

ent

Physics

Most of the world's religions have some concept of gods or a God, with some notable exceptions such as Buddhism.

Theologians claim to have discerned the essential attributes of a monotheistic God, such as omniscience (perfect foreknowledge), omnipotence (unlimited power), omnipresence (present everywhere), omnibenevolence (perfect goodness), and a necessary and eternal existence.

Information philosophy offers a simple test of the "revealed truth" of these attributes, specifically the visions by inspired thinkers that have no empirical evidence. Although these visions are in the realm of "pure ideas," we can say that if every world religion agreed completely on the attributes of God, it would increase their believability. As it is, the comparative study of religions with the incredible diversity of their claims, renders the idea of God as implausible as Santa Claus.

At the present time, arguments like these will carry little weight with the believers in a religion, most of whom have little exchange of knowledge with those of other faiths. This can be expected to change with the reach of the Internet via smartphones to most of the world's population by 2020.

In theism, God is the creator and sustainer of the universe. In deism, God is the creator, but not the sustainer of the universe, which is now assumed to be running itself following deterministic laws of motion. Open theism denies that God's foreknowledge has already determined the future. Monotheism is the belief in the existence of one God or in the oneness of God. In pantheism, God is the universe itself. Polytheists hold that there are many gods. For atheists, no gods exist.

God is sometimes conceived as an immaterial being (without a body), which information philosophy accepts, since God is quintessentially an idea, pure information. Some religions think an avatar of God has come to earth in the past. Some religions

Help

Mea

Arro

linds



see God as a personal being, answering human supplications and prayers. A God intervening in human affairs is thought to be the source of all moral norms. Logical "proofs" of God's existence are based on various of these assumed attributes.

Now that information philosophy and physics has identified the essential attributes and properties of the cosmic creation process,¹ the problem for theologians is to reconcile their views of their gods with these new discoveries.

No Creator, But There Was/Is A Creation

Modern cosmology confirms that the universe came into existence at a definite time in the past, some 13.8 billion years ago. Although this does not imply the Creator some religions want, it does confirm a *creation process*. Because this process continues today (indeed human beings are co-creators of the world), deists are wrong about a creative act at the beginning followed by a mechanical clockwork universe tending to itself ever since.

So "creationism" is wrong. What about "intelligent design?" This is the ancient teleological notion that the "essence" or idea of something was there before the thing itself came into existence. Since all information structures, first cosmological and then biological, were "emergent," at least some of their peculiar specific information did not pre-exist them. The "existentialists," from Nietzsche to Sartre, were correct in this respect, but their idea that "God is dead" was absurd.

Now a metaphysicist might argue that the laws of nature, how things behave, might pre-exist, or come into existence simultaneously with, the first matter and energy. But laws, beginning with the Heraclitean *logos*, contain nothing specific about the future *arrangements* of matter and energy that is new information.

Theodicy (The Problem of Evil)

The problem of evil is only a problem for monotheists who see their God as omnipotent. "If God is Good, He is not God. If God



¹ See appendix F.

² See chapter 27..

is God, He is not Good." The information philosophy solution to the problem is a dualist world with both entropic destruction and ergodic creation. If ergodic information is an objective good, then entropic destruction of information is "the devil incarnate," as Norbert Wiener put it.

Omniscience and Omnipotence Contradictory?

The idea of God as an omniscient and omnipotent being has an internal logical contradiction that is rarely discussed by the theologians. If such a being had perfect knowledge of the future, like Laplace's demon, who knows the positions, velocities, and forces for all the particles, such a God would be perfectly impotent, because the future is already determined. That is, if God had the power to change even one thing about the future, his presumed perfect knowledge would have been imperfect. Omniscience entails impotence. Omnipotence entails some ignorance. Prayer is useless.

The discovery by Albert Einstein of ontological chance poses an even greater threat to the omniscience of God and the idea of foreknowledge. The great mathematicians who invented probability always regarded chance as atheistic. The use of statistics was simply to make estimates of outcomes of many independent events when detailed knowledge of those events was not possible because of human ignorance. Ontological chance means that even God cannot know some things.

For example, in quantum physics, if knowledge exists of which slot a particle will go through in a two-slit experiment, the outcome of the experiment would be different. The characteristic interference caused by the wave function passing through both slits disappears.

The Ergod

There is absolutely nothing supernatural about the cosmic creation process. But it is the source of support for human life. And many theologically-minded thinkers have long assumed that life and mind were a gift to humanity from a divine providence.



³ from J.B., a play by Archibald MacLeish

The physical product of the cosmic creation process is all the negative entropy in the universe. While thermodynamics calls it "negative," information philosophy sees it as the ultimate positive and deserving of a better name. So we call it the Ergo, which etymologically suggests a fundamental kind of energy ("erg" zero), e.g., the "Gibbs free energy," G_0 , energy that is available to do work because it has low entropy.

We co-opted the technical term "ergodic" from statistical mechanics as a replacement for anti-entropic, and because it contains the highly suggestive "ergod.

An anthropomorphization (or theomorphization) of the process that creates all the energy with low entropy that we call Ergo has a number of beneficial consequences. Most all human cultures look for the source of their existence in something "higher" than their mundane existence. This intuition of a cosmic force, a providence that deserves reverence, is validated in part by the discovery of what we can provocatively call "Ergod," as the ultimate source of life.

Such an Ergod has the power to resist the terrible and universal Second Law of Thermodynamics, which commands the increase of chaos and entropy (disorder).

Without violating that inviolable Second Law overall, the Ergod reduces the entropy locally, creating pockets of cosmos and negative entropy (order and information-rich structures). All human life, and any possible extraterrestrial life, lives in one of these pockets.

Note that the opposition of Ergod and Entropy, of Ergodic processes and Entropic processes, coincides with the ancient Zarathustrian image of a battle between the forces of light (*Ahura Mazda*) and darkness (*Angra Manyu*), of good and evil, of heaven and hell. Many religions have variations on this dualist theme, and the three major Western religions all share the same Biblical source, probably incorporated into Judaism during the Babylonian exile.

The Ergod is "present" and we can say enthusiastically is "in us." The Ergod's work is to create new information, so when we create and share information we are doing the Ergod's work.



The Problem of Immortality

The two basic kinds of immortality available today may not satisfy those looking for an "afterlife," but they are both very real and important, and there is a third, medical technology solution visible on the horizon that should satisfy many persons.

The first is least satisfying - partial immortality of your genes through children. This is of no significance to the childless.

The second is the ancient notion of fame or kleos ($\kappa\lambda\acute{\epsilon}o\varsigma$) among the Greeks. When Homer sang of Achilles and Odysseus, it was to give them undying fame, which they have today among many literate persons.

A third kind of immortality will result from a solution to the problem of aging, almost certainly from stem cell research, which should allow vital organ replacement, and from a cure for runaway cancer cells, a devastating entropic force.

This should satisfy even WOODY ALLEN, who famously said,

I don't want to achieve immortality through my work.

I want to achieve it through not dying.

The second kind we call "information immortality." It is more realizable than ever with the development of world-wide literacy through print and now through the world-wide web, which makes the Information Philosopher available anywhere. In five years time, a majority of the world's population will be carrying a smartphone and thus able to read this work.

The great online Wikipedia will be capable of having something about everyone who has made a contribution to human knowledge.

If we don't remember the past, we don't deserve to be remembered by the future.

