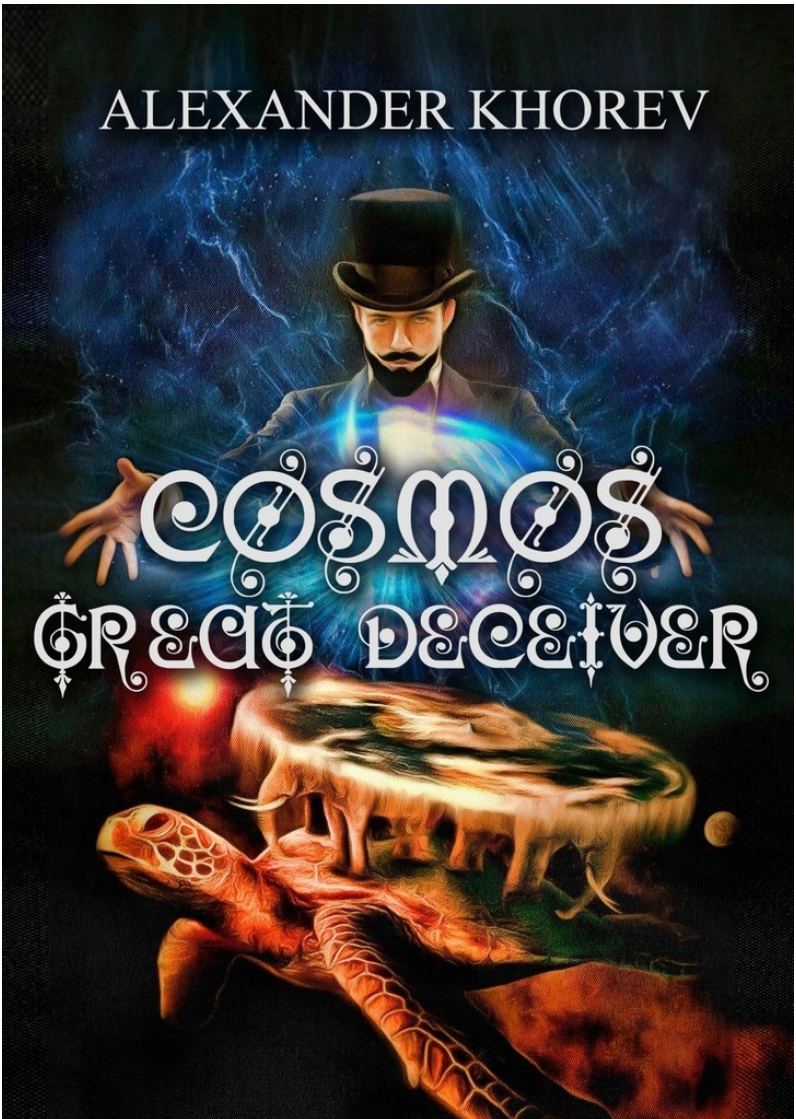
ALEXANDER KHOREV

COSMOS
GREAT DECEIVER



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Cosmos – Great Deceiver

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Аннотация

The picture of the starry sky does not at all reflect the real structure of our Universe. When you begin to investigate how the Universe is actually arranged, there arises a strong impression that you are watching the performance of a magician-illusionist in a circus. At every step you come across paradoxes, so every time you want to exclaim: “This cannot be!” What we can see in the sky is an illusion, and the real structure of the Universe carefully hides from us.

Содержание

Cosmos – Great Deceiver

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Foreword for English speaking readers

I started writing this book in 2010, that is, ten years ago, and transferred the finished version to the publishing house two years ago. Since then, my views on the structure of our Universe have not changed. Moreover, since I am constantly interested in the opinions of scientists, I began to find confirmation of the correctness of my views on the structure of the Universe in the relevant sections of the Internet. For example, it used to be that our Universe was as flat as a blanket. I believed that our Universe is a flat surface of a ball. And recently, materials began to come across to me that some scientists also believe that our Universe is a ball. Here, for example, is one quote: "Everything that we know about the shape of the Universe may be a mistake. It is possible that our Universe is not flat, but spherical, the authors of a new study say. The results of their work were published on Monday (November 4) in the journal Nature Astronomy." And another quote: "A team of scientists led by the cosmologist of the University of Manchester, Eleonora Di Valentino decided to cast doubt on the fundamental characteristic of the Universe – its shape. As it known, most of the available astronomical observations speak in favor of a model of a flat Universe, in which light moves in a straight line. Nevertheless, the authors of a new study say that outer space surrounding us can be curved and closed like a giant sphere, and light rays frame this space

in a circle and return to the starting point. The findings of the scientists are based on the new data published last year by the Planck mission – the astronomical satellite of the European Space Agency (ESA), which was in space from 2009 to 2013."

I gave an example about only one of my assumptions, and not the main one.

See how much time has passed since my assumption – 10 years. I have no complicated scientific formulas, only logic. But I am sure that all my other guesses about the structure of our Universe will be confirmed sooner or later.

Basically, the essence of what I wanted to convey to the reader is the amazing paradoxes presented by the constancy of the speed of light. This is truly amazing and, as it were, goes far beyond the limits of ordinary human thinking. When my thoughts on this subject led to paradoxical and completely unexpected conclusions about the structure of the Universe, I had a desire to share my thoughts with everyone who is interested in astronomy as well as I do. I was not at all interested in the commercial success of my book. I just wanted to convey my findings to other people. At first I tried to send the results of my thoughts in the form of articles to various scientific journals. But, since I have no scientific works and corresponding degrees, they politely sent me to hell. Then I decided to try to collect all the results of my thoughts in the form of one small book and publish it. Thanks to Ridero, they took on the job. But the result was zero. That is absolute zero. No one reader wanted to read

my book. Bookstores refused to accept it for sale. I guess that, despite the amazing conclusions that I came to when thinking about the constancy of the speed of light, apparently the methods of my presentation are not of interest to readers. Here, after all, it is necessary not only to read my conclusions, but to come to them themselves, based on how I came to them.

I advise English-speaking readers not to linger on the first chapters of the book, but to begin immediately with chapters about **time**, the **speed of light** and the **structure of the Universe**. Especially it should be borne in mind that our Universe is a flat surface of the balloon, and all the stars and galaxies are located on it, like painted flowers on a balloon. And the fact that we see stars everywhere is just an optical illusion, directly related to the speed of light. This is one of the paradoxes of the speed of light and, believe me, is not the only thing that I was trying to tell in my book to readers interested in space. Of course, I am not very upset about my inability to convey to the readers interesting for me discoveries. I'm sure that the truth will strike its way, and what I'm – an amateur trying unsuccessfully to tell readers will be told in 10 to 20 years by scientists who are trying to figure out the structure of our Universe.

Stars carry their light to the Earth for millions of years. A few decades is a moment for the Universe.

Let's wait.

Foreword

When I was small, I thought the Earth was flat. Everything was simple and clear. Under my feet was solid earth, above my head – the blue dome of the sky. There was my room with straight lines and angles, in one of which I was sometimes put in for excessive curiosity. In the mornings in the east the sun rose and, having made their daily journey, set in the west. At that time I did not pay attention to the fact that the sun was not moving in a straight line. But I was already a little embarrassed by the fact that the horizon line was a circle. It would be more familiar if it were a rectangle, like a grandmother's potato field. Then I could not imagine that there could be another unusual world in which there is not a single straight line. I thought this was possible only in the English funny nursery rhyme:

There was a crooked man, and he walked a crooked mile.
He found a crooked sixpence against a crooked stile.
He bought a crooked cat, which caught a crooked mouse.
And they all lived together in a little crooked house.

Then, when books began to fall into my hands, I remembered two pictures. On one was depicted the Earth in the form of a bowl, which was held by three elephants, and on the other – a traveler who reached the edge of the Earth where the

firmament converges with the Earth, and he accidentally or out of curiosity pierced the firmament with his staff.

When I went to school, the first disappointment came. The teacher said that our Earth has the shape of a ball and showed the globe. I was surprised to see the globe and noticed that it rests on a stand. I immediately had a question, and on what then holds the Earth. The fact that the Earth hangs in a void, where there is neither top nor bottom and no place to fall, this answer did not suit me. When in a circus a magician shows that an object hanging in the air does not hold onto anything, you understand perfectly well: this is just a trick and you are very interested in finding out the clue …

I remembered the multicolored balls on the Christmas tree. They were hung on threads tied to green branches. And when I tried to imagine a beautiful blue sphere of the Earth, hanging alone by itself, not attached to anything among the vast expanses of space, I experienced psychological discomfort. I was embraced by the cold of loneliness.

Every time I had the feeling that for some unknown reason we can see not what it really is. There is a mystery behind the balls of the planets of the solar system. Behind every planet there is something invisible to us. Space objects should have some kind of support, let it not be elephants and turtles, as the ancients believed, but something more modern. The lack of support is unnatural for our soul. And each time there was a desire to correct this inconvenience. It seemed to be a little

tense and everything would fall into place, the world would become familiar to the world of straight lines …

It is good that ordinary life took place in the familiar world of three dimensions. And time passed measuredly: minute by minute, day after day. True, the dial was round. But I didn't pay much attention to this, as there are many circles in life. And I was very surprised when I later learned that time may also have an unusual appearance. A certain physicist Einstein argued that time can go at different speeds, and it is associated with length, width and height. It was incredible: tie the minutes to centimeters! It is like asking: how is a fish different from water? But most of all I was struck by the speed of light. Einstein asserted that it has a constant value, and nothing can exceed it. Can you imagine what speed means? This is a variable. You drive a car and constantly change the speed depending on the traffic situation. And then a certain mechanic Einstein tied the gas pedal on your car so that you can not use it and began to assert that this is the speed. And plus to this, you still can not overtake anyone, because everyone has the same speed as you. I do not like when there is something that I do not understand. I do not like uncertainty. This creates emotional discomfort. Everywhere should be let not straight lines, but clear lines separating one phenomenon from another, so that everything is not randomly dumped in one pile. There must be some logic in the structure of the world. In such cases, I try to figure out what's what, put everything on the shelves, find some logic and calm down.

After all, when you understand the essence of things or events, a feeling of freedom appears in your soul. You seem to see not only with your eyes, but with your mind. You begin to understand what the consequences of one or another of your actions will be and you can choose. You get the freedom to choose. You get room to maneuver. Then comes peace of mind and confidence in your actions. But it often happens that you do not understand what is going on around you, but different circumstances, most often lack of time, prevent you from understanding the problems, and you have to live with this feeling of misunderstanding. But since all these absurdities of our physical world were somewhere far away, outside the Earth and our lives were not directly affected, it was possible simply not to think about them until some time. It was possible to postpone the solution of these cosmic problems until better times, especially since there was an urgent, almost insoluble problem of an acute shortage of this very time. From this point of view, it can be considered a blessing that there are moments of forced inaction in life. Cervantes, for example, wrote the fat novel Don Quixote while in prison. I, too it was not from a good life that I found myself in a situation where for a long time I couldn't do anything, just think. I then worked as a security guard at the bank and, according to the instructions, did nothing, only analyzed the situation around. When the entrance doors were closing behind the last client, I could even think about everything. That's when I decided to deal with the cosmic inconsistencies. By the way, I once worked in the

police and worked there for no less than seven years, and this upcoming disassembly rather resembled the most real detective investigation. In general, I decided to deal, finally, with all this.

Since I had to deal with a whole complex of interrelated problems, I decided to act according to a certain method: take one problem and deal with it until the investigation rests on another unresolved problem, then switch to solving the newly encountered problem and only deciding her to return to the previous one. Thus, it was supposed to repeatedly return to the same problem as new information was received. The next point: I decided to formulate the questions as soon as they arose, even if it was impossible to immediately answer them. I am sure that with a picket fence of questions it is possible to impose a problem on all sides of the problem like a wolf with flags, and thus pave the way for its solution. You cannot answer all the questions, but the ability to put the question correctly is no less significant than the answer, because this question suggests in which direction to look for the answer. Likewise, a multitude of "no" may, in the end, indicate where the "yes" is hiding. If there was no unambiguous answer to a question, I decided to give several answers, including obviously foolish answers. Since I am an amateur, my answers can cause laughter or irritation of professionals. I am not against laughter, I am looking for the truth and I am ready to listen to any opinion. When I talk about stupid answers, I mean such a problem-solving method, like brainstorming, when no ideas to solve a problem

are rejected, no matter how stupid they look at first glance. In addition, I decided to operate with properties not of the real physical world, but to create a mental model of the Universe and, investigating its properties, to compare their results with the existing physical laws of the real world. The model will help focus on the essentials, omitting unnecessary details. I called this mental Universe – the Universe of Khorev. Mount Sinai in Izraile has a second name – Khorev. In the Israil city of Haifa, the central avenue is called Khorev, and the shopping and medical centers located on this avenue are also called Khorev (Khorev is the English version of the writing of the name Хорев). So why not call the model of the Universe of the same name. In this Universe, the same physical laws apply. Anyway, until I figured it out.

Yes, I want to say that by this time, when I begin to describe my mental experiments in my mental Universe, I had already managed to make many dives in this paradoxical cosmic world and had time to experiment. I was shocked by what I discovered. Instead of quietly, step by step, knowing some new properties of the cosmos, searching for a logical explanation of this or that phenomenon, every time I found myself in a situation when I wanted to exclaim, “This cannot be! It’s incredible! “I got the general impression that the world of space is a natural lunatic asylum, which is literally around the corner of our usual ideas about it.

The feeling that I am in a circus does not leave me, and an

illusionist appears in front of me and shows amazing tricks, the clue of which I am trying to find. Cosmos makes a fool of us! Alice in Wonderland will seem like the most truthful narration after what I learned about space! What is it worth, for example, the fact that we, it turns out, are getting information from space backwards, like in a movie, which the projectionist for laughter scrolls from end to beginning. Imagine such a situation: a small traffic accident. Person goes on the road and a car knocks him. Well, let's say the car manages to brake, and the person gets off with a slight fright, but, nevertheless, he still falls on the roadway. Here we can see a clear causal relationship. That is, the consequence of the unexpected appearance of a pedestrian in front of a car is that the car knocks him down and a person falls. The beginning of the event is the exit of a person on the road. End of the event – a man lying on the road, hit by a car. So the same picture we get from space in this form:

1. We see that a person lies on the road.
2. That he rises and a car drives off him.
3. Man, backing away, leaves the passageway.

This is what the cosmos shows us. Moreover, he does this in a continuous round-the-clock mode almost from the moment of the Big Bang, and more precisely, from the moment of the appearance of electromagnetic radiation, that is, light.

Proving that space is deceiving us in the transfer of information is very simple, and I am surprised that none of the scientists have yet paid attention to it. I will talk more about this

later. This is just an example of one of the paradoxes of the cosmos.

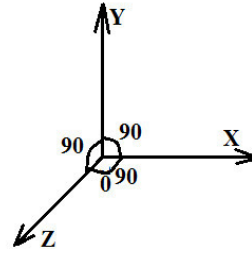
I began my research, not knowing to what extent everything in space is different from our usual life. This is a completely different world. We have to accept the rules of the game, which are dictated by this "other world". But every time when I return to the familiar space of my room after another visit to this paradoxical world, I come to my senses for a long time, and at night I dream that I run my own collider on my garden plot or, having met myself in a dream, I explain to myself that I was able to return to the past and now there will be two of us.

With some things, I more or less figured out, in any case, I was able to isolate and mark the individual details of the space device. But still, as I went deeper into the cosmic problems, I didn't leave the feeling that I didn't grasp the overall picture that made up these details. There is only a feeling that this picture is very peculiar. It is fundamentally different from the understanding of the cosmos, not only ordinary people, but also scientists.

Well, now, it seems, I said everything.

Chapter 1. Length, width, height

Let's start with simple things – the usual spatial dimensions: length, width and height. On the graph, these are the so-called Cartesian coordinates, the x, y, and z axes.



These are straight lines, which is very pleasing. But the joy ends there. It is alarming that all three dimensions do not exist by themselves, but come from a single point. For some reason, this point is called zero by mathematicians. Although from my point of view, zero is nothing. It turns out that these three lines come out of nothing. Imagine now that in your room "nothing" is hiding in a corner, and in every corner. How many corners so many "nothing" and all this calls "nothing". If we are to be honest to the end, then zero must be designated so that these three lines did not connect. The zero must be really empty. If these lines were terminated without reaching the connection point, this

would really be zero. And so, all sorts of speculations begin. For example,

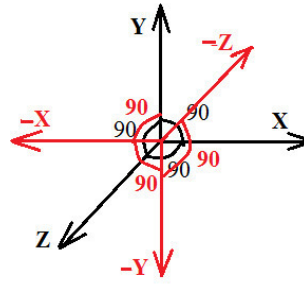
What is a vacuum – is it really emptiness, zero, or is it something incomprehensible to us, some mysterious form of matter?

The next alarming moment from the "nothing" lines come out at right angles to each other. You can take the paper and draw countless straight lines coming from one point. But the paradox is that at right angles only three lines can be drawn: length, width and height. What is a good angle? It is as if neutral: neither ours nor yours. Of course, straight lines can be extended beyond "nothing", also with right angles. They will be like an inverted reflection of straight lines to "nothing", but your neighbors may already live there and therefore, among mathematicians, these three lines after zero come with a minus sign. Or maybe you have no neighbors, then there is another world hiding behind "nothing" – maybe anti-world and antimatter. You live in the right "positive" world

And who lives in a "negative" world?

The question about the negative zone of the graph is better formulated differently. The plus zone of the graph corresponds to our three-dimensional physical world.

But can the minus zone also correspond to the existence of some kind of reality, separated from ours?



And one more nuance: you put a ruler, and it lies, lies to itself, does not touch anyone, and those three lines come out of this “nothing”. They do not lie near the “nothing” they just go out. There is already an element of movement. To show this, sometimes at the end of these lines draw arrows and call them vectors. In general, unusual things begin literally from the first step. Now listen further. I was once again surprised. What are these straight lines themselves? Here’s the mathematical definition of a line: “A line is a collection of points”. Yes, yes! It is a collection of points! It turns out that the line is not something that lasts for some distance, but the points arranged in a row. Lines, it turns out not, but there are only points. Again points, again “nothing.”

Let’s talk about the point. Although it is denoted by zero on Cartesian coordinates. The point is really zero, really nothing, the complete absence of space, namely: length, width and height. But it is necessary to somehow denote zero, and mathematicians

conditionally designated it with a dot. But in reality, all three lines rest on zero, rest in the absence of space. But what is interesting, although it is zero and nothing, it plays a prominent role in the dimensional Universe, at least for contrast. Here is a dimensional Universe with a length, width and height, that is, space. And there is a zero without length, width and height, that is, the absence of space. We will often return to zero as a no-space indication. Zero is present everywhere. He is like a beginning. There is zero – the absence of space, and immediately after it the space begins: length, width and height. And I would say that, really, as in Cartesian coordinates, zero is an inseparable element of space, this is the beginning, this is the point of reference. And, I repeat, in the future we will always rely on this beginning. I came to the conclusion that zero is really the cornerstone of our universe.

I will say right away: before the start of my investigation, I did not know this. Therefore, when I began to study textbooks, and analyze what I read, each new page brought me new discoveries. I wanted to put everything in its place, but from the very first steps it became clear that in order to put everything in its place or put everything on the shelves, it would be necessary to prepare a new room, and the shelves should be of a different kind. Too unusual opened a new world. And yet, I wanted to understand him, and understand everything.

It is considered that our space is three-dimensional. It has a length, width and height or in other words: line, area and volume. A point is literally the source, the beginning of three-

dimensional space. But while I will not be distracted, thinking about this issue. Continue to deal with the length, width and height. When popular literature describes the properties of three-dimensional space, it also tells you how the two-dimensional and one-dimensional worlds would look like, and how the inhabitants of these worlds would perceive various physical phenomena (unfortunate inhabitants!). It is believed that our three-dimensional world has volume. Accordingly, the two-dimensional world is a plane, and one-dimensional – a line. And again we slipped to the point. The point has no measurements.

And the world concluded at the point?..

And now mentally we will increase the dimensionless point to the size of the ball and see how it fits into the spatial dimensions. In our three-dimensional space, the ball has volume. If this ball intersected the plane of the two-dimensional world, then the inhabitants of this world would first see a point that would increase in size (a sort of Big Bang of the two-dimensional world) and turn into an increasing circle. Of course, the scientists of this two-dimensional world would begin to guess whether the expansion, about which the "redshift" of their space speaks, will always continue, or the mass of the circle will be large enough, and eventually it will shrink. Meanwhile, the ball crossed the equator and the two-dimensional inhabitants saw that it shrinks and turns into a point again, and finally, it completely disappeared. In this regard, let us ask this question:

Was there really "Big Bang"?. .

We will return to the problem of the intersection of a plane with a ball and the ball itself, and at the same time a circle. For now, let's return to the description of two-dimensional and one-dimensional spaces. The hypothetical inhabitants of the two-dimensional world will perceive the ball as a circle. And if their flat world will cross another plane, they will perceive it as a line. Accordingly, in one-dimensional space the ball will be perceived as a line, and the line as a point. We now know how the inhabitants of two-dimensional and one-dimensional spaces would perceive the ball and the plane crossing their limited worlds. And now we call these residents observers. The observer is always outside the observed object, even if it is physically located inside the object, for example, the same ball or examines its insides through a microscope. The observer is different from the observed object. A clear boundary separates him from the observed object, otherwise he simply could not separate himself from what he observes. Since the observer can see with his eyes (in the extreme case, he perceives with the senses), the observed object must be in front of the eyes – outside the observer. I agree that the inhabitants of the flat world would perceive the ball as a circle … to the touch, but they would only see a line – a sizeable segment. It is we, the inhabitants of the three-dimensional world, who see that they are dealing with a circle. And now we ask ourselves: what do the inhabitants of the one-dimensional world see when their line crosses the ball? If they are on both sides

of the ball, then they tell each other that some kind of a segment extends, and then a shortening segment obstructs their path, but each of them would see only a point. That is, they both see one dimension less than the space where they live. Then ask yourself this question:

Where do we live, if we see one dimension less?..

And the second question:

Where do we look at our external three-dimensional world?

So, we see one dimension less than the space in which we live. At first, I thought that I had made a discovery: that we are residents of the three-dimensional world looking from some fourth dimension to our three-dimensional world. But then, having analyzed what we actually see, I came to the conclusion that we do not see the volume, we always see the plane that is, two dimensions. The cube always appears flat to us, and only the stereo effect of the two eyes forms a volume. Well, now let's think again: maybe our world is two-dimensional? We always walk, go, float on a plane, on the surface of something. What is height? This is gravity. Earth gravity gives us an indication that the flat wall in front of us is the third dimension, that is, height, and if there were no gravity, we would also perceive the wall as a plane and also walk along it. Even man externally represents the plane – this is a skin cover. It turns out that we still do not live in a three-dimensional (time we will not take into account

now), but in a two-dimensional world we can see not a three-dimensional, but a two-dimensional world. If we had seen three dimensions, we would have seen the reverse side of the cube, but then we would be the inhabitants of not three-dimensional, but four-dimensional space, but I have not yet found convincing evidence that the additional dimensions are the same lines as the length, width and height. Take, for example, a dimension like time. For him, it turns out, there is also a line on the chart. This is a diagonal, too, coming from zero.

In this regard, I have complaints about how to measure our physical world. As I already said, in fact, the height is that same plane, set vertically. And what is hidden there, under the surface of this very plane? Let us take, not height, but thickness. Thickness is a material whose outer boundary is a plane. We usually do not see this material, the plane hides it from us, serves as a border. If we even break the plane, what will we see in the place of the break? Again the plane. It will be uneven, but this does not change things. Under this plane is hidden not the thickness, but the essence of the object. This may be iron, stone, plastic. Each item will consist of other atoms. We can see them in the electron microscope. So what? We will again see the flat surface of the ball, or rather balls. But we will not see the essence.

So, the third or next dimension should be called the essence of the physical body, which is hidden under the plane, but the problem is that it is not known in what measures to measure the essence? And what actually called the essence of the subject?

What, for example, is the essence of the iron bar? Maybe these are the functions of that thing, that material object, which are measured from the outside in centimeters and meters. What makes a thing function can only be measured indirectly, fixing the manifestations of the function in our material, flat world.

And one more thing. Someone from the outside has to figure out the essence of the thing, the subject. There must be another thing or more simply, a certain observer who would evaluate not only the external side of the subject, but also its essence. The subject itself will not figure out its essence.

It turns out that the observer is an essential addition to any object, thing, and if it is deeper, then a phenomenon, an integral external factor that helps to determine the essence of the reality surrounding him. It turns out that the observer is another dimension, additional to the essence of the subject. It turns out that the world exists for the observer, that the observer is an integral part of the existing world. The observer does not see the essence of the subject. He defines it indirectly through the functions of the object. Although the functions of things, objects, phenomena are different, but all of them can be united by one definition – the idea of a thing or phenomenon.

The paradox here is that this third dimension itself cannot be measured. It has no measurements. It is everywhere, and at the same time, it was originally laid somewhere. Material characteristics determine the difference between the manifestations of an idea in our world, but its essence is one,

it revives our world, sets it in motion. Spiritually, we are parts of this idea, so we cannot see the idea, but only its manifestations. We look from there. We cannot see what we are part of. We are children of two worlds. Our shell belongs to the material flat world, our soul belongs to the third dimension inaccessible to our review.

When I began to project our three dimensions into cosmos, it turned out that cosmos is generally one-dimensional. But more about that later.

In general, it turns out that three-dimensional space does not really exist. There is a two-dimensional plane, a one-dimensional line and a dimensionless point, and we live in a two-dimensional world with a one-dimensional cosmos.

But that's not all. Our three dimensions are only flowers. In fact, the world is completely different. But more about that later.

Before we end up with spatial dimensions, let's make the one-dimensional and two-dimensional worlds infinite. In the one-dimensional world, we will connect the ends of the line for this – we will make a circle, and in the two-dimensional world – we will twist the plane to make a ball. The first thought experiment with the length, width and height of our three-dimensional world, we ended.

Chapter 2. Energy

In the previous chapter, we designated the lines as the basis for the structure of our Universe. Lines can be motion vectors. And what drives everything in the Universe? This is energy. The basis of all processes in the Universe and even the basis of life is energy. We can say that energy is what lies behind the three dimensions: the length, width and height – this is the essence of the Universe.

When we talked about movement, it begins not just like that, but with an impulse of energy. The source transmits a pulse of energy, the pulse moves, and the receiver or observer receives it. So is the movement.

Energy is transmitted in portions. That is, impulse follows. It starts from zero, rises to its maximum value, and then drops to zero again. The impulse of energy has a very interesting relationship with space. Passing through some point of space, the impulse increases to the maximum value at this point and then falls. But what is interesting. The impulse of energy moves in space like a wave on the water, and during its movement it does not change. He, of course, loses energy, but he does not change. Its shape with the minimum and maximum values remains unchanged.

Energy has one inherent property, it necessarily bends the space around it. I started the book with a funny nursery rhyme:

“there was a crooked man, and he walked a crooked mile”. This is because there are very few straight lines in cosmos, and besides, they are mostly conditional. And the blame for all the energy. This is it that bends space. She would like to roll space into a ball, as she did with a proton, but in other cases she does not have enough strength to fold space. Energy tries to roll space again and again, and we see a wave spreading in all directions.

Under the influence of energy, our physical world is completely different from three dimensions: length, width, and height. It is rather spherical or wavy, because all the straight lines in it are curved with energy. Look around: the Earth is round, the horizon is round, the Earth rotates around the Sun in a circle – everything is connected with circles. Where is the length, width and height – three dimensions? Indeed, they exist only in our apartment or house.

Well transmits the movement of the pulse and the curvature of space wave. Waves come in various forms. We are interested in a wave that propagates from the initial impulse of energy in all directions in the form of a sphere. But this three-dimensional wave cannot just be seen and better for clarity, to use an ordinary wave on the surface of water, especially since they have similar properties. We throw a stone into the water, and a wave with a crest at the top spreads from it in all directions. It seems to us that water diverges in all directions. But this is a misconception. It is the energy impulse that diverges in all directions, and the particles of water do not move forward.

The wave itself is not a material body. Along the perimeter of the wave propagation, it is not water that moves, but energy. The "hump" of the wave is moving. The wave velocity is the speed with which the wave crest moves (the particles themselves move vertically to the ridge).

As known. From the starting point, the impulse will go in the form of a wave in all directions at the same speed. This wave forms a circle on the water or a ball in three-dimensional space around the point of the initial impulse. The distance from the center of the pulse to the perimeter of a circle or ball is the same in all directions. It turns out this way: the impulse is one, the amount of energy in it is strictly defined. If we make measurements of the magnitude of the pulse at different points of the perimeter of a circle or ball that are on the same away from the starting point, we get exactly the same results. Let's say that this is a unit, and we cannot summarize this unit. We cannot summarize all these points along the perimeter of a ball or circle. It will not be possible to add 1 +1 and get 2 and so on. The total amount of energy of the ball will be equal to the amount of energy at one of its points. That is, the unit turns out to be spread around the entire perimeter of the ball and is equal to itself and the set.

Let's continue the experiment: transform the ball into a circle of two-dimensional space. What will change? Nothing – both the speed and the momentum of the circle are absolutely equal to the same magnitudes of the ball. And now we turn a circle around

the perimeter, like a fan, into a one-dimensional vector. What changed? Nothing. Both speed and momentum are absolutely equal. It turns out that there is no distance between points along the perimeter of the ball or circle. That is, the distance exists only for an outside observer, but for the points themselves there is no distance. At the same distance from the central impulse between the points of energy not only there is no distance, but the time is the same, and therefore the time is also zero. Therefore, we can say that there is no space and time. It turns out that the energy itself has no space and time.

From spatial measurements, a impulse has only an indefinite magnitude of the wavelength and the distance from the original pulse, the radius. Question:

> **If there are no differences in the energy values of the three-dimensional, two-dimensional and one-dimensional worlds, may be such a momentum is one-dimensional? Isn't any wave one-dimensional?.. or not having any measurements at all?.. maybe it is a one-dimensional one?**

No matter how many different factors – the components are not intended, the implementation of this plan is possible only through a single action, through a sequence of single actions. The movement itself is one-dimensional. This is a vector movement from point A to point B.

I have long thought about the extent to which energy can bend space and came to the fundamental conclusions about the

structure of our Universe. As we determined, our physical world can be graphically divided into two states. This is zero on the graph – the complete absence of space, movement and time, and the second – direct vectors emanating from zero – the complete opposite of zero, because this is exactly the space with dimensions, movement and, accordingly, time.

Despite the fact that zero is the absence of space, it can contain enormous energy within it. It was this enormous energy that twisted the space around itself that the space simply closed itself on itself and turned into the first elementary particle – a proton.

Although zero is the complete absence of space, but it is also not in itself, like a ruler, which embodies the dimension and lies, without touching anyone. By one side, zero is inextricably linked with our three-dimensional world.

Yes, you can see it yourself on the chart: three lines come out of zero: length, width and height. So zero is another dimension in addition to length, width and height. Therefore, the space must be counted from zero. Zero, then length, width and everything else. Without zero, everything else simply will not exist. And zero without the rest does not exist either.

What is the role of zero?

For energy, spatial dimensions will be levels. The very first level will be the most powerful energy in the universe. It is so powerful that it simply collapses the space around it into a ball and thus forms the first brick of the Universe – a proton. Proton is not space yet. This is a scaffolding, with the help

of which the coupling is connected with our physical world. This is a collapsed space. It is so curved space that it simply closed itself. In spite of the proton seems to block all energy inside, however, the presence of huge energy inside reflects on the outer surface around the proton forming the next energy level. And the next element that immediately occupies the next energy level is the next element of our Universe – the electron. Or even so. This outer energy level is also so strong that it is again tries to wind space into a ball. But it has no longer the strength for it. Moreover, the place in the center is already occupied by a proton. And this clot of energy nothing remains, only to spin around in the form of an electron. If there is a proton no space, because everything in it is closed on itself, then the electron already combines in itself the features of a spaceless particle and a spatial element – a wave. Well, the wave energy can no longer roll space into a ball, but only bends it – this is energy in its pure form, and it will shape the space. If the electron is still a closed orbit – a ring or a ball, then electromagnetic radiation is already sawing this ring and, rotating in a circular orbit, rushes forward, breaks out of the atom, leaving behind what looks like a sinusoid on the plane – and thus electromagnetic radiation forms space and time.

Although the atom has certain specific dimensions, this is not yet space.

And now, agree that you can offer another option for measuring space. This null space is a proton, pre-space is an electron and, finally, our three-dimensional space is

electromagnetic radiation.

It is we that live in three-dimensional space. But to be honest, energy levels are not limited to atoms. Looped all around. Our planet itself is a ball – another level. Then there is space with ring orbits of planets, stars, galaxies. Yes, and our Universe itself is most likely a ball. So the length, width and height of a rather narrow scope. And the amount of energy can be judged by the degree of curvature of space.

From a point, a pulse of energy spreads in all directions and loses energy in proportion to the square of the radius. And what if we assume that with an increase in the radius, nothing changes. That is, when the radius increases, the inertial system changes too. That is, in each subsequent inertial system, time and distance change proportionally at the next level. And then the amount of energy remains the same?

Chapter 3. Time

We talked about straight lines and found out, firstly, that some lines are associated with movement – these are vectors and, secondly, that there is something difficult to measure, but a very important property of the object being measured, things, phenomena also associated with movement – this is what are the functions of a given object, thing, phenomenon, what is its essence. We also came to the conclusion that to assess this essence, one more component is necessarily needed – this is an observer. Energy is directly connected with the essence of the object, with the movement. It is energy in the form of a pulse that gives an initial impetus to movement. And, finally, time is also directly connected with these two phenomena, because movement from one point to another occurs over time.

Now we talk about time.

It would seem that what time is? It is a certain value independent of a person that is not paid special attention in everyday life. The main thing is not to be late somewhere. Previously, at least the wall clock was ticking, recalling that certain changes were taking place in our lives, independent of us. From time to time we suddenly discovered that we were older, that something had changed around us. Everything seems to be the same as before, but suddenly we find that certain changes have occurred.

But it turns out time is not as simple as we think about it. Many paradoxes are associated with it, and these are paradoxes of a cosmic scale. For example, such a paradox. It turns out that precisely in space, time is measured not in hours, as on Earth, but in the same values in which length, width and height are usually measured – in kilometers.

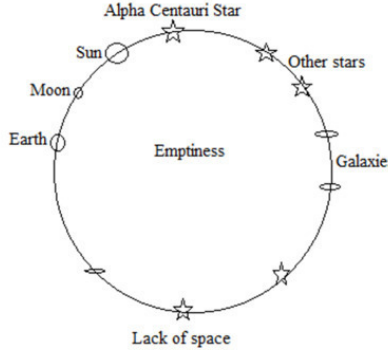
Another paradox of time.

In our ordinary life, "yesterday" cannot be seen, but it turns out to be possible in space. We are looking into the sky now, this very minute, and we see cosmic objects as they were yesterday, the day before, several years ago, depending on the distance to them. For example, the closest star to us, Alpha Centauri, is located so far from us that the light from it comes to us for 4 years. If it suddenly goes out, then for us it will shine for another four years. In space, you can see any day, any year in the past, it is enough to point the telescope at stars located at an appropriate distance from the observer.

But let's start with simple things, as time is connected with movement. What is characteristic of movement is the starting point, the beginning of the movement and the ending point, which is located at some distance from the beginning of the movement. To overcome this distance between two points takes some time. In this case, time is directly related to the distance. Therefore, space is not only length, width and height, but necessarily time, because space is necessarily movement. Energy is also directly connected with movement except time.

Everything moves in the Universe, starting with the expansion of the Universe itself and ending with the movement of photons or the speed of light. But what is interesting: if the speed light is measured and is itself a standard for measurement, then the expansion of the Universe is more difficult to fix.

I will clarify here: I believe the Universe is a sphere formed as a result of the Big Bang, in contrast to the point of view that our Universe is flat, like a blanket. So, the Universe is constantly expanding. Expansion occurs not only along the radius from the Big Bang epicenter, but also along the perimeter of the energy impulse, since it spreads in all directions. It is as if the balloon is inflated, and the distance between the flowers painted on it increases.

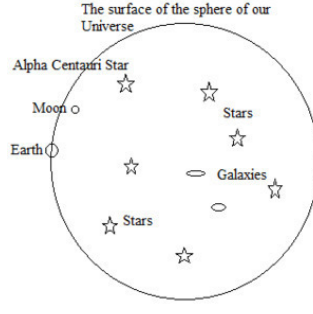


It is believed that all objects of the Universe: stars, galaxies, nebulae are located on a thin film of the energy impulse formed

as a result of the initial Big Bang. These space objects are flowers on the surface of the expanding ball. The similarity with the inflatable ball also increases because, as in the ball, the void inside and outside and all objects of the Universe are located only on the surface of the energy impulse, and inside and outside the void. I will try to depict this in the picture.

I suppose that inside and outside the sphere is not just emptiness, but there is nothing at all from the point of view of physical space. All spatial geometry of the Universe is enclosed in this energy impulse. Outside the surface of the sphere of the Universe, space turns into time literally. Here the design of our physical world changes in the most unusual way.

Why then do we not see this emptiness, but see the stars everywhere: at the top, at the bottom, and at the center? Something like this:



This is precisely one of the paradoxes of time, which directly

connects time with space.

I repeat once again – the Universe is just the perimeter of the expanding energy impulse, and all space objects are on its surface.

What is characteristic of these space objects? They are all located at the same distance from the epicenter of the Big Bang and, therefore, they all have the same time. Of course, they rotate, change position relative to each other. But, since the Universe is huge in itself, all these fluctuations of space objects do not play a big role in terms of a common and uniform time for the Universe. The Universe is continuously expanding along the radius but all space objects are moving away from the epicenter at the same speed, therefore time in the whole Universe is the same.

But the paradox is that, being in the same present time, these space objects in this present time do not see each other. Although they have the same time, however, they are at different distances from each other around the perimeter of the energy impulse. Let's call it the present time distance. Some of them are closer to each other, others farther. There are very remote objects. The observer at each of them in the present tense sees only himself. Any other space object that seems to be in the same present tense, he sees only when the light from this object reaches the observer. And what is very important: the impact of one space object on another occurs only when the energy impulse of this object reaches another object. It is the same speed of light. That

is, it turns out that one space object, being in the same time with another space object, learns about its existence only in the past tense. Since space objects are located at different distances from each other, then the time spent by light to overcome this distance will be different. And these cosmic objects in the night sky will line up in front of the observer in accordance with the distance to the observer on the surface of the sphere of our Universe. The farther the distance around the perimeter of the energy pulse, on which all space objects, the longer the light goes to the observer, the more distant past tense the observer sees them. The most distant objects can be correlated in time with a moment close to the Big Bang. And on the surface of the sphere of our Universe it will be the farthest located space objects from the observer. It turns out that we see the most distant stellar objects as they were more than 13 billion years ago and we will know what they are now only after the next 13 or more billions of years.

Another question arises, but will the observer see those cosmic objects that are beyond the horizon of the sphere, because the Universe is still a sphere, not a flat blanket, but the light moves in a straight line?

Since the physical world is arranged so that the observer sees only light, and the instruments register only the electromagnetic radiation of the source, it turns out that the observer sees the world around him only in the past tense. And in the present tense is only the observer himself. Of course, what is at arm's length is conditionally considered to be real, but here the starry sky is

exactly the past time.

It turns out that the present is just a point, and this point is an observer. Generally speaking, the surface of our Universe is completely the real time sphere, but it consists of many separate points of conditional observers or receivers of electromagnetic radiation. How can one not recall the mathematical definition of a straight line, that this is just a collection of points.

In general, geometrically, space is some kind of construction where the space around the perimeter of the energy impulse, with the same time, is not the same for each space object separately. That is, the real present time exists only in the space object itself, and the space around it exists exclusively in the past tense.

Moreover, due to the fact that the Universe is continuously expanding, the stages of this past time are located at different distances from the epicenter along the radius of the expansion of the Universe. That is, for each period of time there is a mark on the radius, a kind of temporary shelf. And the observer, seeing space objects at different distances from himself, sees them at different levels of the expansion of the Universe, on different shelves of the bookcase, depending on their distance from the observer along the perimeter of the pulse. That is why all space objects for the observer not located on a thin film of the perimeter of the energy pulse, but scattered across the sky. Instead of a spherical film of the perimeter of the energy pulse, the observer sees some space completely filled with stars all the way to the center. And in this space one can observe all the stages

of the development of the Universe.

There is a paradoxical situation. We cannot see the real energy impulse that our Universe is.

But these paradoxes of time does not end. Another paradox of time is that these stages appear to the observer at the same time, as if in the present tense "here and now." They appear before the observer at the same time, starting almost from the moment of the Big Bang and the formation of the first stars and galaxies, and ending with nearby space objects. Moreover, all these types of past tense, starting from the most distant and ending with the closest, look as if it is a real present. Reality for the observer is not the reality of the cosmos. Cosmic space with a single objective time does not exist for the observer. But he sees at the same time all the stages of the development of the Universe, and time is also as if absent because the observer sees all the past of the Universe at the same time.

Now directly about the time.

What is characteristic of time. We know that time is divided into present, past and future.

In the present tense the action takes place now. In the past tense, the action has already happened, and in the future – the action has yet to occur. From the point of view of the observer, the past and the future are not real events, but information about past or supposed events, that is, there is no event, there is only information that it was or will be. Well, the present is different from the past and the future in that the event is actually happening

at this moment in our physical world. No matter how short the event is, it still takes some time.

I somehow wondered how long the present really lasts before becoming the past. It turned out that the past is here, near. There was only now, but already became the past. I tried to define a time frame for the present. I tried to draw a scale on which, on the one hand, I postponed the future, and on the other, the past. Both the future and the past on the scale could be continued indefinitely, but the present between them lasted only a moment. I called it the "moment of the present." Moreover, it was impossible to determine the time frame of the present. I even turned to the microworld and found out, for example, that some elementary particles live their turbulent life from birth to death in 10^{-27}, that is, in 0.00000000000000000000000001 seconds. But you can add a few more zeros to this short present and still not catch it. As far as one can continue the future and the past, one can infinitely shorten the present. The result was a strange thing: the future does not exist, because it has not happened yet, the past does not exist, because it has already happened, and there is no present, because – because … Mathematically, the "moment of the present" can be described as:

$\mathbf{T_1 - T_0}$, where $\mathbf{T_1}$ is the time of the end of the event, and $\mathbf{T_0}$ is the beginning of the event. Question:

How long is the "moment of the event", how long is the present?

Where does the future end and the present begin,

where does the present end and the past begin?

It seems that there is no present time at all. I had to pretty much break my head in an attempt to catch the present. Thinking over this paradox, I asked myself: “But how do I feel the present, because I feel it?” The answer was no less paradoxical: “I always feel the present!” Compared with the real physical world, where there is no present, it turns out that in my soul, past tense is stored in the form of memories, future tense – in the form assumptions, and the present time always reigns. And that which lasts always, does not actually move, but that which does not move does not have time, and that which does not have time does not have space either. That is, in my soul there is neither time nor space, there is always only one present. I called this state “here and now” as opposed to the “moment of the present”. The result is that the future and the past belong to the external physical world, and the present is an affiliation of the spiritual world. In this, the present is akin to an energy impulse. It turns out that the present does not fit in with either the future or the past. If we again take the time scale with the plus “future” and minus “past”, then for the present just zero is left – the absence of an event. Plus is the intended action, minus is the past action, zero is the absence of action. It turns out a paradox: there is no action at all. At first, it is supposed to be about to be, and then – it has already happened, but at the moment it does not exist either. You can rephrase the phrase “The future will never come” and say: “The present will never come”. But the real physical world around us is changing,

it exists! Well, and events that seem to occur right in front of our eyes here and now at arm's length?.. Let's say we look through a microscope like microbes are crawling. But microbes also have a certain distance, and in order to cover this distance, information is in the form of photons of light at a speed of 300 thousand kilometers per second. should also spend some time. Of course, not billions of years, but fractions of a second, but for as long as the information went before the observer's eye, the situation of microbes also changed, and some of them also no longer exist, because they have a short life.

Could the present be absent in the real physical world?

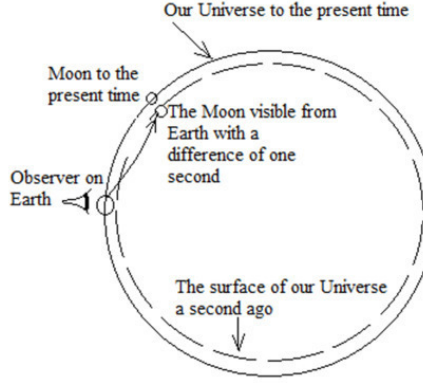
And what then is our physical world in which there are not events themselves, but only information about them, only a shadow of events; events in which the "moment of the present" happened once in the past?

We live in a world of shadows, in a world filled not with events, but with information about events!

Here we come to such an interesting phenomenon full of paradoxes as the past tense. The past time can be divided into the near and far. It would seem that the past is what was and therefore we cannot see it in the present. But the paradox is that we don't see the present, but we see only the past. We, our soul, are in the present tense, but we cannot see what we are part of. Near us is the near past. The event just happened. We are separated from him by centimeters or meters. Oddly enough, but

the past tense is the distance as well. By the time we are separated from the nearest past seconds and minutes.

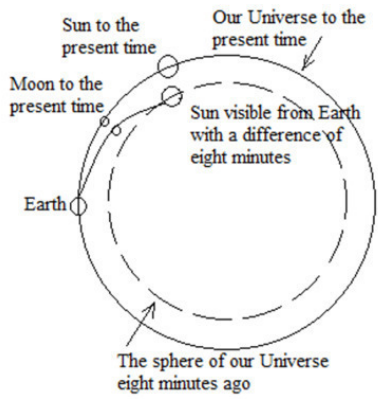
And the distant past is better studied by looking at the stars, because the past that is closest to us still gives away to the present. In fact, there is almost no distance to the nearest past to us and, accordingly, time. Another thing stars. That's the past so the past. Thousands and millions of years and distances are appropriate. The distant past will be measured in light years. But if the near past time can be considered almost present, then the cosmic past time is really the past time, and it is directly related to the speed of light. The speed of light is known to be 300 thousand kilometers per second. So what happened at a distance of 300 thousand kilometers from us, behind the present time by 1 second. Just at this distance from us is the moon. Let's try to portray it.



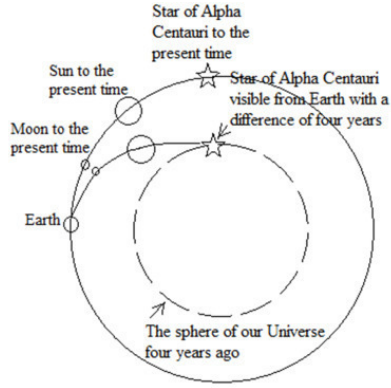
The circle is our Universe or the perimeter of a constantly expanding energy impulse after the Big bang, on which our Earth, Moon, Sun, all stars and galaxies are located, in short, all the matter of space. All space objects located along this perimeter have the same time – the real present time. But the paradox is that space objects do not see each other in the present time in which they are located. One object begins to see another object only when the light from it reaches another object, and this takes time. As the signal goes from one object to another, the location of the source object changes, because the Universe is constantly expanding. The observer sees the space object in the same place and position as he was when he sent a signal to the observer.

The moon is very close to the present. It is only 1 second behind the present. But this is still not real. The moon is no longer in the place where it was a second ago. This is the past that was present a moment ago.

The sun, we see behind the present by 8 minutes. That is what we see was real 8 minutes ago. But it is also almost present



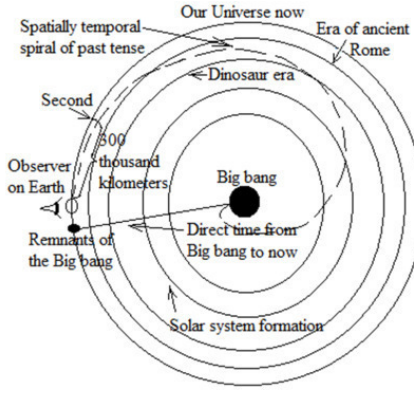
The closest star of Alpha Centauri we now see in the place where she was more than four years ago. And so on.



Information moves away from us at the speed of light only

in the opposite direction and deeper into the past. Thus, if our Universe is a sphere in which the real present is around the perimeter, then information about all space objects in this sphere is provided to the observer late for a second every 300 thousand kilometers and forms an arc dating back to the Big Bang and nearly 14 billion years in time. The observer does not see the real Universe, but sees just this arc of past tense. The speed of light gives the observer information about the past of our Universe, about its development right up to its birth. Only the nearest space objects more or less coincide with their real location, but from a certain distance they are no longer cosmic objects, but phantoms that are not present in reality at the place where we see them, or maybe even no longer exist.

The deeper into space, the farther into the past. The distances to the stars can mark the epochs of the earth. Say you can find the stars from which the light comes to us from the era of ancient Rome. That is, imagine this star, we see what it was in the era of ancient Rome. And even further you can reach the era of dinosaurs. In general, we can outline the mental circles in space, corresponding to different Earth epochs until the appearance Earth itself and even the solar system. But these circles outlined by us mean that the Universe was smaller.



If we assume that with the help of more and more advanced telescopes, we can see the entire sphere of the energy impulse, that is, our Universe, then the most distant cosmic objects will be located on this sphere literally behind us. And the Big Bang will be located behind us, that is, the remains of the Big Bang after 14 billion years. But it is impossible to turn back. We will always see only the beginning of the process. Drawing circles, outlining the epoch, we thereby outline the perimeter of the Universe of that time.

The dashed line indicates what the earth observer sees in the sky. I called this visible part of the sky a space-time spiral. It demonstrates a decrease in the size of the Universe up to the Big Bang.

Конец ознакомительного фрагмента.