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Paolo Di Sia *

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Article

Reflections Among Modern Physics, Philosophy and Theism

Paolo Di Sia [1,2,3]

[1] School of Engineering & School of Medicine, University of Padova, Padova, Italy; paolo.disia@unipd.it or paolo.disia@gmail.com

[2] School of Medicine, Engineering for Innovation Medicine, University of Verona, Verona, Italy; paolo.disia@univr.it

[3] "Primordial Dynamic Space" Research, Verona, Italy

Abstract: In recent years, authoritative scientists and thinkers have shown a renewed interest in the question concerning the relationship between the religious vision of reality and the scientific description of the world. They speak of "anthropic coincidences", reasoning on the fact that many characteristics related to the laws of physics seem to exactly coincide with what is required for the emergence of life. The paper discusses some of these themes, in particular considering examples taken from physics, and evaluating possible theological interpretations, which also refer to Scripture. It is then considered the question of why something exists and not nothing, the struggle between good and evil, and the antagonism in nature between different forces that oppose each other.

Keywords: (Modern-Contemporary) physics; philosophy (of religion); theism; Holy Trinity; Big Bang; hydrogen atom; proton; quarks; strong nuclear force; (holistic) unification

1. Introduction

Speaking of the relationship between religion(s) and science, we have basically two traditions to compare: the religious traditions that speak of God, of His will and His plan regarding the world (and the universe), and the scientific enterprise, which has carved out its own area of interests and research methods. Problems have historically arisen in the attempt to relate the two types of interests, languages, conceptions of the world, without destructive overlaps, but trying to understand how and where to find points of convergence, meeting, debate.

Theology has always admitted that God can operate through "second causes", that is, through creatures. Therefore, chance (or contingency) is not opposed to divine intentionality or action, but to necessity. On the other hand, intentionality can only be attributed to living beings, or rather intelligent ones. This is not enough to understand nature: it is necessary to show how intentions are realized in the natural structuring and functioning of things.

Distinguishing the religious discourse about intentionality and God's plan from that of the physical-biological mechanisms that are a way of actually realizing this project, not instrumentally intertwining the two levels, does not harm either, but rather the opposite; a physical theory that wants to support the creation or the God's plan is just as suspect as physical theories developed specifically to counter it.

What happens "as soon as a being dies" lies beyond the boundary of the observable. While crucial in shaping our lives after death, information about supernatural realities is not directly accessible. Such information is revealed in the sacred texts inspired by God [1]. It is also a clear exaggeration to state that scripture is a complete revelation and leaves nothing unexplained. We can find descriptions or statements in the Bible that are not fully clarified in the way that the contemporary individual would expect. The reasons can be traced back to the following:

- a *pragmatic motivation*: Scripture has been written for practical purposes;

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- a *cultural motivation*: Scripture is written in accordance with the knowledge and experience of the historical moment;

- a *spiritual motivation*: the lack of an explanation for all things brings to require trust in God and dependence on His wisdom [2].

For some thinkers it makes sense to look for an analogy in the real world, which consider that "God left some footprints of His trinitarian substance in the world He created" [3,4].

2. Old and New Problems Between Science and Metaphysics

Harmonizing science with one's religion requires, on the one hand, to assume a very open vision of religious doctrine, and on the other, to attribute to the world of physical phenomena a meaning that many scientists consider uninteresting [5].

At a theoretical level, it is possible to identify some typical forms that can now be considered traditional and through which we are now accustomed to setting out the entire question. An example is the Anglo-Saxon tradition of "natural theology", which has welcomed scientific research under the protective aegis of theology, protecting the latter from the excesses of dogmatic fanaticism [6,7].

Thus, for example, we can trace the origins of natural theology to the work and personality of Isaac Newton, considered one of the greatest scientists of all time. Not only he was deeply interested in theology, but his entire physical-mathematical work is pervaded by religious themes; it is well known that he justified his assumptions about absolute space and time by his ideas about the divine nature, as is evident in the following passage from his notes on motion: "It is true that God extends as far as the void, but He, being a spirit and penetrating all matter, can form no obstacle to the motion of matter; any more than if nothing were in its place" [8].

It is interesting to note how the idea of God led the contemporary Gottfried Wilhelm von Leibniz (who, together with Newton, is credited with the introduction and the first developments of infinitesimal calculus) to an opposite conception of space and time, that is, that they can only be relative, since only God can be absolute and infinite. Theological suggestions regarding infinite and infinitesimal quantities had great importance in the birth of differential calculus [9].

Although scientists today distance themselves from the philosophical naivety of nineteenth-century positivism, it is not difficult to recognize in the statements of Weinberg and Monod the inevitable consequence of that philosophy. Already Hegel, at the beginning of the last century, had predicted that everything that was not functional to the progress of Western society would be progressively and inexorably relegated to a "corner of existence", especially art and religion. Thus, discovery after discovery, science has conquered the world "losing its soul".

The ancient alliance with God has been broken by science, and not in the name of a new dignity of man, as Feuerbach and Nietzsche hoped, but to stipulate a pact with power and the market, creating sophisticated instruments for the domination, exploitation and destruction of an increasingly mistreated nature, with human beings increasingly enslaved to the parameters of mass society, tied to a totally horizontal existence [10].

Science is realizing that it has failed in its attempt to build a humanism on its own, not keeping faith with the promises it made, and is turning to other worlds of thought to confront, integrate, and recreate itself, a re-appropriation (by man) of science as natural philosophy, as an instrument of thought and human freedom. This is also and above all the deep root of the new tendency towards God.

3. On Cosmic Religiosity and the Psychology of Religion

If we try to identify God that scientists see from their point of view, it seems to be a rather vague and indistinct God, a sort of middle ground between the all-encompassing harmony of the world that scientific investigation tries to reveal and an uncertainty about the mysterious sides of this great enterprise, related to an entity so distant as to be (often) completely useless.

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Albert Einstein spoke of a similar God in his famous writing on “Religion and Science” [11,12], in which he distances himself from the anthropomorphic God of revealed religions and tries to express the feeling of “cosmic religiosity”, aroused by the almost ecstatic admiration of the laws of nature. This profound emotion in front of the universe is common to many scientists and artists, constituting a continuous inspiration and a strong motivation.

This is a very close position to that expressed by the French philosopher Henri-Louis Bergson in his “The Two Sources of Morality and Religion” [13]; on the one hand there is the “static religion”, which has developed in historically and socially determined institutional forms, and which serves mainly to guarantee moral obligation, on the other hand there is the “dynamic religion”, the intuitive contact with the vital Spirit of the cosmos.

But we also find essential differences between the two thinkers. For Bergson, static religion is a kind of shell of dynamic religion and therefore preserves in its structure the traces of immersion in the profound Being; for him, therefore, a metaphysical and theological discourse on Being is possible. For Einstein, on the other hand, there is no possibility of conciliation between the two levels of religious experience; there is no research other than scientific research. If for Bergson “metaphysics is the science that claims to do without symbols” [14], for Einstein only “the symbols of science exist” [15].

There no longer seems to be a problem of God and a search for God; cosmic religiosity can ultimately do without them. It is a deification of physical laws, a religiosity that can be in tune with a search for spirituality, even outside science. Einstein’s admiration for the Buddhist religion should therefore not surprise, nor that his point of view allowed him to put Buddha, Democritus, Saint Francis and Spinoza on the same level.

Cosmic religiosity is a vital and profound impulse, an interesting product of the evolution of man’s mental function to which our drive for knowledge is strongly connected; it is possible that in the near future an increasingly refined “psychological science” will be able to analyze all aspects of this type of religiosity, but this will not exhaust the question of God.

There is today a vast scientific literature on the sociological and psychological motivations of religious experience, just think of the now classic works of Sigmund Freud and Emile Durkheim (even if, as with Feuerbach and Nietzsche, the cited authors have an eliminative explanation of religion, and therefore the question arises as to how scientific can be considered an analysis that denies any reality proper to the studied phenomena) [16,17]. But one senses that all this does not close the waiting for God and that the analysis of the motivations of man’s metaphysical need does not constitute an exhaustive answer to his questions.

Perhaps we could be satisfied with this intuition: Pannenberg believed that theology must today first of all show that reductive and atheistic analyses of religion are inconclusive and do not eliminate the question of God, to which religions, at their best, provide an answer [18].

In reality, the psychology of religion shows how even in secularized times the contact with nature is one of the places of religious experience [19]. There seems therefore to be no reason for not respecting an Einsteinian type of religiosity, even if it is reserved for those who are truly dedicated to research.

4. Physics, Biology and a Possible Designer

Physics deals also with some of the most fundamental and simplest entities in nature, the elementary particles; they have “almost zero" dimensions and appear to behave like “geometric points”, that is, without structure. Elementary particles show order, regularity and symmetry, and obey the fundamental laws of physics, from which they do not deviate. Biological systems show order, regularity and complexity of structures; they are the most complex structures we know in the universe [20].

If we think about the work of a designer, he personally designs and builds all the parts of a system for creating a functioning product, programming them so that they can adapt themselves

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autonomously to create the final product, or different products that can self-replicate to make copies or variations of themselves.

The possible "designer of the cosmos" must have worked largely indirectly, making more difficult to find "unequivocal evidence" of a purposeful design in large and complex structures, especially in the most complex structures of all biological systems, with well-developed methods of self-repair, reproduction, and ability to change and evolve in response to "stressors" in the environment, through a feedback loop called "natural selection" [21].

Because of this independence in biological systems, of their ability to reproduce and evolve, efforts to demonstrate an intelligent designer are problematic. However, the feedback loop of natural selection as an "engine for evolution" does not rule out a designer who wishes to work indirectly, giving to biological systems a degree of independence to "make themselves". So one cannot prove that the watchmaker is blind, but neither that the universe is without a design.

In searching for evidence of an intentional design in the fundamental laws of physics, to date we know that the universe appears to have begun with an unimaginably hot event, called Big Bang. This "primordial soup" evolved, grew, maturing into a diversified universe, fruit of life and consciousness. Somehow, the potential for this universe of life and consciousness was thus embedded, was latent in that unimaginable initial brew, whose behavior is prescribed by the fundamental laws of physics [22].

5. Anthropic Coincidences and Spiritual Interpretations: Examples to Reflect On

We speak of "anthropic coincidences" reasoning that many features of the laws of physics seem to exactly coincide with what is required for the emergence of life. The presence of these anthropic coincidences, the degree of "fine-tuning" in the laws of physics in producing conditions and structures necessary for life, have become so macroscopic that many cosmologists consider them a scientific problem that needs a solution. We live in a universe in which the laws of physics seem to be "tuned for life". The following examples are thought-provoking and in favor of these anthropic coincidences [23].

5.1. The Strength of the Strong Force

To date we know that there are four "fundamental forces" in nature, two short-range forces (the two nuclear forces, weak and strong ones) and two long-range ones (infinite radius) (gravitational and electromagnetic forces); each interaction has its own set of elementary particles that carry the respective forces.

The strong nuclear force is the force that binds elementary particles called quarks to form the composite particles called protons and neutrons. It is also the force that binds composite particles (protons and neutrons) together to form the nucleus of an atom.

The number of protons in a nucleus defines the identity of the element. Only the lightest elements were created in the initial moments of the Big Bang: hydrogen (1 proton), helium (2 protons), lithium (3 protons). All the heavier elements were created inside stars and in supernova explosions, through the fusion of lighter elements (with a small number of protons) into heavier elements (with a larger number of protons).

Many heavier elements are necessary for life: carbon (6 protons), nitrogen (7 protons), oxygen (8 protons), sodium (11 protons), potassium (19 protons), calcium (20 protons). The cooking of heavier elements inside stars is what allows the star to burn, producing light and heat for billions of years, because the fusion of elements lighter than iron into heavier elements releases energy.

If the strong nuclear force were 10% weaker than it actually is, then it would not be strong enough to hold protons together; the universe would consist only of hydrogen (1 proton). If it were 4% stronger than it actually is, small stars like the sun would be able to fuse all their lighter elements into heavier elements in a few million years, instead of burning slowly for billions of years fusing lighter elements into heavier elements. There would not have been enough time for planets to form and thus for life to evolve [24].

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5.2. The "Triple Alpha" Process

During the first moments of the Big Bang, a lot of hydrogen (1 proton, 0 or 1 neutron) fused into helium (2 protons, 1 or 2 neutrons) and especially helium-4 (2 protons, 2 neutrons). Helium-4 is a very stable nucleus and also has another name: alpha particle.

To obtain carbon-12 (6 protons, 6 neutrons) and to build heavier elements, it would seem logical that helium-4 nuclei (alpha particles) could be fused successively. To obtain carbon-12 from helium-4, one could think of:

a) fusing two helium-4 nuclei to form beryllium-8;

b) fusing another helium-4 nucleus to the beryllium-8 nucleus to form carbon-12.

But helium-4 is so stable that it does not fuse to form beryllium-8. There seemed to be no reasonable way to form carbon-12, the atom that is the basis of organic chemistry and the processes of life. This was the problem Fred Hoyle was working on in 1957. In 1948, he, Hermann Bondi and Thomas Gold had proposed the "Steady State Theory" to avoid a Big Bang, which he said "smacked too much of a religious sound" [25,26]. This model assumes infinite time for the ever-expanding universe. A "creation field" pervaded the universe, a field in which matter was continually being created to compensate the thinning out due to cosmic expansion.

Hoyle was investigating the possibility of obtaining three helium-4 nuclei (three alpha particles) that could fuse together to produce carbon-12 (the "triple alpha process"). Hoyle calculated that if the carbon-12 nucleus had a particular natural vibrational frequency with an energy of 7.7 MeV, it would, through resonance, increase the probability of the triple alpha process enough to produce the amount of carbon-12 we see in the universe. In response to Hoyle's prediction, experimental nuclear physicists measured the vibrational energy levels of the carbon-12 nucleus and found that it had a level that was precisely 7.7 MeV [27].

Hoyle was so deeply impressed by this "fine-tuning" in the vibrational energy level of carbon-12 that abandoned his initial atheism. He later wrote: "You would not say to yourself that some super-calculating intellect must have designed the properties of the carbon atom, otherwise the possibility of finding such an atom through the blind forces of nature would be absolutely minuscule. A common-sense interpretation of the facts suggests that a super-intellect has worked with physics as well as with chemistry and biology, and that there are no blind forces to speak of in nature. The numbers one calculates from the facts seem to me so overwhelming as to put this conclusion almost out of questioning" [28,29].

5.3. The Stability of the Proton

Not all subatomic particles are stable; many decay or disintegrate, after a period of time, into other types of particles; the "half-life" indicates how long a particle will live before decaying. Neutrons, for example, have a half-life of about ten minutes. They usually disintegrate into a proton, an electron and an anti-neutrino. Protons, on the other hand, appear to be stable particles that do not decay.

The possible decay of the proton has not yet been observed, but it is predicted by some theoretical models of unification, currently much debated in theoretical physics. Some models have set a lower limit for its half-life, equal to $1.6 \cdot 10^{33}$ years; this is a very large value, greater than the age of the universe [30].

This simple fact has a profound significance for the nucleus of ordinary hydrogen, which consists of a proton: if protons were not stable, there would be no ordinary hydrogen in the universe. Without hydrogen, there would be no water, no organic molecules, no hydrogen-burning stars like the sun, and therefore no possibility of life as we know it.

The key to the difference between a proton and a neutron is that the neutron is a little heavier than the proton; the neutron has a mass of 939.565 MeV, while the proton has a mass of 938.272 MeV. A heavier particle can decay into a lighter one, but not vice versa. Einstein's equation that binds mass with energy ($E = mc^2$) tells us that a heavier particle has more mass-energy than a lighter one, and can therefore decay into a lighter particle with a release of energy.

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The neutron is slightly heavier than the proton because the proton consists of two "up" quarks and one "down" quark, the neutron of one "up" quark and two "down" quarks. The "up" quark is lighter than the "down" quark and this is still a mystery. In the second and third quark families, the quark with charge +2/3 weighs more than the quark with charge -1/3; in the first family, on the contrary, it is the opposite.

5.4. The Hydrogen Atom

a) Hydrogen appeared before the other atoms. Hydrogen atom is practically just a proton (the mass of the electron is 10,000 times less than that of the proton). Protons are the only stable composite particles that can be formed from quarks (according to current particle physics experiments, the proton is considered a "stable" particle, meaning that it does not decay into other particles).

So, during the first second following the Big Bang, and according with this model, when the early universe became cold enough for quarks to get bound together, it resulted with lots of protons. Neutral hydrogen atoms formed approximately 370,000 years later during the recombination epoch, when the universe cooled enough for electrons to remain bound to protons [31].

b) Hydrogen is the most abundant element in the universe. 75% of all mass in the universe is hydrogen and 90% of all atoms in the universe is hydrogen atoms. Hydrogen is the main constituent of stars, where it is present in plasma state at a concentration > 90% [32].

c) Hydrogen has the lowest electrostatic barrier. Since two light nuclei (two protons) are both positively charged, they will tend to repel each other. There is a sort of barrier that prevents their interaction (that is, the fusion). To overcome this barrier, the speed with which the reacting nuclei collide must be increased: their kinetic energy (therefore the temperature) must be very high. The first reaction, that starts at $T = 10^7$ K, is the fusion of hydrogen [22].

d) Hydrogen is the fuel that provides energy to the universe. The thermonuclear reaction occurs in stars, where light atomic nuclei combine at high temperature and pressure to form heavier nuclei, releasing large amount of energy [22].

e) Hydrogen formed stars and galaxies. Astronomers had estimated that in the observable universe there would be more than 100 billion galaxies, but more recent estimates have upped the number of galaxies to 2 trillion, although many of these are tiny, fluffy galaxies with fewer stars. If the typical galaxy had 100 billion stars, then there would be $2 \cdot 10^{23}$ stars in the observable universe. But even this is still probably an underestimate, as more sensitive telescopes will continue to reveal fainter galaxies and stars.

f) Hydrogen formed the basic bricks of life. Oxygen, carbon, and nitrogen follow hydrogen and helium as the most abundant elements in the universe and may aggregate to form the basic bricks of life. These elements are synthesized in the stars through nuclear fusion processes first by burning hydrogen, then helium, progressively burning higher elements and then spread into space following stellar explosions [33].

g) Hydrogen made everything is contained in the universe, including life. Thermonuclear fusion of hydrogen is also the source of energy for the Sun. About 4 billion years ago, on a planet of the Sun called Earth, life (that is, condition that allows living beings to grow and develop, to move autonomously, self-regulate, adapt to the environment, react to external stimuli, and reproduce) has born. The atom of hydrogen, therefore, is the construction material of everything is contained in the universe, including human beings.

h) Hydrogen acts as a sacrificial agent. The fusion of hydrogen to form heavier nuclei releases large amount of energy. However, considering the Einstein's equation $E = mc^2$, hydrogen loses part of its mass. This aspect seems as the voluntarily undertaken sacrifice of Jesus Christ.

Therefore, the whole atom of hydrogen might be an image of God, while its internal structure could be the footprint of God's trinitarian substance. The proton, which constitutes the nucleus of protium, the most common isotope of hydrogen, is a subatomic particle made up of two up quarks "u" and one down quark "d"; each "u" quark has a charge of +2/3 and each "d" quark has a charge of -1/3.

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The electric charge of the whole proton is then +1. The attraction and repulsion of quarks does not occur because the nuclear force, the most powerful of the four fundamental forces of nature, as per current knowledge, holds them together. We can think to an image of Holy Trinity considering as follows: the positive charge (+2/3) of both up quarks suggests the holiness of Father and Son, gathered by the Holy Spirit; it might be the footprint of God's trinitarian substance if the down quark stands for God's people, that is, all of us. The names of the particles ("up" and "down") suggest also a spiritual hierarchy among them.

About the consistency with Scripture, in the Holy Bible the term "Heaven" denotes the dwelling of God; this place is held to exist without and beyond the limits of the Earth [34]. With God in heaven there are the souls of the just (2 Corinthians 5:1); in two biblical statements we read that Jesus will take those souls to their destination (Lk 23:43; Jn 14:3). God promises to the christians, escaping from a corrupt world, to may come to share in the divine nature (2 Pt 1:3-4). To share in the divine nature is a thought found elsewhere in the Bible. Through the images of vine (the Son), branches (us), lymph (the Holy Spirit), and vinedresser (the Father), the believers have become part of the trinitarian life (Jn 15:4-6).

When Jesus speaks as intercessor with words addressed directly to the Father, He prays for the believers ultimately to join Him in heaven; He wishes the disciples to be with Him in union with the Father (Jn 17:20-24). The new testament describes the christian's union with Him, as Christ's living in us (Gal 2:20), and as a mutual indwelling (Jn 15:4) [35].

The Father wanted to introduce us into His own family as adopted children; the sonship is a participation of the Father much more intimate than creation. In this family we have only one Father who has only one Son. If the Father is our Father, Jesus Christ is our older brother. If children, then we are heirs of God and joint heirs with Christ, according with Paul's Letter to Romans (Rom 8:14-17).

There will be various degrees of beatitude in heaven corresponding to the various degrees of individual merit. This is a dogma of faith, defined by the Council of Florence (1438-1445) [34]. The Bible teaches this truth in many passages, when Jesus says that the word of God bears fruit in some thirty, in some sixty, in some a hundredfold (Mt 13:23). These topics likely indicate that after death we will remain ourselves. Taken as a whole, the above biblical statements support the view that the christian will ultimately become part of God, and at the same time remain him/herself.

The Fourth Council of Lateran (1215) enumerated the "incomprehensibility" among the absolute attributes of God; He is incomprehensible to every created intellect. Even the blessed souls in heaven can see the Godhead in its entirety they do not comprehend Him.

The Holy Spirit has a role explicitly active and very specific: He gathers [36]; He can then be considered as the strong force of interaction that binds the three quarks together, and will make us understand and remind everything (Jn 14:26).

Spiritual fulfillment refers to the need of an individual to be part of a greater whole, which in turn influences how the person acts [37]. Not only is the whole greater than the sum of its parts, but also the parts are transformed when they are assimilated into the context of the whole [38]; this brings also to an interesting connection with holism and holistic models of everything [39].

Material life cannot be eternal because universe is limited backward the Big Bang and forward by events such as:

- exhaustion of thermonuclear activity in the Sun (in 4,500,000,000 years);

- end of the age of stars for lack of gas volumes at critical density due to universe expansion and capture of enormous quantities of matter by black holes (date between 10^{12} and 10^{14} years);

- possible decay of protons and neutrons into more elementary particles (photons, electrons, positrons, and neutrinos) (date between 10^{32} and 10^{34} years);

- thermal death of the Universe, so dilated to make impossible any interaction between the residual particles (in 10^{100} years) [40].

The migration within a divine reality is the possibility of living for humans after they die.

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6. Why Does Something Exist and Not "Nothing"?

The arguments concerning "why something exists and not nothing" are, together with the concept of "infinity", the "meaning" of life and reality, the "destiny" of the future, the "ultimate essence" of space and time and other related ones, themes that have involved, throughout the human history, thinkers, scientists, philosophers, theologians, religious people. The question of why something exists and not nothing is often considered the "mother of all questions".

In the light of current scientific knowledge, the universe accessible to human observation seems to be the result of a concatenation of causes, scientifically explainable, that began about 14 billion years ago with a first event known as the Big Bang. But what caused it?

a) A school of thought states that it makes no sense to ask this question, since if we assume that time was born with the Big Bang, nothing was in existence before that event; in this way the question of a "previous cause" to it is avoided. But must the precedence of the cause be temporal? This is a further problem, on which we must take and maintain a coherent position.

St. Augustine had already realized this difficulty [41]. The question was later addressed by many people, linked and not to a religious culture, including in particular St. Severinus Boethius, a writer of mathematical and logical works, who developed a decidedly more sophisticated concept of creation. He thought of a God outside of time, not within time, therefore not "before", but "above" time (above space too?) [42,43].

b) Another school of thought considers the Big Bang as an event that occurred within a larger universe, containing ours, which could even be infinite and eternal. In this broader context, there would be the opportunity to explain the Big Bang through a "prior cause", but this does not explain the existence of such a "container universe", nor the entire chain of causes that led to this particular Big Bang, from which our universe began [22,23].

This is an attempt to solve the problem that actually moves it back, thus does not solve it completely. Physics can explain the possible mechanisms of explosion and implosion that can create and destroy a universe, but the problem of the beginning of everything remains unsolved.

c) Why are the laws of physics what they are and not others? Many thinkers reflect on the fact that it is precisely these conceptual difficulties that refer to something superior, to a divine creation. This question is even more pressing than the initial one, because it concerns the way in which the dynamics of everything is carried out.

It should be emphasized that science does not have the task of demonstrating the existence of God. In the past this claim has led to a fracture in the relationship between science and faith; many believe that science has the task of demonstrating or denying the existence of a superior creative mind, not considering that we are in the presence of an "ontological gap". The reasons that may have brought a reality into existence should not in fact be confused with the rules or laws that govern the dynamics of that reality.

Science and religion are two ways that have possible interactions, but not destructive interference or claims of overlap. The properties of a system cannot always be explained only through its components; the biological organism itself is a clear example [44].

7. The "Mysterious Balance" of Forces in Nature

Physics does not directly address problems such as the struggle between good and evil, but explains the antagonism in nature between different forces that oppose each other. Let's consider, for example, the dynamics of a star; its own gravity, due to the fact that the star has a mass, tends to crush it, while thermal pressure and electromagnetic radiation try to make it explode. There is therefore a sort of "struggle", of "antagonism" between different forces that tend to prevail over each other.

In general, we find this antagonism in the universe; if therefore there were not an "almost perfect" equilibrium, all systems would be quickly overwhelmed by one of the forces in play. We speak of an "almost perfect" and not "perfect" equilibrium, since in fact in the long term one of the

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forces would prevail. Thus, stars have a life, they are born, live and die, and even the universe (from what current scientific knowledge states) has its own path, its own duration, and could implode just as it exploded at the beginning with the Big Bang.

There seems to be a mystery in this apparently accidental "suspension of death". It is a lasting, but not eternal stability, which allows the universe to postpone its death, that is, the state in which the energy will no longer be degradable.

We find in the universe and in the physical-mathematical laws that govern it many examples of this suspension:

a) the *dimensional suspension*, related to the primordial growth of the universe: this growth allowed the universe not to collapse immediately under the push of its own gravity, but to have a very long life;

b) the *suspension due to rotation*: it makes galaxies and planetary systems stable, since the centrifugal force that pushes outwards balances the gravitational attraction that tries to aggregate objects or parts of them;

c) the *nuclear suspension*: stars consume the nuclear fuel very gradually, and this allows them to live for a long time, not to quickly collapse.

The reason for this slowness, this almost perfect balance between opposing forces, is not clear and has not yet been properly explained. We are used to using hierarchies or levels to describe the world; but when we ask ourselves which end is closer to God, whether beauty and hope, or the fundamental laws of physics, we must keep in mind all the structural interconnections of the complex globality [45,46].

8. Conclusions

The results of theoretical effort and scientific experiments, particularly those related to physics, can help to understand what life, consciousness, and the universe are, themes that have always troubled and fascinated great thinkers in all fields as well as ordinary men. These are new and extremely interesting theories, which may be destined to change the face of physics, neurology, psychology, and many other fields of knowledge, as well as new and fruitful points of encounter with religion(s).

The concepts of space and time and their reality are fundamental to our human experience. Our ever-increasing understanding offers us an increasingly complete picture of our dynamically changing universe. In this fascinating mix of history, philosophy, science, psychology, and religion, the human being explores the origins of ideas about self, mind, thinking, knowledge, consciousness. Ongoing study and reflection allows an important debate that reaches the most fundamental hypotheses of our universe and can help to understand the greatest enigmas of physics.

Modern-Contemporary philosophy and science reflect on the past to try to give more complete and definite explanations and answers for the present; this seems to make everything more complex, rather than simpler, but in fact this ferment of thought helps in the attempt to obtain increasingly credible answers.

Consciousness is a matter of balance. On the one hand, it requires complexity and variation as conditions for high information, on the other one, unity and integration, that is, that the parts of a conscious system are more strongly connected to each other than anything else. These ideas come from the first-person perspective, and are then translated into a mathematical formulation that leads to possible precise measurements. All of this has profound and radical implications for the place of consciousness in the natural order.

The limits of time invite us to think of an afterlife; after time, or "going beyond" it. In the intensive and qualitative sense of communication with eternity as actual infinity, time contains (surpassing it in itself) every potential infinity, to which one can always indefinitely add.

The incarnation also unites eternity and time and makes to think of a divine reality before time, which makes sense as a metaphor for an essential or causal precedence, for those who find themselves within time, but makes no sense from the point of view of eternity where there is no "before" and

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"after". If God is outside of time, He can act on the world by creating time and holding it up as a whole as a broader field of forces, in which the reality of all creatures opens up [47].

We have seen how the proton of hydrogen, formed during the first second according with the Big Bang model, can be interpreted as the image of Holy Trinity, which has made through hydrogen everything is contained in the universe. Humans will be gathered to the Father and Son by Holy Spirit.

In conclusion, the words of the physicist Max Planck, founder of quantum physics and Nobel Prize winner for physics in 1918, help to reflect: "Science cannot unravel the fundamental mystery of nature. And that is because, ultimately, we are part of the riddle we are trying to solve" [48].

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