

# FROM COSMISM TO DEISM

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## *Abstract*

*The rise of [artilects](#) (artificial intellects, i.e., godlike massively intelligent machines with intellectual capacities trillions of trillions of times above the human level) in this century makes the existence of a deity (a massively intelligent entity capable of creating a universe) seem much more plausible.*

There are now thousands of AI scientists around the world (concentrated largely in the English-speaking countries) who feel that humanity will be able to build massively intelligent machines this century that will be hugely smarter than human beings. The author, for example, thinks that the issue of whether humanity should build these “artilects” (artificial intellects) will dominate our global politics this century and lead to a “gigadeath” war, killing billions of people.

These AI researchers know that 21<sup>st</sup> century technology will be capable of creating machines with a bit processing rate trillions of trillions of times above the estimated

human-brain-equivalent bit-processing rate, and that neuroscientific knowledge is advancing at an exponential rate.

Let us assume for the sake of argument that these artifacts are actually built this century, and then speculate on what such creatures might occupy themselves with. Of course, as humans, with our puny human brains, trying to imagine what an artifact would think about is like a mouse trying to imagine what humans think about, using its puny mouse brain. Nevertheless, we will speculate anyway, because some of these human level suggestions may turn out to be correct.

### **Building Universes**

One suggestion that comes to (the human) mind, is that artifacts may be so smart and such superb scientists that they may be capable of conceiving and constructing whole universes. This idea seems plausible since Prof. Alan Guth (of “inflation” fame) of MIT, as a human, has already conceived a mathematical model for [how to create a baby universe](#). He has the conditions, the numbers, on how to do this. If humans with our puny human brains are capable of conceiving the idea of building universes, then perhaps artifacts, with all their godlike capacities, could actually construct them, based on their vastly superior ability to architect possible universes.

Consider also, that our universe is 13.7 billion years old, according to results from the WMAP satellite in 2003. Our third-generation star, the Sun, is only about 5 billion years old, so it is likely that there are a trillion trillion second-

generation stars in our observable universe that are billions of years older, that possibly have planets on which intelligent life evolved and then moved on in an “artilectual transition” to become “artilect gods.” These artilects may then have designed their own universes.

The obvious question then arises, “Is it possible that our universe was designed by some artilect in some other universe?” This question raises some interesting metaphysical issues, that will be discussed later, but let us assume that the answer is “yes.” What then?

This “creator artilect” would then satisfy the definition of a deity, i.e., a creator of our universe. *Given that it is likely that humanity will be building artilects this century, science ought to be a lot more open to the idea of deism.* The above argument makes it much more plausible.

### **Theism vs Deism**

Let me state my views on theism vs. deism at this point. Deism, as just mentioned, is the belief that there is a “deity,” i.e., a creator of the universe, a grand designer, a cosmic architect, that conceived and built our universe. Theism is the belief in a deity that also cares about the welfare of individual humans. Deism I am open to, whereas I find theism ridiculous. The evidence against it is enormous. For example, last century, about 200-300 million people were killed for “political reasons,” e.g., wars, genocides, purges, ethnic cleansings, etc. It was the bloodiest century in history.

Presumably, millions of those killed were theists, believing that their “theity” would “look out” for their welfare. Well obviously that theity didn’t, because those millions of people were killed anyway.

If this theity was so concerned with human beings, why did our species come on the cosmic scene so late? Our universe has existed for the order of  $10^{10}$  years. We humans have existed for about  $10^5$  years, i.e., only a thousandth of 1% of the age of the universe – “a mere afterthought of an afterthought.” Every primitive tribe has dreamt up its own gods, and those gods have properties familiar to their human creators. For example, New Guinea gods have a lot of pigs, Chinese gods have slitty eyes, etc. Cultural anthropologists of religion have estimated that humanity has invented more than 100,000 different gods over the planet and over the broad sweep of human history, most of which are no longer believed in. They have become “extinct religions.”

It is much more likely, in my view, that theisms are just examples of “wishful thinking” that people invent to give themselves emotional comfort in an emotionally cold, meaningless, indifferent universe that has evolved creatures like ourselves who are subject to disease, pain, cruelty, poverty, and death.

The early gods were rather primitive in conception, because the small hunter-gatherer groups who invented them did not contain a genius capable of high-level abstract creative intellectual thought. Once agriculture and animal husbandry was discovered, large cities grew up that

contained the occasional genius who dreamt up a more abstract concept of god, that is, of a mono-theity far more powerful than the many individual gods of an earlier (pre-agricultural) human era. The concoction of these monotheisms occurred several thousand years ago, long before the insights of modern science, and hence it is not surprising that their religious conceptions were based largely on (pre-scientific) ignorance, e.g., notions such as life after death (the ultimate wishful thinking), souls, miracles, etc.

In northern Europe, theism has almost died out, and is heading that way too (but slowly) in the U.S., the slowness being due to historical colonial reasons. Let us assume for the sake of this essay that theism dies out worldwide. Where does that leave deism?

### **Plausibility Arguments for a Deity**

The above sections have argued that the rise of the artifact this century makes the idea of a deity, more plausible. However, there are other arguments that can be used to support the idea that our universe is the product of a pre-existing deity. They are: (A) the “(strong) anthropic principle” and (B) something I call (by analogy with the anthropic principle) the “mathematical principle.” I discuss these two principles in turn.

### **The (Strong) Anthropic Principle (SAP)**

The SAP states that the values of the constants of the laws of physics are so fantastically, improbably finely tuned to

allow the existence of matter and life, that it seems highly likely that these values were predesigned. It is now well known, that if one changes the values of some of these constants by even a tiny amount (for example, in some extreme cases, by one part in zillions), matter and life can no longer exist. How to account for this extraordinary state of affairs?

One answer is to say that our universe is the product, the creation, of a preexisting deity, a hyperintelligence that conceived our universe's laws of physics that are compatible with matter and life, and built our universe according to those laws.

Another answer is to say that there are a zillion universes, each with a different set of physical laws, and we just happen to live in one that is compatible with life, because we are here to observe our universe (which is the statement of the weak form of the anthropic principle (WAP)).

Other people, particularly many string theorists, claim that once enough is known in the future about the nature of M-theory, it will become clear that there is only one way a coherent universe (that is, obeying all the many symmetries of M-theory) can be designed, and our universe is it. This leads in to the next principle.

### **The “Mathematical Principle”**

The “mathematical principle” is what I call the idea that the universe appears to have been designed by a mathematician, i.e., that the universe obeys so many

principles of modern mathematics. (Einstein, for example, was deeply mystified by the fact that the universe obeyed the general design principles he dreamt up to explain how gravity worked. He kept saying he wanted to know the (mathematical) thoughts of “der Alte” (the old one), the designer of our universe.)

For example, why do the elementary particles have properties that allow them to be classified into families according to the mathematical representations of special unitary groups (e.g.,  $SU(3)$ )? Why does Einstein’s general relativistic equation “drop out” of the superstring model as a mathematical deduction, with all the latter’s recent mathematical abstractions of such a high level that probably only one person in a thousand has the brain power to understand them, e.g., mathematical notions such as 11 space-time dimensions, supersymmetry, complex manifolds, super-conformal-fields, Calabi-Yau compactification, holomorphic curves, etc.

The more humanity knows about how deeply mathematical the laws of physics are, the more plausible it seems that the designer of the universe used mathematical principles as a tool. This is the “deity as mathematician” argument (which interestingly seems to suggest that mathematics is more fundamental than even a deity — that even a deity is subject to mathematical constraints and logic?!).

## **Deism and Science**

Richard Dawkins is not keen on the idea of a deity. He claims, I think correctly, that any deity capable of creating

our universe, would need to be extremely complex, at least as complex as that of our universe. Where I disagree with him is his idea that instead of postulating the existence of a deity, science should start with the premise that the universe exists with given properties, that science then attempts to discover and explain. For Dawkins, the idea of a deity is “outside science” and conceptually redundant. If a deity made the universe, who made the deity? One gets stuck in an infinite regress.

Personally, I think if science could come to the conclusion that there is/was a deity that created the universe, then that would be wonderful for science. It would open up a vast new arena for science to play in. Science could then start wondering about the properties of the deity, the hyper intelligence that designed the universe.

The question of what designed the deity should not be a reason for dismissing our universe’s deity. We live in a universe that may have a “qualitative infinity” of levels, e.g., in the past century, humanity’s knowledge of the nature of matter has descended from molecules, to atoms, to nuclei, to nucleons, to quarks, to strings. Who knows how many more layers future humans may find? As each new layer is discovered, science reacts with elation, having opened up new vistas for exploration. A similar attitude ought to apply to the idea of a deity.

## **Metaphysical Questions**

Traditionally, science has been rather hostile to the idea of theism. I share that hostility. I look on traditional religions

as superstitions that are incompatible with modern scientific knowledge. But as the above sections make clear, I'm far more open to the idea of deism, the belief in a hyperintelligence that designed and created our universe.

I think that the rise of Cosmism — the ideology in favor of humanity building artifacts this century (despite the risk that advanced artifacts may decide to wipe out humanity as a pest) — makes the idea of a deity far more plausible, if not inevitable. It is a small logical step to suggest, given the above discussion, that our future artifacts could become deities themselves, which then create future universes.

But, if so, how could (human) science “get a handle” on such artifactually created future universes? For example, if the artifacts in our universe, obeying our universe's laws of physics, create new universes with other laws of physics, how could human beings ever know of the existence of such new universes? How indeed? However, the question I feel is a valid one and should not be thrown out with the bath water, being dismissed as “idle metaphysics”.

### **Hyper-physics**

I think science ought to give a lot more thought to the notion of what I call “hyper-physics”. Hyper-physics is a “superset” of ordinary physics, which has as its domain of discussion the universe we live in *and* those universes that our future artifacts could design and create. We should also consider the possibility that the universe we live in is the creation of a preexisting deity, or artifact. Thus we need to think about a “tree of universes” that branches each time a

new universe is created “inside” a preexisting one. The “investigation” of such a hyper-physics (the tree) might be one of the major preoccupations of our artelects.

Since our universe is nearly three times older than our solar system, it is quite possible that other suns in the zillions have already evolved intelligent life that has moved on into the artelectual stage, which then creates new universes. Hyper-physics would then be the study of all these universes. Since such a study, very probably, requires capabilities way above those of the human brain, we mere humans can only speculate and contemplate in awe at what our artelectual creations may devote their time and godlike intellects to.

Perhaps these artelects might even be able to give sensible answers to the very deepest of metaphysical questions, as to why anything exists at all, and whether there exists a “supergod” that started the whole chain of artelects creating a tree of universes. This type of meta-physics differs from the more modest hyper-physics suggested above. A universe-creating artelect still exists in the hyper-physical tree of universes, but the question of where the first deity came from remains as mysterious as ever, the ultimate meta-physical question that the most brilliant of theologians have been wondering about for centuries.

## **Summary**

This essay hopes to persuade its readers that science ought to take the notion of deism a lot more seriously. The rise of the artelect in this century makes the notion of a

hyperintelligent designer and creator of our universe far more plausible. It suggests the creation of a “hyper-physics” (as distinct from a traditional metaphysics that poses the deepest of questions) that would “investigate” the tree of universes that a branching set of artifacts may have created.