A SCIENTIFIC ARGUMENT FOR THE EXISTENCE OF GOD[1]

Valentin ***Velchev***

Richard Dawkins stated the following: "*A universe with a supernaturally intelligent creator is a very different kind of universe from one without. The difference between the two hypothetical universes could hardly be more fundamental in principle, even if it is not easy to test in practice. And it undermines the complacently seductive dictum that science must be completely silent about religion's central existence claim.* ***The presence or absence of a creative super-intelligence is unequivocally a scientific question, even if it is not in practice - or not yet - a decided one.***"[2]

Charles Darwin believed that the driving principles of biological evolution are reduced to ***variability, heredity*****, and** ***natural selection***. If, however, we consider all natural phenomena in a strictly naturalistic way, then his teachings can also be applied to the development of inanimate nature. Russian ***cosmologist*** Andrei Linde (who currently works at Stanford University) proposed the idea of "chaotic inflation." According to this concept, quantum fluctuations of a vacuum permanently lead to the birth of mini universes. They develop in isolation, expanding initially due to inflationary processes, and later in accordance with the classical Big Bang theory (Figure 1).

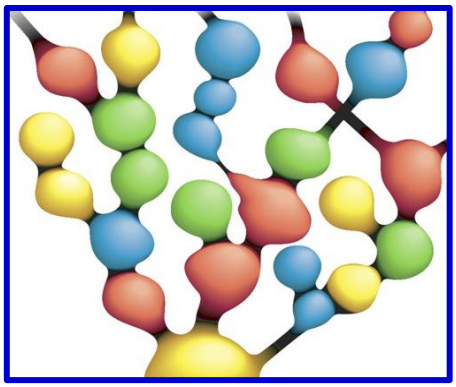


Figure 1. The Linde model is portrayed as a tree-like structure consisting of an infinite number of branching "bubbles" (inflationary universes). Each newly-emerged universe can "bud" to form new subsidiary mini-universes. (Color changes represent "mutations" of physical laws with respect to the parent universes.)[3]

In short, as per the Multiverse theory, there is ***variability*** in the fundamental laws and constants of matter in each new emerging world. Random repetitions of some of them are regarded as a kind of ***heredity***. There is also a ***natural selection***, which keeps physical structures - atoms, molecules, celestial systems –when a combination of suitable parameters makes them stable. This is how ***the fittest*** survive**,** which can produce ***offspring***, i.e., ***conceive*** new infant universes. Furthermore, on

---

1 The complete text of the argument can be found in the book "The Grand Designer. Correspondence debate with Stephen Hawking" by Valentin Velchev, Sofia, St. Kliment Ohridski University Press, 2018
https://unipress.bg/index.php?route=product/product&product_id=491

2. Richard Dawkins, The God Delusion, p. 63.
https://marxistnkrumaistforum.files.wordpress.com/2014/05/richard_dawkins_-_the_god_delusion.pdf

3 The Self-Reproducing Inflationary Universe
https://web.stanford.edu/~alinde/1032226.pdf

planets with suitable conditions, evolution naturally produces living, and in places - even conscious beings.

The Polish ***theoretical physicist*** Wojciech Zurek developed the so-called theory of "**Quantum Darwinism**" in **2000** in order to make sense of the emergence of objective classical reality. One of the most remarkable ideas here is that the deterministic properties of objects we associate with classical physics – position, speed, etc. - are selected from the array of quantum possibilities in a process that is analogous to ***natural selection in evolution***.

In the aforementioned theoretical framework, the properties that persist are the most stable (in a sense, ***the fittest***). And, as in natural selection, here, too, it is those that make the most copies of themselves that remain in existence throughout the process ***of selection.*** This means that the states that make the most copies of themselves in the environment are the only ones available to be measured. Interaction with the environment decoheres them in a localized position (i.e., superposition disappears), so that only one single state is observed. Thus, many independent observers can make measurements of a quantum system and agree on the outcome - this is a hallmark of classical behavior.[4]

As for abiogenesis, the German ***physicochemist*** Manfred Eigen was the first to propose a possible means to create a protocell that was not only an open system (i.e., it had a flow of energy and exchange of substances with the environment), but also contained an informative RNA molecule that enabled it to reproduce itself.

In the late 1970s, M. Eigen and P. Schuster defined synthesis as a process consisting of hypercycles, each of which can be described by a system of nonlinear differential equations. M. Eigen believed that as is the case in *Darwinian evolution,* ***chemical selection*** acts in hypercycles, leading to ***competition*** between them for monomer molecules, i.e., for "food"[5]. (Naturally, in inanimate nature the Darwinian concept differs from its interpretation in biology.)

But since ***Darwinism*** can be applied to both inanimate and animate nature, it must be recognized ***as a universal materialist paradigm that postulates the self-organization of the universe.***

1. Where is the border line between the conscious and spontaneous ordering of the universe?

The intellect can easily realize processes with an infinitesimal probability of random realization. The automobile is a creation of our mind. Is it possible for it occur as a result of natural elements? Let us consider a single part of the engine. Suppose we have a completed cylinder. What is the probability that a piston with a suitable shape and size for the cylinder appears by chance? Elementary reasoning shows that it is $1/\infty$, for there are an infinite number of possible shapes and sizes. (Everything becomes even more impossible, if the cylinder itself should appear in the same way, and even more so considering the two elements can fit and work together!) However, the car's designer can, without any substantial effort, select the suitable parameters of the elements from an infinite number of possibilities and, by making a few calculations, construct the said products. (We

4 Quantum Darwinism, an Idea to Explain Objective Reality, Passes First Tests https://www.quantamagazine.org/quantum-darwinism-an-idea-to-explain-objective-reality-passes-first-tests-20190722/

5 Hypercycles http://pespmc1.vub.ac.be/HYPERC.html

rarely fully grasp the extraordinary abilities of our mind!) We will shortly establish that for the appearance of the universe we get probabilities of around $1/\infty^n$ and the construction of the reality that surrounds us turns out to be a task of even greater complexity. *This means that it is 100% possible for a conscious God to create the world, while blind chance (the "Blind watchmaker," as per Richard Dawkins[6]) has no prospect of handling such a task at all.*

The intervention of the intellect also affects the natural state of objects and systems. For example, a soccer ball by itself cannot change its resting state or the direction of its motion. But players can change its momentum, giving it a particular speed and direction at will. Likewise, there is no obstacle for an intelligent and omnipotent Creator after creating the celestial bodies to "guide them into their respective orbits" (as Isaac Newton once said). Let's recall the paradox that exists in our solar system: the mass of all the planets is only 1/750 of the mass of the Sun, but in the distribution of the total momentum over 98% of it falls on the planets and less than 2% on the Sun. Is it possible to get to such a drastic violation of the impulse momentum naturally, or is additional intelligent intervention necessary?[7] *That is why if it turns out that the structures of our world are not formed as a result of the action of natural laws, it will also confirm the intervention of an intelligent Creator.*

In other words, the scientific argument for the existence of God that we are about to present will contain proof of the statistical and physical impossibility of self-organization of matter, from which the existence of a "supernaturally wise Creator" must follow!

2. The Gauntlet is thrown down

In 2010, the book "The Grand Design" by the famous British cosmologist and promoter of science Stephen Hawking, written in co-authorship with the American physicist Leonard Mlodinow, was published. The book managed to provoke a strong reaction from religious leaders[8] even before its publication due to the authors' allusion to the fact that in it they managed to refute Isaac Newton, who argued that the universe could not have arisen from chaos, but was the work of God's almighty hand[9].

---

6 Richard Dawkins, The Blind Watchmaker, p. 14.
https://terebess.hu/keletkultinfo/The_Blind_Watchmaker.pdf

7 The hypotheses in which this paradox appears are called nebular, because they claim that the Sun and planets were formed as a result of the gravitational collapse of a gas-dust nebula. Precisely these hypotheses are considered standard in cosmology, as this method of planetary system formation is also applicable to the entire universe. Catastrophic hypotheses about the origin of the solar system try to eliminate this difficulty by assuming that, in the distant past, the Sun collided or almost collided with another lone star. Passing close to the Sun, the star could have ripped off enough matter to form planets and thus give them significant momentum. The American astronomer Henry Russell refuted these hypotheses, however, by proving mathematically that for the relative angular momentum (that is, the momentum per ton) the planets have, on average, ten times the momentum as the star.

8 Religious leaders hit back at Hawking
http://edition.cnn.com/2010/WORLD/europe/09/03/hawking.god.universe.criticisms/index.html#fbid=VXQB4-kvyiF&wom=false

9 In fact, Newton was referring to the solar system, because at that time the concept of "universe" was limited to the solar system and the "sphere of fixed stars" (the scientist believed that there could be an infinite number of them, homogeneously scattered in space, in order to achieve a uniform distribution of gravity).

Most likely the article in question refers to Newton's famous words, which stand at the end of his fundamental scientific work *"Philosophiae Naturalis Principia Mathematica"* (London, 1687): "This most beautiful System of the Sun, Planets and Comets, could only proceed from the counsel and dominion of an intelligent and powerful being. … This Being governs all things, not as the soul of the world, but as Lord over all: And on account of his dominion he is wont to be called Lord God παντοκράτωρ or Universal Ruler".

'General Scholium' from the Mathematical Principles of Natural Philosophy (1729)
http://www.newtonproject.ox.ac.uk/view/texts/normalized/NATP00056

As Peter Galison says, "In a high-profile flurry of attention that any author would envy, the archbishop of Canterbury, Britain's chief rabbi, and the chair of interfaith relations of the Muslim Council of Britain have all locked arms against Stephen Hawking's anti-God fluctuation in his new book."[10] All three seek theoretical "weapons" to help them counter the claims of both physicists, who in their common work undermine the faith of believers in the existence of God.

A number of other scholars also join this view, arguing that science serves as the strongest antidote against retrograde philosophical and religious thinking. The renowned physicist Lawrence Krauss even advises, "Forget Jesus, the stars died so you could be born"[11].

We will accept the "thrown gauntlet" and try to respond to the challenge issued toward Christianity by proponents of naturalism[12] among modern scholars.

3. "The Grand Design"

Here is Hawking's conclusion from the end of the book: "Because there is a law like gravity, the universe can and will create itself from nothing. Spontaneous creation is the reason there is something rather than nothing, why the universe exists, why we exist. It is not necessary to invoke God to light the blue touch paper and set the universe going"[13].

This statement, however, contains several incorrect assumptions.

First, the vacuum is defined as "nothing" because it contains no substance, which can lead to great confusion, especially among people unfamiliar with physics. As we have already noted, the vacuum has a certain energy, virtual particles continually arise and disappear in it, etc., indicating that the vacuum, strictly speaking, is very definitely "something" rather than an absolute "nothing". And since the vacuum is "something", its origin also needs an explanation.

Second, it speaks of a "law similar to the law of gravity," through which the universe arises (and then structures itself). We will soon see how problematic the notion of any firmly established "law" at all is. For now, we will only quote Heinz Pagels, who asks a similar question: "This

---

10 Making Sense of the Multiverse
So, what does Stephen Hawking's The Grand Design tell us about God?
https://slate.com/culture/2010/10/so-what-does-stephen-hawking-s-the-grand-design-tell-us-about-god.html

11 Lawrence M. Krauss, A Universe from Nothing, p.5.
https://ia800403.us.archive.org/19/items/lawrence-m-krauss-a-universe-from-nothing/lawrence-m-krauss-a-universe-from-nothing.pdf

12 In this article, the term "naturalists" is not used in the sense of "natural scientists," but in the sense of "proponents of naturalistic philosophy and method."

13 Stephen W. Hawking and Leonard Mlodinow, The Grand Design, p. 144.
https://ncjindalps.com/pdf/PHYSICS/The%20Grand%20Design%20-%20Stephen%20Hawking.pdf
The meaning of the quoted statement is as follows. According to the equation $E=m.c^2$ energy is equivalent to mass. This is why the entire mass of the universe is expressed as huge positive energy. Since gravitational energy is considered negative in this case, the difference when subtracting between the two is close to zero. In a certain sense such universes *are free*, i.e., they can arise from a vacuum almost without effort. Calculations show that only a few grams of matter ("inflation field energy density") is enough to give birth to a universe like ours.
Because the world essentially needed no more substance than a handful of peas to originate, Alan Guth often likes to repeat that "the universe may be an (almost) free lunch.
Is the Universe a free lunch?
https://www.independent.co.uk/arts-entertainment/is-the-universe-a-free-lunch-1340153.html

unthinkable void converts itself into the plenum of existence – a necessary consequence of physical laws. Where are these laws written into that void? What ‚tells' the void that it is pregnant with a possible universe? It would seem that even the void is subject to law, a logic that exists prior to space and time"[14].

Third, it is unclear where space and time came from. In his book "A Universe from Nothing" Lawrence Krauss tries to elaborate Hawking's thesis and overcome the difficulties we listed, but, in our opinion, he is not particularly convincing.

In other words, Hawking and Mlodinow did not manage to answer the question "why is there something rather than nothing" at all, as they had assured their readers, but only moved everything to an incomprehensible initial vacuum![15]

4. Now Let us examine these three prerequisites in more detail

The first of these states that **matter emerged from a vacuum, with an inflationary process at the beginning.**

Time following the Big Bang	**Event**	**Time predating our age**
0	The Big Bang (Singularity)	13,7-13,82 billion years.
10^{-35} to 10^{-33} sec.	The Inflationary Era	
10^{-33} sec.	Quark-gluon plasma	
10^{-5} sec.	Quarks combine into protons and neutrons	
10^{-3} sec.	Hydrogen and helium atoms are synthesized	
1 to 3 min.	Light elements up to boron are formed	
380,000 years.	The universe becomes transparent. The cosmic microwave background (CMB) is emitted	
200-500 million years.	The first stars and protogalaxies are born	13,5-13,2 billion years.
3,3 billion years.	Mature galaxies, quasars, and the Milky Way's oldest stars form	10,4 billion years.
8,1 billion years old.	The solar system appears, including the Earth	5,6 billion years.

Table 1.

(To illustrate this, we will use Table 1.)

14 Op. cit.: Ruediger Vaas, Time before time. Classifications of universes in contemporary cosmology, and how to avoid the antinomy of the beginning and eternity of the world, p. 9.

https://arxiv.org/ftp/physics/papers/0408/0408111.pdf

15 According to the first three scientific definitions of "nothing" (see article below), the universe actually began its existence from "something"! The fourth concept, which is more philosophical, only corresponds to the biblical understanding of "nothing."

The 4 fundamental meanings of “nothing” in science

https://bigthink.com/starts-with-a-bang/4-meanings-nothing/

A Singularity beginning requires a rigorous solution from cosmology, which the inflationary model is unable to provide because it is still not well integrated into string theory and is therefore not part of the unification of quantum mechanics and general relativity.

No one can say where the inflaton field with a suitable form of potential energy for the emergence of inflation subsequently came from. Nor do we know the exact parameters of the explosion - when it happened, how long it lasted, how much energy was converted into particles, radiation, etc. Therefore, we cannot help but assume that physicists simply adapt their concepts so that they coincide with the results of astronomical observations.

But the most substantial problem here is that according to the theory, the primary universe consisted entirely of high-energy radiation, which spontaneously produces particles and antiparticles. About one microsecond after the Big Bang, the temperature dropped below 10^{13} K. Quarks and antiquarks decreased their speed, and the strong interaction caught them and stuck them together into groups of three to form baryons and antibaryons, respectively. However, according to statistical laws, their number was bound to be identical and the inevitable collisions between them would lead to their complete annihilation. The energy of the resulting radiation would have gradually decreased with the expansion of the Universe, which would lead to the case that new pairs of particles could no longer be born. ***That is, no structure at all could exist in our time.***

Russian physicist Andrei Sakharov believes that in that era there was a violation of the so-called CP symmetry, which resulted in an imbalance - for every billion anti-baryons there was a billion *and one* baryons[16]. After the big "fireworks" ended, the surviving baryons turned into protons and neutrons, from which all atomic nuclei were subsequently formed.

But the point is that there must have also been a lepton asymmetry, in which exactly the same number of electrons would have survived as the surviving protons (so that atoms would be electrically neutral), which is a statistical absurdity. Moreover, the number of positive and negative electric charges of other particles must also be the same, which makes ***it doubly as absurd!***

(It is necessary to clarify the following: if there was even the slightest preponderance of positive or negative charges, they would repel each other with a force greater than a billion billion billion billion… i.e., 10^{36} times the force of gravity, and would destroy all structures in the known universe, except for atomic nuclei, because the strong connection inside them is about 100 times stronger than the electromagnetic force).

In other words, at least so far, the concept of the birth of the universe from a vacuum is unconvincing, since it does not provide a rational explanation for the emergence of matter.

Then there is **the problem of laws.**

This raises two sub-questions:

---

16 Sakharov, however, does not take into account that at the beginning of the Universe the birth of pairs from a particle and antiparticle from "pure energy" is theoretically impossible in terms of physical theories, because at that time there was no "Dirac sea" of virtual particles. Another question is where did this "sea" come from afterwards?

(The "Dirac Sea" model is not taken quite literally in modern physics. Since it does not give a good explanation for bosons, this idea later developed into the so-called "Higgs Ocean").

(a) Is it possible for matter in a state of absolute chaos to randomly reach its present level of order?

What would happen if the so-called "indeterminate variability" (according to Darwin) were to operate at the level of fundamental constants, laws, and interactions as well? Let us try to imagine a world in which everything changes completely randomly and chaotically. Some characteristics of elementary particles in it may be constant, while others are continuously transformed. For example, if the electric charge changes arbitrarily, it can acquire completely random values: +1; -1; +7/8; +14/3; -112/27, etc. The same applies to mass, spin, magnetic momentum, etc. At the same time, it is possible to assume a qualitative (or evolutionary?) transformation of particles into something different from what they actually are. At some point the gravitational law may look like:

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

And later turn into:

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

then change again, etc. (Because of the lack of longevity, we cannot speak of laws at all in this case). Given the delicate balance of all forces in nature, it becomes abundantly clear that with any metamorphosis of interactions, everything would collapse "before our eyes. In such a world, no stationary or dynamic structures could arise or be stable over time. If such "indeterminate variability" existed in the matter from which our world was created, it would lead to ***absolute chaos***, **which could not produce any organization of order.**

Here we will make one clarification. Some scientists claim that the newly developed string theory offers a powerful conceptual paradigm capable of establishing the reason the elementary particles that exist today have those precise characteristics. Let's say a few words about this. Strings can perform an infinite number of resonant wave oscillations, which means that they must generate an infinite number of elementary particles with all kinds of characteristics. In that case, why are there only those particles that are, as it were, the perfect set of building blocks that allows the assembly of our world? String theory answers it this way: there are six (or seven) additional dimensions of space, which on a microscopic level are twisted into so-called Calabi-Yau manifolds (Figure 2). (They are named after Eugenio Calabi and Shing-Tung Yau, who discovered them mathematically even before their significance for string theory became known.)

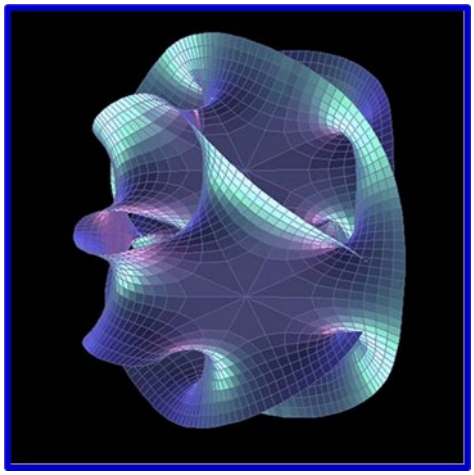
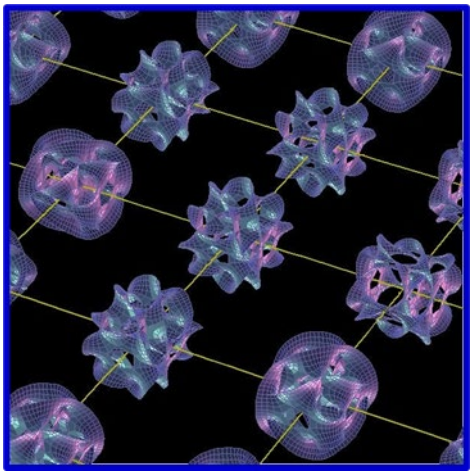
a)  b) 

Fig. 2 a) One of the possible Calabi-Yau manifolds. b) Large magnification of the area of space with additional dimensions in the form of miniature Calabi-Yau manifolds

The extra dimensions of space greatly influence the ways in which strings vibrate and hence also influence the particles' characteristics. But the equations show that there are infinite Calabi-Yau manifolds, each of which is as real as all the others. So once again, we find ourselves at a dead end - how exactly are those manifolds chosen, which create the fundamental particles necessary for our world? Or is the issue simply avoided without being solved.

Let us not forget, however, that string theory does not meet the criteria of verification and falsification and remains a purely speculative research model, which still cannot claim the status of a scientific postulate[17]. In his work on the history of quantum gravity, Carlo Rovelli notes: "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 Holly Grail has been several times announced, with much later scorn."[18]

Hawking and Mlodinow, referring to this highly problematic string theory, state that it assumes the possible existence of about 10^{500} universes[19]. (And Andrei Linde's version puts the number at $10^{10^{10^7}}$.)[20] But even if string theory turns out to be correct, this still would not mean, of course, that all these possible universes actually exist. In addition, as we will later see, even this number is quite insufficient to back up the naturalistic version of the emergence of an ordered world.

---

17 Recent results of gravitational wave measurements show that there are no hidden extra dimensions of space, which strikes a crushing blow to string theory.

Няма доказателства за допълнителни пространствени измерения / There is no evidence of extra spatial dimensions

https://nauka.offnews.bg/news/Novini_1/Niama-dokazatelstva-za-dopalnitelni-prostranstveni-izmereniia_114662.html?ref=recomend

18 Carlo Rovelli, Notes for a brief history of quantum gravity, p. 22.
https://arxiv.org/pdf/gr-qc/0006061.pdf

19 Stephen W. Hawking and Leonard Mlodinow, The Grand Design, p. 114.
https://ncjindalps.com/pdf/PHYSICS/The%20Grand%20Design%20-%20Stephen%20Hawking.pdf

20 How many universes are in the multiverse?
https://arxiv.org/PS_cache/arxiv/pdf/0910/0910.1589v1.pdf

b) The second sub-question concerning the problem with the laws is **"What is the statistical probability that a stable and well-ordered universe will randomly occur?"**

Fundamental constants, characteristics of elementary particles, etc. are measured by continuous (i.e. non-discrete) quantities, so they can take an infinite number of values m ($m \to \infty$). Let us assume that a system with an n number of elements is necessary for the existence of a world such as ours. Generally speaking, the possibility that each unit of the system possesses precisely those parameters that are required is $1/m$, and for all n elements it is $1/m^n$. Suppose the system has an infinite number of stable configurations; then the probability P of any of them being formed by chance is:

$$P = \frac{m}{m^n} = \frac{\infty}{\infty},$$

which is mathematically an uncertainty. To avoid the "uncertainty" we can use an expression with limits. In this case, the probability we are looking for is as follows:

$$P = \lim_{m\to\infty} \frac{m}{m^n} = \lim_{m\to\infty} \frac{1}{m^{n-1}} = \frac{1}{\infty} = 0$$

If we assume that n-1=k, the equation will look like:

$$P = \lim_{m\to\infty} \frac{1}{m^k} = \frac{1}{\infty} = 0$$

Where n is a positive integer greater than one.

At this point, we can say that there are at least a few dozen known parameters for our universe whose values must be exceptionally fine-tuned. That is, the probability of our world appearing at random is, metaphorically speaking, "*less than infinitesimally* small" $(1/\infty^k)$. (Fig. 3).

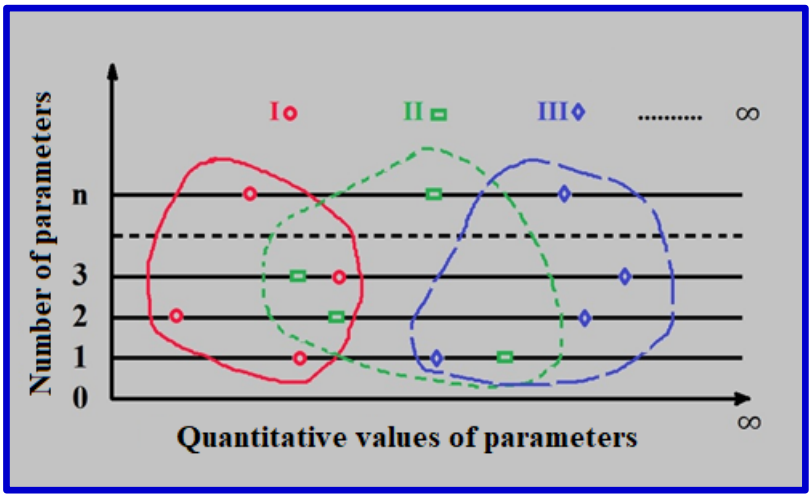


Fig.3 Possible configurations of parameter values, providing from I to ∞ working (stable and functioning) states. The systems I, II, III, etc. may be other worlds or physical structures which are formed in them.

In other words, in systems that allow an infinite number of values of their parameters, we get a kind of paradox. Although they may have an infinite number of working states, the

probability of any of them being randomly reached is zero, that is, it can never be realized in practice. We can also denote this paradox as *a theorem for the existence of God.*

Mathematically the case is as follows. Let's assume that m' is the number of universes. Then m' can grow from 1, 2, 3, ... to ∞, *i.e.,* m' is a set of positive integers (i.e., natural numbers). We have already denoted by m the set of settings of physical constants, assuming at the beginning that the values they can take can also only be natural numbers, i.e. that $m = m'$, and n is once again the number of required parameters (physical constants). Or the expression about the probability P of existence of such a universe looks like:

$$P = \lim_{m\to\infty} \frac{m\prime}{m^n} = \lim_{m\to\infty} \frac{m}{m^n} = \lim_{m\to\infty} \frac{1}{m^{n-1}} = \lim_{m\to\infty} \frac{1}{m^k} = \frac{1}{\infty} = 0$$

Here the numerator and denominator grow at different rates (respectively m and m^n), which makes the final result zero.

The point, however, is that m is in fact the set of all real numbers (integers, rational and irrational). Therefore, we must keep in mind that between any two integers (e.g., between 1 and 2) lies an infinite set of real numbers. In other words, the set of real numbers is infinitely more powerful than the set of natural numbers, i.e. it is expressed as $m = p^q$ where p and q also tend to infinity. In this case, the probability of P *will* be as follows:

$$P = \frac{m\prime}{(p^q)^n} = \frac{m\prime}{p^{qn}}$$

To avoid uncertainty, we once again use an expression with limits, and since in this case m', p, and q tend in the same way to infinity, we define the desired probability as follows:

$$P = \lim_{m\to\infty} \frac{m}{m^{mn}} = \lim_{m\to\infty} \frac{1}{m^{mn-1}} = \frac{1}{\infty} = 0$$

One can easily see that in this case the denominator grows even faster. This result, in fact, shows that even if the number of worlds is ∞^∞, it is still impossible to achieve a stable ordered universe.

In his latest book, Roger Penrose notes: "Quantum theory requires the use of certain spaces, known as *Hilbert spaces*, that may have in infinitely many dimensions. [...] For an n-real-dimensional space, I shall say that it has '∞^n' points (which expresses that this continuum of points is organized in an n-dimensional array). In the infinite-dimensional case, I shall refer to this as '∞^∞' points."[21]

If we assume that every point in infinite-dimensional Hilbert space has a universe, then the number of worlds could be "∞^∞". The thing is, however, that a point is a notation for a 0-dimensional object, i.e. it does not have the length, area, nor volume that the universe possesses. In that case, the number of worlds, even in said space, would be only ∞, not infinity to a given power. That is, their number will always be a *countable infinity*, which makes our conclusion that it is absolutely impossible for a stable and ordered world to appear randomly even more reliable.

---

21 Roger Penrose, The Road to Reality, p. 379.
https://chaosbook.org/library/Penr04.pdf

(It is also possible to express this result in another way. The number of universes essentially corresponds to the set $\mathbb{N}$ of natural numbers.

$\mathbb{N} = \{0, 1, 2, 3, 4, 5 \ldots \infty\}$

The cardinal number (i.e. the number of elements) of the $\mathbb{N}$ array is denoted by the symbol $\aleph_0$ (aleph-zero). The cardinal number of the set of real numbers $\mathbb{R}$ is usually denoted as C. Mathematician Georg Cantor proved that $\mathrm{C} = 2^{\aleph_0}$, which entails that $\mathrm{C} > \aleph_0$.

Since the values of the physical constants are, as we established, real numbers, this means that they will always be immeasurably more than the number of universes, which proves the theorem!

Statistical laws theoretically allow events with insignificantly small probability to occur, but practical experience shows that such events never do. Therefore, some scientists assume that for every event there is a certain *"probability threshold"* below which its realization is not plausible. But no matter how unimaginably small such ratios as $1/10^{500}$; $1/10^{65\hat{}720}$, etc. may be, there are still people who argue that events with this degree of probability can still happen. When, however, we reach a probability of $1/\infty$, it is infinitely smaller than the smallest probability we can write down or even conceive. Therefore, we hope that even for such "optimists" the probability of $1/\infty$ will definitely mean **an absolute "impossibility"** that the given event can actually happen.

All this suggests that the 10^{500} universes predicted by Hawking and Mlodinow are an insignificant number. But even if we increase their number to infinity, the calculations we have made show that, again, there is no chance of a world like ours emerging by chance.

In living organisms, variation is limited because their components (DNA, proteins, etc.) are built from a strictly defined number of discrete units (nucleotides, amino acids, etc.). But in reality, we can establish negligible, practically impossible, probabilities for the random formation of a protocell capable of carrying out all life processes. In other words, in the aforementioned areas, statistical laws preclude (do not permit, or render absolutely improbable) the self-ordering of matter.

Fig. 3 allows us to draw another important conclusion, namely, that **no evolutionary processes are possible – neither in inanimate, nor in animate nature.**

A system is defined as *a set of elements which are in relations and connections with each other and form a certain unity, integrity.* All elements of the system are interdependent, i.e. each of them influences the others and vice versa - they are also influenced by them. The structure of a system determines the internal form of its self-organization, i.e. it is an expression of the order that exists within it. A complete description of order in complexly organized systems is sought by a relatively new science, “taxiology” (logic of order), which has recently emerged as one of the most fundamental and important logical theories. But its main provisions and categories are investigated with the help of very complicated extensional mathematical-logical and theoretical-informational methods. That is why we will not dwell extensively on them, but will rather apply a very simplified approach, which will allow us to draw certain conclusions about the possibility of evolution of hierarchically ordered systems.

The principle known as **"all or nothing"** applies here. Meaning that the structure must be made up of the right elements, which must be in the right order so that the system does not break down. If you change the parameters of only a single one of them, or remove it altogether, or swap any given elements, etc., you get a failure in the system, which will destroy it or put it out of order. So either everything is fine and the system functions normally, or nothing is fine and the system is destroyed.

This principle prohibits the gradual "evolution" of one structure into another. Can a wristwatch be transformed smoothly into an alarm clock? Suppose that one of the gears in it expands and becomes suitable for an alarm clock. Then it would be incompatible with all the other parts of the clock and it would not show the time correctly or it would stop altogether. Let's assume that the other parts also change and become compatible with an alarm clock. But while some parts fit the wristwatch and others - the alarm clock, the function of the clock will be significantly impaired or not be able to be performed at all. The clock will fulfill its purpose only when all of its parts are either small or large.

And what would happen if you replace a clock mechanism with a computer part? For example, instead of a spring, you put a transistor in it? The clock would most certainly stop working. On the other hand, the computer will not function either if we assemble all its components bar one, which we use from a clock.

From the above it is possible to draw the following conclusion: when one object is gradually transformed into another of the same type (but different in size, model, etc.), its function is hindered or ceases altogether. And when an object of one kind is transformed into an object of another kind, no proper function can be obtained in principle. Therefore, either "everything" is okay and the system functions normally, or - even if one thing is not okay - "nothing" is okay and the system fails.

Of course, the relationships between the elements of systems in nature are much more complex; we have used these examples to make the "all or nothing" principle clear.

Analyzing Figure 3, we can draw the following conclusion regarding the possible evolution of systems with an infinite number of values of their parameters: neither **gradual nor leap-wise ("quantum") transition of one working system into another is possible.**

In the first case, i.e. ***gradual transition***, if one of its parameters changes, it will not be in harmony with its other parameters and the system will fail. But until all necessary parameters of the other system are fully achieved, it will not work either. As we already explained, the "all or nothing" principle applies here.

The second case - the ***sudden transformation*** – is also not possible. The probability that all parameters of a system suddenly change and obtain precisely those values necessary to create another *functioning system is* "less than infinitesimal" ($1/\infty^k$), metaphorically speaking.

It has already been said that any change in the microcosm parameters (particle characteristics, intensity of interactions, etc.) makes atoms unstable and leads to their destruction. In other words, atoms of chemical elements are discrete structures, which cannot transform through a sequence ***of intermediate states,*** but require a strictly calculated construction. We could assume the same about celestial formations - planetary, stellar, galactic, etc.

As is well known, proteins play a very important role in living organisms - they form cellular structures, perform catalytic functions, participate in the realization of the genome, etc. But some of them are very acutely species-specific. Therefore, if a mutation occurs that leads to the formation of a different protein, its function will not be coordinated with the work of the other proteins. Thus, genetic mutations interfere with the synchronization of the organism's systems and therefore harm their host, i.e., they do not help it in its struggle for existence. In other words, the all-or-nothing principle also does not contribute to the gradual evolution of organisms. There is also no evidence that a "quantum" (sudden) emergence of new species is possible.

From the aforementioned statements we can conclude the following: **Intermediate states are a) unstable - in atomic and cosmic structures and b) non-functional - in living organisms. This means that the concept of *universal Darwinian evolution* of systems in both inanimate and animate nature is completely unacceptable.**

Returning to Fig. 3, let us recall **the paradox** associated with a simple calculation:

$$P = \lim_{m\to\infty} \frac{1}{m^k} = 0,$$

from which it is clear that **God can create an infinite variety of ordered and stable worlds, with the probability of any one of them occurring at random being "less than infinitesimal," which rules out the possibility of its random appearance.**

This answers the question posed by Einstein: **"How much choice did God have in constructing the universe?"** which both Hawking and Mlodinow reiterate in their book.

5. **Space and Time**

The third unresolved problem in Hawking and Mlodinow's book concerns **the emergence of space and time.**

Christopher Isham draws special attention to the fact that it is still not clear what the theory of quantum gravity should look like and what data it should be based on. In his opinion, the main challenges in the elaboration of the quantum theory of gravitation, and hence quantum cosmology, arise from the circumstance that "general relativity is not just a theory of the gravitational field - in an appropriate sense, it is also a theory of spacetime itself; and hence a theory of quantum gravity must have something to say about the quantum nature of space and time"[22].

The authors of The Grand Design do not express a clear opinion on the matters of **1) the origin of time** and **2) the beginning of the universe**.

Until now, none of the pillars of modern physics - neither general relativity, nor quantum mechanics, nor even string theory - has been able to explain the existence of space and time.

---

22 J. Butterfield and C. Isham, Spacetime and the Philosophical Challenge of Quantum Gravity, p. 3. http://arxiv.org/pdf/gr-qc/9903072

As for the second problem, Stephen Hawking and Jim Hartle, in one of their works (written back in 1982 and repeated in "The Grand Design"), introduce the so-called *"imaginary time"* in which *"the difference between space and time completely disappears"*. Thus, according to their theory, it is possible that space-time is finite in its extent and yet the universe has no beginning and no end, as singularities at these instances disappear. (In 2015, in a joint scientific publication, Ahmed Farag Ali and Saurya Das also stated a similar notion based on equations from quantum physics[23].)

As Hawking himself admits, however, this statement is very speculative: *"I'd like to emphasize that this idea that time and space should be finite "without boundary" is just a proposal: it cannot be deduced from some other principle.* It is therefore easy to assume that he uses this approach in order to reach the conclusion: *"So long as the universe had a beginning, we could suppose it had a creator. But if the universe is really completely self-contained, having no boundary or edge, it would have neither beginning nor end: it would simply be. What place, then, for a creator?"*[24]?

More recently, however, a team led by Jean-Luc Lehners and including Job Feldbrugge and Neil Turok, using much more powerful mathematical methods and tools, managed to prove that Hawking and Hartle's "boundaryless" model is untenable (in addition, Vilenkin's so-called "tunneling boundary", which also excludes the beginning of time, was also disproved)![25]

6. How do things stand in biology?

The theorists of the Intelligent Design movement put forward the concept of a so-called "non-reducible-complex system", which is defined as follows: "a unified system ... the removal of any one part of which renders the system incapable of functioning." The most popular example they present is the motor of the bacterial flagellum. But they make the simple mistake of stating that "there is no evidence that its parts can perform other functions." Maybe at the time this statement was made, there really was no data that anything of the sort occurs in the living world, but in man-made machines, many parts can be interchangeable, or their construction may be very similar, although they perform different functions.

The naturalists, of course, immediately used this to turn the case in favor of Darwinian evolution. They put forward a simplistic explanation, according to which "the proof of the reducibility of the flagellar motor lies in the fact that some of its constituent parts may function elsewhere - for example, as the injectosome needles of the Type III secretion system (T3SS) found in pathogenic bacteria"[26]. This molecular machine has a needle-like structure and is used as a sensor probe to detect

---

23 No Big Bang? Quantum equation predicts universe has no beginning
https://m.phys.org/news/2015-02-big-quantum-equation-universe.html
Cosmology from quantum potential
https://arxiv.org/pdf/1404.3093.pdf

24 Stephen Hawking, A Brief History of Time, pp. 69, 71.
https://www.fisica.net/relatividade/stephen_hawking_a_brief_history_of_time.pdf

25 No Universe without Big Bang
https://m.phys.org/news/2017-06-universe-big.html

26 "Непростимата сложност" на флагелума. Еволюция или интелигентен дизайн? / The "unforgiving complexity" of the flagellum. Evolution or intelligent design?
https://nauka.offnews.bg/news/Biologiia_16/Neprostimata-slozhnost-na-flageluma-Evoliutciia-ili-inteligenten-di_14465.html#

eukaryotic organisms - it pierces the host cell membrane and secretes the proteins with which the bacteria infect it (Fig. 4).

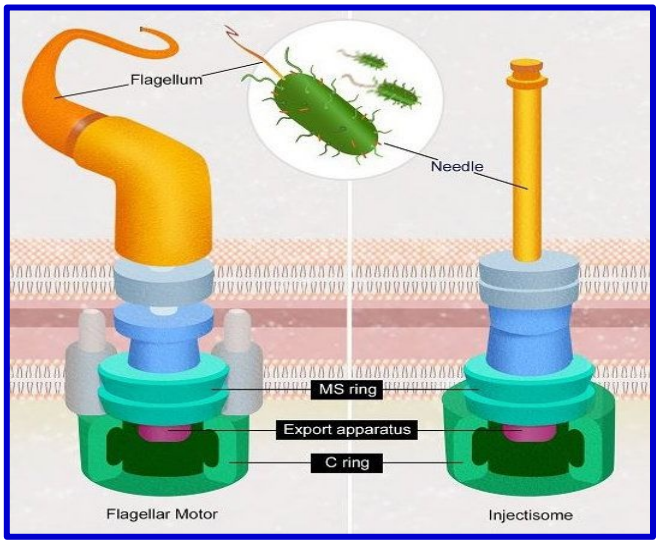


Fig. 4 The flagellum (left) has a very different function compared to the T3SS secretory needle (right), but both contain identical parts (consisting, however, of different proteins): The C-ring, the MS-ring, and the export apparatus, which leads the proteins outward, beyond the cell wall, where they self-organize to form a flagellum or injectosome needle.

But despite the similarity of both structures, scientists are not able to prove that the injectosome can evolve into flagellum. Robert Macnab, who has investigated this problem, although reasoning in the context of Darwinism, still concludes that there is no mixing here, that is, that the two systems evolved separately[27]. In other words, although the flagellar engine shares certain elements with T3SS, these two molecular machines cannot transform into each other.

It turns out, however, that each bacterial species has its own unique biological engine, which differs from the others in shape, size, complexity, power, torque momentum, speed, and other parameters (Fig. 5). The proteins that form them are not the same, which means that their amino acids are able to rearrange into millions of different bacterial (and not only) flagellar systems. Because the components of these engines are composed of different species-specific proteins, there is every reason to believe that a gradual evolutionary transition is not possible in this case.

Archaea, for example, float using a rotary engine, which has no connection with bacterial motors. Archaea motors sometimes use other energy sources, and their "propeller" protrudes from the base instead of from the top. In the 1980s and 1990s, biologists established that archaea, although belonging to the prokaryotes, are still a fundamentally different lifeform than bacteria. This conclusion was based on phylogenetic analysis of their ribosomal RNA, the presence of ether lipids in their cell membrane, and distinct enzymes and biochemical pathways.

27 Type III flagellar protein export and flagellar assembly
http://www.sciencedirect.com/science/article/pii/S0167488904001016

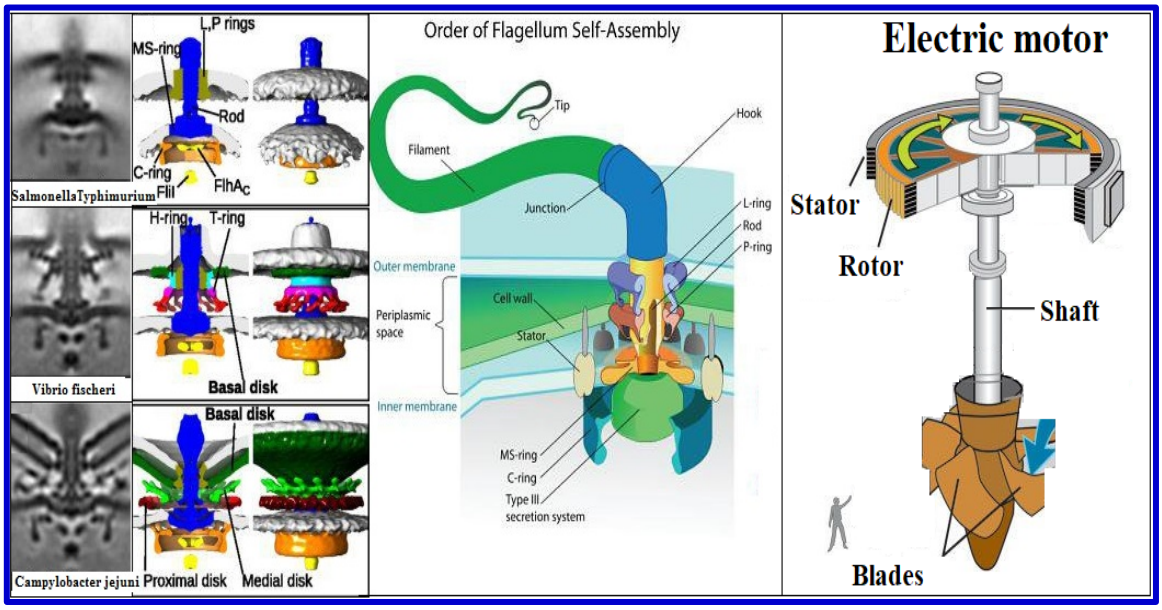


Fig. 5 A high-quality three-dimensional model of the molecular structure of bacterial motors, obtained using electron cryotomography[28]. They strongly resemble an ordinary electric motor - their mechanisms transfer rotational torque to flagella (screws) moving the bacteria forward in exactly the same way. (Also see the animation in the link below [29]).

A little bit of math

Several scientists have tried to calculate the minimum amount of genetic information needed to build the simplest organism, and the general consensus is that this requires between 250 and 300 genes[30]. The prokaryotes known to us with the smallest amount of genetic material contain about 500 genes, their DNA molecule contains 500,000 base pairs of nucleotides, their number of enzymes reaches several hundred and at least as many more types of protein[31]. Note that the structures and functions of prokaryotes resemble (without being an exact copy of) the hypothetical ancestor of all living organisms (LUCA)[32], which implies that it also possessed a similar set of genes, enzymes, etc.

---

28 Първите подробни изображения на "загадъчните" естествени биодвигатели / The first detailed images of the "mysterious" natural bio-motors
http://nauka.offnews.bg/news/Novini_1/Parvite-podrobni-izobrazheniia-na-zagadachnite-estestveni-biodvigate_41059.html

29 Bacterial Flagellum - A Sheer Wonder of Intelligent Design - video
https://www.youtube.com/watch?v=fFq_MGf3sbk

30 Design and synthesis of a minimal bacterial genome
http://science.sciencemag.org/content/351/6280/aad6253

31 Craig Venter's group reported in 2016 that they were able to create an organism with the smallest possible genome, which was named Syn 3.0 because it was obtained artificially. The basis was the genome of the bacterium Mycoplasma mycoides, which was reduced by biologists to the 473 genes most necessary for survival and reproduction. (It is believed, however, that the function of the 149 genes in Syn 3.0 remains unknown. But even if we assume that we could do without them, there are still as many as 324 genes as an absolute minimum).
Synthetic microbe lives with fewer than 500 genes
https://www.sciencemag.org/news/2016/03/synthetic-microbe-lives-fewer-500-genes?utm_source=sciencemagazine&utm_medium=facebook-text&utm_campaign=syn30-3195

32 The physiology and habitat of the last universal common ancestor
https://www.almendron.com/tribuna/wp-content/uploads/2019/10/the-physiology-and-habitat-of-the-last-universal-common-ancestor.pdf

About ten years ago, a group of physicists, mathematicians, and other scientists from the Russian Academy of Sciences proposed a very unorthodox hypothesis, according to which even complex organic matter was formed along with the solar system in the protoplanetary cloud, giving a very rapid impetus to the formation of life after the formation of the Earth[33].

Of course, this hypothesis cannot be taken seriously, because all such compounds would eventually be destroyed in the magma ocean of our planet, and besides, they are not observed in the composition of comets, meteorites and other bodies of the solar system.

We will, however, extend the scope of this idea by assuming that organic compounds, and nucleotides in particular, can form throughout the observable universe. If there were no empty spaces in it and it were densely packed with elementary particles, then, according to physicists' calculations, their number would be about 10^{130}. Let's assume that there is a nucleotide in place of each particle and it interacts with its surroundings an average of a trillion (10^{12}) times per second over a period of 30 billion years (i.e. 10^{18} seconds). The combinations of nucleotides that would result would then be:

$$\mathbf{10^{130} x 10^{12} x 10^{18} = 10^{160}}$$

(For those unfamiliar with mathematics, let us explain that 10^{161} is the number of combinations occurring in ten such universes, 10^{169} - in a billion, 10^{178} - in a billion billion, 10^{187} - in a billion billion billion, etc.)

Let's make the most basic calculations, while trying to be exceptionally generous in favor of evolutionism. Let us assume that the first living organism (which must have appeared only a few tens of millions of years before LUCA) had only five different proteins. The number of amino acids in the polypeptide chains of proteins ranges from a hundred (rarely less) to tens of thousands, but we can reduce that number to an average of thirty (which is the case in the smallest functioning protein found so far). Although it is unlikely that any scientist would agree that the structure of a protocell could have been so simplistic, but even if it were - the probability of its occurrence would be $1/20^{150} \approx 1/10^{195}$, i.e. absolutely unattainable.

As is well known, every amino acid is encoded by a three-nucleotide codon, which means that for all 150 amino acids we would require 450 nucleotides. Since the nucleotides (whether located in DNA or RNA) are subdivided into four different kinds, the probability that they will line up correctly is $\mathbf{1/4^{450} \approx 1/10^{270}}$.

Thus, it becomes clear, then there is **a huge chasm (!)** to the necessary $1/10^{195}$ (respectively to $1/10^{270}$) combinations, which had to be run through in order to get a valid possibility of the origin of even the simplest living organism! In doing so, we have been too generous - **realistically, information about an organism capable of performing all life processes on its own could be registered in no less than 50,000 nucleotides, which implies that the probability that they would line up correctly is $\mathbf{1/4^{50,000} \approx 1/10^{30.100}}$. At which, as they say, we rest our case!**

---

33 Жизнь создаёт планеты? /Does life create planets?
http://evolution.powernet.ru/library/lifecreate.htm

Responding to the challenge from intelligent design proponents, evolutionary biologists Mark Pallen and Nicholas Matzke write "By even the most conservative estimate, there must therefore be thousands of different bacterial flagellar systems, perhaps even millions. Therefore, there is no point discussing the creation or ID of 'the' bacterial flagellum. Instead, one is faced with two options: either there were thousands or even millions of individual creation events, which strains Occam's razor to breaking point, or one has to accept that all the highly diverse contemporary flagel-lar systems have evolved from a common ancestor."[34].

In fact, there is one very significant problem here, which we will consider briefly! Is it possible for a bacterial electric motor to be formed as a result of information derived from random genetic variation? Suppose that genetic information results in the formation of a stator with a cylindrical shape from protein molecules. What is the probability that a rotor to it will form by chance with a suitable shape and size? Elementary calculations show that it is equal to $1/\infty$, since the possible shapes are infinitely many, as are the possible sizes. (All this becomes even more impossible if the stator itself should appear in the same way, for not every shape is suitable for rotary motion!) The intelligent designer, however, can effortlessly select from an infinite set of probabilities the suitable parameters of the elements and construct a motor. We are very seldom aware of the extraordinary abilities of our intelligence! Thus, the stator and rotor cannot appear by chance anywhere in the cell, not to mention the fact that there are dozens of other components that must also be of the right shape and size to form the entire bacterial flagellum!

At this point we must emphasize that naturalists are definitively losing the argument because not only the engines but also the large number of molecular machines in each individual species of bacteria and archaea are unique, as is the case with all other "higher" organisms. Thus, it becomes absolutely impossible for evolution to produce both the hundreds of molecular machines in each individual cell, and to achieve the millions of variations of them in different kinds of organisms with however many years it has! However, the Bible states that organisms were created according to their species, i.e. it speaks of "thousands or millions of separate acts of creation", which remains the only possible explanation!

7. An Attempt at Presenting Scientific Proof of the Existence of God

The authors of "The Grand Design" do not oppose any other religion, they attack only Christianity. Even when they retell the myths of the Vikings, Indian and African tribes, etc., the implicit allusion is that these legends are as fictional and naive as the tales of the creation of the world and the miracles described in the Bible. Most famous militant atheists, such as R. Dawkins, D. Dennett, S. Harris, C. Hitchens and others, have also taken on the fight against Christianity as their main priority (though they claim to be critical of religion in general). That is why here we will try to respond to their attacks.

In the theistic tradition of Christianity, the most important statements relate to *the existence*, *nature*, and *actions* of God. So far, the argument in this area has been only philosophical, but now we will try to include science as well. This will allow us to use not only logic, but also mathematics and empirical verification to prove the truth of Christian teachings.

---

34 Mark John Pallen, From The Origin of Species to the origin of bacterial flagella p. 2. https://www.researchgate.net/publication/6837294_From_The_Origin_of_Species_to_the_origin_of_bacterial_flagella

From Christianity's point of view, God is revealed to the world in two ways: through *general revelation* and through *special revelation*. General revelation (the subject of so-called *natural theology*) is through nature, history, and the human spirit and is for the peoples of all lands and times. Special revelation is communicated to individuals who have written down the inspired words of the Bible, and through the incarnation of the Son of God, Jesus Christ. From Thomas Aquinas' point of view, the existence of God and several of His characteristics (omniscience, wisdom, omnipotence, etc.) can be proven rationally, but the teachings about the Trinity, the Incarnation of God, salvation, etc. can be known only through a special revelation of God.

Natural theology has developed an impressive variety of arguments for the existence of God, but only four of these are considered *foundational – ontological*, *cosmological*, *teleological*, and *moral.*[35] In the second half of the twentieth century, Richard Swinburne, a British philosopher of religion and science, wrote a trilogy on the Coherence of Theism. This was his contribution to Christian theology[36]. From his point of view, neither of the listed arguments individually supports the existence of God, but if you put them together and add the order in the universe and nature, the providential and religious experience, the miracles, the presence of highly evolved human intelligence, etc., then Christian theism becomes more likely than its denial.

Swinburne applies Bayes' theorem in an attempt to prove the existence of God. In the 18th century, the Presbyterian pastor and mathematician Thomas Bayes developed a restricted version of the inverse probability problem[37]. The theory for its solution uses the rule "choose so as to maximize the expectation of benefit"; this is one reason why critics consider this method useful only in a confined selection of cases. The problem with applying the Bayesian method to theology is that various "values" - the four main arguments, religious experience, miracles, etc. - are given completely subjective values, which can cause us to arbitrarily increase the "expectation of benefit," i.e., the closest approximation to the hundred percent in proving God's existence.

Based on the book's conclusions, we will try to overcome the limitations and subjectivism of the Bayesian method and make some progress on this extremely complex problem.

I) Mathematical proof

Let's take a closer look at ***the consequences of the theorem on the existence of God***. From it we can derive that even if the number of worlds is infinite to an infinite power - ∞^{∞}, there is still no

---

35 Natural theology draws on the research methods and norms of rationality of all fields of philosophy (and we believe that science should be included as well). The central themes here are *evidence for the existence of God* and *the problem of evil*.

36 The books in question are "The Coherence of Theism" (1977), "The Existence of God" (1979), and "Faith and Reason" (1981). After 1985, when he became professor of the philosophy of Christianity at Oxford, Swinburne also wrote a tetralogy on a number of foundational church doctrines, which he completed in 1998. In 1995 Swinburne embraced Orthodoxy and, as his friends correctly put it, "is a typical example of logical anglo-saxon moral philosophizing".

(See the hyperlink below for his writings to date.)

Books by Richard Swinburne

https://www.amazon.com/Richard-Swinburne/e/B000AQ6QSE

37 Bayes's theorem

https://www.britannica.com/topic/Bayess-theorem

probability (according to the calculations - $1/\infty$ to some power) of an ordered and stable world (at least of the same type as ours - with matter, space and time) appearing. **We can ultimately conclude from the fact that this world exists, which is ordered and stable, that it could not have appeared by chance.**

Considering the problem of the magnitude of ***physical infinity***, R. Penrose writes: "Finally, let us see how these issues of infinity and constructibility lie, in relation to the mathematics of our previous chapters and to our current understanding of physics. [...]

With regard to the size of the infinities that have found value, it is rather striking that almost **none of physical theory seems to need our going beyond C** ($2^{\aleph_0}$), the cardinality of the real-number system $\mathbb{R}$."

Further he explains things from a purely ***mathematical*** point of view: "What about the families of functions on such spaces? If we consider, say, the family of all real-number-valued functions on some space with **C** points, then we find, from the above considerations, that the family has $\mathbf{C}^{\mathbf{C}}$ members (being mappings from a **C**-element space to a **C**-element space). This is certainly larger than **C**." (The same is true for various kinds of vector fields whose degrees of freedom can reach $\infty^{\kappa\infty^n}$, which is again larger than **C**.)"[38]

If, in the future, physical theories create a model in which it becomes possible that mathematically the number of universes is greater than or equal to **C**, then the aspect of the theorem that proves the existence of God could be disputed. We believe, however, that this is unlikely to happen, since we should not reason about *any worlds at all*, but only about *universes like ours, as it is* the only one we know, and **therefore in our analyses we must justify precisely its existence**.

But in every case another aspect of the theorem will remain valid, according to which neither spontaneous origin of life nor its evolution by mutations is statistically possible. Let us recall how easy it is to prove mathematically that organelles of species-specific proteins (e.g., molecular machines, of which there are tens and hundreds, even in prokaryotes) can neither be formed by chance nor transformed into cellular structures of another species of organism.

But if, according to the aforementioned theorem, it is not possible that a highly organized structure could also appear by chance as a bearer of intelligence (for example something like the so-called "Boltzmann brain"[39], which is destined to be destroyed by entropy over the course of time!) **it follows that intelligence can exist independently of any material structure.**

Then we can ask the question: can matter, at least in some unorganized state, exist forever alongside intelligence? The anthropic principle indicates that in order to construct our world, it must possess a number (which we have denoted as **n**) of basic qualities. If we assume that the number of possible qualities is infinite, then **the probability that matter actually possesses precisely those qualities that are necessary is zero.**

---

38 Roger Penrose, The Road to Reality, pp. 378, 380.
https://chaosbook.org/library/Penr04.pdf

39 Boltzmann brains are hypothetical self-conscious objects resulting from fluctuations in a system.
What Is the Boltzmann Brains Hypothesis?
https://www.thoughtco.com/what-are-boltzmann-brains-2699421

On the other hand, if matter has an infinite number (or at least more than **n**) of qualities, some of them will be redundant and may disrupt the atomic equilibrium, for example. Therefore, they must be eliminated, i.e., turned into nothing. If matter does not possess some quality that is unconditionally necessary for its structuring and/or functioning, it will have to be created from nothing.

But here we must also note that the "absolute chaos" which we discussed at the beginning will in fact not allow any lasting organization of matter!

It follows from this reasoning that it is most plausible (or rather "necessary") to assume that matter was created out of nothing with the precise qualities that are necessary. And creation from nothing suggests an **all-powerful conscious Creator.** One of the consequences of the theorem is that ***He can create an infinite number of ordered and stable worlds*** (and at the same time none of them could have been formed by chance). Moreover, from the rationale so far, it appears that God is not identical with matter, which implies that **He is transcendent - extrinsic and independent of the space-time continuum.**

The following question arises, however: don't the calculations of this theorem also apply to God? That is, does it not follow that He, too, could not have arisen by chance or existed forever?

Two circumstances help to resolve this issue:

(a) God is transcendent, i.e., incognizable in Himself and totally distinct from any matter whatsoever. Thus, the theorem becomes inapplicable to God.
(b) The order of things in this case is asymmetrical. The world is not necessary for the existence of God, but God is unconditionally necessary for the existence of the world.

We can also assume the following: if the theorem also applies to God and proves that there is no God, then it would follow that absolutely nothing exists. But from the fact that our world not only exists, but is ordered and stable, it necessarily follows that God exists! Leibniz's question, "*Why does something exist and not nothing?*" gets the answer, "**The world exists only by the will of God!**"

In addition, there are three possibilities to answer the basic philosophical question "*what came first?*

- Matter
- God and matter
- God

As we have already seen, it follows from the theorem that matter cannot have come first in any way, because it could not organize itself in a world like ours. In addition, we have already said above that matter is not eternal, because it is mathematically impossible that it has only the necessary qualities. That leaves the third option, namely that **God, and God alone came first!**

But do we have the right to speak about scientific proof of the existence of God if science trusts only empirically verifiable facts, and God is transcendent, i.e., His being cannot be established in any direct way?

In his book "The Ten Great Ideas of Science", Peter Atkins, professor of physical chemistry at Oxford University, warns that science will have to change its criterion of acceptability. This was

related to quarks: quarks have not been detected and probably cannot be detected, but we are increasingly assured of their existence because so many verifiable facts derive from it. **It is verification by corollary rather than verification by experiment; verification by hearsay rather than verification by direct experience.**[40]

As Atkins points out, "There may come a time when the line may be crossed, but this is the Rubicon of science which must be crossed with the greatest caution."[41]

II) Empirical testing of the theory:

In 1931, the Austrian mathematician Kurt Gödel formulated the incompleteness theorem, according to which the formal systems of logic and mathematics are semantically incomplete and cannot be strictly proved (or disproved). As the simplest example, we can point to the impossibility of solving Zeno's famous aporia: Achilles (the fastest runner in ancient times) could never catch up with a tortoise, even if it is only a few steps away when he starts.

So far, no one has been able to refute the Eleatic philosopher's statements purely theoretically[42], but in practice even a small child can easily solve such a task. Which is why today it is not enough simply to formulate a scientific theory; certain corollaries must follow from it, allowing for empirical verification of its truth.

Is it possible to verify the biblical and evolutionary worldviews?

Richard Dawkins states: "Natural selection, the blind, unconscious, automatic process which Darwin discovered, and which we now know is the explanation for the existence and apparently purposeful form of all life, has no purpose in mind. It has no mind and no mind's eye. It does not plan for the future. It has no vision, no foresight, no sight at all. If it can be said to play the role of watchmaker in nature, it is the blind watchmaker."[43]. And the American cognitive philosopher Daniel Dennett, although reasoning in a strictly biological sense, nevertheless points to natural selection as a factor that is able to explain the perfection of all natural structures - physical, chemical, biological - and thus can be the basis of the entire naturalistic paradigm (as we noted at the very beginning!): "The theory of natural selection shows how every feature of the natural world can be the product of a blind, unforesightful, nonteleological, ultimately mechanical process of differential reproduction over long periods of time."[44].

---

40 We rarely take into consideration how many things in science are backed up only with indirect proof. In mathematics, indirect proof equals direct proof. In natural sciences, the theory of the origin of organisms can only be proven indirectly. And what about history, where any proof of past events and people who once lived can only be indirect! Author's note.

41 Galileo's Finger: The Ten Great Ideas of Science
https://www.goodreads.com/book/show/68219.Galileo_s_Finger

42 Some believe that Zeno's paradoxes can be solved using mathematical analysis (developed by Newton, Leibniz, Weierstrass and Cauchy), who developed a methodology for dealing with infinitesimal numbers and infinite series. But this notion is controversial because differential calculus uses limits (i.e., infinite approximations), which in logical terms is also an argument for the aporia.

43 Richard Dawkins, The Blind Watchmaker, p. 14.
https://terebess.hu/keletkultinfo/The_Blind_Watchmaker.pdf

44 Daniel Dennett, Darwin's Dangerous Idea: Evolution and the Meanings of Life, p. 315.
http://www.inf.fu-berlin.de/lehre/pmo/eng/Dennett-Darwin'sDangerousIdea.pdf

We completely agree with Dawkins' notion that a way must be found to empirically test the evolutionary and biblical cosmological models of the origin of the universe (see the beginning of this article). Moreover, since Dawkins is a militant atheist, there can hardly be any doubt that such a criterion was created by him in order to support Christianity.

As some theologians correctly note, man should not **speculatively** try to understand how the universe came into being, because God is able to create the world around us in a way that is completely beyond our mind and imagination, i.e., we must not impose limits on God's omnipotence. As the famous Orthodox theologian Justin Popović says: *"The manner of creation of such a complex and mysterious world is fundamentally incomprehensible to the human mind."*[45]. S. Hawking and L. Mlodinow, in their book "The Grand Design" referring to Richard Feynman, state that the universe could have come into existence in every possible way. Let us add that a divine creative act implies that it arose not only in all possible ways, but in all "impossible" ways as well. Still, we hope that the scientific method, which reveals the wonders of nature to us one by one, will soon reveal the mystery of Creation as well.

The founder of empiricism and father of all modern science, Galileo Galilei, states, "*The primary purpose of the sacred writings, which is the service of God and the salvation of souls. [...] (But there are) hundreds of passages of holy Scripture which teach us that the glory and greatness of Almighty God are marvelously discerned in all his works and divinely read in the open book of heaven.*"[46]. Indeed, with the help of modern scientific means - elementary particle accelerators, telescopes observing ultra-deep space, gravitational wave detectors, computer simulations, etc. - we are able to look into the first moments of the universe. Which is why we will try to find an answer to the question Dawkins asked: *"Is our universe the work of an intelligent Creator, or did it arise and evolve purely by chance?"*

While the naturalistic model claims that everything happens by chance and in full accordance with the laws of nature, the theistic model assumes a conscious choice of the parameters of any system, and at certain moments of its construction reasonable intervention can also lead to the violation of physical laws (for example, as we already mentioned, an external intelligent intervention perfectly explains the paradox that exists in our solar system: the mass of all the planets is only 1/750 of the mass of the Sun, but in the distribution of the total momentum, i.e. the angular momentum, over 98% of it falls on the planets and less than 2% falls on the Sun).

It is possible to distinguish between these two points of view as follows:

(a) Darwin would be right if it turned out that matter evolves based on many variations generated by mutations, and natural selection selects the most successful forms and thus leads to improvements in physical, chemical, and biological structures. **Clearly, the direction of natural processes in this case is from chaos toward order.**
(b) The all-knowing God would have to create a perfectly ordered and harmonious world in which everything is calculated and goes according to a strictly defined plan from the very beginning. An additional complication, however, is the fact that after the Original sin, in

45 Возникновение мира вообще / The Emergence of the World in General, see vol. 6. https://azbyka.ru/otechnik/Iustin_Popovich/izbrannye-glavy-o-tvorenii-mira-i-cheloveka/#0_1
46 Galileo Galilei, Letter to Madame Christina of Lorraine, Grand Duchess of Tuscany https://inters.org/Galilei-Madame-Christina-Lorraine

the words of St. Paul, "the creature was made subject to the bondage of corruption (i.e., destruction)" (Romans 8:20-21, King James Version), which implies that the world will also experience processes of disintegration (exploding stars, colliding galaxies, physical and genetic entropy, etc.). **But the direction of the processes here will be quite the opposite, from order toward chaos.**

1. How can we empirically verify the biblical account of the creation of living organisms "according to their species"?

In 2010, the first self-replicating synthetic bacterial cell was successfully "constructed" (we use the word "constructed" because the work started not from the initial stages of abiogenesis, but from already existing structures)[47]. This ensures that, **precisely in relation to prokaryotes, both paradigms – the Christian and the evolutionary one - can easily be tested empirically.**

Let's assume that the circles, squares, and rhombi in Figure 3 are **species-specific proteins**, and the outlines surrounding them - I, II, III, etc. - denote different species of bacteria (and in higher organisms they may also be genera, families, etc.). We just must sequentially swap the homologous (and not only!) proteins of different protein types (e.g., catalytic, membrane, motor, structural, etc.) to see how these manipulations will affect the cell functions.

Moreover, we can easily calculate the probability of one bacterial species turning into another. For example, as early as the beginning of the twenty-first century, Douglas Axe published the results of his experimental studies on the mutational sensitivity of catalytic proteins in bacteria twice. He found that amino acid sequences yielding **stable and functional** enzymes were exceptionally rare - 10^{-38}.[48] We can assume that other species-specific proteins appear with similar probability, which implies that the overall probability of a given species-specific organism transforming into another is $10^{(-38)n}$ (where **n** is the number of **species-specific** proteins in one bacterial species). Since **n** in bacteria numbers in the hundreds or thousands, it goes without saying that their transformation from one species to another is absolutely impossible[49].

The Omnigenic model, which is becoming more and more widely accepted in the field of genetics, is also an excellent corroboration of the conclusions we made regarding Figure 3! According to this model, the emergence of a new species through a gradual change of genes one by one is impossible, since they are all integrally connected. A new species is a simultaneous quantum leap of the whole set of genes at once, which mathematically leaves no chance of its emergence through the accumulation of random mutations![50]

---

47 THE FIRST SELF-REPLICATING SYNTHETIC BACTERIAL CELL
http://www.jcvi.org/cms/research/projects/first-self-replicating-synthetic-bacterial-cell/overview

48 Douglas A. Axe. "Extreme Functional Sensitivity to Conservative Amino Acid Changes on Enzyme Exteriors," Journal of Molecular Biology, 301: 585-595 (2000).

Douglas A. Axe. "Estimating the Prevalence of Protein Sequences Adopting Functional Enzyme Folds," Journal of Molecular Biology, 341: 1295-1315 (2004);

49 Arthur Hunt criticizes D. Axe by stating that functional protein polymers appear much more frequently, namely in the range between 10^{-10} and 10^{-15} in the case of a protein consisting of one hundred amino acids. Even if we accept this result (although it is highly questionable, for it appears in an unreviewed publication!), it will in no way alter our conclusions, because we need to multiply the power factor of the indicated probabilities by at least 100, because, as we have already noted, the difference between prokaryotes is expressed in hundreds and thousands of species-specific proteins.

Axe (2004) and the evolution of enzyme function
https://pandasthumb.org/archives/2007/01/92-second-st-fa.html

50 Theory Suggests That All Genes Affect Every Complex Trait

In our opinion, the emergence of new species is done in quantum leaps that result from an inherent capacity for variation between different states of genomes and epigenomes, in response to variation in multiple external and internal factors, in order to best adapt organisms to environmental conditions. This is why the emergence of new species in the living world is always observed only at the microevolutionary, but not at the macroevolutionary level!

2. In the inanimate world (micro- and macrocosm) the biblical model has already been confirmed empirically, which we will now discuss in more detail!

The Biblical Cosmological Model[51]

The Book of Genesis proclaims that the creation of the earth and the heavenly bodies took place on the first and fourth *Day of Creation*:

"In the beginning God created the heaven and the earth. And the earth was without form, and void; and darkness was upon the face of the deep. And the Spirit of God moved upon the face of the waters. And God said, Let there be light: and there was light. And God saw the light, that it was good: and God divided the light from the darkness. And God called the light Day, and the darkness he called Night. And the evening and the morning were the first day. [...]

And God said, Let there be lights in the firmament of the heaven to divide the day from the night; and let them be for signs, and for seasons, and for days, and years: And let them be for lights in the firmament of the heaven to give light upon the earth: and it was so. And God made two great lights; the greater light to rule the day, and the lesser light to rule the night: he made the stars also. And God set them in the firmament of the heaven to give light upon the earth, And to rule over the day and over the night, and to divide the light from the darkness: and God saw that it was good. And the evening and the morning were the fourth day." (Genesis 1:1-14, King James Version).

Most Church Fathers believe that ***"heaven"*** in verse 1 refers to the invisible world - the location of God's throne, surrounded by angels, cherubim, seraphim, and other heavenly entities. This transcendent world is described in more detail in Isaiah, Ezekiel, Revelation, etc., but we will not go into too much detail. When it comes to the word ***"earth***," however, the Bible interpreters are divided in roughly two directions:

A) Some believe that in addition to our Earth, this word also refers to all matter in the cosmos, for example gas-dust clouds (and also dark matter and energy). In that case, by God's command, celestial bodies must have been formed in them later on in time and begun moving along their orbits and forming planetary, stellar, and galactic systems. Even though they form over time, the masses and orbital characteristics of the celestial bodies and systems had to be perfectly calculated so that there

https://www.quantamagazine.org/omnigenic-model-suggests-that-all-genes-affect-every-complex-trait-20180620/

51 The ancient Hebrews were aware that the Bible does not describe the natural world in a holistic and in-depth way. In the beginning they imagined the earth as a flat disc covered by a heavenly dome, below which was the underworld (sheol). Later (4th century B.C.) Jewish theologians adopted the Greek cosmological concept of a spherical earth surrounded by many concentric heavens. Christians after the second century used the geocentric system of Claudius Ptolemy, which only after the seventeenth century began to be gradually superseded by the heliocentric model of Copernicus. This was the time when Christianity gave birth to modern science in its depths and was further guided by it, but only according to the principle that only empirically proven theories should be accepted!

would be no chaotic collisions between them, which allows us to clearly distinguish this point of view from naturalistic models.

B) Others believe that the word "***earth"*** refers only to our planet, while *the sun, moon, and stars* appeared on the fourth day and, therefore, the universe emerged at once and was already fully ordered.

In the biblical model, ***the "Big Bang"*** can be considered the instantaneous creation of the space-time material continuum, but, unlike the Standard Scenario, here everything does not start from a single point. A mathematical attempt to combine the theory of general relativity and quantum mechanics has shown conclusively that the universe could not have started from a zero-sized point of infinite density, leading to the question, "What was its original volume?" As Brazilian physicist Juliano Neves points out, "there is no direct evidence of the original singularity"[52], which suggests that cosmologists are inappropriately extrapolating events back in time to some starting point.

In 2010, physicists working with the U.S. particle accelerator Tevatron announced that the preliminary results from their eight-year study indicate a slight predominance of matter over antimatter. The analysis of data from hundreds of trillions of proton and antiproton collisions leads to a sensational effect: in the decay of B mesons, the formation of muons is 1% more likely than the formation of antimuons. But the error probability was calculated to be 3,2σ (0,005%), which was insufficient to accept this conclusion, since the standard is 5σ (0,00003%)[53].

And yet the research currently being conducted with the Large Hadron Collider has completely obliterated all hope for saving the cosmological hypotheses as well! The physics experiments at CERN, released in late October 2017, were carried out with an accuracy 350 times greater than all previous measurements. The results forced Christian Smorra to unequivocally state: **"All of our observations find a complete symmetry between matter and antimatter, which is why the Universe should not actually exist"[54]. In other words, science denies the possibility that the universe came from a quantum vacuum, and we have already shown that in all probability matter appeared from nothing!**

One assumption can be made here, namely that the cosmic microwave background (CMB) is probably a remnant of the ***"light"*** that illuminated the heavenly expanse on the first day of Creation. If this is indeed the case, we could once again clarify which of the two biblical scenarios most likely actually occurred.

According to the first version, the Earth and gas-dust clouds appeared before the CMB, and according to the second version, all matter in the form of complete stellar systems appeared after it. In addition, during the gradual formation of bodies and the formation of cosmic structures, the character of gravitational waves and fluctuations (and, perhaps, polarization) of the CMB should be different from that which would be observed during the instantaneous appearance of the Universe.

---

52 What If the Big Bang Wasn't the Beginning? New Study Proposes Alternative
https://www.space.com/38982-no-big-bang-bouncing-cosmology-theory.html
53 Fermilab scientists find evidence for significant matter-antimatter asymmetry
http://news.fnal.gov/2010/05/fermilab-scientists-find-evidence-significant-matter-antimatter-asymmetry/
54 Scientists Have Concluded That The Universe Shouldn't Really Exist
https://www.sciencealert.com/scientists-have-concluded-that-the-universe-shouldn-t-really-exist

But to find the answer to this mystery, we will have to wait another ten years, until the moment when NASA and ESA are scheduled to put the most advanced gravitational wave detector, LISA, into orbit.[55] As some scientists put it, "It will be able to capture the fingerprints of God left on the fabric of the cosmos in the early moments of Creation. And, indeed, the LISA detector will be so highly accurate that it will be able to pick up shock waves as far back as the first trillionth of a second after the Big Bang. (By comparison, the cosmic background radiation measured by the previous WMAP instrument goes back as far as 380,000 years after the beginning, the time when atoms are believed to have begun recombining.)

Scientific issue: in theory, space systems are inexplicable!

As we stated at the very beginning, the subject of this paper is the question: is it even possible that this exceptionally beautiful and complex hierarchical order of celestial formations - planetary, stellar, galactic, etc. - could have appeared by chance? - as well as its astonishing resilience over time? The fact is that even if there are only three celestial bodies with randomly chosen masses and orbital characteristics, their system becomes unstable, and can we even say about systems containing more celestial bodies!

At the end of the 17th century, Isaac Newton discovered the law of universal gravitation and was able to explain the motion of the planets around the sun. He began by solving the problem with two bodies - for example, a planet and the Sun (without the influence of other bodies), and thus showed that the orbit of a planet like the Earth would form a certain ellipse, which can accurately be described mathematically. But when the Moon is added to this system, it turns out that it is impossible to obtain a general mathematical solution about the position of the three bodies moving in space solely under the influence of their mutual gravitational attraction. Later on, Henri Poincaré proved that such interactions are chaotic (and thus laid the foundation of the "chaos theory"[56]), in the sense that the final result is essentially random and unpredictable, so that the evolution of a system of three (and more) bodies cannot be predicted on any time scale.

Computer simulations have shown that the interaction in the three-body system proceeds in two phases: first, there is the chaotic phase, during which all three bodies are strongly attracted to each other, until one of them is ejected far away from the others, after which they settle into elliptical orbits around a common center of their masses. If the third body remains in a bound orbit, it will eventually return to the binary system, after which the first phase will ensue again. This triple dance may end when, in the second phase, one of the bodies moves away in an unbound, i.e., a hyperbolic orbit and begins to move infinitely away into space, never to return. There is also a possibility that

---

55 LISA
https://lisa.nasa.gov

56 Scientists consider those systems that, even for negligibly small events, can change their behavior radically, as chaotic - and thus long-term predictions of their behavior become unfeasible. The discovery that the parameters of chaos can be measured is considered the third great achievement of the 20th century, along with the theory of relativity and quantum mechanics. Chaos theory has a mathematical apparatus based on the behavior of some nonlinear dynamic equations sensitive to initial conditions. If we change the initial data even by negligibly small values, for example, commensurate with the Avogadro number fluctuations (about 10^{-24}), then checking the state of the system will show completely different values as a result. Examples of such systems are turbulent flows in the atmosphere, turbulent movement of water, biological populations, etc.
Chaos theory
https://en.wikipedia.org/wiki/Chaos_theory

two of the three bodies may merge after a collision, but in all cases the system will be unstable in time.[57]

The same is valid for any system of N bodies, in which case the ejected third body is often caught in the gravitational field of another body, resulting in continuous collisions and mergers of bodies. Eventually, all the matter of the system will be assembled into one massive body, which will contain (almost) all the others (see the third hyperlink in note [58]). The formation of a balanced system is possible only in a negligible percentage of cases, and as the number of bodies increases, this percentage decreases exponentially, which means that in practice the realization of such a scenario is below any admissible probability!

In the past, outstanding mathematicians and astronomers such as Laplace, Lagrange, Poincaré, and others worked especially hard to solve the question of whether the solar system is stable. Yet only in the mid-20th century was it possible to develop mathematical methods and tools, on the basis of which the Soviet scientists A. Kolmogorov, V. Arnold, and J. Moser proved the stability of the solar system. Until recently it was thought that our planetary system could persist for close to a trillion years, but recent work (2020) by J. Zink, K. Batygin and Fr. Adams reduced this period to "only" 30 to 100 billion years.[59] It is calculated that the stars of the Milky Way will move into chaotic orbits in only 10^{16} (i.e., in ten million billion years).[60] (Other galaxies are similarly stable, perhaps even the very first ones!)

Christian Theism

Scientists with naturalistic beliefs consider the statement *God created the universe* a very simplistic explanation of things, since it would be extremely easy for any conscious creator to construct and organize the universe. **But is this really the case?**

The beginning of the Book of Genesis states that *God created matter out of nothing and unfolded His grand design in the construction of the universe.* We must be aware, however, that the creation of such a dynamic structure is a tremendously difficult task, because at any given moment it is organized in different ways and yet maintains its equilibrium. Let's not forget that the Metagalaxy

---

57 Drunken solution to the chaotic three-body problem
https://phys.org/news/2021-12-drunken-solution-chaotic-three-body-problem.html

58 If the celestial bodies were formed by chance, there must have been continuous collisions between them, and subsequently between the galaxies already formed (as confirmed by all computer simulations of such processes).

Readers can see for themselves that configurations are unstable (i.e., objects leave the system or collide) and that orbits become chaotic (resemble intricately interwoven threads) if they try to create computer models of space systems with arbitrary masses and orbital motions of bodies:

a) With one star and several planets:
http://phet.colorado.edu/sims/my-solar-system/my-solar-system_en.html

b) With two stars and several planets:
http://www.upscale.utoronto.ca/GeneralInterest/Harrison/Flash/Chaos/ThreeBody/ThreeBody.swf

See also: "Simulation of 400 objects with parameters close to those of the planets of the solar system" (In this case, however, it is clear that there is no computer powerful enough to fully recreate the chaotic orbits of this enormous number of bodies in three-dimensional space).

N-body simulation
https://en.wikipedia.org/wiki/N-body_simulation

All this gives us enough reason to argue that the gravitational (and any other!) law is not able to achieve the observable structure of the Universe at all.

59 The Great Inequality and the Dynamical Disintegration of the Outer Solar System
https://iopscience.iop.org/article/10.3847/1538-3881/abb8de

60 Nikolov, N., M. Kalinkov. "Astronomy," ed. "St. Cl. Ohridski", Sofia, 1998, p. 242.

(its visible part) alone contains more than 10^{22} (ten thousand billion billion billion) stars and 2,000 billion galaxies[61], whose mutual influence must be kept in mind. (And the entire Universe is undoubtedly much larger.)[62]

The equilibrium of the cosmic systems, however, is kept on *the* "*tip of the iceberg*"! In 2009, scientists made more than 2,000 simulations of the motion of bodies in the solar system, and in all of these simulations only the orbit of the smallest planet, Mercury, was changed by less than 1 millimeter. The results showed that in 1% of these cases even this miniscule change makes the system unstable and Mercury very quickly falls into the Sun or collides with Venus, or even the whole solar system becomes unbalanced and chaotic![63] And imagine how much higher the likelihood of the system falling into chaos would be if you alter the orbits of the more massive planets by even a hair's breadth! This is an incredible example of the exceptional precision with which the Architect of the Universe had to work in order for it to be stable over time!

It's difficult to fully grasp the amazing calculations which the cosmic Architect had to complete in order to bring even the simplest system of three bodies into stable dynamic equilibrium. First of all, He had to set such masses and orbits of bodies so that over a long period of time (many billions of years, as we know) their trajectories would not become chaotic and would not start to cross each other (i.e. there would be no collisions between them), and at the same time none of bodies would not reach hyperbolic speed and leave the system forever.

Moving aside from the other details, let us briefly describe the complexity of the problem with respect to gravity alone. For this purpose, we will quote the astronomy textbook of Professors N. Nikolov and M. Kalinkov: "The most famous problem in the field of celestial mechanics is **the three-body problem**, which was (and still is!) the object of attention of great mathematicians and astronomers. The problem is defined as follows: the coordinates and velocities of three bodies with known masses are given in an initial moment in time. How can we determine the positions and velocities of these bodies for an arbitrary moment in time.

The formulation of the problem for an N number of bodies is similar.

In reality, the calculations are made with respect to material points, not bodies. Even so, it is enough to imagine that each material point is affected by a complexly temporally changing gravitational field of other points, which can lead them to close approximations, that it becomes clear that the solution describing an unimaginably huge variety of consequences of these approximations will have an extremely complex form.

It can be shown that in the problem for N bodies only 10 integrals are known. Since there are 18 first-order differential equations for three bodies, and only ten integration constants can be determined, the problem looks unsolvable. [...]

---

61 The Universe Has 10 Times More Galaxies Than Scientists Thought
https://www.space.com/34382-universe-has-10-times-more-galaxies-hubble-reveals.html?utm_source=notification

62 Beyond the Universe
https://archive.briankoberlein.com/2016/03/22/beyond-the-universe/

63 Newton's three-body problem explained - Fabio Pacucci
https://www.youtube.com/watch?v=D89ngRr4uZg
https://perso.imcce.fr/jacques-laskar/pdf/nature08096&s1.pdf

The general three-body problem was solved analytically in 1912 by the Finnish scientist (Karl) Sundman, who showed that the change in the coordinates of three bodies, the distances between them and the time – t, can be represented by series in powers of the auxiliary variable, which are absolutely convergent. Between 1931 and 1933, the French scientist (David) Beloriszky found that in order to establish the positions of large planets with the accuracy found in astronomical yearbooks, it is necessary to use sums containing at least $10^{8,000,000}$ values from Sundman's series. We can consider that the analytical solution of the three-body problem has been found, but it has only theoretical and by no means practical value".[64]

How large is the number $10^{8,000,000}$? We already mentioned that even if in the entire volume of the observable Universe there were no empty spaces and it was all densely packed with elementary particles, then, as scientists have calculated, their total number would be about 10^{130}. Let's assume that in place of each particle is one of the values of Sundman's series. In that case, 10^{131} would be the number of elements in ten such universes, 10^{139} - in a billion, 10^{148} - in a billion billion billion, 10^{157} - in a billion billion billion billion universes, etc.

Thus, it becomes clear that there is a huge **chasm(!)** to the necessary $10^{8,000,000}$ elements (scientists have stated that no computer could cope with the "three-body problem", even if it were the size of the universe). And for all that, their sum will give us only an (approximate) position of bodies in time, but not a complete solution of the problem of finding a stable equilibrium of the system![65]

And how could the Milky Way be designed, for example, with its 200-400 billion stars (plus star clusters, planetary systems, etc.)? Each member of the galactic "family", if we consider it an absolutely solid body (which does not experience any deformations), has degrees of freedom, i.e., it can move in three different directions and rotate around three mutually perpendicular axes. In this case, in order to determine the position of the body in space, it is necessary to know the numerical values of the three coordinates and the three angles of rotation (and to follow the rate of change of these parameters over time). To clarify the problem, however, it should be noted that none of the celestial bodies is absolutely solid. Modifications of its shape, tides and ebbs change its rotation speed and the direction of its rotation axis, which affects the forces of mutual attraction and the orbits of other bodies. One should also take into account the electric and magnetic interactions; mass defect (stars constantly lose part of their mass, which turns into energy); the changing gravitational field of other objects in the system (**and even for three bodies, their coordinates and velocities become incalculable!**); occasional resonances (for example, between satellites and planets in the solar system); the influence of the interstellar medium; certain relativistic effects and many other things, which are difficult even to calculate.

---

64 Николов, Н., М. Калинков. „Астрономия”, изд. „Св. Кл. Охридски”, София, 1998, стр. 76, 77. / Nikolov, N., M. Kalinkov. *Astronomy.* Ed. "St. Cl. Ohridski", Sofia, 1998, pp. 76, 77.

65 Similar reasoning can be applied to atomic nuclei. The four interactions (strong, weak, electromagnetic, and gravitational) all work in their nuclei simultaneously, creating such a complex picture that it is impossible to analytically solve even the two-particle problem. Still, let's assume that a stable atomic nucleus has been formed in one of the countless universes. If, however, a new nucleon (proton or neutron) is added, it immediately becomes unbalanced. In **that case, each chemical element (respectively isotope) must have a strictly *programmed* state of the nucleus for the corresponding number of particles and go to it automatically.**

In searching for the general solution of the problem of the set of higher hierarchical formations (clusters and superclusters of galaxies) that make up the universe, this is what else expresses the specificity of its complexness.

Let us assume that any one celestial system has a huge number, for example N, of possible ordered states with different values of masses and orbital characteristics of the bodies contained within it. (Let us assume that this number is large, N, but not infinite, because the amount of matter and sizes of real cosmic systems are limited.) If there are two systems and we consider them as subsystems of one integral system, then due to their mutual influences the set of ordered states of the entire system will be a cross section of only those ordered states which are common for both subsystems. If there are three subsystems, the set of admissible states of the total system is even more restricted up to those positions in which all three subsystems will be in equilibrium. So, the greater the number of subsystems, the smaller the set of their general equilibrium states becomes. It is not surprising if it appears that for huge number of celestial systems in the Universe, taken as a whole, there can be only one possibility at which all of them will be in harmony with each other and form a complete dynamic structure of the Universe.

But in the reasoning above, we did not take into account the changes that occur in each subsystem. If a system consists, for example, of two subsystems, then its steady state is not a "mechanical sum" of two steady states of its subsystems. (In hierarchical structures, the whole is greater than the sum of its parts.) The steady state of each of these subsystems will be calculated as something qualitatively new, because external influences of another subsystem must be taken into account. In this case, the new steady state in each subsystem is not a subset of the set of its own steady states (where only the mutual influences between its own bodies are taken into account). Overall, each increase in the number of subsystems changes not only the general order of the whole system, but also the internal order in each subsystem, because they are all interdependent and must form a single integral structure upon their connection. If it is necessary to design the Universe as a unified whole, then in performing this task it is necessary to follow a given plan in which everything is provided for; otherwise, this beautiful "architectural temple" will collapse very quickly.

It is still impossible to say with certainty what the structure of ***the Metagalaxy*** is, but it should be accepted that it is **a single system**, as all objects in it are connected with each other, being integrated into **complexly organized hierarchical structures, which form the holistic structure of the Universe.**[66] (Fig. 6).

---

66 It turns out that not only in the distant past, when the size of the Universe was small enough for gravity to bind all the objects in it together, but at much later stages its large-scale structures remain connected in some - still unexplained - way!

Is the universe controlled by gigantic structures?

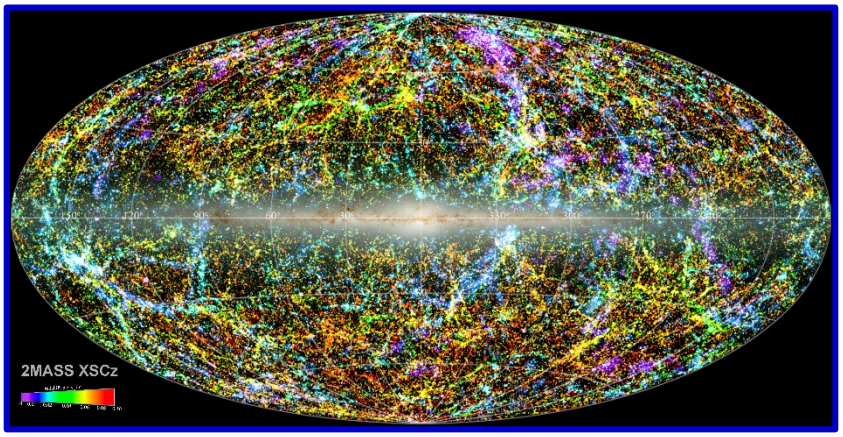
https://bigthink.com/hard-science/large-scale-structures/

If we assume that gravitational interaction is propagated by waves (called gravitons, which travel at the speed of light), the following objection may arise: "Gravitational radiation of objects located at one end of the universe may not yet have reached objects located at the other end (due to the limited time of its existence), and thus not all bodies in it are bound by gravitational forces". This objection can be answered as follows: "Every object in the universe interacts at least with those around it (as, for example, gas molecules are bound by nearby forces), and thus all celestial bodies are still united by gravitational forces into a single system.

Ask Ethan: Do Gravitational Waves Exhibit Wave-Particle Duality?

https://www.forbes.com/sites/startswithabang/2016/02/20/ask-ethan-do-gravitational-waves-exhibit-wave-particle-duality/?sh=6b9124262d68

а)



б)

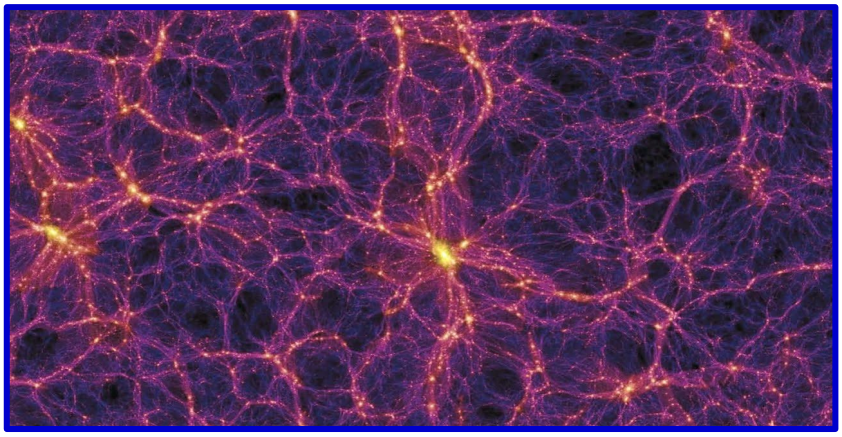


Figure 6 a) The All-Sky Survey has imaged more than a million bright, extensive objects, most of which are galaxies. The conclusion made by scientists is that galaxies are not arranged chaotically at all, but are organized into beautiful cosmic systems. b) Part of the observed large-scale universe structure are galaxy clusters and superclusters, which are grouped and form something similar to walls of huge "cells", inside which there are almost no similar formations.[67]

The Naturalistic cosmological model and its verification with observational data

What is wrong with the standard theory regarding the Big Bang? It is safe to say that absolutely everything is wrong with it, i.e., that it is far from having the necessary empirical evidence to be considered a scientific theory.[68] At the moment the Hubble and James Webb telescopes have finally smashed not only the Big Bang hypothesis, but the whole naturalistic paradigm in cosmology as well!

According to the Standard Model, "mature galaxies" (stable systems of tens and hundreds of billions of stars) should have formed 2,5-3,3 billion years after the beginning of the Universe at the earliest (see Table 1). Imagine the surprise of scientists when, in the last 15-20 years, the Hubble telescope observed galaxies several times more massive than the Milky Way (i.e. with thousands of billions of stars) that came into existence only 800 (and some smaller ones even 400-600) million years after the Big Bang! Moreover, even well-formed clusters of galaxies consisting of tens of thousands of billions of stars were discovered. This suggests that the structure of the Universe at that

67 Народна астрономическа обсерватория “Юрий Гагарин” Стара Загора / National Astronomical Observatory "Yuri Gagarin" Stara Zagora
https://astronomy4all.com/univerce-structure?page=7

68 It should be categorically emphasized that according to scientists, the entire Standard Model paradigm in cosmology is based entirely on unproven (i.e. not empirically confirmed!) assumptions!
Escaping cosmology's failing paradigm
https://iai.tv/articles/escaping-cosmologys-failing-paradigm-auid-1964?_auid=2020

time was probably exactly the same as the modern one, i.e., the one that surrounds us in our immediate cosmic vicinity, where we observe the oldest and therefore the most developed galaxies and galaxy clusters.

A picture taken by the Hubble space telescope in 2009 (Fig. 7a) shows about 10,000 galaxies over 13 billion light years away from us (it is more accurate to say that that was the time it took for their light to reach us!). In a photo taken shortly after, in 2012 (Fig. 7b), we see over 5,500 such galaxies. The most distant ones are about 13,2 billion light years away, which is also confirmed by their spectral lines obtained with ground-based telescopes. In 2016, it was reported that a galaxy with (at least) one billion stars had been discovered 13,4 billion light years away, which is why the University of California's Garth Illingworth is rightly stunned: *"It's amazing that a galaxy so massive existed only 200 million to 300 million years after the very first stars started to form."*[69]

Indeed, many of these galaxies are small, with strange and surprising shapes, there are also mysterious quasars, but most of them are no different from modern galaxies.

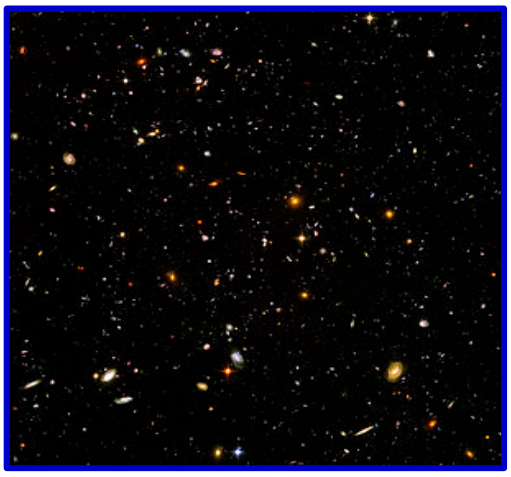
a)  b) 

Figure 7 Hubble Ultra-Deep Field (HUDF) photographs of the Universe, covering regions of ultra-deep space, taken by the Hubble Space Telescope at exposures of millions of seconds[70].

When commenting on such photographs, it is usually pointed out that some of the galaxies depicted are barely 1% the size of the Milky Way, while others are so blue in color that they are probably exceptionally poor in heavy elements. Some cosmologists believe that such objects may be the key to unlocking the mystery of the first evolutionary steps in the formation of the Universe.

Rychard Bouwens of the University of California states: "the faintest galaxies are now showing signs of linkage to their origins from the first stars. They are so blue that they must be extremely deficient in heavy elements, thus representing a population that has nearly primordial characteristics." The article also states, "The deep observations also demonstrate the progressive buildup of galaxies and provide further support for the hierarchical model of galaxy assembly where small objects accrete mass, or merge, to form bigger objects over a smooth and steady but dramatic process of collision and agglomeration."[71].

---

69 Hubble Team Breaks Cosmic Distance Record
https://www.nasa.gov/feature/goddard/2016/hubble-team-breaks-cosmic-distance-record

70 Hubble Extreme Deep Field
http://goo.gl/rSAbwC

71 Hubble Reaches the "Undiscovered Country" of Primeval Galaxies
http://hubblesite.org/news_release/news/2010-02

Such arguments, however, are not convincing enough!

A 2005 article adds: "The NASA/ESA Hubble Space Telescope and NASA's Spitzer Space Telescope have teamed up to 'weigh' the stars in distant galaxies. One of these galaxies is not only one of the most distant ever seen, but it appears to be unusually massive and mature for its place in the young Universe.

This has surprised astronomers because the earliest galaxies in the Universe are commonly thought to have been much smaller agglomerations of stars that gradually merged together later to build the large majestic galaxies like our Milky Way.

"This galaxy appears to have 'bulked up' amazingly quickly, within a few hundred million years after the Big Bang," said Bahram Mobasher of the European Space Agency and the Space Telescope Science Institute, a member of the team that discovered the galaxy.

"It made about eight times more mass in terms of stars than are found in our own Milky Way today, and then, just as suddenly, it stopped forming new stars. It appears to have grown old prematurely." [...]

The galaxy is believed to be about as far away as the most distant galaxies and quasars now known. The light reaching us today began its journey when the Universe was only about 800 million years old.

Previous observations have revealed evidence for mature stars in more ordinary, less massive galaxies at similar distances. Other joint Spitzer and Hubble analyses identify more galaxies nearly as massive as the Milky Way, seen when the Universe was less than one thousand million years old.

The new observations by Mobasher and his colleagues dramatically extend this notion of surprisingly mature 'baby galaxies' to an object which is perhaps ten times more massive, and seems to have formed its stars even earlier in the history of the Universe."[72].

A few years later, three scientists from Yale and Princeton Universities in the United States and Leiden University in the Netherlands observed a galaxy designated "1255-0," 10,7 billion light years away from us, which is four times more massive than the Milky Way but six times smaller. "This galaxy is very small, but the stars are whizzing around as if they were in a giant galaxy that we would find closer to us and not so far back in time," says Pieter van Dokkum, professor of astronomy and physics at Yale University in New Haven, Conn., who led the study. It is still not understood how galaxies like these, with so much mass in such a small volume, can form in the early universe and then evolve into the galaxies we see in the more contemporary nearby universe that is about 13,7 billion years old."[73].

---

72 'Big baby' galaxy found in newborn Universe
https://m.phys.org/news/2005-09-big-baby-galaxy-newborn-universe.html
73 HYPERACTIVE GALAXIES IN THE YOUNG UNIVERSE
http://www.gemini.edu/node/11303

These observations show that, even at the dawn of time, there were huge galaxies which did not need to increase their size in a "cannibalistic" way by consuming their counterparts. Astrophysicist Karl Glazebrook predicts that hundreds of galaxies like 1255-0 will be discovered in the coming years, and comments, "This is like suddenly discovering that Roman Londinium had the same population as Greater London does today."[74].

His words proved prophetic and came true not 10 years later: "New research (2015) has revealed 574 massive, ancient galaxies lurking in the night sky, and their existence so close to the time of the Big Bang calls into question scientists' best understanding of how large galaxies form. [...]

"We are talking about massive galaxies, twice as massive as the Milky Way today," said Karina Caputi, an astronomer at University of Groningen in the Netherlands and lead author on the new work. "Currently, even the most up-to-date galaxy-formation models cannot predict such massive galaxies [before] almost 2 billion years after the Big Bang," she told Space.com. [...]

Among these newly discovered galaxies, the most massive ones originated about 1 billion years after the Big Bang, and most formed between 1,1 and 1,5 billion years after it. This is much earlier than the time predicted by theoretical models.

"The predominant theory for galaxy formation is a hierarchical model. You basically assemble galaxies by merging lots of small, little bits," McCracken said. This slow growth of galaxies can explain Earth's local universe well - what the universe looks like at this age - but is simply not fast enough to account for so many massive galaxies so soon after the Big Bang. "There's basically not enough time for these kinds of objects to form," McCracken said.

The researchers said that the faintness of galaxies from the early universe, even massive ones, means that it's possible the survey missed more galaxies even closer to the Big Bang that were obscured by dust. The results might be skewed by dust in another way, as well: Garth Illingworth, an astronomer at University of California, Santa Cruz and the Lick Observatory, told Space.com that the heavy dust could make it more difficult to judge the galaxies' age - there are many more evolved galaxies from later after the Big Bang, and even a few newer galaxies that appeared older could be misleading."[75].

In early 2015 it was reported that an international team of astronomers had traced the emergence of galactic clusters in the early years of the Universe and **concluded that they did not emerge gradually, but appeared as a result of an explosive and almost simultaneous birth of most galaxies** (i.e., it appears that galaxies do not increase their size by *a "dramatic process of collisions and agglomeration"*!) Scientists have observed more than 200 "embryos" of such clusters in the first three billion years after the Big Bang using the Planck and Herschel telescopes, as well as from a number of ground-based observatories. Young galaxies in these clusters formed stars at a mind-boggling rate - each year the combined mass of their stars increased by several hundred or even

---

74 Too small to ignore
http://goo.gl/VxTFFR

75 These Ancient Monster Galaxies Have Scientists Perplexed
https://www.space.com/31163-monster-galaxies-perplex-scientists.html?li_source=LI&li_medium=most-popular

thousands of solar masses. It is supposed that further protoclusters "dissolved" and turned into hundreds and thousands of separate galaxies[76].

As we already noted, the Hubble Ultra-Deep Field (HUDF) photographs show that more than ten thousand galaxies already existed 400-800 million years after the Big Bang, with the sector we observe being only one twenty-six millionth of the entire surface of the celestial sphere (see Fig. 7a and note [70]). This suggests that the total number of galaxies observed up to 13,4 billion light years away is close to 260 billion (10,000x26,000,000 = 260,000,000,000), which is more than one tenth of the total number of galaxies in the Metauniverse (see note [61]). In other words, all the galaxies we detected with the Hubble telescope were already fully formed at the dawn of time. But these observations leave no room for the evolution of stellar systems, on the contrary - it turns out that the Universe was exceptionally well ordered and balanced a very short time after its birth!

However, the new James Webb Telescope will allow us to test the current hypotheses even more reliably by looking not only back to the beginning of time, when the first stars and galaxies were formed, but also to glimpse a vast number of objects that remained deeply hidden to Hubble (in note [77] we have listed two articles detailing the advantages of the new telescope). **This will allow us to literally see with his own eyes how the Universe was born and how it "evolved" to its present state. This means that no one in cosmology will be able to make the argument "*we have no way of knowing how cosmic objects appeared and how they evolved through time*" anymore!**

On July 12th, 2022, NASA live-streamed a series of the first full-color images of space taken by the James Webb Space Telescope (JWST)[78]. Just a few days later, all of Hubble's records for observing distant galaxies were broken, starting with galaxies that existed less than 200 million years after the beginning of the universe[79], and on July 27th, a galaxy believed to have existed just 70-80 million years after the Big Bang[80] was discovered.

Another article reports that the James Webb has already discovered a huge number of these early galaxies, and it turns out that they are all exceptionally well structured, and many are quite massive. Spectral analysis shows that their stars contain an abundance of heavy elements like oxygen

---

76 Астрономы: скопления галактик рождались в ходе мини-"Больших взрывов" / Astronomers: galaxy clusters were born in mini–Big Bangs
https://ria.ru/20150401/1055908069.html#ixzz3W3V0xU9H
Planck intermediate results
https://www.aanda.org/articles/aa/full_html/2015/10/aa24790-14/aa24790-14.html
77 Here's how NASA's James Webb Space Telescope will unveil the unknown Universe
https://bigthink.com/starts-with-a-bang/james-webb-knowledge/
How James Webb will reveal what Hubble missed
https://bigthink.com/starts-with-a-bang/james-webb-hubble/?utm_medium=Social&utm_source=Facebook#Echobox=1653026890-1
78 Първата снимка, направена от "Джеймс Уеб". Космическият телескоп започва научната си работа (видео) / The first photograph taken by "James Webb". The space telescope begins its scientific work (video)
https://nauka.offnews.bg/news/Novini_1/Parvata-snimka-napravena-ot-Dzhejms-Ueb-Kosmicheskiiat-teleskop-z_186791.html
79 Има 88 кандидат галактики от Ранната Вселена в снимките на "Уеб", но някои вече отпаднаха / There are 88 candidate-galaxies from the early Universe in the Webb images, but some have already dropped out
https://nauka.offnews.bg/news/Novini_1/Ima-88-kandidat-galaktiki-ot-Rannata-Vselena-v-snimkite-na-Ueb-no-n_188177.html
80 Нов кандидат за най-стара и далечна галактика - само 70-80 милиона години след Големия взрив! / A new candidate for the oldest and most distant galaxy - just 70-80 million years after the Big Bang!
https://nauka.offnews.bg/news/Novini_1/Nov-kandidat-za-naj-stara-i-dalechna-galaktika-samo-70-80-miliona-go_187505.html

and many others. These results led astronomer Allison Kirkpatrick to share with great sadness: "Right now I find myself lying awake at three in the morning and wondering if everything I've ever done is wrong."[81]

The most prominent modern cosmologists admit that the James Webb telescope has completely debunked the Big Bang hypothesis, but also virtually all possible naturalistic models considered so far: "Until now, astronomers believed that galaxies arose during the early universe (after the Big Bang) would be small in size and irregular in shape. But James Webb Telescope disproved this hypothesis of astronomers.

The JWST has revealed these galaxies to be astonishingly massive as are well-balanced and well-shaped.It is a discovery that challenges existing beliefs about the origin of the universe and stresses the need to change the current understanding of the origin of the infant universe.

"The "(existing) models just don't predict this" Garth Illingworth, an astronomer at the University of California at Santa Cruz, told Washington Post. "How do you do this in the universe at such an early time? How do you form so many stars so quickly?"

Old images of the universe taken by the Hubble Telescope, showed that early galaxies were misshapen and chaotic. But the James Webb Telescope (JWST) debunks this assumption – those findings were an illusion based on the limited capabilities of the Hubble Telescope. "We thought the infant universe was the chaotic place where there's all these clumps of star formation, and things are all a-jumble" the Space Telescope Science Institute's Dan Coe told WaPo. Adding later that, before the JWST was launched into the orbit, Hubble Telescope's imagery was "missing all the colder stars and the older stars. We were really only seeing the hot young ones."[82].

In addition to photometry, the data from the James Webb telescope had to be checked spectroscopically. After calibrating the telescope, the ages of some of the primary galaxies did change slightly, but for most the initial estimates were confirmed. By the end of 2024, the most distant galaxy whose age has been fully confirmed spectroscopically is JADES-GS-z14-0, which is only 290 million years from the Big Bang, and the partially confirmed F200DB-045 is 168 million years from the Bang.[83] But already now we can say that there is a categorical tendency to the complete fiasco of naturalistic cosmological models.

The James Webb Telescope will allow us to eventually see what happened **"In the beginning..."** and thus verify the two possibilities we consider most likely from the perspective of the Biblical cosmological model:

A) At God's command, matter self-organized in an extraordinary way and formed well-calculated planetary, stellar, and galactic systems.

B) The universe was created just as Adam was - complete and perfect.

---

81 Four revelations from the Webb telescope about distant galaxies https://www.nature.com/articles/d41586-022-02056-5?utm_term=Autofeed&utm_campaign=nature&utm_medium=Social&utm_source=Twitter#ref-CR11

82 Scientists Puzzled Because James Webb is Seeing Things that are Unexpected https://www.cseinsider.com/2022/08/scientists-puzzled-because-james-webb.html

83 List of the most distant astronomical objects https://en.wikipedia.org/wiki/List_of_the_most_distant_astronomical_objects

Let us not forget, however, that "God works in mysterious ways," i.e., that the door is open to surprises!

(In this situation, it may occur to some scientists to dust off the so-called "Steady State model" by H. Bondi, T. Gold and F. Hoyle, developed back in 1948. It introduces a special "C-field," which creates matter so that its average density does not change with the expansion of space. Some proponents of this view believe that the world may have always existed, and precisely in the well-organized state in which we observe it today. Studies of distant objects - clusters, radio galaxies, etc., however, have disproven this hypothesis, which also failed to answer the question about the origin of the microwave background, as well as several other objections.

In 1993 F. Hoyle, G. Burbidge and J. Narlikar created another version, which they called *the Quasi-Steady State Cosmology*, which also leads to "eternal universe". It managed to explain the presence of cosmic microwave background, its current temperature, the number of light nuclei, etc., but upon closer analysis it turned out that their conclusions are speculative, to say the least[84].)

Conclusion

The biblical model provides precisely these empirical implications, namely, that in the initial moment matter emerges from nothing (but not from a vacuum) with exactly the right parameters, and a little later the universe is already fully arranged according to God's creative plan.

The grandiose construction of the universe prompted Paul Dirac, one of the greatest experts in mathematical physics, to exclaim: *"One could perhaps describe the situation by saying that God is a mathematician of a very high order, and He used very advanced mathematics in constructing the universe. Our feeble attempts at mathematics enable us to understand a bit of the universe, and as we proceed to develop higher and higher mathematics, we can hope to understand the universe better."*[85].

God, of course, does not need to calculate - He has perfect knowledge, wisdom, and omnipotence, which allows Him to bring forth the perfect universe without any intellectual or creative effort!

But, as observations show, order in these systems collapses - stars explode, galaxies collide, etc. These changes lead to a dramatic change in the relationships between the members of the system, which will eventually lead to their demise. This conclusion coincides remarkably well with the biblical point of view. Scriptures state that in the beginning "the world also shall be established that it shall not be moved" (Psalm 96:10, King James Version), but because of man's sin, the whole creation was subjected to the "bondage of corruption," i.e., destruction (Romans 8:20, 21, King James Version).

If scientists find the courage to rethink the data in the scientific picture of the world, maybe they will finally recognize that God is clearly demonstrating before our eyes how He built this

---

84 Errors in the Steady State and Quasi-SS Models
https://astro.ucla.edu/~wright/stdystat

85 P.A.M. Dirac, "The Evolution of the Physicist's Picture of Nature," in Scientific American, May 1963, p. 53.

magnificent architectural ensemble called the universe. Recently the eminent British philosopher Antony Flew, regarded as the pioneer of modern atheism and its stout defender for 50 years, changed his mind dramatically on these issues. It is said that when asked what would happen if his new way of thinking was rejected by scientists, he replied, *"I would be very sorry. Since the beginning of my philosophical life, I have followed the policy of Plato's Socrates: We must follow the argument wherever it leads."*[86]. Such a principle could liberate us from our own biases (which are very misguided in most cases!) and from the obligatory materialistic paradigm from which ideological political correctness in science stems as well.

In this short article we have proposed a scientific argument for the existence of God based entirely on scientific propositions: a) through a mathematical theorem, which indicates that matter could in no way have come into existence by chance; and b) through the empirical implications of our beautifully arranged world.

P.S. I predicted that from the biblical model's point of view, the galaxies must have been completely ordered from the very beginning of the Universe's development, in my book "The Grand Designer. Correspondence debate with Stephen Hawking" (see note [1]), which was published in late October 2018, i.e., 4 years before the James Webb telescope began sending such information[87]. Its recent discoveries have started to confirm these predictions with great accuracy, as follows: 1) Even at the very beginning, i.e. less than 100 million years after the Big Bang, a huge number of galaxies similar to the present ones already existed (it is even possible that we will not see the "beginning" at all, i.e. an era in which only individual stars existed, if version B turns out to be correct, i.e. that the universe was created like Adam - in a completely finished form!) 2) The chemical elements of the entire Mendeleev table were present in the "earliest" galaxies. 3) All these galaxies were "mature", i.e., well-ordered, and stable. 4) Among them there were both supermassive galaxies of hundreds or even thousands of billions of stars and dwarf galaxies of only a few million stars.

---

86 Richard N. Ostling. Famous Atheist Now Believes in God. Associated Press Newswires, December 9, 2004. Antony Flew on God and Atheism https://thedailyhatch.org/2014/04/15/why-the-worlds-most-famous-atheist-antony-flew-now-believes-in-god-by-james-a-beverley/

87 Four revelations from the Webb telescope about distant galaxies https://www.nature.com/articles/d41586-022-02056-5