Chapter 1. “There is only a moment between the past and the future”

> ... it has been experimentally shown that a telescope captures not only the light emitted by a star many millions of years ago, but also a signal arriving almost instantly from the point where the star is located at the moment the telescope is pointing at it.
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> *The spiral of knowledge: Mysticism and Yoga.* Mysticism through the mouths of mystics. M.: Progress-Culture, 1992, p. 22.

At the end of the 70s of the last century, observational astronomy reached a fundamentally different level of relations with the Universe studied by it, only, unfortunately, very few people have noticed it so far. Modern astronomers, both professionals and amateurs, take for granted the fact that astronomy deals with deals exclusively with electromagnetic phantoms of past states of celestial bodies that make up the material Universe. Indeed, the main tool for studying the Universe for an astronomer is a telescope — a device that focuses, i.e., collects into a point the rays of light emitted by planets, stars and their clusters, galaxies, etc. Light is the radiation of an electromagnetic field, and the carriers of this field are particles of light called photons or quanta of light (light can be visible if it is emitted in the frequency range visible by the eye, i.e., optical, or invisible if it is emitted at frequencies lying outside this range, for example, radio waves, infrared, ultraviolet, γ-radiation). Photons propagate in outer space at a speed of 300,000 km/s, called the speed of light and denoted by the letter c. The average distance to the nearest cosmic body So, looking through a telescope at the Andromeda nebula, we see it as it was more than 2 million years ago. the companion of our planet Moon — is 385,000 km, which means that we see the Moon through the telescope as it was about 1 second ago. But the distance to the Sun is about 150 million km, so the photon that leaves the surface of the Sun reaches the observer’s eye after 8 minutes. The distance to one of the stars closest to us — α (alpha) from the constellation Centaurus — is 4.3 light years away, and to the nearest galaxy — the Andromeda Nebula — as much as 2.2 million light years! So, looking through a telescope at the Andromeda nebula, we see it as it was more than 2 million years ago.

But in the spring of 1977, a new era began in observational astronomy — an outstanding astronomer of our time, Nikolai Aleksandrovich Kozyrev made a number of astronomical observations with the mirror telescope (reflector) of the Crimean Astrophysical Observatory [1, 2]. The diameter of this mirror is 125 cm, or 50 inches. The telescope was equipped in such a way that a sensor was placed in the telescope’s eyepiece, that is, in the very place where the mirror collects (focuses) the streams of light emitted by celestial bodies: a metal film resistor (resistance) is an “inanimate” object capable of reacting to change the flux of electromagnetic radiation by changing its ability to conduct electric current. For those who, when meeting with miracles, are accustomed to trust instruments more than their own eyes, such an extension to the telescope will help to verify the “authenticity” of what is happening. For those who, when meeting with miracles, are accustomed to trust instruments more than their own eyes, such an extension to the telescope will help to verify the “authenticity” of what is happening. Here, something else is important - what did Kozyrev want to see, or rather, what did he want to demonstrate to people? This is where miracles will begin - because a recognized world-class observer wanted to use the telescope to look into the Past, Present and Future of various inhabitants of the Universe — stars, star clusters, other galaxies!

Indeed, we recall that in the Universe nothing stands still, and all its inhabitants fly their own routes, not stopping for a moment to take a breath. And the distances here are huge, so when we see a star, then in fact we look at the place where it was at the moment when a beam of rays (or a certain number of photons), affecting our eye, left its surface. This place in the sky Kozyrev called the apparent position of the object. Photons (rays of light) fly at a speed of 300,000 km/s, that is, it seems to be very fast (physicists say the fastest in the world, and they are absolutely right, because modern science explores exclusively the material world filled with matter and fields), yes and the inhabitants of the Universe do not stand still. Therefore, at that moment when we look at a star, a star cluster or another galaxy, we see only their electromagnetic traces (phantoms), and they themselves, as they say, have disappeared. The farther away the considered inhabitant of the Universe is from us (an observed object, as scientists say), the greater the distance it shifts from its place while the studied stream of light reaches the telescope, but in reality, it’s just a memory of its past life in the form of an electromagnetic phantom. Is there anything you can learn about his present? It was this question that interested Leningrad astronomer Kozyrev.

He reasoned as follows [1]: in order to find out information about the state of the inhabitant of the Universe at the time of observation, that is, in the present, one needs to find the place in the sky where he is now, or his *true position*. He reasoned as follows [1]: in order to find out information about the state of the inhabitant of the Universe at the time of observation, that is, in the present, one needs to find the place in the sky where he is now, or his true position. Knowing the exact coordinates of the object in the celestial sphere (and they are in any astronomical reference book) and its own motion, it is easy to find (at a known distance from the object) the place in the sky where it will be at the moment of observation, i.e., its *true position* with positions of the Sun (in the heliocentric coordinate system). And if we also take from the same reference book (at least from the Astronomical Yearbook) an aberration correction, taking into account that the Earth moves around the Sun, it is easy to determine the true position of the object from the position of the Earth (in the geocentric coordinate system). These calculations are, indeed, more than elementary (see Appendix A), but the time for understanding such a discovery on a mass scale has not yet come, therefore, the official science of Kozyrev's experiments does not notice, although it does not refute them in essence.

Autumn 1977 — the beginning of a new era in human exploration of the Universe. On these nights, the observer with the help of a telescope wanted to see the invisible, that is, to find the star where it is at the time of observation. In fact, the human eye was replaced by metal resistance, and the device reacted to the "empty" place in the sky by the fact that its resistance changed (decreased) under the influence of the invisible radiation of a star, the present (true) position of which was found using elementary calculations. Moreover, it turned out that the telescope reacts in exactly the same way to the visible (past) position of the star, that is, the place in the sky where its electromagnetic phantom is at the moment of observation also emits! The visible and true position of the star is interconnected by the fact that both of them represent its location (spatial coordinates) at certain points in time. Kozyrev believed that time has energy, and the effect of this energy can be recorded using physical devices [1, 2]. And since time has energy, then the future position of the star should have a similar effect on the sensor (receiving device), because the future is one of the states of time along with the past and present. But where to look for this future star position? After all, they live for billions of years. Well, scan the entire calculated route with the device? Simple logic suggests that this is not so: after all, a sensor attached to a telescope only detected radiation from two discrete (separate) sources — the positions of the star in the past and in the present. It is very important to note the following: <u>the past and present moments in the life of a star were fixed relative to the observer's own time, that is, by his watch</u>! This means that the future observed moment in the life of the star, which we can fix, must relate to the observer's own time.

The proper time of every inhabitant of planet Earth, including the astronomer watching the stars, is an integral part of galactic time, where the planet flies along its galactic route. Each point of this route has spatial coordinates indicating its place on the route, and a temporary one, indicating a point in time corresponding to a given location. In the same way, each star in the Galaxy has its own space-time route (the trajectory, as physicists say). At the time of observation, the star's radiation (the effect of time, as Kozyrev said) is reflected in the mirror of the telescope. Since the mirror is parabolic (its surface has the shape of a paraboloid), it collects the radiation reflected by it at one point — the focus of the mirror.To further understand the essence of Kozyrev's astronomical observations, it is very important to pay attention to the following fact: these experiments can be realized only with a mirror telescope (reflector), but not with a lens (refractor). It differs from a mirror telescope in that in a refracting telescope, the lens refracts the radiation of a space object and collects it at one point — the focus of the lens. Next, the refracted rays fall into the eyepiece of the telescope and create there an image of an object that can be viewed. But the effect of what Kozyrev calls time can be registered only with the help of a mirror telescope, that is, only the radiation reflected by the telescope's mirror affects the sensor, but the refracted one does not!Moreover, this radiation is detected even if the telescope mirror is closed with a duralumin lid about 2 mm thick. The effect of the impact was weakened, but equally for the visible and true positions [1].

So, the radiation of a star of an unknown nature, reflected by a mirror, emitted by that point of the star's trajectory where it is currently at the observer's clock, and also from the point where the star was at the time of the observer's clock when a beam of photons departed from it (a ray of light), which reached the Earth at one time, has an effect on a receiving device specially designed for this purpose. Let us look at this situation more broadly, namely: the point in the Galaxy where the star is at a given moment of time, as well as the point of the galactic route of the star where its electromagnetic phantom remains, affect the planet in the place where the observation is made for this purpose. And in other places? Obviously, they affect the entire planet, and not just the part where the observer is.

Indeed, if the detected radiation of an unknown nature passes through a duralumin lid, it is quite possible that the entire planet will be transparent to it. By the way, there is information that this radiation of an unknown nature can also be detected from a star located for the observer on the other side of the globe relative to its center. But in order to better understand the essence of the phenomenon, we confine ourselves to those aspects that can be studied by laboratory methods (or observations at the observatory, which is the same, since the Universe is the laboratory of an astronomer).

The fact that the star's image does not smear along the entire calculated trajectory in the sky (otherwise its extended image would have affected the sensor throughout its entire path in the sky from visible to true positions) can be explained as follows: the position of the star visible to the observer is reflected planet true image of a star at the time of observation. Reflection moves in space at the speed of light. So, the planet, like a mirror, collects stellar radiation of a nature as yet unknown (according to the concept of Kozyrev himself — time) and reflects it into the past of the star at that point in the sky at which the reflected signal will come and coinciding with its visible position. And if this reflected substance represents, according to Kozyrev, time, then why should the planet not reflect it also into the future of this star, that is, forward along its path through the sky? we assume that the star moves uniformly along the route, and the signal reflected from the planet in the direction of the future star also propagates at the speed of light, then the future image of the star should be in front along the trajectory of its movement, and the past and future image should be symmetrical with respect to the true image. As A. Blok said: "The past passionately looks into the future."

The experiment fully confirmed Kozyrev's brilliant prediction: three points of the sky were sequentially located along the star's path calculated in the sky in the direction of its motion, having a similar effect on the sensor of the receiving device — a resistor mounted at the focus of the mirror telescope. It turned out that the distance between the visible and future images of the star exceeded the distance between the visible and true images by 2 times! Indeed, the experiment showed that radiation from the true images of space objects of unknown nature, called the time by Kozyrev, falls on the Earth and is reflected from it symmetrically in both directions along its visible path in the planet's sky — to the past and into the future [1].

Similar observations of two globular star clusters — in Aquarius and Hercules, as well as the nearest galaxy — the Andromeda Nebula — gave the same results: the receiving device is affected by the true positions of these objects and two reflections thrown by them into the past and future, corresponding to their own time. Observing these extended objects revealed some very interesting features that were not observed when observing point objects, such as stars, namely: the "brightness" of extended objects created by "time rays" decreased in the direction from the edges of the object to its center, while optical brightness (electromagnetic radiation) increases from the edges to the center. This is understandable, since in the central part of globular clusters and galaxies the density of the stellar population is increasing, therefore these areas look the brightest in the optical range in visible light rays (optical range of electromagnetic radiation). If our Sun were in the center of the Galaxy, and not on its periphery, then at night the sky would be completely covered with stars and the people of the Earth would see not a dark background with a rare star pattern applied to it, but a continuous radiance. In addition, it turned out that the radiation detected by Kozyrev is not electromagnetic in nature. Not only does it affect the device, even if the telescope mirror is closed with a 2 mm thick duralumin cover! This radiation is not subject to refraction, that is, the "rays of time" discovered by Kozyrev do not refract when they enter from extremely rarefied interstellar and interplanetary spaces into the dense layers of the earth's atmosphere, unlike light rays that create visible images of objects.

Indeed, everyone kows that when passing from a medium with one density to a medium with a different density, light rays experience refraction (refraction), so a spoon in a glass of water looks as if broken, although in reality it is not. In the same way, the light of a star or other space object when it enters the planet's atmosphere leaves its path, and the image of the star visible in the telescope is displaced from the place where it would be visible in the absence of the Earth's atmosphere. The phenomenon of refraction — the refraction of light in the earth's atmosphere — was discovered by Ptolemy. It affects the position of the stars in the sky and noticeably distorts the shape of the moon and the sun at the horizon, in particular, as it lifts the star above the horizon. To take it into account, there are tables in which the calculations are based on the fact that refraction depends on meteorological conditions at the time of observation (pressure and temperature) and on the height of the observed star above the horizon. Accurate registration of refraction is a very difficult task, which is why most observatories are built in the mountains, where the atmosphere is more stable than on the plain and more rarefied, which reduces the amount of refraction. Telescopes are also placed at orbital stations, where there is no atmosphere at all, which means that there is no refraction either. But Kozyrev, in his experiments, pointed to the possibility of creating observational astronomy free of refraction anywhere in the planet. A detailed description of the experimental procedure using material from hard-to-reach ones due to their small number of Kozyrev's works is presented in Appendices 1 and 2. Here we'll talk about like-minded Kozyrev, about those who believed in his research and participated in them.

Nasonov (1931–1986), an engineer at the "Equality" plant, was his most reliable and devoted assistant. Once he voluntarily came to Kozyrev's laboratory and since then began working there almost daily, more precisely, every night after working at the plant on a voluntary basis, that is, without remuneration. Kozyrev considered torsion (horizontal) scales to be his most successful invention, with the help of which it was possible to quantify the effects on the receiving device of processes such as melting snow, sugar, heating and cooling of hot wire, rapid evaporation of ether, withering vegetation, etc. The essence of the experiments with torsion scales was that the scales reacted differently to the processes, depending on whether the entropy increased (a measure of disorder) or decreased during these processes. For example, crystallization is a process that reduces entropy, since in this case individual randomly scattered particles of matter form ordered structures — crystals. The reverse crystallization process — melting — is accompanied by an increase in entropy, since ordered harmonious crystals turn into a chaotic mass of individual particles. Entropy increases with heating (the chaotic motion of particles of a heated substance increases) and decreases with cooling (the movement slows down). Similarly, the wilting of vegetation, i.e., the decomposition of its constituent structures of various sizes (branches, leaves, cells and their components), is a process that enhances the disorder. And the arrow of the torsion balance, the case of which is naturally airtight, deviates in one direction or another, depending on the direction of the entropy, or, according to Kozyrev, the passage of time. And the number of revolutions of the arrow depends on the intensity of the process. Details of these experiments will be described in section 3 of this chapter.

No less important invention V.V. Nasonova was the creation of a bridge system based on small-sized resistors. The change in time density caused by some irreversible process, acting on one of the resistors, led to a change in the active layer of the latter, which affected the overall resistance of the bridge and was noted by a sensitive galvanometer. The use of bridge systems for observing astronomical objects is described in detail in Appendix 1. Torsion scales and bridge systems allowed us to move to a more accurate level of experimentation. In practice, it was found that aluminum was the best material to shield extraneous influences. Therefore, mirrors with an aluminum coating were able to reflect and focus the flows of what Kozyrev called time.

After the death of Kozyrev V.V. Nasonov continued the experiments and left in a typewritten form several articles devoted to the study of the active properties of time and their possible applications in biology. At the same time, he was preparing to submit to the archive materials on the scientific activities of Kozyrev. He fulfilled this duty, but work with overvoltage led to the fact that his body could not stand the enormous load and Viktor Nasonov died on March 15, 1986. Not long after the death of Kozyrev, his laboratory assistant, a very young man, also lived. But Kozyrev's ideas are not forgotten, although at present, few people share them.

In the mid-80s, a special commission was created at the Academy of Sciences of the USSR to test astronomical observations of N.A. Kozyrev on the subject of "ascertaining the degree of their reliability". It was headed by a famous scientist, academician M.M. Lavrentiev, director of the Institute of Mathematics of the Siberian Branch of the USSR Academy of Sciences, who personally took an active part in this work. Repeated astronomical observations using the Kozyrev technique were carried out over several working seasons in the Crimea, on a 1.25-meter reflector telescope, and in Novosibirsk. he results of all verification observations were unequivocal: all the results of Kozyrev on the observation of the past, present and future astronomical objects were fully confirmed. Not a single case was noted that would contradict its results. All observed astronomical objects invariably influenced the resistor from three points in the sky, which corresponded to: 1) the position of the object in the past, when the signal that reached the observer at the moment of observation came out of it at the speed of light; 2) the current position of the facility; 3) the position of the object in the future, when the signal propagating from the observer at the speed of light reaches a point in the sky located symmetrically to the visible image relative to the true position.

Moreover, having convinced themselves of the possibility of observing the triple display of astronomical objects, scientists from the Lavrentiev group went further. In subsequent years, they made observations of the Sun, which gave a similar result for it - radiation of a previously unknown species was emitted, emitted by three regions of the sky, one of which is the visible disk of the Sun. Another area is 2° away from the visible solar disk (4 visible diameters of the Sun) in the direction of its diurnal movement — exactly such a distance the Sun in the sky will have time to go in those 8 minutes until the light flies from it to Earth. The third region in the sky is located even further from the visible position of the Sun, namely, by 4 ° and is located symmetrically to the visible image of the Sun relative to the true one. These results were published in the most authoritative journal at that time — "Reports of the USSR Academy of Sciences" [3, 4, 5].

It is interesting to note that scientists, including biologists, as a sensor, along with a metal-film resistor, also placed a biological sensor in the focus of the telescope. His role was played by a colony of bacteria

Escherichia coli. These bacteria have the ability to form colonies on a solid agar medium. It turned out that bacteria (living matter) also react to radiation from these mysterious sources. Under the influence of radiation from the true image of the Sun, the process of colony formation was significantly activated: the number of viable cells and the degree of adaptation to uncomfortable conditions increased.Siberian scientists concluded that the radiation detected by Kozyrev represents a fundamentally new type of effect that affects both inanimate matter (metal) and living bacteria. It is interesting to note that, according to one of the group members, I.A. Eganova, there were constantly difficulties with observations of the Sun when it came to its future image: either the Sun was hiding behind the clouds, or, if the sky was clear, then the place of the future position of the Sun was hiding behind trees growing on the territory of the observatory.

Intrigued by the results of their Novosibirsk colleagues, Kiev scientists conducted two series of observations using the Kozyrev method, using a ceramic-metal resistor as a sensor. During the first series, on the same 50-inch telescope that Kozyrev worked on, with a stationary telescope, the sky was scanned to confirm the effect itself and identify active objects (observer V.G. Medvedev). It turned out that in the declination belt $\delta = +27°$ there are many radiation sources whose lifetime is more than one day. The registrograms of the same sky strip observed two consecutive dates show the presence of a close correlation between them. It is interesting to note that the stars visible in the sky had nothing to do with these sources, since in many cases the signal came from areas of the sky where there were no stars brighter than 13.5 magnitudes or bright stars did not cause the response of the device. (The limiting magnitude of a star that can be seen with the naked eye in conditions of good visibility and excellent vision is the 6th magnitude. The brightest stars have a value equal to 0 and even negative values).

The second series of observations was carried out in Kiev at the Main Astronomical Observatory of the Academy of Sciences of Ukraine (observer G.U. Kovalchuk). he same reception and recording equipment was used, but it was installed on a 70-cm reflector AZT-2. The focus of this series was on multiple scans of selected objects. The observations established that such well-known objects in astronomy as the globular cluster M-92, the X-ray source in the constellation Cygnus CYG X-1 (scientists suggest that there is a “black hole”, that is, the object is so dense that it even doesn’t let go of itself) and the brightest star of the northern hemisphere Vega — α Lyra gives repetitive results, while the signal from many other stars (Deneb — α Cygnus, Altair — α Aquila, globular star cluster in Hercules) is not registered for several nights was. Interesting results were obtained with respect to Vega: 8 consecutive scans on the night of August 11–12, 1991 showed a stable two-mode signal, and the signal source differed in its location by 10′ from the visible position of the star.

Director of the Main Astronomical Observatory of Ukraine A.F. Pugach recalls how, during the congress of researchers of variable stars at the Crimean Astrophysical Observatory in the fall of 1974, N. A. Kozyrev in a crowded room told numerous listeners about his observations of the true positions of the stars using a torsion pendulum. Specially for this report, not only experts on variable stars came to the hall, but also many employees of the observatory, and even just residents of the village of Scientific. “Nikolai Aleksandrovich Kozyrev told the silent hall how the pendulum of his scales, suspended from the famous Crimean “fifty”, deviated by so many degrees when he pointed the telescope at the GYG X-1 object, while candidate № 1 in black holes. The most interesting thing, according to the speaker, is that the pendulum reacted when the axis of the telescope was not looking at the star, but was shifted by a few angular seconds to the side, exactly at the point where the star is now.”

Further A.F. Pugach describes a very typical reaction of the audience to the report on the results of the work of his colleague: “Leningrad professor V.G. presiding at that meeting Gorbatsky asked:

— Any questions?

Of course, there were no questions. And one would think that everything is clear to everyone, if not for the confused smile on the faces of some orthodox people who did not dare to ask poisonous questions.”

So, Kozyrev’s results were confirmed. What happened next? The continuation of astronomical observations according to Kozyrev’s methodology was continued by a small group of Siberian scientists led by academician M.M. Lavrentiev, now at the Russian Academy of Sciences.However, official science as a whole “does not notice” what is happening. And the point here is not in someone’s “evil” intent, but in the fact that Kozyrev’s experiments were far ahead of their time, and, therefore, went beyond the framework of the problems of modern science. Moreover, advancing is not quantitative, but qualitative. In the next chapter of this book, we will discuss the concept of Kozyrev’s time, the demonstration of the main principles of which Kozyrev produced using numerous experiments, including those mentioned above.