

THE CUBE OF GOD

I am just another human being living in a planet called Earth which revolves around the Sun inside the Milky Way of our physical universe. Like all of us, I question what we are and why we are here. Although these are profound issues, surprisingly, as it often happens, the answer is a simple one.

Theoretical physicists have demonstrated that before the Big Bang there was a point which they have technically called singularity. Such singularity dictates the origin or source of everything. But, what exactly, is this point? In my humble opinion, God is the singularity.

So, what is God? Fundamentally, God consists of two parts: one physical and another transcendental. The physical part are the known and unknown forces of physics while the transcendental part is a higher conscious. Consequently, God is a unique and perfect entity. It has no gender and, as a whole, is beyond the comprehension of human beings. Yet, unknowingly, we have discovered so much about God itself. Physicists have shown that there are four basic forces. These are electromagnetism, the weak force, the strong force and gravity. Visible light is an example of electromagnetism. Today, we know that all matter is composed of atoms and, in turn, each atom is composed of a nucleus and other smaller particles. Hence, the weak force is responsible for the decay of the neutron into a proton, an electron and a neutrino. On the other hand, that which binds

protons and neutrons together to form the nucleus of an atom is the strong force. An apple falling from a tree is an example of gravity. Since the physical part of God are all the forces of physics then inside every bit of matter there is a part of God itself. For example, whenever you see a rainbow in the sky, part of that rainbow is God. Why? Because a rainbow is caused by both reflection and refraction of light in water droplets and both of these physical phenomena are direct consequences of the electromagnetic force. Hence, if my argument is correct then within everything we see, hear, taste, smell and touch there is a part of God in the true sense of the word. As a result, God is all around us.

In order to fully understand the above, it is necessary to go deeper into the laws of physics. Here are some definitions: the term "body" refers to a physical object; the word "particle" means an atomic or subatomic constituent of matter; the term "field" is a physical quantity that has a numerical value for each point in space and time; the word "quantum" is the smallest amount of any physical substance involved in an interaction; the term "virtual" implies some substance similar to an ordinary particle which exists only for a very limited time and finally, the word "vacuum" is a space free of matter.

Classical mechanics describes the motion of macroscopic bodies under the action of a system of forces where the velocity of the given body is small compared to the speed of light and the gravitational field is weak. For example, if someone kicks a

soccer ball, the motion of that ball follows a curved path due to the force of gravity. Mathematically, the ball is represented as a single point in space and time because the fundamental nature of classical mechanics is deterministic. Consequently, all forces are a result of an action-reaction pair. On the other hand, quantum mechanics explains the motion of atomic and subatomic bodies under the action of a system of forces where the velocity of that given body is small compared to the speed of light and the gravitational field is weak. For example, quantum mechanics explains the hydrogen atom or, more precisely, the energy levels of the single electron with respect to the nucleus. Quantum mechanics introduces the uncertainty principle. Such principle states that there is a fundamental limit to the precision with which certain pairs of physical properties such as position and momentum of a given particle can be known simultaneously. In mathematical terms, the electron is described both as a particle and as a wave since the intrinsic nature of quantum mechanics is probabilistic.

Relativistic mechanics refers to the motion of macroscopic bodies under the action of a system of forces where the velocity of the given body is close to the speed of light and the gravitational field is weak. Special relativity is the theory that explains this particular condition and related phenomena such as time dilation and length contraction. Time dilation states that an observer watching two identical clocks, one moving and the other at rest, will measure the moving clock to tick more slowly.

Mathematically, the given body is no longer described as a point in space and time but as a point in spacetime because under these specific conditions both space and time unite into a single continuum. Quantum field theory refers to the motion of atomic and subatomic bodies under a system of forces where the velocity of the given body is close to the speed of light and the gravitational field is weak. Quantum electrodynamics describes how light and matter interact. Such theory makes use of both quantum mechanics and special relativity. For example, the well-known Coulomb force between electric charges is caused by the exchange of virtual photons. At this level, all forces are a result of particle exchange instead of an action-reaction pair.

What about when the gravitational field is strong? General relativity incorporates special relativity and the law of universal gravitation in order to explain the geometry of spacetime. Basically, the greater the mass, the more spacetime is curved. For example, black holes are very dense objects and thus their gravitational field is so strong that nothing can escape this amazing attraction including light itself. Hence, the geometry of spacetime surrounding a black hole is so distorted that a "hole" is created in spacetime itself. Such "hole" is called a singularity similar to the one that existed prior to the Big Bang.

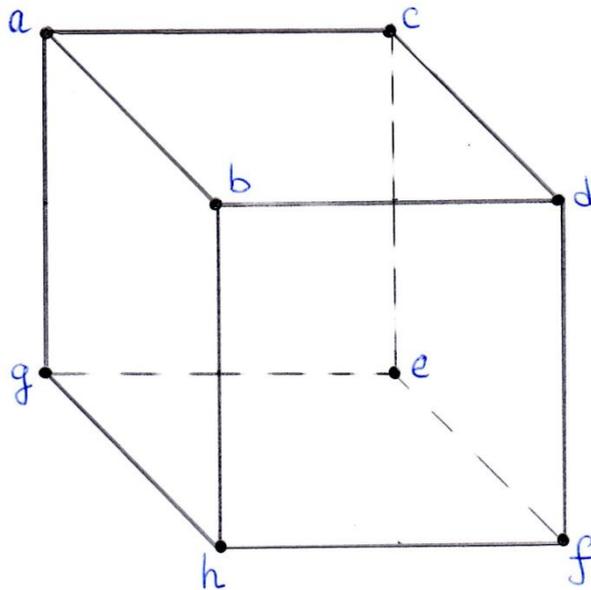
We can summarize all the previously mentioned physical situations in a simple mathematical form. Consider a point (x, y, z) where x stands for size, y for speed and z for gravity. Assign the numerical value of 0 if the given physical quantity is

small, slow and weak, respectively. Assign the numerical value of 1 if the given physical quantity is big, fast and strong, respectively. Hence, the point (x, y, z) represents a physical event. For example, theoretical physicists know that before the Big Bang there was an infinitesimal point with infinite density and very strong gravity. Mathematically, we can define such point as $(0, 0, 1)$ because its size is very small, it is static (speed is zero) and the gravitational field is very strong, respectively. Since there are three variables and each variable can have two different states (0 or 1), we have a total of eight possible points: $(0, 0, 0)$; $(0, 0, 1)$; $(0, 1, 0)$; $(0, 1, 1)$; $(1, 0, 0)$; $(1, 0, 1)$; $(1, 1, 0)$ and $(1, 1, 1)$. For example, a human being is one possible interpretation for the point $(0, 0, 0)$ because the size of a human being is small, the speed of a human being is slow and the gravitational field is weak. Please note that the numerical values of 0 and 1 are used in a relative sense because these events range from the infinitesimal (singularity) to the macroscopic (universe). Thus, the value of 0 can be used when the size is that of an atom, a human being, a city or even a planet and when the velocity is small compared to that of light. With respect to gravity, the value of 0 should be applied when the gravitational field is zero or weak. On the other hand, the value of 1 must be used when the size is that of a big black hole or larger and when the velocity is close to that of light. With respect to gravity, the numerical value of 1 must be used when the gravitational field is strong.

In the next two pages, we can visualize what was just done through a geometric representation which I have figuratively named as "The cube of God". Like every cube, this one has eight vertices but in this case each corner is associated with a physical event such as the Big Bang, the Big Crunch, etc. Hence, each vertex of the cube is represented by a point (x, y, z) as described previously. Note that the numerical values assigned to each of the three variables pertains to the initial state of that respective event. For example, the possible event of the Big Crunch is defined as $(1, 1, 1)$ because in its initial state, its size is very big, its speed of contraction is very fast and gravity is very strong. It should be clear, that if we had considered the final state instead, then the Big Crunch would be defined as $(0, 0, 1)$ since its end is another singularity. In a similar manner, we can identify other events such as the physical universe, a big black hole, a human being and also the singularity prior to the Big Bang.

In case somebody is unable to read my handwriting, what I wrote in the following second page of "The cube of God" was: The above cube has no faces. It has only edges and vertices. Every vertex corresponds to a specific physical event. Every edge represents a transition from one event to another. Green-colored lines stand for transitions which obey the laws of physics. Red-colored lines symbolize transitions which break the laws of physics. As a result, these lines are not edges but diagonals. Arrows indicate the direction of time with respect to the physical event.

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point = (x, y, z)

$$a = (0, 1, 1)$$

$$b = (0, 1, 0) = \text{BIG BANG}$$

$$c = (1, 1, 1) = \text{BIG CRUNCH}$$

$$d = (1, 1, 0) = \text{INFLATION}$$

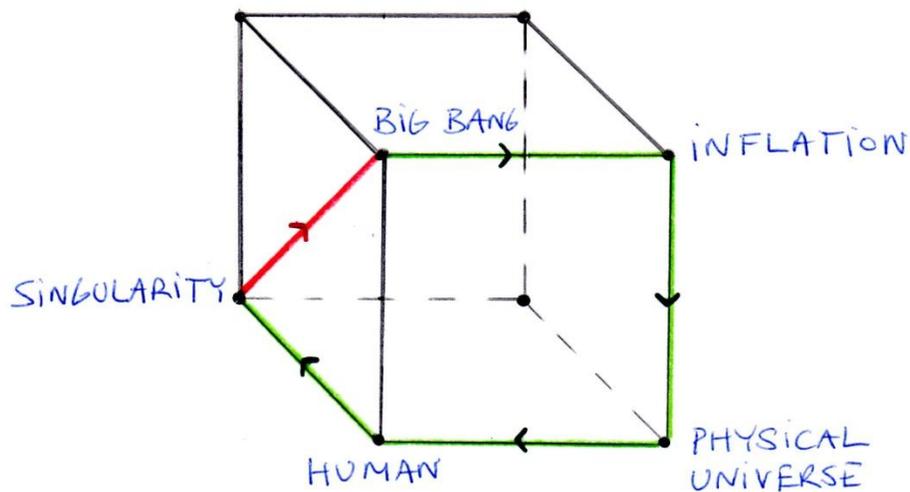
$$e = (1, 0, 1) = \text{BIG BLACK HOLE}$$

$$f = (1, 0, 0) = \text{PHYSICAL UNIVERSE}$$

$$g = (0, 0, 1) = \text{SINGULARITY}$$

$$h = (0, 0, 0) = \text{HUMAN}$$

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Scientists have tried to create a theory of quantum gravity where quantum mechanics and gravity are joined together but every single attempt has failed. Nevertheless, it seems that with only the four known forces, we can explain almost everything since the Big Bang until present day. But, what about before the Big Bang? Now, let's try to imagine how it all happened. The singularity is God and nothing existed before it. The physical part of God is all the known and unknown forces of physics. This means that all physical forces must have been united into a single fundamental entity here called point. Physicists know that such point was of infinite density, temperature and pressure. Consequently, the force of gravity was very strong. Since God is all the forces of physics and a higher conscious, it is the only entity that can modify such forces. Therefore, in my opinion, God triggered the Big Bang by "switching off" gravity for an instant. Such divine action immediately created time and space followed by quantum fluctuations in the vacuum. This physical transition is represented in "The cube of God" by the red-colored diagonal which joins $(0, 0, 1)$ to $(0, 1, 0)$ because the law of gravity was broken. For this reason, the initial state of the Big Bang is defined by the point $(0, 1, 0)$ which means infinitesimal size, velocity greater than the speed of light and zero gravitational field. In my opinion, at the Big Bang all the known and unknown forces of physics "branched out" from that single unified force. Physically, this means that the different forces separated and begun to act on their own. Next, a phase transition occurred and inflation started causing the universe to expand

exponentially. This is represented in "The cube of God" by the green-colored line (or edge) which joins $(0, 1, 0)$ to $(1, 1, 0)$ because all laws of physics are obeyed. For this reason, the initial state of inflation is defined by the point $(1, 1, 0)$ which means macroscopic size, velocity greater than the speed of light and weak gravitational field. After inflation stopped, matter and antimatter co-existed. As the universe decreased in density and the temperature fell, matter dominated over antimatter and protons and neutrons were formed. As a result, hydrogen nuclei were created. Next, nuclear fusion began whereby these nuclei collided at very high speeds and joined to form deuterium and helium nuclei. After three minutes, the process of nuclear fusion ended and the vast majority of protons remained uncombined as hydrogen nuclei. After about 380,000 years, electrons and nuclei combined to form neutral hydrogen atoms and consequently, radiation separated from matter. This is the birth of the cosmic microwave background radiation which can be observed today since it is a relic from the Big Bang. Next, those small regions of space that contained more matter became even more dense under the force of gravity and over the course of billions of years formed the stars, planets and galaxies. Such is represented in "The cube of God" by the green-colored line (or edge) which joins $(1, 1, 0)$ to $(1, 0, 0)$ because all laws of physics are obeyed. For this reason, the initial state of our physical universe is defined by the point $(1, 0, 0)$ which means macroscopic size, velocity smaller than that of light and weak gravitational field. The present age of the universe is about 14 billion years and that

of our planet is more than 4 billion years. God waited this long in order for the cosmos to evolve into what it is today. Why? Because given the forces of physics, which are the physical part of God, this is the time it takes to create the universe.

What about life? Prior to dealing with biological evolution, the next step is to trace the chemical evolution of life. Chemistry deals with atoms and their interaction with other atoms. A molecule is an electrically neutral group of two or more atoms held together by chemical bonds. A chemical bond is an attraction between atoms that allows the formation of chemical substances such as pure water. Now, it should not be a surprise to know that both molecular physics and theoretical chemistry are largely based on quantum mechanics. As a result of the uncertainty principle, physical random processes such as Brownian motion are common in nature. Hence, how were organic molecules (those which contain carbon) created? Independent of whether they originated in outer space or within the Earth, it is very likely that such complex molecules were formed under the right conditions from a pool of different atoms which constantly changed over the course of time. In fact, carbon is the fourth most abundant element by mass after hydrogen, helium and oxygen. Thus, chemical evolution which includes replication, variation and natural selection among organic compounds was probably the principal cause for the creation of the very first unicellular organism. In biology, the cell is the basic structural and functional unit of every single

living organism. A colonial organism is a colony of single-cell organisms which were very probably the initial step in the development of multi-cellular organisms via natural selection. Once again, natural selection is a key mechanism of evolution where variation exists within all populations of organisms. Why? Because random mutations occur within the genome of an individual organism and these mutations can be passed to the offspring. Since these mutations are physical random processes, quantum mechanics is back in action. Finally, we are ready to trace biological evolution. All the following dates are rough estimates based on scientific evidence. About 3.6 billion years ago, simple cells were formed followed by bacteria that did photosynthesis. Then, complex cells appeared and 1 billion years ago, multi-cellular organisms emerged. Later, simple animals developed and 500 million years ago, fish appeared followed by land plants, insects and seeds. About 360 million years ago, amphibians surfaced the Earth, then reptiles, and at last mammals showed up. Next, birds developed and flowers were formed. About 60 million years ago, primates emerged followed by the great apes which lead to human predecessors. Around 200,000 years ago, anatomically modern humans appeared. In my opinion, at some point in the evolution of our species, God intervened (through its higher conscious) and granted human beings with the power to think or reason. Consequently, the human act of thinking is part of our conscious which cannot be explained in physical terms. And the rest is history...

What was just described can be represented in "The cube of God" by the green-colored line (or edge) which joins $(1, 0, 0)$ to $(0, 0, 0)$ because all laws of physics are obeyed. For this reason, both the initial and final states of a human being can be defined by the point $(0, 0, 0)$ which means small size, slow velocity and weak gravitational field. Please note that in this specific event, although no physical force was modified, the intervention of God occurred at a very transcendental level. In conclusion, God created the universe and, in turn, human beings in order for us to live in it in peace. Why? Because God is the sole perfect entity and, hence can only do good. In other words, God cannot kill nor destroy. Why? Since in everything (inanimate and living) that exists there is a part of God, thus God cannot kill or destroy itself. For that reason, both good and evil are intrinsic to human nature because we are imperfect beings. Consequently, there are two things that we can do that God cannot do: we can kill and destroy. Nonetheless, God gave humans the power to reason, hence each one of us is free to think whatever he or she wants and to act respectively. For example, I am free to believe that I can fly, but if I jump out of the window, I will definitely fall do the ground because I am not a bird and the force of gravity attracts every physical body (independent of its mass) to the center of our planet. Likewise, if someone believes to be superior to others, he or she is free to think in such manner and to act accordingly. However, the fact remains that each and every single person in this planet is part of God on an equal basis and so, we are all one.

What about death? Independent of how you were born and what you did during your lifetime, the only thing we can be certain of, is that sooner or later, each one of us will die. Why? Our physical bodies go through a process called biological aging, so as we grow older, there is a gradual organic deterioration which inevitably leads to death either by illness or naturally. Yet, this represents only physical death since we also have a conscious. In my opinion, at the end of human life, the body decays due to the forces of physics but our conscious exits the physical body and reunites with the higher conscious of God from where it originated. As expected, this is represented in "The cube of God" by the green-colored line (or edge) which joins $(0, 0, 0)$ to $(0, 0, 1)$ because all laws of physics are obeyed. Such completes the cycle of life where our body is part of the physical side of God and our conscious is part of the transcendental side of God. When united both of these parts generate a human being which lives and, at the moment of death, its conscious separates from the body in order to return to God. The arrows (red and green) of time indicate the flow of such cycle (singularity \rightarrow big bang \rightarrow inflation \rightarrow physical universe \rightarrow human \rightarrow singularity) but how can the conscious part of someone that passed away today, return to the singularity, if it happened almost 14 billion years ago? Since God is the singularity, it is obvious that God did not remain still at that precise point for 14 billion years. In my opinion, God as a whole was and is present throughout the entire universe through its higher conscious which inexplicably binds everything together.

In conclusion, "The cube of God" is only a simple geometric representation of the major events starting from the origin. Please note that all corners of the cube could be identified with a completely different set of events. Nonetheless, the direction with respect to time of the event cycle is independent of the specific corner that is selected as the starting point of such cycle. The boundaries of the cube are its edges and the space between vertices represents the possible transitions between events.

Now, I think it is evident that in everything we see, hear, taste, smell and touch there is a part of God. Once again, if my argument is correct, then every single boy and girl that is born in this world is, in the true sense of the word, a son and a daughter of God, respectively. Thus, we (with respect to God) are all brothers and sisters.

For example, my wife and I, have a girl. Although she is our biological daughter, she is also the daughter of God in the true sense of the word. Why? Since the physical part of God is all the forces of physics, my daughter like everyone else is made up of matter such as atoms which follow these laws and, as a result, within herself there is a part of God. Similarly, my wife is also a daughter of God just as I am a son of God.

What follows are the implications of my argument in various domains:

PHYSICS

The physical part of God is all the known and unknown forces of physics.

The laws of physics are the same everywhere. Such laws cannot be altered by us or anyone else. Only God can modify the forces of physics.

Since God can change the forces of physics, the ultimate fate of the universe is decided by God alone. Hence, the Big Freeze, the Big Rip, the Big Crunch or the Big Bounce will never occur because each one of the above scenarios implies the total destruction of everything and God is a perfect entity which cannot kill nor destroy.

All laws of physics follow the principles of causality and locality. Since God can change the forces of physics such principles do not apply to it. In fact, if my argument is correct then God is the origin of everything, so before it nothing existed. Given that God is a perfect entity (and not a physical object) it is not influenced (in anyway) directly or indirectly by anything or anyone which is close or far away.

Since the physical part of God is all the forces of physics, the choice of physical constants such as the fine-structure constant could only have been done by the transcendental side of God, that is, its higher conscious.

There is only one physical universe, that which was created by God. Consequently, parallel universes do not exist.

Time and space are physical quantities because both were created by the physical part of God at the Big Bang.

Time flows in one direction only (forward) because God is the origin of everything, before it, nothing existed. Consequently, time travel is not possible.

The limit of theoretical physics lies in some grand unified theory such as the electronuclear force which bridges the strong force with the well-known electroweak interaction. The objective of physicists is the so-called theory of everything which unites the electronuclear force with gravity in order to fully describe the singularity prior to the Big Bang. However, according to my argument, the singularity is God or all the forces of physics including a higher conscious and such is definitely beyond human comprehension. Thus, if my argument is correct, the theory of everything is not possible because God cannot be described by neither physics nor mathematics or both.

At the atomic level, the physical part of God is found in every living and inanimate body. Randomness is intrinsic to quantum mechanics as shown by the uncertainty principle. As a whole, God is present throughout the universe via its higher conscious which binds everything together.

PHILOSOPHY

God is the Creator. Since God exists, we exist.

There is only one reality, that which was created by God.

Only God is perfect.

A perfect entity can do only good. According to my argument, God cannot kill nor destroy. Thus, God is not omnipotent.

God is omnipresent because everything (living and inanimate) stems from the transcendental part and/or the physical part of God.

Good and evil exist because human beings are not perfect. We can kill and destroy.

Human conscious is not a result of evolution but is a part of the transcendental side of God. In other words, God gave us the capacity to reason or think.

Human life is a combined result of both the physical and the transcendental parts of God since we all have a body and a mind.

At the end of human life, the body decays due to the forces of physics and our conscious exits the body and reunites with the higher conscious of God from where it originated.

There are only two entities which are neither physical nor conscious but both. These are God and human beings.

RELIGION

Jesus Christ cannot be the Son of God because according to my argument every human being is either a son or a daughter of God in the true sense of the word.

God cannot have a Father and a Mother because God is a unique and perfect entity. It has no gender and before it nothing existed.

The Holy Spirit cannot exist because there are only two entities which are neither physical nor conscious but both. These are God and human beings and the Holy Spirit is neither of them.

Hence, the Holy Trinity (God = Father + Son + Holy Spirit) cannot be true.

Heaven and hell cannot exist because both are "places" where good and evil exist, respectively. Yet, good and evil are only intrinsic to human nature and since the location of either heaven or hell is unknown in this physical world, such "places" can only exist within the imagination of human beings.

Angels, saints and the devil cannot exist because there are only two entities which are neither physical nor conscious but both. These are God and human beings, and angels, saints and the devil are neither of them.

Free will exists because God granted human beings with the capacity to think on their own. If thought was controlled by God then God would be a mental manipulator which cannot be, since God is perfect and therefore can do only good.

Although we can decide our destiny, God is still omniscient. How? Since our conscious is derived from the transcendental part of God, then God knows everything we think, and because thought precedes action, God also knows everything we will do.

The story of Adam and Eve cannot be true because the first man and woman are both a combined result of evolution (physical part of God) and conscious (transcendental part of God), thus they did not fall from the sky as it was told.

Paradise (a "place" in which existence is positive, peaceful and eternal) cannot exist because all these adjectives describe a perfect entity, but the only perfect entity is God.

Purgatory (independent of what it is or where it is) cannot exist because it is associated with good and evil which is intrinsic to human nature. As such, the notion of purgatory can only exist within the imagination of human beings.

According to my argument and the definitions of the Catholic Church, every single object is sacred since there is a part of God in everything. Likewise, every single living organism is holy.

The physical part of God is all the forces of physics and since there is a part of God in everything (inanimate and living), God through its higher conscious can perform two types of miracles: physical or biological. For example, a physical miracle is if God raises into the sky all the water of the oceans. On the other hand, a biological miracle is if God cures someone that has a terminal disease.

MATHEMATICS

Following my argument, it is clear that the transcendental part of God designed all the forces of physics and its physical part materialized such forces. Supposing that God used some sort of divine code to design such forces then mathematical physics is the human interpretation of the given code written by God itself. So, "How can it be that mathematics, being after all a product of human thought which is independent of experience, is so admirably appropriate to the objects of reality?" Since our conscious is derived from the transcendental part of God and mathematics in general is formalized thought, then the way we think, must be to some extent similar to the manner in which God reasons or wrote the original code behind the physical laws. As a result, every mathematical theory or formula that was written and that will be written by us, which may or may not be related to reality, contains a part of God itself.

Mathematics is bound only by the limits of human imagination but since it is a product of thought, mathematics cannot describe thought itself because such comes from our conscious which is part of the transcendental side of God, that is, simply beyond our understanding.

Consequently, only through pure thought can we arrive at truth. In fact, the argument and the implications that I present here, are entirely based on reasoning without any mathematics except for a cube and some zeros and ones.

SCIENCE

Human beings consist of a body and a mind. Our physical body is a result of biological evolution but our conscious derives from the transcendental part of God and thus, human thought cannot be fully understood. Hence, the goal of artificial intelligence (create a machine that can replicate the mind) is not possible because the mechanisms behind intelligence will never be precisely described by neither a single nor combined domains of human knowledge.

Since both the physical universe and life were created from the physical part of God, the laws of physics are constant in any point of the cosmos. For that reason, it is very likely that some other form of life exists in outer space. But what type of life? We are intelligent beings because God granted our species with the power to reason and our purpose is to live in peace. If God had conceded the ability to think to another animal on Earth both species would inevitably fight and such would be against its will. So, the question is: if God did not do this on Earth, why would God do it on another planet close or far away from Earth?

Among the many galaxies and stars that populate the universe, our planet is not in a privileged position. Yet, what amazes me is that God selected our species amongst all the possible beings of the cosmos as the conscious observers of its creation. In my humble opinion, our survival depends (at least, in part) on our thorough acknowledgment of such.