Cosmology From Anthropic Principle to Irreducible Complexity And Beyond

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Who Did It? Did God Do It? The very idea that the universe had a beginning was so troubling to Sir Fred Hoyle that when he was promoted to Lecturer in Mathematics at Cambridge in 1948, he published two papers on steady-state cosmology, in which he presented a serious alternative to the Big Bang theory. That led him to speculate about human life on Planet Earth. Eventually he proposed what is now called the Anthropic Principle. His theory is based more on philosophy than science, but modern quantum physics seems to follow a similar tendency. Its basic tenant is that the universe cannot exist without a consciousness to observe it.

Sir Fred Hoyle 1915 - 2001 (Free Use)

The Anthropic Principle

How could the universe be so well balanced as to fall within such a very narrow band of laws that just happen to define the boundaries of human beings and their thought processes? It seems very unlikely. Therefore, Hoyle proposed that human beings originated and evolved within the universe because this is the kind of universe in which they could originate and evolve. It seems like circular reasoning, but it makes sense, in a philosophical kind of way. This kind of theorizing had a profound influence on Sir Hoyle. When he first began to think along these lines, he was an atheist, but he eventually came to believe that the guiding hand of God was behind the whole thing. To Hoyle, the statistical improbability of carbon-based life forms such as humans was too much to overcome. He could not imagine such an event without help from outside.

There are currently two accepted variations on Hoyle's original theme that do not require a traditional view of God found in most religions. The first is called the *Strong Anthropic Principle* (SAP) and is championed by Frank Tipler and John Barrow. They believe that the universe is somehow compelled to produce conscious life. In other words, the universe *intended* human beings. Human beings are its reason for being.

The Universe intended human beings (Image: Courtesy Micki Pistorius Deriv)

The second variation is called the *Weak Anthropic Principle* (WAP). Its chief cheerleader is Brandon Carter. He believes the universe is fine-tuned to human beings' specifications because of what he calls selection bias, or even *survivor* bias. In other words, life will arise in a universe that is capable of supporting it. There might be many other universes out there beyond our perception range where human beings could never have come to pass. But this one happened to have suited a particular type of sentient consciousness, so here we are.

Michael J Behe, professor of biochemistry at Lehigh University in Pennsylvania, Intelligent Design proponent. Lecture at DPC, University of Maine.(The Maine Campus Online / CC BY-SA 3.0)

Irreducible Complexity

Eventually however, the need for 'help from the outside' led to Michael J. Behe, one of the most controversial biochemists in America today. Talk show host Stephen Colbert called him 'The Father of Intelligent Design'. The *New York Times Book Review* says his books about the shortcomings of Darwinian evolution are "close to heretical." Richard Dawkins calls him a 'maverick'. In 2005, when asked to testify in the Kitmiller v. Dover Area School District trial, the court found that "*Professor Behe's claim for irreducible complexity has been refuted in peer-reviewed research papers and has been rejected by the scientific community at large*."

Loved by Evangelical 'Young Earth' followers, who believe the world was created just a few thousand years ago, he is reviled by the great majority of the scientific community. In a biography he is described as "*an advocate of the pseudoscientific principle of Intelligent Design,"* and even his own biology department at Lehigh University, where he a professor, repudiated his views.

God did it! (Image: Courtesy Micki Pistorius Deriv)

How did he come to occupy this treacherous position of both love and hate? Basically, he claims that biochemical structures are too complex to be a product of evolutionary mechanisms, and therefore must be designed. To most scientists, that is simply a scientific-sounding way to say: "*God did it*." He calls his position *Irreducible Complexity*, and he has paid the price for making his views known to the wider world in a series of books beginning in 2006 with *Darwin's Black Box: The Biochemical Challenge to Evolution*, and continuing through 2019, with the publication of *Darwin Devolves: The New Science about DNA that Challenges Evolution*. His argument is that the latest scientific discoveries uncover a startling fact that has been ignored and suppressed by traditional academic evolutionary science. The mechanism that pushes biology is actually a process of *devolution*, not *evolution*. Behe explains it like this: "*Darwin's mechanism works chiefly by squandering genetic information for short-term gain*." In other words, evolution can change things, making them appear different, but it cannot create anything at the genetic level.

The watchmaker analogy is a teleological argument which states that a design implies a designer, especially intelligent design an intelligent designer; a creator deity. (CC BY-SA 3.0)

To those who teach in mainstream schools, this is heretical, especially when it comes from the mind of someone who knows the scientific lingo, has all the right credentials, and knows how to push all the right buttons. He is able to speak in detail, and even eloquence, about "*progenitor fibrinogen genes in echinoderms*." He understands more about *Escherichia coli* experiments than many of his detractors. Phases such as "chloroquine resistance" and "trichromatic vision in primates" are his bread and butter. What layperson would not be impressed? According to Behe, if one is ever going to understand how life originated, and eventually produced humankind, Darwinian evolution will not explain much of anything. Only an intelligent mind, he says, can produce intelligent life.

The rancor Behe has generated in the scientific community cannot be overstated. The trouble is that whenever Behe appears at a function to argue his case, the place is sold out weeks in advance. His fans love him. And that is the problem. His theory of 'Intelligent Design', or 'Irreducible Complexity', has been completely co-opted by the religious right. He quickly became the darling of the creationists.

William Dembski at University of California Berkeley. (Wesley R. Elsberry/ CC BY-SA 2.5)

Specified Complexity

A second theory that forms a creationist's philosophy involves William Dembski's ideas about Specified Complexity. In his words, he claims that "*Something that is specified and complex is, by definition, highly improbable with respect to all causal mechanisms currently known*." What that means is that there are gaps in the evolutionary process that have yet to be explained. How did a creature suddenly develop eyes, which are highly complex and need a lot of features to come together all at the same time in order to work? Statistically, it seems highly improbable for a lot of different things to occur at the same time just by chance.

Critics call this a ‘God of the gaps’ theory. In other words, when science cannot explain something, someone decides that God must have stepped in to bridge the gap. To such people, this "proves" the existence of God. To others, the fact that one does not understand something yet does not prove that it will not be understood someday.

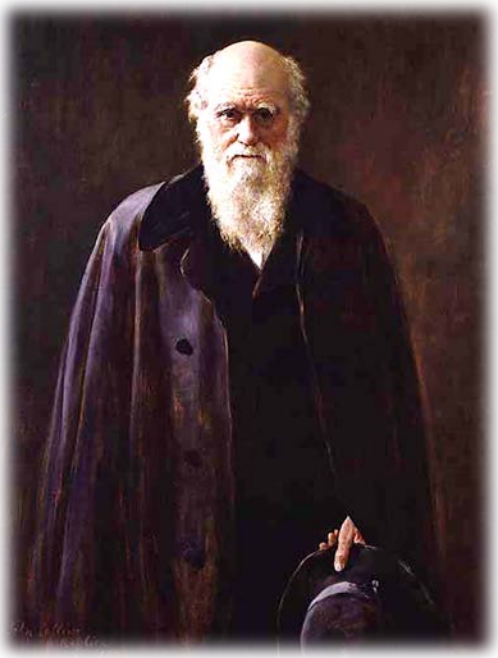
On the other hand, Dembski sounds like he is on to something when he points out the fact that scientists are committed to what he calls “methodological materialism.” Most scientists are wedded to the idea that there is a rational, natural cause for every effect. If a supernatural entity does exist, they will never find it because their very method eliminates even the idea of the supernatural. If one refuses to consider a possibility, that possibility will never be found.

How did humans come to be on Planet Earth? (Image: Courtesy Micki Pistorius Deriv)

The venom flows strong when it comes to discussing the books of Michael J. Behe or the lectures of William Dembski. They both bring up ideas that could undermine the currently accepted ideas about how humans came to be on Planet Earth. But the Discovery Institute's *Scientific Dissent from Darwinism*'s list now has well over 1,000 PhD signatures attached to it, so it is not fair when his critics say Behe is on a "lonely and quixotic quest." That is simply not true. Even Werner Heisenberg, a life-long Lutheran who was a giant among theoretical physicists, once famously said: “*The first gulp from the glass of natural sciences will turn you into an atheist, but at the bottom of the glass God is waiting for you*.”

Biocentrism

This leads to another theory about human origins. The idea of humans evolving from the natural world, following the principles of natural selection, in which the fittest survive to reproduce, is still very much in vogue. But there is another, much more radical, view. In 2009, Robert Lanza and Bob Berman wrote *Biocentrism: How Life and Consciousness Are the Keys to Understanding the True Nature of the Universe*. They followed this up in 2016 with *Beyond Biocentrism: Rethinking Time, Space, Consciousness, and the Illusion of Death*. And finally, in 2020, *The Grand Biocentric Design: How Life Creates Reality.* The basic premise of their books is that "*life is not an accidental by-product of the laws of physics. Nor is the history of the universe the dreary play of billiard balls [i.e., cause and effect] that we've been taught since grade school*." Instead, they offer a radical new way of looking at the rise of humankind.



In 1881 Darwin was an eminent figure. Copy of a portrait by John Collier in the National Portrait Gallery, London. (Public Domain)

In short, the universe cannot be understood without including the presence of biology. The universe does not create life. Life creates the universe, which is not a byproduct of physical laws. Life creates the physical laws. The sweeping conclusions found in these books challenge the concept of death, as well as changing the way people should think about time, space, consciousness, and the origin of humanity.

In Lanza's words: "*A full understanding of life cannot be found by looking at cells and molecules through a microscope. We have yet to learn that physical existence cannot be divorced from the animal life and structures that coordinate sense perception and experience*." In a plain and simple statement of fact, Lanza places biology "*above the other sciences in the attempt to solve one of nature's biggest puzzles, the theory of everything, that other disciplines have been pursuing for the last century. Such a theory would unite all known phenomena under one umbrella, furnishing science with an all-encompassing explanation of nature or reality*."

Robert Lanza in laboratory (RobertLanza /CC BY-SA 3.0)

So, what is the theory called biocentrism? How can it be understood if one lacks Lanza's experience and specific knowledge? Theories about origins and the rise of humankind have this in common: Humans are the ones making observations. Human-invented language supplies names for that which is observed, and humans write the stories that wind up in textbooks. But what if reality lies in the subjective observations humans have, rather than in the objects they describe?

Humans write the stories that become textbooks (Image: Courtesy Micki Pistorius Deriv)

This has profound implications for any ideas about human origins. Think about it in simple terms. Everyone agrees that the moon is so many miles or kilometers from earth at any given time, and to reach it takes so many days and hours. Once stated in those terms, the supposed objective “fact” is accepted. But how far is a mile or a kilometer? How long is a day or an hour? Those are human-calibrated measurements, not some objective fact. A 24-hour day exists only in human, earth-based reality. Humans set the parameters and determine the rules. And the same thing holds true for everything measured and observed.

Rene Descartes once famously said, *Cogito, ergo sum*. ("I think, therefore I am.") Although many have since argued with his supposition, what he did was to acknowledge the importance, perhaps even the primacy, of consciousness. A supposed "ether" that was once postulated to fill space, Einstein's space/time, hypothetical, convoluted string theories, imagined membranes and parallel universes were all constructs invented by the human mind. No one knows if they really exist. In truth, they really exist in human minds — in human consciousness. They are located within people, not "out there" somewhere.

In Lanza's words: "*When science tries to resolve its conflicts by adding and subtracting dimensions to the universe, like houses on a Monopoly board, we need to look at our dogmas and recognize that the cracks in the system are just the points that let the light shine more directly on the mystery of life*." Ultimately, he argues, it is the observer who creates reality and any conception of it. It is not something that is discovered. It is something created when it is observed with a particular frame of mind and experience, and then described. This is a difficult concept. It can seem as though simple semantics are being used to tout some new-fangled idea.

Rene Descartes by Frans Hals (1649) (Public Domain)

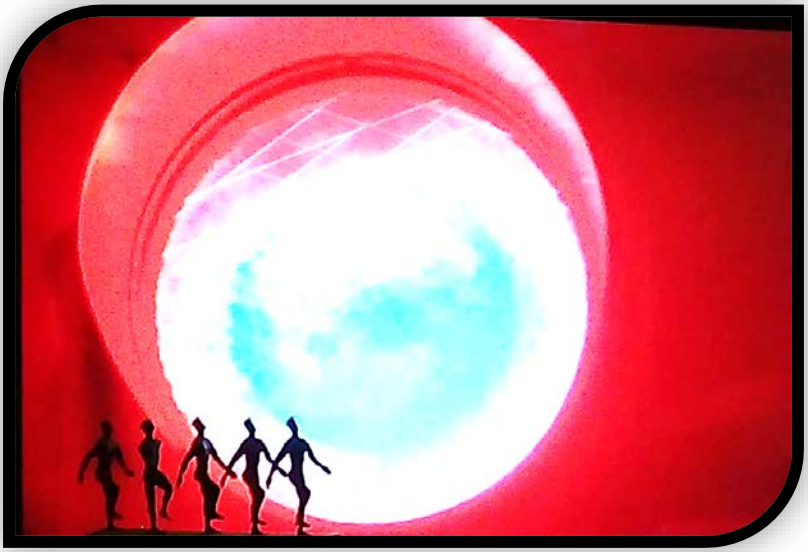
Arrow moving (David Carillet Adobe Stock)

But consider this thought experiment: If an arrow is launched from a bow, it appears to fly through the air from here to there. That seems patently obvious. It might even be called objective reality. But 2,500 years ago, a brilliant philosopher by the name of Zeno of Elea came up with a paradox he called *The Arrow*. He started at a perfectly logical point. Nothing can be in two places at once. Thus, at any given time during its flight, the arrow is in one specific location. Now it gets tricky. If the arrow is in a specific location, it must be at rest. That means that at any and every moment of its flight, the arrow itself is motionless. The only logical conclusion, then, is that motion is impossible. How could the arrow be in motion if it is always at rest? What that means is that motion is impossible. The arrow cannot fly from here to there because at any and every moment it is not going anywhere. So, motion is an illusion, a product of the human mind. Time, therefore, cannot be an absolute reality. It needs consciousness to make it happen. And consciousness needs biological entities to produce its magic — the magic that humans call reality. Thus, human origins are a basic requirement of the cosmos.

Before dismissing this concept out of hand, remember that this is exactly what quantum reality says. The uncertainty principle says that a particle does not exist outside the study of an observer. Humans make choices all the time. Without those choices there is no determination of the position anything occupies or the speed at which it is moving.

Earth Math and Science quotes (Bjorn Bakstad / Adobe Stock)

If this line of thinking leads to frustration, take comfort in the fact that Einstein could not accept it either. At least not at first. It took him a long time. His space/time was totally incompatible with quantum theory. And make no mistake about it. It is incompatible. It works in a practical way, however, so scientists accept both Einstein's classical physics *and* quantum reality. Both are true *if* one sticks to the purposes for which they are applied. But do not forget that the choice to employ one or the other is made by a biological entity — humans. Once again, a Biocentrist view of the universe is in play. It makes the audacious claim that humans originated because they are the only biological, thinking, animals that can describe the elusive substrata of conscious activity.



Do universes exist that are empty of biological creatures that observe them? (Image: Courtesy Micki Pistorius Deriv)

Within this framework, do universes exist that are empty of biological creatures that observe them? No, they do not. Would they exist if humans could somehow travel there? Yes, they would. Because that would introduce a thinking, biological creature into the equation, who can observe, report, and define.

So, if these hypothetical universes did not exist before they were observed, did they just pop into existence when someone asked about them and imagined them? Or, as Einstein famously said, "*Is there no moon unless somebody looks at it*?" Think about the famous Zen question, "*Is there sound in the forest when a tree falls if nobody is there to hear it?*" Biocentrism says, "*Not only is there no sound, there is no tree*!"

In short, one is dealing with a totally counter-intuitive idea — the fact that there is no reality outside of human consciousness. Anything else is an illusion. It is a powerful illusion, and a person's senses would rebel if one considers anything other than its deceptive power. But it is an illusion just the same. At least, it is according to Robert Lanza, who has the final say: "*Despite such things as the development of superconducting super colliders containing enough niobium-titanium wire to circle the earth 16 times, we understand the universe no better than the first humans with sufficient consciousness to think. Where did it all come from? Why does the universe exist? Why are we here? In one age, we believe that the world is a great ball resting on the back of a turtle; in the next, that a fairy universe appeared out of nowhere and is expanding into nothingness. In one age, angels push and pummel the planets about; in another age,*

everything is a meaningless accident ... Consciousness cannot exist without a living, biological creature to embody its perceptive powers of creation. Therefore, we must turn to the logic of life, to biologic, if we are to understand the world around us".

Top Image: Alternative to the Big Bang theory (Image: Courtesy Micki Pistorius Deriv)

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