” which is separate from us.

Wheeler used the image of children with their noses pressed against a bakery window to describe the view that kept the observer separate from the thing being observed. But in a fully participatory universe, the observer and the thing observed are one.

He suggested that the nature of reality was revealed by the bizarre laws of quantum mechanics. According to the quantum theory, before the observation is made, a subatomic particle exists in several states, called a superposition (or, as Wheeler called it, a ‘Smoky Dragon’). Once the particle is observed, it instantaneously collapses into a single position.

Wheeler was a major influence on Deepak Chopra who joined forces with physicist Menas Kafatos to explore some of the most important and baffling questions about human existence. What happens when modern science reaches a crucial turning point that challenges everything we know about reality? In the coming era, the universe will be completely redefined as a “human universe” radically unlike the cold, empty void where human life and our planet is a mere mote of dust in the cosmos.

> “The Loophole” –The Discovery That Could Have Predicted Why the Universe Exists

Wheeler introduced the concept of wormholes and coined the term “black hole”. He pioneered the theory of nuclear fission with Niels Bohr and introduced the S-matrix (the scattering matrix used in quantum mechanics). Wheeler devised a concept of quantum foam; a theory of “virtual particles” popping in and out of existence in space (similarly, he conceptualized foam as the foundation of the fabric of the universe). At the end of his life, Wheeler said that when we finally comprehend the true nature of the universe, “we’ll be stunned by its simplicity.”

Sir John Eccles, a famous British neurologist and Nobel laureate, declared, “I want you to realize that there exists no color in the natural world, and no sound – nothing of this kind; no textures, no patterns, no beauty, no scent.” What Eccles means, says Kafatos, is that all the qualities of Nature, from the luxurious scent of a rose to the sting of a wasp and the taste of honey, are produced by human beings. Erwin Schrödinger, one of the main founders of quantum mechanics, said essentially the same thing when he declared that photons, quanta of light, have no color, such properties arise in the biology of perception.

> Why the Quantum, Why the Universe –“Are Findings Pointing to a New Physics?”

“If you want an observer around, and if you want life, you need heavy elements. To make heavy elements out of hydrogen, you need thermonuclear combustion. To have thermonuclear combustion, you need a time of cooking in a star of several billion years. In order to stretch out several billion years in its time dimension, the universe, according to general relativity, must be several years across in its space dimensions. So why is the universe as big as it is? Because we are here.”

Wheeler inspired many aspiring young scientists, including some of the greats of the 20th century. Among his doctoral students were Richard Feynman, a Nobel Prize laureate, with whom he coauthored the “Wheeler-Feynman absorber theory”; Hugh Everett, who proposed the many worlds interpretation; Kip Thorne, who predicted the existence of red supergiant stars with neutron-star cores; Jacob Bekenstein, who formulated black hole thermodynamics; Charles Misner, who discovered a mathematical spacetime called Misner space; Arthur Wightman, the originator of Wightman axioms; and Benjamin Schumacher, who invented the term “qubit” and is known for the “Schumacher compression”.

> “Powerful Hints” –Quantum Beginning of Spacetime

Wheeler suggested that reality is created by observers and that: “no phenomenon is a real phenomenon until it is an observed phenomenon.” He coined the term “Participatory Anthropic Principle” (PAP) from the Greek “anthropos”, or human. He went further to suggest that “we are participants in bringing into being not only the near and here, but the far away and long ago.”

This claim was considered rather outlandish until his thought experiment, known as the “delayed-choice experiment,” was tested in a laboratory in 1984. This experiment was a variation on the famous “double-slit experiment” in which the dual nature of light was exposed (depending on how the experiment was measured and observed, the light behaved like a particle (a photon) or like a wave).

> “The Unknown Question” –The End of Spacetime

The results of this experiment, as well as another conducted in 2007, proved what Wheeler had always suspected – observers’ consciousness is required to bring the universe into existence. This means that a pre-life Earth would have existed in an undetermined state, and a pre-life universe could only exist retroactively.

In their recent book, *You Are the Universe*, mirroring Wheeler, Kafatos and Chopra suggest that each of us is a co-creator of reality extending to the vastest reaches of time and space. This seemingly impossible proposition follows from the current state of science, where outside the public eye, some key mysteries cannot be solved, even though they are the very issues that define reality itself:

“The shift into a new paradigm is happening,” the duo writes. “All of us live in a participatory universe. Once you decide that you want to participate fully with mind, body, and soul, the paradigm shift becomes personal. The reality you inhabit will be yours either to embrace or to change.”

> “Shape-Shifting Cosmos” — Physicists Seek the Question to Which the Universe is the Answer

The most distant galaxies billions of light years away, have no reality without you, because everything that makes any galaxy real— with the multitude of stars with their heat, emitted light, and masses, the positions of the distant galaxies in space and the velocity that carries each distant galaxy away at enormous speed—requires a human observer with a human nervous system. If no one existed to experience heat, light, mass, and so on, nothing could be real as we know it. If the qualities of nature are a human construct arising from human experiences, the existence of the physical universe “out there” must be seriously questioned–and along with it, our participation in such a universe.

Physics has had decades to process the insight of Wheeler, the eminent American physicist, general relativist and quantum physicist, who originated the notion of a participatory universe, A cosmos in which all of us are embedded as co-creators, replacing the accepted universe “out there,” which is separate from us. Wheeler used the image of children with their noses pressed against a bakery window to describe the view that kept the observer separate from the thing being observed. But in a fully participatory universe, the observer and the thing observed are one.

The brain isn’t the seat of consciousness but acts more like a radio receiver, and perhaps emitter, translating conscious activity into physical correlates. (The radio receiver metaphor describes the feedback loop between mind and brain, which are actually not separate but part of the same complementary activity in consciousness.) To understand our true participation in the universe, we must learn much more about awareness and how it turns mind into matter and vice versa.

These are difficult truths for mainstream scientists to accept, and some would react to them with skepticism, disbelief, or anger. But following the other track of explanation, beginning with physical objects “out there,” fails utterly to explain how we are conscious to begin with.

That’s why in scattered pockets, some physicists are beginning to talk about a conscious universe where consciousness is a given throughout nature. In fact, the founders of quantum mechanics a century ago agreed more with this view, having understood that quantum mechanics implies observation and agency of mind.

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