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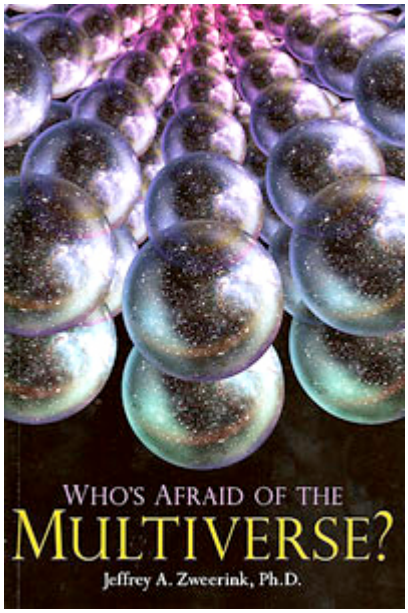
The Multiverse Problem

Science & Religion by Nathan Schneider / March 30, 2009

Is **theoretical physics** becoming the next battleground in the **culture wars**? Not according to some theologians and scientists.



Jeffrey Zweerink's theological booklet on the multiverse. Credit: Reasons to Believe

People have long sought after a theory of everything, even when they had nothing but their five senses as tools of measurement. In the 6th century BCE Thales asserted that all matter is made of water; Anaximenes responded that it's all air. Parmenides a century later concluded with exacting proofs that everything we see is an illusion and that reality really consists of a single, unchanging sphere. Today, scientists are once again looking beyond the pale of measurable time and space to answer some of our biggest questions about the nature of things. In their efforts to solve fundamental problems in cosmology, many researchers have converged on the idea of a multiverse — the theory that a vast number of universes lie beyond the limits of what we can observe.

Because they're unobservable, multiverse theories are also untestable, blurring the line between science and speculation and making them controversial in the scientific community. Princeton University physicist Paul Steinhardt has called the multiverse "a dangerous idea that I am simply unwilling to contemplate." By challenging both humanity's

uniqueness and our central place in the cosmos, multiverse theories have also become embroiled in theological debates — some fear they will join evolution as another battleground in the culture wars.

In a 2005 *New York Times* op-ed, Christoph Cardinal Schönborn, the archbishop of Vienna, accused scientists of concocting the idea of a multiverse specifically "to avoid the overwhelming evidence for purpose and design found in modern science." Since then, a handful of other prominent Christian thinkers have also argued that multiverse theory is motivated by a refusal to accept evidence of god's handiwork in the cosmos. Evangelical philosopher and Discovery Institute fellow William Lane Craig has called the idea an act of "desperation" on the part of atheist scientists. And Canadian journalist Denyse O'Leary, an ally of the intelligent design movement who is writing a book about cosmology, also asserts that "religious or anti-religious motives dominate the discussion" among scientists developing multiverse models.

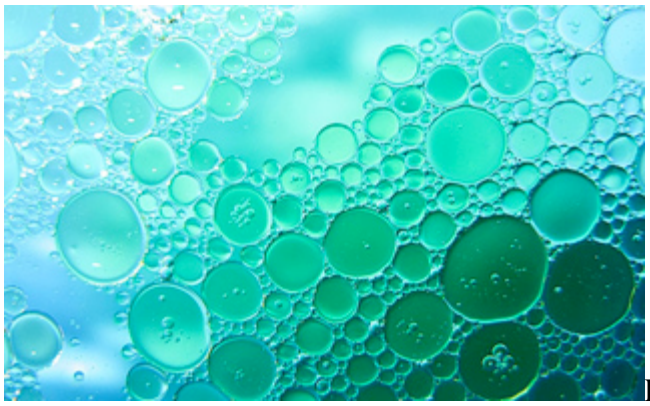
For these critics, cosmology was once a source of theological promise, as it provided rational evidence that the universe is supremely designed for life. Scientists now recognize that if space were expanding at a slightly different speed, or if the strong nuclear force were just a little off, our universe would be a hydrogen mush incapable of supporting life. The chances that the cosmic conditions needed for even a single living cell would come about in a random toss-up are astonishingly low, often called the "fine tuning problem." "The most obvious explanation for fine-tuning is that fine-tuning is real," argues O'Leary, "that we live in a designed universe." If, however, we live in a vast and varying multiverse, there could be as many as 10500 different universes in all, making the chance of ours occurring among them comfortably higher. Thus, multiverse theory eliminates the fine-tuning argument for the existence of god.

Still, the growing credibility of multiverse theory has failed to create the opposition between religion and the multiverse that Schönborn and his cohorts expect. Catholic particle physicist Stephen Barr writes and lectures on how physics demonstrates evidence of god, yet he builds some of his own research on multiverse theory. "There are physics reasons why the multiverse has to be taken seriously as an idea. It absolutely is not kooky," says Barr. When speaking at Christian universities and churches, he often fields questions on multiverse theory from a largely receptive audience. He says their questions tend to focus on the scientific details, not the religious consequences. Yet there are books by some Christian intellectuals, like Benjamin Wiker and Jonathan Witt's *A Meaningful World*, which Barr admits the multiverse too carelessly: "It seems to me very stupid for religious people to go around and attack ideas like the multiverse because they think it somehow hurts a religious argument. It may turn out someday demonstrable that it's true, and it'll backfire on them."

Among the scientists and theologians focused on the theological consequences of multiverse theory, many of them believe that it actually expands the job description for god. Last March, a conference on the theological implications of string theory and multiverse theory was held by the physics department of Wheaton, an evangelical Christian college in Illinois. Don Page, an evangelical and theoretical physicist at the University of Alberta,

gave a presentation entitled “Does God Love the Multiverse?” (mp3 | PDF), explaining to a mostly religious audience how multiverse models arose out of key questions in particle physics, string theory, and cosmic inflation — not in order to avoid evidence of design in the cosmos. Page insists that undercutting one argument for god does not defeat the whole case for divine creation. “The multiverse is not an alternative to design by god,” he says. “God could have designed the whole thing.”

Robin Collins, a professor of philosophy at Pennsylvania’s Messiah College who also presented at the Wheaton conference, focuses much of his work on the theological opportunities multiverse theories present for the uniqueness of our universe. He imagines far-flung civilizations in the multiverse all in need of salvation and a multiplicity of Christs who would change forms to meet each universe’s redemptive needs. “If you had Klingons somewhere — of course a very fallen race, as we know from *Star Trek*,” Collins adds, “God takes up their nature, and there’s a Klingon version of the Son.” Collins has also argued that multiverse models are consistent with god’s creative capacities. “If you start thinking about god as infinitely creative,” he says, “it would be totally unexpected for god to *just* create *us*.”


Photonquantique via Flickr

Jeffrey Zweerink, a part-time UCLA astrophysicist and a member of the creationist think tank Reasons to Believe, has actually set out to make the multiverse a tool for evangelizing. He recently published a booklet called *Who’s Afraid of the Multiverse?* through Reasons to Believe. In its conclusion, he writes, “As my understanding of multiverse models increased, I realized the whole issue provided a tremendous opportunity to engage science-minded people and draw them into discussion of the Gospel.” Zweerink hopes to convince fellow Christians that multiverse only replaces one design problem with another, strengthening the evidence of god. “It seems that any multiverse model which can explain our observable universe requires a beginning and still exhibits design,” he says. Zweerink has also devoted a monthly blog post on reasons.org to the theological advantages of multiverse theory.

Multiverse theories inevitably challenge both scientists and laypeople to ask what barely-fathomable possibilities they are willing to entertain. Faced with a dearth of empirical evidence, both scientific and spiritual imaginations are freer than usual to run wild. For these reasons, it’s perhaps only natural that there is tension as scientists and religious believers try to bring the edges of our universe into focus.

Stanford cosmologist Andre Linde, perhaps the best-known contributor to multiverse theory, says that his work “allows you not to have to beg for the help of religion.” He was among the team Moscow scientists developing “chaotic inflation theory” in the 1980s, which posits that parts of the cosmos are constantly budding off, undergoing big bangs of their own, and developing into universes with varying laws of physics. Linde began his research to resolve lingering questions about the big bang. Bu was he secretly hoping to put the question of intelligent design to rest? “Expanding this area of positive knowledge does not remove the question of god,” Linde says. “It just pushes it further away.”