Abstract
This essay asks the question who, or what, is God. This is not new. Philosophers and religions have made many attempts to understand the nature of God. This essay is different from earlier attempts in that it develops a theory of God based on all known science and our limited understanding of the processes in the universe. It is not necessary to start with the belief that God exists; rather, by following the logic of the essay, it can be concluded that God exists.

1 Introduction
According to modern science, life on Earth followed a long, slow process of evolution. In the recent few thousand years, since written languages have developed, human life has become more and more sophisticated, and our understanding of the physical world has grown exponentially.

In ancient times, people attempted to understand the world by conceiving of gods, including good gods, bad gods, gods that love, and gods that engage in war. People believed that these gods created and ruled the world and everything in it. Over time, these conceptual ideas evolved, and the good and bad gods were eliminated in favor of one god. The concept of the one god was endowed with the frailties of people. That god has an ego, and punishes those who do not praise him. This is quite a natural human frailty, since it is difficult for people to imagine traits totally foreign to their own experience.
In the last few centuries, people have become more sophisticated and now look upon the entire universe as a structure that can be understood logically. We have developed many sciences to explain the different aspects of the universe, including physics, chemistry, geology, biology, psychology, brain science and more. Physics is considered to be the most fundamental science, and people have developed many theories about the universe. Many physicists reject the idea that a god created and controls the universe. Others envision that god created the universe and everything in it, so they consider the study of the universe to be a study of god’s creation. If god exists and created the universe and all that is in it, then why should we not use our most advanced science to create a theory of the creator and not just what the creator has created. This is what this essay attempts to do.

2 Evolution

First, we must understand the concept of evolution. Those that hold tightly to the belief in god abhor evolution, while those who do not believe in a divine creator have a strong belief in evolution.

Fundamentally, evolution is a change in the current conditions of some entity that benefits that entity in some way. The concept of evolution came into the popular psyche after Charles Darwin published "The Origin of the Species" in 1859. Actually, evolution is much broader, Darwinian evolution can be thought of as a subset. To speak of evolution as we are here, it is not necessary to specify the mechanism of the evolutionary process. For example, automobiles evolve from year to year, and the changes enhance their designs and reliability. In this example the mechanisms are the creative thinking of the engineers and the benefit is the growth of the automobile company and the society at large. The same can be said of all engineered products. Similarly, Our understanding of the universe evolves as our tools of science and our thinking changes. All things, whether they are material life forms or abstract information, evolve. Evolution is a competition in which the latest product of evolution is the most efficient at the task under consideration.

It seems that there is always a balance in the material world. For example, in Newtonian physics, action and reaction provide a balance. In thermodynamics, entropy is the balance between form and randomness. Evolution has a similar property in that it improves the form by lowering the entropy
of the evolved system. However, increasing entropy decreases the attributes of the form. When considering evolution, increasing entropy can be thought of as anti-evolution, since it would diminish the attributes of things rather than enhancing them. So, we can view evolution as a physical property described by thermodynamics. These are some thoughts on the nature of evolution in the grand scheme of the universe.

When thinking about the process of evolution, one rarely thinks outside the sphere of life on Earth. However, when other worlds are being contemplated, it usually is conceded that evolution follows along similar lines on those other worlds as here on Earth. When Darwin first introduced his concept of the origin of the species, his ideas were based on the closed system of the Galapagos Islands. In our age, when funded scientific programs, such as the "Search for Extraterrestrial Intelligence" (SETI), are searching for signals from space and we are now able to astronomically observe planets orbiting other stars, it seems reasonable that life exists elsewhere in the universe. Also, since evolution behaves in a manner consistent with thermodynamics, it seems reasonable that evolution as we know it occurs on other planets as well.

We now know that the parts of the universe we have observed contain an almost uncountable number of galaxies, each of which contains 10 to 100 billion stars. It seems totally unreasonable that this little planet we call Earth in the Milky Way galaxy is the only source of life in the vast universe. Furthermore, we know that life on Earth is made up of complex chemical compounds. Our bodies contain literally trillions of atoms that are similar to the atoms that exist on all distant planets and stars. We know this because we can identify them by their light spectra. We have progressed far enough in our understanding of physics to believe that processes we know on Earth are valid on distant stars and on the planets orbiting those stars. Life evolves in a closed system. The Earth is a closed system, and its evolution of life is not exchanged with other planets orbiting other stars\(^1\). All planets on which life develops are closed systems. The distances between stars are so vast and the time it would take to transit those distances is so long that it is very unlikely, if not impossible, for any interactions to occur. Thus, all planets where life develops are effectively closed systems.

\(^1\)There is evidence that organic compounds may have reached Earth from other heavenly bodies, but evolution of life requires more than organic molecules; it requires interactions between life forms.
When we look closely at our history on Earth, the first thing that stands out is the competition between and within species. The need for energy requires individuals to compete for nourishment and space. Only the winners in this competition pass on their characteristics, resulting in the slow Darwinian evolution from one specie to another. Starting from the simplest forms of life on Earth and the passage of billions of years, we have reached our present state, the "advanced" human beings. However, even though evolution has not stopped, we are in the final stages of this closed system.

Social structures have allowed inventiveness to evolve, resulting in our advanced understanding of the sciences. The need for energy and space to support the evolving social structures continues to generate competition within our specie. Thus, we have internal conflicts and wars, a process that has evolved to the point of global wars, two of which have occurred within a period of less than 50 years in the last century, and have culminated in the creation of powerful devices capable of mass destruction and temperatures approaching those on the sun. We have evolved to the point of having the capability of totally annihilating life on Earth. Thus, we are approaching a critical junction.

All of these processes are likely to occur on other planets where life exists, and, in time, life on other planets will face the same critical junction we are approaching. Some will be unable to reconcile and take the path of annihilation, and some will manage to find a way to develop a social structure and belief that satisfies all members so that combativeness will cease. Their inventiveness and understanding and use of science will meet their energy and space needs.

3 Critical Junction

In the grand universal scheme of evolution, once a planet reaches the critical junction, one of two paths will be taken, either total annihilation of all life forms on the planet or the regression of a few survivors back to an earlier evolutionary state. Clearly, given those two paths, the more desirable outcome for the advanced species would be to develop a social solution that is satisfactory to all concerned and eliminate wars and internal conflicts. On this path, they can spend all of their energy to move out into the larger
universe, where space and energy are unlimited.

With the premise, that among the number of planets with life, many have taken this benign path. These are special creatures and special civilizations. Rather than stopping, their evolution continues in a different way. Their technical development and understanding of the physical universe evolves, eventually giving them the capability to move between stars, thus evolution continues in an altogether new way, since it is no longer confined to a closed system. In time, they will find other civilizations on other planets that also have taken the benign path. All members of these civilizations will grow together in a loving atmosphere devoid of conflict and wars. They would seem more and more god-like to less developed civilizations. Here on Earth, at our present epoch, our understanding of physics, although developing in very fruitful ways, is still in its early stages, and our understanding of the universe is limited. We do not have a good understanding of the true meaning of reality. When we extrapolate our physics to extreme limits, we get results that are questionable. The key to understanding the true nature of the universe is to understand reality. Thus, we need a better understanding of reality before we can continue our discussion of universal evolution.

4 Reality

The key to understanding reality is to examine carefully the life of individuals here on Earth, from their births to their deaths. (This section was taken, in part, from R. T. Longo, 2014.) Before we can understand reality, we must understand how the countless electrical currents, that are generated by our five senses, and flow through our brains and nervous systems make sense of the world. These currents consist of electrons and ions that have no meaning when considered alone. However, as organisms grow, patterns in the currents form memories, and the reoccurrence of these memory patterns begin to elicit certain responses from the organisms.

This dynamic behavior in which new patterns are compared to patterns that are already in the brain causes the organism to interpret new information and respond in predictable ways. During the entire life of an individual, these complex patterns form a model of the physical world, and they become the subjective reality for that individual. Social interactions convert these subjective realities to collective realities. Along these lines of thought,
we are led to the conclusion that neither time nor space exists outside the interpretation by the internal model. With the advent of quantum mechanics, the philosophy of materialism is beginning to look uncertain.

5 Civilizations that Find the Benign Path

Civilizations that find the benign path continue to evolve, and their sense of love for all living things also grows. They venture further and further into space and eventually contact other civilizations from distant planets that belong to other stars that also have taken the benign path. Thus, henceforth, evolution for those civilizations is freed from the confines of a closed system, allowing them to share traits with other benign civilizations. In the exploration of the universe, they will find planets that are still in the closed-system state. These benign civilizations with their historical experience will not interact with those that are still confined to closed systems. This is because they understand that, by doing so, they risk compromising their own evolutionary status by mixing love of living beings with the more selfish, war-like tendencies. When they do find a planet with a closed system, they may study the inhabitants, perhaps to determine how close they are to the critical junction. These benign souls will not influence the closed-system beings, since doing so would not eliminate the war-like tendencies or inject love tendencies into their realities. Each evolving civilization must find the path on its own. When a closed-system civilization takes the path of annihilation, that sad event has no effect on the total universe. Many have been unable to find a loving compromise and have disappeared without a trace.

Our main premise is that the physical universe has always existed.\(^2\) There are benign travelers that have taken this path further in the past and have learned more about the properties of the universe than the more-recent, benign travelers. More distant benign travelers are capable of manipulating the universe. They understand more fully that space and time are properties of the mind and, in turn, so is the universe. The material properties of the universe are illusions, and this is beginning to be revealed to us through quantum mechanics.

\(^2\)Our earthly physics suggests that the universe is finite and started with the big bang. This is inconsistent with the notion that time and space exists only in our reality. Again, see R. T. Longo, 2014 and R. T. Longo, 2016.
These very distant travelers are what we earthly life forms conceive to be God. God always has existed, and the universe has always existed. God has evolved as we have evolved through many stages and over the infinity of what we think of as time. Through the long evolutionary path, God has experienced all things and understands that only pure love leads to existence. Even though distant benign travelers evolved from civilizations that included many individuals, their full understanding of the true nature of the universe, allows them to discard the material illusion and exist as one mind, the mind of God. In the mind of God all things must be self-consistent, since inconsistencies in the loving mind of God would produce internal conflicts, thus inconsistencies are not possible.

This is a never-ending, never-beginning process, and each new benign traveler slowly evolves, and, in the fullness of time, becomes part of the single mind of God. God has evolved, has sampled all aspects of the universe, and understands all things.

The idea that God created the universe in which God evolved is truly impossible to comprehend; It is strange and difficult to understand things that occur when we contemplate the puzzling nature of infinity. The question of what came first, the universe or God, is a meaningless question and will never have an answer.

6 What Happens After Death

What happens to an organism after death? Is there anything that we know, or think we know, in physics that might give us a clue to what happens after death? In recent times, a controversy arose concerning a fundamental property of physics, i.e., whether information can be destroyed. This came to the forefront when Stephen Hawking, using general relativity and quantum mechanics, theoretically found that black holes eventually evaporate over long periods of time. Since anything that enters into a black hole can never get out, this implies that information will eventually be lost when a black hole evaporates. This finding raised a lengthy controversy involving Leonard Susskind that ended when Hawking conceded that, in fact, information could never be lost. The information being discussed was information about physical states.

From birth to death, all organisms build an internal model of the physical world. Those internal models become the character of the organism’s
life. What happens to this information when the organism dies? With the premise that ”all” information can never be lost, then information must, by some means, transcend death. The only possible explanation is that the internal model of the dead soul is fully exposed to the mind of God. In this way God samples and understands all aspects of the universe. If the dead souls life is totally consistent with that of God’s pure love then the soul is excepted into the God state. If not, but the soul shows love tendencies the soul is reborn, into a material illusion, someplace in the universe consistent with its love tendencies, where the entire civilization has progressed. These re-born souls retain the tendency for love, but all other aspects of their new internal model are influenced by their new upbringing and their new surroundings, this nudges each soul on the loving path to God. On the other hand, those souls whose lives were filled with evil, void of love of all living things, will undergo the ultimate death, and they will never experience the ultimate God state.

7 Conclusion

Using known science, we constructed a theory of how we might understand God. The image of God presented by this theory suggests that, when we, as living creatures, evolve to the fullest with loving minds, we will merge with those that came before us, and collectively become one with God. This can only occur if we maintain a kind and loving mind, through the many stages of life.

8 References

R.T. Longo, The Observer Effect, 2016, viXra:1609.0273
S.W. Hawking, 1975, Particle creation by black holes, Commun. Math. Phys. 43, 199-220
Charles Darwin, 1859, On the Origin of Species
Leonard Susskind, 2008, The Black Hole War