

AN ATTEMPT AT A MATHEMATICAL AND LOGICAL

PROOF OF THE EXISTENCE OF GOD

VALENTIN VELCHEV

This article¹ compiled selected passages from a more extensive material with the working title "Debating in absentia with Steven Hawking, "treating various cosmological, theological and other scientific issues, which I have been working on for the past twenty years and which is currently being prepared for publication. The proof of the existence of God was developed in a fragmentary manner throughout several of the chapters as part of a larger argumentative apparatus, and this essay reproduces the relevant excerpts in perspective in an attempt to present the argument in its entirety, in a systematic and concise way.

Human mind has no difficulty conceiving and materializing processes which otherwise can be of extremely low probability of occurrence. One such product of our intellect is the automobile. Is it possible for such a complex invention to self-construct under the operation of impersonal forces? Let us explore just one part of the engine – a complete cylinder. What is the probability for the piston attached to it to have originated accidentally in just the right shape and size? Some elementary computations would show the probability to equal $(1/\infty)^2$, since the possible shapes and sizes are innumerable. And if the cylinder has to originate in the same spontaneous manner and both parts to engage together in a working system, the total probability is $(1/\infty)^4$, i.e. less than the "absolute zero." The intelligent maker of the engine, however, without any particular effort, can immediately determine the suitable parameters of the elements out of an infinite number of possibilities and on the basis of relevant calculations and then assemble all parts into an operational system. (We seldom realize the incredible abilities of our mind.) Once it is established that the spontaneous emergence of complex functional systems is of extremely low probability of occurrence, it is easy to show that the resultant probability for the spontaneous origin of the Universe is also of the order of $1/\infty^n$, considering that the structure that emerged

¹ Translated from Bulgarian by Julian Sobadjiev.

from the initial process has later developed into something much more complex. The point is that it is one hundred percent possible for the world to have been created by an intelligent Maker, whereas blind chance (referred to by Richard Dawkins as “the blind watchmaker”) is left with absolutely no chance to manage such a task.

1. Two questions suggested by the reality of natural laws:

a) *Is it possible for some kind of matter to have reached its present level of order by accident from an original state of absolute chaos?*

What would happen if the so-called “undetermined mutability” (according to Darwin) acts at the level of fundamental constants, laws and interactions? Let us try to imagine a world in which everything changes in a totally chaotic way. In this world some of the characteristics of the elementary particles might be constant, while others might reorganize continuously. For example, if the electric charge could change arbitrarily, it may take absolutely random values: +1; -1; +7/8; +14/3; -112/27, etc. The same is assumed also for the mass, the spin, the magnetic moment, etc., and we ought to assume even a qualitative (evolutionary?) transformation of particles into something different from what they are in reality. The law of gravity can now appear in the following form:

$$F = G \frac{M_1 \times M_2}{R^2}$$

and then:

$$F = K \frac{2M_1 \times M_2^3}{R^{\frac{4}{3}}}$$

then it could change into some other type, etc. (Because there is no permanence, one cannot talk of laws here.) Having in mind the delicate balance of all forces in nature, it becomes abundantly clear that with any given line of metamorphosis of the interactions, everything will fall apart “right in front of our eyes.” Neither would it be possible to create any stationary dynamic structures in a system of this kind, nor could they be stable in time, i. e., have permanence. If the primary matter that makes up our world displayed such “undetermined mutability”, it would lead to a state of *absolute chaos*, which is not capable of producing any form of organization or be in any permanent state of arrangement.

It should be noted that some scientists consider the powerful conceptual paradigm offered by the new string theory, which has the potential to give an answer to the question: “what is the reason for the elementary particles to possess exactly the properties we observe?” This can be explained by the ability of strings to perform an infinite number of resonant oscillations, which means that they should generate an infinite array of elementary particles with all sorts of properties. In that case, one may ask why only a limited number of observed particles serve as the indispensable construction elements for the structures in our world. The answer of the string theory is that there are at least six (or seven) additional dimensions of space, which at microscopic level are rolled into the so-called Calabi-Yau shapes.[1] They were named after Eugenie Calabi and Shing-Tung Yau, who predicted them in mathematics even before they were described in string theory. (fig. 1)

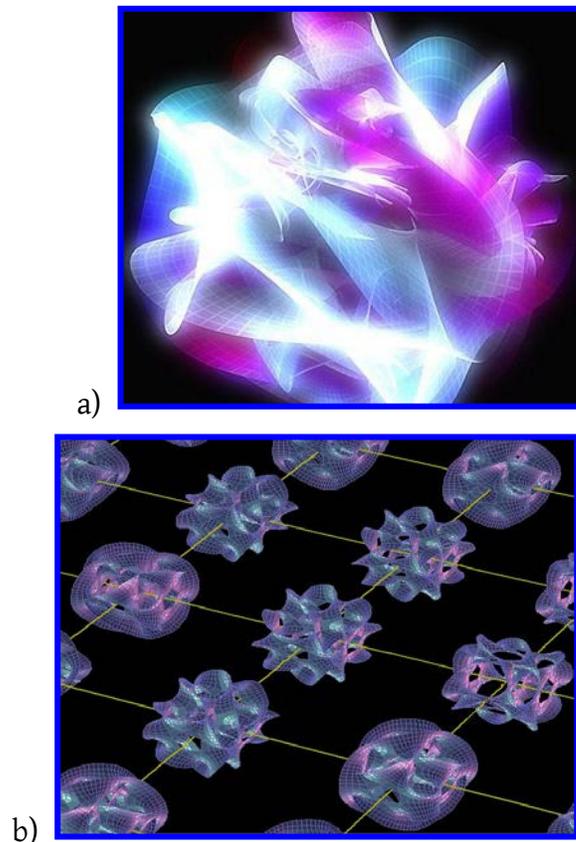


Fig. 1 a) represents one of the possible Calabi-Yau shapes. b) An area of great in great magnification showing with additional dimensions shown in the form of miniature Calabi-Yau shapes.

The additional dimensions exert a great influence on the way the strings oscillate, and, as a result, on the properties of the particles. However, the equations show that there are an infinite number of Calabi-Yau shapes, and each of them is as valid as all the rest. Thus, we come once more to a dead-end – how were those structures, which generate exactly the requisite elementary particles selected and fixed? The question is hitherto unanswered.

It should be noted that the string theory does not conform to the criteria of verification and falsification and remains a purely speculative research field that is not in position to aspire to the status of a scientific formulation. Carlo Rovelli pointed out in his work on the history of quantum gravity: “So, where are we, after 70 years of research? There are well-developed tentative theories, in particular strings and loops, and several other intriguing ideas. There is no consensus, no established theory, and no theory that has yet received any direct or indirect experimental support. In the course of 70 years, many ideas have been explored, fashions have come and gone, the discovery of the Holy Grail has been announced several times, in each case being subsequently rejected.”[2]

Alluding to such a quite problematic theory as the string theory, Hawking and Mlodinow claim that it predicts the possible existence of 10^{500} universes.[3] (And, according to Andrey Linde, they must be $10^{10^{10^{10^7}}}$).[4]

However, even if such a hypothesis proves to be true, this does not mean that all these universes actually exist. And, as we shall see later, the cited number is utterly insignificant and thus cannot “salvage” their hypothesis of an orderly world having emerged by accident.

b) A second question concerning the natural laws states: “*What is the statistical probability for the accidental origin of a well-organized and stable universe like ours?*”

The fundamental constants, the characteristics of the elementary particles, etc., are measured with interminable quantities, therefore, they allow for an infinite (∞) number of values of their settings. Let us assume that the existence of such a world requires a system of n elements.

Generally speaking, the possibility for each member of the system to have exactly the suitable parameters is $1/\infty$, and for the entire n-number of elements – $1/\infty^n$.

(Even if the allowed setting of the elements vary within a certain interval, this will not affect the result, i. e., it remains $1/\infty^n$. The theory predicts that the value of each physical constant may vary in an insignificant range without the system being disrupted, but as the number of constants increases, the range will acquire increasingly narrower limits. As shown by the empirical verification, the values of the constants are set with exactitude to more than ten digits after the decimal point and do not change over time.[5])

Even if the system has an infinite number of stable configurations, the probability for any of them to form by accident would be:

$$\infty/\infty^n = 1/\infty^{n-1}$$

where n is a positive integer greater than one. Currently, concerning our world there are at least several scores of parameters whose values must be precisely set.

If we state that $n-1=k$, then the expression will appear as: $1/\infty^k$, i.e., this probability is a certain number of times smaller than infinitesimal (fig. 2).

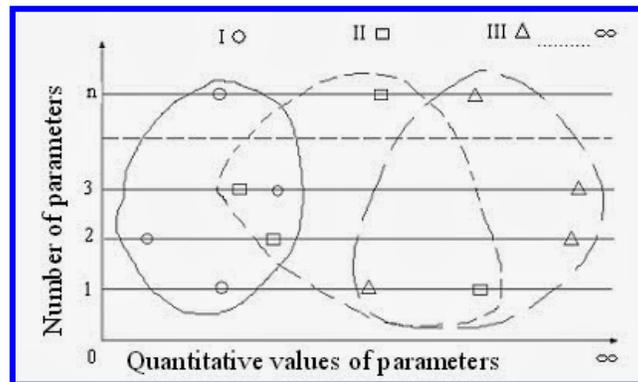


Fig. 2. The possible configurations of the parameter values which ensure working (stable and functional) states from I to ∞ . Systems I, II, III and so on, may involve in equal measure other worlds as well as the physical structures that form inside them.

In other words, an incredible evidence is at work in systems that allow their parameters to take an infinite number of values. Although these systems may comprise innumerable working states, even then the probability to achieve any

one of them by chance is smaller than infinitely small or, in practice, it could never materialize. [*]

.....

[*] These issues can be expressed mathematically as follows: let m represent the number of universes. Then m can increase from 1, 2, 3... to infinity, or, we can say, m represents the set of positive integers (or, the natural numbers.)

Using m^I to designate the set of settings of the physical constants, we shall initially assume that their adopted values can be represented only by positive integers. Or, that $m^I = m$. Thus the expression acquires the following form:

$$\text{Lim}_{m \rightarrow \infty} m/m^{I^n} = \text{Lim}_{m \rightarrow \infty} m/m^n = \infty/\infty^n = 1/\infty^{n-1} = 1/\infty^k = 0$$

Here the two infinities increase at different rates (respectively ∞ and ∞^n) and therefore, the final result is zero.

The point, however, is that m^I virtually represents the set of all real numbers (whole, rational and irrational.) Therefore, it has to be taken into account that there is an infinite set lying between any two integers (for example between 1 and 2.) In other words, the set of real numbers is infinitely more powerful than the set of natural numbers, i. e. $m^I = m^\infty$. Hence:

$$\text{Lim}_{m \rightarrow \infty} m/m^{I^n} = \text{Lim}_{m \rightarrow \infty} m/(m^\infty)^n = \infty/\infty^{n \cdot \infty} = 1/\infty^{(n-1) \cdot \infty} = 1/\infty^{k \cdot \infty}$$

Such result actually shows that even if the number of worlds should be ∞^∞ , it is still not possible to achieve a stable and ordered Universe:

$\infty^\infty/\infty^{k \cdot \infty} = 1/\infty^k$, or, metaphorically speaking, “such probability is less than absolute zero“

We could also safely describe this paradox as the *theorem of the existence of God*.

.....

For readers not versed in mathematics, we can make an additional explanation. In theory, statistical laws allow for the realization of events with insignificantly small probability of occurrence. However, practical experience shows that such events never happen. Therefore, it is assumed by some scientists that for each event there is a certain “probability threshold,” beneath which the realization of the event becomes impossible. But, inconceivably small as these relations can be, such as for example $1/10^{500}$, $1/10^{65 \wedge 720}$, etc., still there are those

who argue that it is possible to realize such probabilities. However, when one deals with a probability $1/\infty$, it is infinitely smaller than the smallest probability that could be written down or even conceived of. That is why we hope that a probability of $1/\infty$ must signal even to such “optimists” the **absolute “prohibition”** for a certain event to be realized in practice.

Once should ask if it makes much sense to raise $1/\infty$ to some power, since the ratio $1/\infty$ actually tends to zero and makes the occurrence of an event totally impossible. However, one needs to adhere to the theoretical rules of mathematics, which state that the total probability for two or more events to happen is equal to the product of the probabilities of their separate occurrence. When a total probability $1/\infty$ to some power is obtained, this may indicate *more than the absolute impossibility for the realization of something*.

Thus the 10^{500} universes predicted by Hawking and Mlodinow are shown by cited formulation to represent a quite insignificant number. (The same holds true for the possible number of universes according to Linde.) But even if their number was increased to infinity, the calculations above would still show no plausible probability for a Universe like ours to have appeared by accident.

These variations can be limited with living organisms, since their components (DNA, proteins, etc.) consist of a strict number of discrete units (nucleotides, amino acids, etc.) But in actuality, it appears that the probabilities for spontaneous appearance, or accidental self-formation of the proto-cell, a unit capable of realizing all processes pertaining to life, or vital processes, appears to be negligibly small, practically unrealizable. To put it differently, in the highlighted areas, the existing dynamic and statistical laws preclude (do not permit, or render absolutely improbable) the self-organization of matter.

2. Figure 2 makes it possible to draw another important conclusion, namely, that such evolutionary processes are not possible both in inanimate and animate nature.

A *system* can be defined as a multitude of elements in relationship and connection with each other forming a certain unity, a totality. All elements of the system are interdependent, i.e., each of them affects the rest, and is in turn affected by them. The system’s internal form of arrangement is determined by its structure, i.e., it

is an expression of the order established inside it. The thorough study of the order in complexly organized systems is the field of a comparatively new science, called taxiology (logic of order), which is being currently developed into one of the most fundamental and important theories of logic. But its basic principles and categories are studied through complicated extensional mathematical logic and theoretical computation methods. Therefore, they will not be examined here, instead, an extremely simplified approach will be applied to enable the drawing of some conclusions related to the possibility for an evolution of hierarchically structured systems.

With such systems, a principle known as “**all or nothing**” is in force based on the fact that the structure must be composed of suitable elements arranged in the correct order, so that the action of the system is not disrupted. If we change the parameters of even a single one of them, or we totally eliminate it, or we change places of some of the elements, a disturbance will occur in the functioning of the system that will disable and make it useless. Therefore, either both everything is in order or the system functions in a normal way, or otherwise, it is as if nothing is in order and the system is terminated.

This principle precludes the gradual “evolution” of one structure into another. Would a small mechanical watch be able to gradually transform itself into an alarm clock? Let us presume that one of its gears has grown bigger and more suitable for a clock. In this case, it would become incompatible with all the mechanisms of the small watch and the latter will not tell the time correctly, or will not be able to work at all. Let the other parts also grow larger and become suitable for an alarm clock. While one part of its mechanisms is fit for the smaller watch, and the other – for the bigger one, its function will be considerably disturbed or could be altogether disrupted. The watch/clock will serve its function only when either all its parts are small, or all parts are big.

And what will happen if one of the parts of the watch is replaced by a computer part – for example, if a transistor is substituted for a spring? It is absolutely certain that in this case the watch will not function any more. On the other hand, the computer will not perform its function even if all its

components are correctly assembled except for the one that is replaced by the watch part.

There is a conclusion to be drawn from what was just said: when one object is gradually transformed into another object of the same type (but different in some way – by size, by model, etc.), its function can be rendered difficult or even impossible. And even if one thing is transformed into an object of another type, its function cannot be realized at all and fails. Therefore, either “everything” is in order and the system is functioning normally, or even one thing is not in order, meaning that “nothing” is in order, the system as a whole is not in order, and the function is destroyed. Of course, the interrelations between the elements of the systems in nature are significantly more complicated; these examples were cited only to illustrate the principle of “all or nothing.”

By way of analyzing Fig. 2, regarding the possibility of the systems with indefinite number of parameter values to undergo an evolution, one can draw the following conclusion: **Neither gradual, nor “saltatory” (abrupt, discontinuous) or “quantum” transitions of one system into another are possible.**

In the first case, i.e., with a *gradual transition*, if the value of one parameter is changed, it will no longer be coordinated with the other parameters and the original system will cease to function. But the target system will not be functional until all its necessary parameters are completely construed. It is clear that the principle of “all or nothing” applies in this case.

The second case, “*quantum*” (*sudden transformation*), is equally impossible to be realized. The probability for all parameters of the system to change suddenly and acquire the exact values necessary for a different system to function is infinitely small (according to the calculations above – $1/\infty^k$).

We mentioned earlier that every metamorphosis in the parameters of the micro-world (characteristic of the particles, intensity of interactions, etc.) makes atoms unstable and leads to their disintegration. In other words, the atoms and the chemical elements are discrete structures, which cannot pass one into another through a series of *intermediate forms*, as their function requires a strictly calculated design. We could think about the celestial formations – planetary, stellar, and galactic – in a similar way.

As it is well known, proteins play a very important role in living organisms. They build the cell structures, perform catalytic functions, participate in the realization of the genome, etc. But one part of them is species-dependent. Therefore, if a mutation occurs that leads to the formation of a different protein, its action will not be in unison with the work of the other proteins. In that way the genetic mutations interfere with synchronization of the systems in the organism and for that reason, in fact, they can be detrimental to the individual, i.e., they do not assist the individual in the struggle for existence. In other words, not only does the principle “all or nothing” not facilitate the gradual evolution of organisms, but there is also no evidence for the “quantum-driven” (i.e., sudden) emergence of new species.

This line of reasoning leads to the following conclusion: **Intermediate states are: (a) unstable – in the atomic and celestial structures, and (b) dysfunctional – in living organisms. This means that the concept of a universal Darwinian evolution in relation to the systems in inanimate and animate nature is absolutely unacceptable.**

The probability for a simple system like a piston and a cylinder to self-assemble by chance is represented by $(1/\infty)^4$, but the assemblage would pose no problem to an intelligent engineer. **In other words, a probability of 1 to infinity raised to a definite power would define the dividing line between intelligence and blind accident (or “watchmaker,” as Dawkins dubbed it), which the latter would not be able to cross by any means.**

Bearing in mind that even the first galaxies that appeared at the very dawn of time (some 13, 4 billion years ago) were fully arranged and the fact that abiogenesis and evolution are impossible in the living world, one can safely assert that this concept has also been confirmed at empirical level.[6]

Going back to fig. 2, let us recall the paradox related to that simple calculation:

$$\infty/\infty^n = 1/\infty^{n-1} = 1/\infty^k,$$

which makes it clear **that God was in position to create an infinite variety of orderly structured and stable worlds (designated at the diagram with I, II, III ... ∞),**

but each one of them is highly improbable ($1/\infty$ raised to a certain power), and so the possibility of their having originated by accident is ultimately precluded .

This answers the question raised by Einstein, “Did God have any choice in the Creation of the Universe?” and reasserted by Hawking and Mlodinow in their book “The Grand Design.”[7]

There is actually no way to establish if other universes exist, whether they be ordered or chaotic, and if they represent the “image and likeness” of the universe we inhabit, etc.[**]

.....

[**] Many ideas have been proposed so far as to how the hypothesis of the multi-universe could be verified empirically. In my opinion, however, this is impossible for the following reasons:

1) It is not possible to guarantee that particles in other universes would be identical to those in ours and would fully replicate the parameters and interactions of those in evidence here, and thus it may be impossible for us to detect their influence in the event of any kind of contiguity - touch, impact or collision.

2) Assuming that any of the far-reaching gravitational and/or electromagnetic interactions may possibly be in evidence in some of these universes, quantum vacuum between them (which is in a state of chaos, and is not structured according to space-time continuum) will not be able to carry over any signals between the worlds, and the touch or impact with them would be destructive.

3) There will always be a possibility for some hitherto undiscovered properties of matter to account for all observable (tangible) effects in our world; let us keep in mind that we are not yet familiar even with the dark aspects of matter, and it may turn out eventually that there are more of them than we expect)

.....

However, the number of the universes is of no consequence in this particular case, since we speak of them in purely hypothetical terms; i. e., even if one accepts these universes to be merely fictitious, this will not affect the outcome. **Our world**

provides by its sheer existence the suitable model, perfectly adequate to ensure that the mathematical calculations we make and the logical reasoning we follow are in force.[***]

.....

[***] In this case, one can reason as follows: all worlds, stable, orderly or chaotic, **are equally probable**. In this case, according to the theorem, it follows that if there is no way to get a stable universe, the same must also be true for the chaotic universes. But this is absurd. By presumption quantum fluctuations of vacuum can bring forth an enormous number of diverse systems. Moreover, our world, which is orderly and stable, is really in existence. Based on this proposition, it follows that the theorem does not prove that worlds (stable and/or chaotic) are not actually possible, but establishes the correlation between them and enables the respective conclusions to be drawn.

.....

3. Natural theology has developed an impressive array of arguments for God's existence, but only four of them are considered fundamental – the ontological, cosmological, teleological and moral. In the second half of the 20th century the British philosopher of religion and science Richard Swinburne produced what might be regarded as a substantial contribution to theology, his trilogy “The Coherence of Theism.” In his view, if treated separately, none of these arguments can be taken separately to confirm the existence of God, but if they are viewed collectively and compounded with providential and religious experience, the evidence of the miracles, the presence of consciousness, etc., Christian theism becomes more plausible than its refutation. (Some time later, Swinburne completed a tetralogy as well, devoted to a number of basic church doctrines.)

In the 18th century Presbyterian minister and mathematician Thomas Bayes, in an attempt to solve a problem in the doctrine of chances, developed a private solution to the problem of inverse probability, which became known as the “Bayes theorem”.[8] The theoretical part of the solution, however, is based on the principle “choose so as to increase the expectation of benefit to the maximum,” which is one of the reasons why critics believe this method to be useful only in narrow classes of cases. Swinburne and some others have tried to

use the Bayes theorem as a proof of the existence of God. The difficulty with applying the Bayesian method in theology is that the importance of the various elements – the four basic arguments, religious experience, miracles, etc. – is quite subjective; therefore, 'the expectation of value' may be arbitrarily heightened, i. e. to maximize the probability of the proof of God's existence to one hundred percent.

We shall also attempt to substantiate the veracity of theism and to elaborate further on it. It is for experts to judge, however, whether the narrowness and subjectivity of the Bayesian method have been successfully overcome, and whether progress has been made with these extremely complex issues.

4. The Bible's opening statement reads: "*In the beginning God created the heaven and the earth.*" (Gen. 1: 1, NIV)

The key word in this verse is "God". Is it possible, however, to prove God's existence? As Hamlet's famous line goes, "**That is the question!**"

Let us give more attentive examination to what the implications of the theorem presented in paragraph one entail (see note marked with asterisk [*].) According to this theorem it follows that even if the number of worlds is represented by infinity raised to the power of infinity, or ∞^∞ (and it is impossible for them to exceed that number[#]), still there is no possibility whatsoever (according to the calculations $1/\infty^k$) for an orderly and stable world to emerge out of nothing. The fact that our world exists (orderly and stable as it is) demonstrates that there is no way for it to have appeared by way of random coincidence.

.....

[#] It is believed that one of the largest numbers still in use in strict mathematical proofs is the so called Graham's number.[9] However, a larger number can be easily produced by adding 1 to it.

Someone may object that adding 1 to ∞^∞ would produce an even larger number. But this is not the case for the simple reason that infinity in the base and infinity in the power index augment infinitely, i. e., they comprise and overtake any further addition of numbers one might apply to them. As it is, one can safely state that the dimension ∞^∞ is the greatest number.

(In the theorem we used $\infty^{k\infty}$ to compare infinities, but this was solely with auxiliary purposes, similar to the way imaginary numbers are used.)

The proof we apply is on the borderline between mathematics and philosophy. From a mathematical perspective, infinities can lead to uncertainty, but in terms of philosophy, it is absolutely impossible to solve the problem without them!

.....

Mind alone is able to give rise to things with probability of spontaneous occurrence expressed by 1 over infinity raised to some power (which also represents the line of division between the intentional creative activity of the mind and blind chance.) Because of this proposal, it can be deduced that, in the beginning, a mind of such great power was present and constructed our world, since no other known entity so far has the capability realize such probabilities.

If such a primordial mind was present and active in the process of the creation of matter and it was not possible for it prior to the emergence of matter to have a sophisticated material structure to support it and carry out its functions (as is the case with the human brain) then it follows that **mind can exist independently of any physical structure.**

Thus the question about the possibility for so-called "Boltzmann brains" (hypothesized self-aware entities,[10]) to appear as a result of random thermal or quantum fluctuations must be answered negatively. Actually, this echoes pagan religions, where Chaos birthed the deities, who in turn created the universe, life and man.

In addition, one should ask whether matter, even in some unorganized state, could exist eternally alongside mind. The anthropic principle states that for the construction of our world it is necessary that it possess a number (represented by n) of basic properties. Assuming that in principle it is possible to have an infinite number of properties, then the probability for matter to possess absolutely all of the necessary properties is mathematically equal to zero.

On the other hand, if matter possessed an infinite number (or more than n) of properties, then some of them would be redundant and would obstruct other processes, such as the formation of atoms. In this case, no atoms should exist, or

they would be annihilated, i. e., turned into nothing. And if matter does not possess any property unconditionally requisite for the way it is structured or functions, then this would necessitate the creating of this property out of nothing.

It follows from these considerations that one can more plausibly, if not inevitably, accept that matter has been created out of nothing, with all the necessary properties that creation out of nothing involves, or necessitates the presence of, an omnipotent Creator. Furthermore, since God is not identified with matter, it follows that **He is transcendental – outside the space-time and independent of it.**

Another issue that arises from this situation, however, is if the calculations from the cited theorem could be applicable to God as well. In other words, they must imply that He could not have originated by chance or to have been eternally in existence.

Two factors contribute to the solution of this problem:

a) God is unknowable in Himself that is, his essence is beyond the grasp of mind and is completely different from the material continuum (attributes as intellect, power, etc., are anthropomorphisms and only refer to the God-world relation, i. e., His manifestation in the world.) Thus the above line of reasoning becomes inapplicable to God.

b) The two aspects of the situation are asymmetrical – the world is not necessary to God's existence, but God is unconditionally necessary for the existence of the world.

One may reason as follows: If the theorem is applicable to God and proves that God does not exist, then absolutely nothing should exist. Because our world not only exists, but is also orderly and stable, we must conclude by necessity that God exists. Hence, the question „Why is there something rather than nothing?“ asked by German mathematician and philosopher Leibnitz in his Argument from Sufficient Reason can be answered by stating that „the world exists solely by the will of God.“

In addition to the aforesaid we shall note that there are three possible ways to answer the basic philosophical question „Which is primary?“:

1) Matter.

2) God and matter.

3) God.

As we have seen, the theorem determines that there is no way for matter to be primary since it could not create a world like ours. It was also mentioned above that matter is not eternal, since mathematically it is impossible for it to possess the exclusive and indispensable properties required for such a state. We are left with the third option, namely that only God is primary.

5. A number of philosophers disagree, however, **stating that even if the existence of a Creator is proved, there is no way to confirm that the Creator thus proved would be the God as revealed in the Bible.**

Christianity holds that God has thorough knowledge of all things in equal measure – possible and actual, necessary and accidental, past, present and future. For this reason He says: „... *I am God, and there is none like me. I make known the end from the beginning, from ancient times, what is still to come...*” (Isaiah 46: 9-10, NIV).

The Biblical prophets contemplated future events under the inspiration of God, and for this reason, there is thorough difference between their predictions and some insightful or apt conjectures or from some vague and ambiguous divination. The Holy Scripture includes around six thousand and four hundred verses containing prophetic insights, with over a half of them having already been fulfilled. Some were fulfilled soon after they were announced (as is the case with the events of Daniel 5) and others – hundreds and thousands of years after the moment they were recorded in the sacred books (e.g., the texts about the life, the crucifixion and the resurrection of the Savior[11].) The fulfillment of some prophecies can be observed in our time while others – the Second advent and the new heaven and earth among others – relate to the future.[12] (Furthermore, there exists an enormous bulk of archaeological evidence of the historical veracity of the Bible.[13])

In order to make a reliable prediction, however, one must necessarily take into consideration a large number of occurrences in the inanimate or animate world for a given period of time. This would mean to take into account the effects of natural phenomena, to trace the movements of living beings and to foresee how large groups of people would behave or act within a given period of time.

a) Could it be that prophets may have simply possessed some phenomenal abilities that enabled them to make infallible prognostications of events? Even nowadays, there are people who have the ability to memorize an enormous quantity of information and to perform extremely complicated calculations mentally faster than a computer.

According to French scholar P. S. Laplace, if the exact parameters of a dynamic system are adequately measured and the character of its dynamics (its 'dynamic state') is known, one is in position to determine (predict) all its future states ('future behavior'.) (Or, according to a more different formulation: If the input behavior of a dynamic (nonlinear) system is correctly measured and its parameters adequately estimated, then it is possible to predict all its output behaviors.) However, contemporary scientific formulations in such fields as stochastics, quantum mechanics, chaos theory, among others, do not allow for (do not agree with) this kind of radical determinism.

According to *stochastics*, it is not possible to determine a particular outcome of events of probabilistic nature. The calculations may show the probability for an event to occur, but they cannot determine when it will occur, or whether it will occur at all. In *quantum mechanics* Heisenberg's uncertainty principle asserts the fundamental impossibility (or limitation) to determine simultaneously and with equal precision the complementary variables– position and momentum – of the particles, and thus also construct their trajectory of movement. (At this point, a problem arises: the initial state of micro objects is destroyed while their properties are being measured, therefore, it is impossible to determine their exact properties--and hence, how they behave when not observed)

According to *the chaos theory*, some systems (for example, the atmosphere) display extreme sensitivity to initial conditions, which means that they can become practically unpredictable within a larger time frame – meteorological forecasts are reliable for three days at best. With chaotic systems, even the slightest deviation from the initial state can result in enormous differences in the latter states: the so-called „butterfly effect.”^[14]

Natural cataclysms – hurricanes, floods, volcano eruptions, earthquakes, droughts, diseases, extinction and migrations of biological populations – may

sometimes effect dramatic changes in the destiny of entire nations. But these phenomena are contingent upon the above cited unpredictable physical regularities, **therefore, objectively speaking, predictions of such events are not possible, regardless of the abilities of certain individuals or the achievements of scientific and technological progress.**

b) What if we are the experiment of an alien civilization??

As noted above, God alone can create organized and stable worlds. There is some likelihood, in case he has created more than one world, that he chose to have some of them populated with highly intelligent race of living beings and, as maintained by a number of modern philosophers and technocrats, we could simply be involved in something like a computer simulation overseen by the alien race.[15]

However, this scenario faces a major problem - humanity possesses free will and in no way is it possible to predict how different people would decide to act in different situations. The choice for each individual can be extremely complicated because it is influenced by reasons, emotions, whims, unforeseen contingencies and emergencies, natural conditions, as well as his / her relationships with other individuals and the overall organization (governmental, economic or otherwise) of society in general. And vice versa, sometimes it takes the ideas of just one individual to revolutionize societal thinking or to generate widespread cultural, societal and political changes of global significance.

Furthermore, if there were no free will, love would be impossible. In his novel "The Ruler of the World"[16] Russian-Soviet writer Alexander Belyaev depicts the following situation. German scientist Ludwig Stirner invented an extraordinary machine, an emitter of brain waves. Aided by the machine, he is in position to infiltrate the minds of human beings and control what they think and how they feel. One of the first things he does is to persuade his colleague, Elsa Glug, to cease loving her recent paramour, Otto Sauer, and fall in love with himself. Having secured the transference of affection from another object to himself, however, Ludwig Stirner failed to achieve her genuine love for him, but rather he became the object of his own narcissistic love for himself that he instilled in her and that now she reflected back to him. The point of the story is

that it is possible to have real love manifest itself toward someone where one has his own real feelings and free will to direct them to whomever he wishes. In order to have a real love for God it is necessary for us to be independent individuals, entities distinct and separate from Him, **which precludes of pantheism and predestination.**[&]

.....

[&] According to a statement attributed to Martin Luther, which was corrupted and modified by later misquotations and redactions, we do not possess genuine liberty – our will is “enslaved” or “in bondage,” and for that reason “*man is like a horse, “mounted”* either by God, or by the devil. And his fellow reformer Jean Calvin maintains that we have been predestined from the beginning – some for the kingdom of heaven and others for the eternal torments of hell. But if we are just “puppets, “programmed” in advance to conform to a predestined course, explaining the fulfillment of a prophecy becomes an easy matter, where all responsibility for evil can be imputed completely or partially to God. Moreover, without free will it is unthinkable to fulfill the command to love our neighbor.

Martin Luther failed to discard the fetters of Roman Catholic legalistic theology and this fact additionally reinforces the above conclusions. Even to this day, some Protestant theologians have been trying in vain, through all kinds of philosophical casuistries, to mitigate such a conclusion, but as long as the underlying doctrine of their soteriology – the teaching of redemption and salvation – is “*sola fide*” (*salvation through faith alone*), God will inevitably be obfuscated by the shadow of evil. Fortunately, most present day Protestants are not such rigorous followers of Luther and Calvin and to a great extent have overcome the weaknesses of their theology.

.....

Therefore, if we are convinced that, as Turgenev says, “*only through ... love does life sustain itself and move forward,*”[17] **“we should discard the idea of predestination or that we are involved in a computer simulation.**

Let us try to explain the ways in which it could be made possible for the devil to create the impression that he can predict the future. We can see how in certain stories of the Bible Satan obtains permission from God to test certain individual ,

as in Job 1:8-11, 2:5, or Luke 22:31-32 (but it is worth nothing that the permission is qualified, or limited, by God, and Satan is not allowed to do anything outside the limits of his mandate) . We also see learn that nonbelievers are "taken captive" in his "trap"" (2 Tim. 2:26) and that some can advance so much in communicating with him as to be given intimations of his plans beforehand. Thus, once he has arranged with God the details of the mandate, as in Job 1:12; 2:6, he may choose to reveal his intentions to those of his human servants he has enabled to converse with him and allow them to forward this information and thus give the impression that they have foreknowledge of the events even before they have happened and have effectually predicted a future situation.

In a famous scene of the novel "The Master and Margarita" by Russian writer Mikhail Bulgakov, "professor" Volandes, an incarnation of the devil, makes the following statement:

'Sometimes it can be even worse: a man decides to go spend his vacation at a mineral water resort,' - here the stranger stared at Berlioz -' a trivial matter you may think, but he cannot because for no good reason he suddenly jumps up and falls under a tram! You're not going to tell me that he arranged to do that himself? Wouldn't it be nearer the truth to say that someone quite different was directing his fate?' The stranger gave an eerie peal of laughter.

.....

'I shall refute his argument by saying! Berlioz decided to himself, ' that of course man is mortal, no one will argue with that. But the fact is that . . .'

However, he was not able to pronounce the words before the stranger spoke: 'Of course man is mortal, but that's only half the problem. The trouble is that mortality sometimes comes to him so suddenly! And he cannot even say what he will be doing this evening.' (THE MASTER AND MARGARITA)[18]

Whenever Satan deals with particular world events, he can adhere to the prophecies in the Word of God, but since he has no access to the details and is ignorant of the future development, his predictions are quite general, obscure or ambiguous.

Here is how some scientists attempt to explain the phenomenal abilities of clairvoyants, astrologers and psychics. For example, Bulgarian physicist Jordan Georgiev formulated the following postulate, accepting some purely speculative assumptions:

- 1) All events – past, present and future – exist simultaneously;
- 2) There is a “deeper reality, “the so called „subquantum” field of reality, which keeps the world in unity;
- 3) Clairvoyants draw information from it, to observe the whole picture of reality (say, human life) in time.[19]

Christians, however, prefer to trust the testimony of the Bible for all events and occurrences in the visible and invisible world. There they can learn that Satan „accuses Christians before ... God day and night” (Rev.12:10), which makes it clear that his invisible army of fallen angels keeps track of our every word and action. Thus we find a different explanation of the way diviners can disclose intimate details from the lives of human individuals other than the one proposed by theories, namely, that they „decipher the subjects’ information fields, recorded at subquantum level”.

Astrophysicist prof. Lachezar Philipov accepts the possibility of numerous advanced civilizations existing in the Universe and he establishes a direct causal connection between their progress and the higher moral values they have embraced (though it is not made clear whether the higher values emerged from continual progress, or progress was the result of their having embraced the values.) They are unwilling to put earthlings in contact with themselves and to impart higher knowledge to the human race, as it is perceived these might be used to gratify mankind’s egotistical mentality, or to indulge their penchant for „invading, conquering and appropriating.” Mediums (or “psychic communicators”) are the only people, whom the aliens trust and to whom they convey special knowledge by way of telepathy, which can serve as directions intended to help mankind to “a more advanced level of awareness".[20]

However, there is another story and a different lesson to be learned: in the town of Philippi, Apostle Paul expelled or, exorcised the unclean spirit from a servant girl and she immediately lost her gift to predict the future (Acts 16:16-18.)

In his epistles he assures us that Satan and “his servants” very skillfully “deceive” those among mankind “who are perishing” and lead them into perdition, “using all sorts of display of power through signs and wonders, “and “masquerading as angels of light, ““servants of righteousness, “bearers of truth. (2 Cor. 11: 14, 15; 2 Thess. 2: 8-10.) **Therefore, the Orthodox Church has always been warning believers not to communicate with „visitors from alien worlds, “„supreme spiritual teachers, ““the souls of the dead” etc.**

d) Concerning the interpretation of an "irrational" field of physics - quantum mechanics - Niels Bohr advanced the so-called complementarity principle. This principle deals with the complementarity of mutually exclusive concepts as waves and particles in wave-particle duality and can be presented in a more general form: „To reproduce a phenomenon in its entirety, it is essential to regard mutually exclusive concepts as mutually complementary.”

The complementarity principle is in effect whenever the experimentally identified attributes of an object appear as mutually exclusive, for example, corpuscular and wave properties of the elementary particles. These seem to comprise completely incompatible properties; on one hand, some of the particles are discrete one the other – waves travelling in space are infinite. Thus certain aspects of physical reality, even though they may seem incompatible, should be accepted as *mutually complementary*, determining the unitary nature of objects and phenomena.

It was the Church fathers who, long before scientist had arrived at by scientists, formulated the fundamental tenets of Christian faith – „*God is one, but manifested in three Persons*”; „*Jesus Christ is all-powerful (or almighty) God and a limited Man*”.

For a long time, the tenets of the Trinity and the divine versus human nature of Christ have remained incomprehensible to other religions and for that reason Christianity has been accused in polytheistic leanings, mostly on the part of Islam and Judaism.[21] The complementarity principle of Niels Bohr attests that it is possible for a complex system to operate within a unity of seemingly contradictory or incompatible constituent concepts, and the experimental basis of quantum mechanics has lent additional support to its findings and

demonstrated its veracity. Moreover, the cited tenets cannot be arrived at by way of ordinary human logic; therefore, the wisdom they contain is suprarational and cannot be found in any religion or ancient philosophy.

(We should make it clear that these two tenets are completely based on the Bible, and the discoveries of quantum mechanics only serve to demonstrate the substantial logic underlying their formulation. Furthermore, there is another analogy, which, though incomplete, can have far-reaching implications:

God is one, but in three Persons, i. e., the possibility for the single to be at the same time also multiple has been exemplified through the following phenomenon. Although string theory has not been proven, theorists claim that it is permissible to have only one kind of string that performs an enormous variety of oscillations. The specific mode of oscillation produces electron, quark, neutrinos and other elementary particles.

Micro objects are 100% waves and 100% particles, and we have already noted that the former are infinite and the latter – discrete. In a similar way *Christ is absolutely unlimited God and completely ordinary Human.*)

The Orthodox Church, relying on the doctrines of the Church Fathers (whose validity has been attested by the *complementarity principle*) accepts that the foreknowledge of God implies His ability to pre-ordain (plan and oversee) sovereignly (with absolute authority) and announce (make known in advance) the events of world history without limiting in the least our free will. Apostle Paul declared for us the inscrutability of His actions, that is, the impossibility of their being comprehended or attained to by way of human reason: „*Oh, the depth of the riches of the wisdom and knowledge of God! How unsearchable his judgments, and his paths beyond tracing out! Who has known the mind of the Lord? Or who has been his counselor? Who has ever given to God, that God should repay them? For from him and through him and for him are all things. To him be the glory forever! Amen*” (Rom. 11: 33-36)

NOTES

- [1] The Shape of Curled-Up Dimensions.
<https://web.archive.org/web/20060913014709/http://library.thinkquest.org/27930/stringtheory5.htm>.
- [2] Rovelli, C., Notes for a brief history of quantum gravity.
<https://arxiv.org/pdf/gr-qc/0006061.pdf>.
- [3] St. Hawking, L. Mlodinow, *The Grand Design*.
- [4] Physicists Calculate Number of Parallel Universes.
<https://phys.org/news/2009-10-physicists-parallel-universes.html>.
- [5] Viewpoint: Time Trials for Fundamental Constants.
<https://physics.aps.org/articles/v7/117>.
- [6] Empirical Verification of Evolutionary and Biblical Cosmological Models.
<http://kosmos-21.blogspot.bg/2015/07/blog-post.html>.
 Appearance and Evolution of Life.
<http://kosmos-21.blogspot.bg/2017/05/blog-post.html>.
- [7] Hawking / Mlodinow, *The Grand Design*.
- [8] Graham's number.
<https://sites.google.com/site/largenumbers/home/3-2/Graham>
- [9] Bayes' theorem.
<https://www.britannica.com/topic/Bayess-theorem>
- [10] Boltzmann brain.
https://en.m.wikipedia.org/wiki/Boltzmann_brain
- [11] 353 Prophecies Fulfilled in Jesus Christ.
<http://www.accordingtothescriptures.org/prophecy/353prophecies.html>
- [12] Last Days Prophecies.
<http://www.accordingtothescriptures.org/prophecy/lastdaysprophecies.html>
- [tml](#)
- What will the Future Bring? A Prophetic Timeline of the Future.
<http://www.accordingtothescriptures.org/prophecy/futureprophecy.html>
- [13] The Biblical Archaeology Society.
<https://www.biblicalarchaeology.org/biblehistorydaily/>
- [14] Butterfly effect.

http://www.scholarpedia.org/article/Butterfly_effect

[15] We talked to the Oxford philosopher who gave Elon Musk the theory that we are all computer simulations.

<https://qz.com/699518/we-talked-to-the-oxford-philosopher-who-gave-elon-musk-the-theory-that-we-are-all-computer-simulations/>

[16] Alexander Belyaev, *The Ruler of the World*, Russian title: *Властелин мира*. The novel has been translated recently into English by Marina Kas a “fun read” and is available on print.

[17] Ivan Turgenev, *The Sparrow*. Poems in prose, taken from *The Essential Turgenev*, Northwestern University Press 1994, p. 874 .

[18] The Master and Margarita.

<https://studyenglishwords.com/book/Мастер-и-Маргарита/11>

[18] Kostadinova, V., "The Secret of Vanga," *Trud*, 2009, pp. 99-116..

[19] *ibid*, pp. 117-127.

[20] Facing the Muslim Challenge.

<http://www.answering-islam.org/Gilchrist/Challenge/>

"The Doctrine of the Trinity" and "Jesus the Son of the Living God".