

Medical Ethics in the Context of the Teachings of V. I. Vernadsky About the Earth's Biosphere and Living Matter

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The subject of medical ethics is usually considered within the binary doctor-patient relationship. In the context of V. I. Vernadsky's teaching about the Earth's biosphere and living matter, this relationship turns into a tripartite relationship. The third party is the natural environment around us, primarily the Earth's biosphere. Thus, the problem of developing and improving medical ethics is connected with entropy-ecological issues. Against the background of this issue, the article draws attention to three issues: the issue of maintaining the chiral purity of living matter, the issue of coexistence and the fight against the world of viruses, and the issue of the danger of degradation of human intelligence under the influence of digitalization and robotization. All three questions relate to the physical and mental health of a person and correspond to what is included in the content of the concept of medical ethics.

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In philosophical dictionaries we read that ethics (Greek *ethos*—habit, custom) is one of the most ancient theoretical disciplines, the object of which is morality. In turn, morality (Latin *mores*—customs) is defined as one of the forms of social consciousness, a social institution that performs the function of managing people's behavior in all areas of public life without exception. Morality differs from other forms of mass activity (law, production and administrative regulations, state decrees, folk traditions, etc.) in the way it substantiates and implements its demands. Morality, operates with the concepts of good and evil. But it should be noted that the traditional ethics of Western philosophical thinking confines morality to the field of social relations, so that the concepts of good and evil fall out of people's relationship to the surrounding nature. The same applies to medical ethics.

It is well known that the moral principle in medicine and in medical schools is presented in the form of the Hippocratic oath and its variations, but for all their merits they remain one-sided. What is their one-sidedness? Vernadsky's doctrine of the Earth's biosphere shows that the anthroposphere is part of the biosphere, and the biosphere is an integral organism endowed with many properties that are inherent in biological organisms: origin, development over time, etc. Therefore, it cannot help but respond to influences on it anthropogenic factors that come from the human community. History shows that these factors are divided into positive and negative. Plus and minus correspond to two categories of people, some of whom are now commonly called anthrocosmists, others—anthropocentrists. Anthropocosmists consider or feel like children generated by the Earth's biosphere along with the surrounding cosmos. Anthropocentrists make a substitution: In the place of the Earth's biosphere they put an imaginary god who created the entire visible world with them. Their god is everything to them, and the Earth's biosphere is valued insofar as it serves as a source of profit (mammon).

Turning to medical topics, we need to become more familiar with the concept of living matter filling the biosphere and its properties (Vernadsky, 1978). Let's start by analyzing the first of the two questions posed above. To solve it, it was necessary to explain the phenomenon of dissymmetry of living matter. In search of this explanation, Vernadsky made a discovery that was difficult to foresee. The textbook article by V. Goldansky (1968) will help us explain what was known about living matter before Vernadsky. In the world of molecules of living organisms, he states, there are exact analogues of the right and left hands—the so-called antipode molecules in a mirror relationship. They are also called optical isomers, since they differ from each other in that they rotate the plane of polarization of light passing through them in opposite directions (Goldansky, 1968, pp. 87-88). This feature of molecules existing in two mirror-antipodeal forms is known in science under the name chirality (from Greek—hand). And it has been established—everything started with the experiments of Louis Pasteur, which began in 1848 (for details, see the book Yanovskaya, 1960)—that living nature is characterized by almost absolute chiral purity: Proteins contain only “left-handed” amino acids, and nucleic acids—only “right” sugars (Goldansky, 1968, p. 88).

It is known, Goldansky further reports, that chirally pure compounds, left to their own devices, sooner or later turn into racemic mixtures. That is why the emergence of chiral purity of the biosphere seemed to be one of the biggest mysteries in the problem of the origin of life (Goldansky, 1968, p. 88). Hence the desire to understand how, from ordinary matter devoid of life, a substance arises in which the enantiomorphic dissymmetry inherent in life is established and maintained. What factor underlies it? Where does it come from? Vernadsky gave the answer to this difficult question. He found the factor he was looking for in the structure of time, although he initially looked for it in the structure of space. For living matter, he wrote, the concept of space cannot cover the phenomena occurring in it to the extent that it covers them, for example, in crystals.

Nowhere in the nature around us is time emphasized to such an extent. One of the great merits of the French philosopher Bergson was that he clearly and deeply highlighted the meaning of time for living organisms in comparison with inert processes in the biosphere. (Vernadsky, 1978, p. 285)

And further:

At the basis of the phenomena of symmetry in living matter, time appears in a form and meaning in which this does not occur in inert bodies and phenomena.

Here, it seems to me, it is not so much space that is clearly manifested in the basis of geometric concepts, but something new that is entering the understanding of the observer of nature in the 20th century—the concept of space-time, different from both space and time (including the space-time of the theory of relativity). (Vernadsky, 1978, p. 285)

What is meant by these statements? These statements mean that the symmetry/dissymmetry of living matter is interconnected with the dissymmetric structure of time, expressed in the form of two nonequilibrium branches directed in opposite directions. They contain two potentials: destructive (forward flow) and creative (reverse flow). The god Chronos, as the ancient Greeks claimed, devours his children. But it is clear that before devouring his children, he must give birth to them. In a word, Vernadsky showed that the temporary element is that component of the environment that contains the factor determines the emergence and maintenance of life.

A medical specialist must know that the human body consists of living matter and that a violation of the chiral purity of its structure entails catastrophic consequences for the health and existence of a person. Ignorance of this circumstance can lead to dire consequences, as evidenced, for example, by the experience of using the pharmaceutical drug thalidomide. In the fifties of the last century, in some countries of Western Europe it was

recommended to be used by pregnant women, which is why they were born with crippled children. The reason is that in the human body, optical isomers of thalidomide are able to transform into each other, violating the chiral purity in the structure of the body's cells. Physicians prescribing thalidomide were morally irresponsible when they rushed into a deal with the pharmaceutical company Chemie Grünenthal, which was most interested in monetary gain.

So, following Vernadsky, we state that there is a correlation between the fundamental property of living matter and the properties of time. Over time, the work of the human cerebral system, his mind, and scientific thought are revealed. It turns out that the human mind absorbs the results of evolutionary progress, which leads living organisms to the formation of a brain in them and to its improvement. A stage comes when the scientific thought inherent in man acquires, according to Vernadsky, the power of geological force and begins to control the process of transition of the Earth's biosphere into the noosphere (Vernadsky, 1944; Tyuryukanov & Frolov, 1996).

Here we, within the framework of ethical and medical topics, will have to stop and see how justified Vernadsky's confidence in the existence of a transition from the biosphere to the noosphere is and what is the actual state of affairs in this area of life. One of the most important prerequisites for his belief was that how it should be was the law of cephalization, set out in the seventh paragraph of his article (Vernadsky, 1944; Tyuryukanov & Frolov, 1996). Vernadsky reports that two younger contemporaries of Charles Darwin, the largest American geologists—D. D. Dana (1813-1895) and D. Le-Comte (1823-1901), made an empirical generalization back in 1859, which shows that evolution living matter goes in a certain direction, toward what Dana called "cephalization" and Le Comte called the "psychozoic era". American scientists believed that once the level of brain inherent in humans had been reached in evolution, "it no longer goes backward, only forward". Agreeing with this statement, Vernadsky concluded that in the noosphere new creative opportunities open up for humans to reconstruct and improve their lives (Vernadsky, 1944; Tyuryukanov & Frolov, 1996, Paragraph 9). Everything will be wonderful if people understand this and do not direct their minds and work towards self-destruction.

However, when making his optimistic forecast about the future of humanity, Vernadsky did not take into account the dialectics of biosphere development. The development of living matter cannot be viewed as steadily moving upward, and only upward, along the steps of the evolutionary ladder. One can give many examples of how the adaptation of living beings to a particular ecological niche led to a simplification of their organization. In this case, the question arises: Could there also be rebounds in the development of the human cerebral system, in the opposite direction from progressive development? What could this lead to? Let's try to think about these questions.

Let us first state the fact that the anthroposphere is part of the biosphere, has a mosaic character, and is divided into separate ethnic groups. Ethnicity, as A. N. Tyuryukanov and V. M. Fedorov write, is the unit through which the interaction of humanity with the biosphere is realized (Tyuryukanov & Fedorov, 1996, p. 336). "Ethnos connects the history of people with the history of the biosphere" (ibid, pp. 336-337). The anthroposphere, according to them, is an ethnosphere and cannot exist in any other form.

As history shows, ethnic groups constantly fight among themselves. To be convinced of this, it is enough to familiarize yourself with at least ancient history, with the works of, say, Heraclitus and the ancient Greek historian Thucydides (Thucydides, 1981). Therefore, one of the conditions for a happy life in the biosphere is the cessation of ethnic wars, for which it is necessary to find a means to achieve agreement between ethnic groups, to achieve

unity in their activities. It would seem that this requires an understanding that the Earth's biosphere is our common home, which must be taken care of in an ecological sense. But in reality this is not the case.

Studying history, one can understand that nothing unites human communities more than the presence of a common enemy opposing them. Remaining within the framework of Vernadsky's doctrine of the biosphere, we pose the question: Is there such a general, social, or natural, factor that is hostile to the entire ethnic community? Taking into account the medical and ethical aspects of human life allows us to answer this question positively. Such a factor exists and is commonly called the invisible world of viruses.

Here is a brief encyclopedic information about the population of this world. Viruses (from Latin virus—poison) are relatively simply organized particles of living matter, much smaller than bacteria, visible only with an electron microscope. The sizes of these virions range from 20 to 300 nanometers. They have different shapes, from spherical to thread-like. The most primitive of them consist of an RNA or DNA molecule surrounded by protein molecules that create the virion envelope. Nucleic acid is the carrier of the hereditary properties of the virus; the envelope proteins (there can be two of them: internal and external) determine the specificity of the type of virus and cause the appearance of antibodies in the host body. Viruses do not have their own metabolism and, when reproducing, use the metabolism of the cells they infect. In this sense, they are called parasites. The credit for the discovery of viruses belongs to the Russian Soviet scientist D. I. Ivanovsky (1864-1922) (the discovery was made while studying tobacco mosaic crystals).

In my home library I found two books entitled *The Invisible World of Viruses* (Mayer & Kenda, 1981) and *The Tale of Viruses* (Tvarnitsky, 1976). Manifestations of the hostile world of viruses in the form of smallpox, as well as the bacterial diseases of plague and cholera, are captured to the greatest extent on the pages of European history. This is what Slovak authors report about them in paragraphs entitled "Despite the Holy Inquisition" and "Avalanche of Retribution for Sins". The Middle Ages and the beginning of the New Age are known as a period marred by many epidemics, very reliably described by contemporaries. "They were interpreted as God's punishment sent down for sins, called the 'black death' and other fatal names. And the most dangerous epidemics for them were the plague, cholera and smallpox epidemics" (Mayer & Kenda, 1981, p. 38).

At that time, Mayer and Kenda write, no one, in fact, had any idea what the plague was. And since they did not know its essence and the causes of its occurrence, they, naturally, could not only treat it, nor protect themselves from it, or prevent its occurrence. Epidemics were explained by "punishment for sins", either by the appearance of comets in the sky, or by the prevailing fashion for pointed shoes, this "sinful luxury" that provoked the wrath of God. The despair and grief of the unfortunate people, who could neither explain nor understand the epidemics that decimated hundreds of thousands of people in a short time, led to a senseless search and persecution of the supposed "culprits" or to the formation of large groups of "repentant pilgrims" who set off on redemptive journeys around the world, covering all European countries. "And in the end, the pilgrims themselves became a terrible scourge: worst of all, they spread the epidemic in areas not yet affected" (Mayer & Kenda, 1981, p. 38).

In Tvarnitsky's book we read about the adventures of another viral disease—rabies:

In the Middle Ages, clergymen of France and Belgium sent those bitten by rabid dogs to the grave of St. Hubert. Of course, all these "recommendations" did not bring any benefit. Since rabid people were considered dangerous to others, in the Middle Ages a barbaric custom took root in Europe, surviving longest in France, when people with rabies were either bled to death by cutting their veins, or strangled. (Tvarnitsky, 1976, p. 8)

This custom was abolished only by Napoleon's decree (Tvarnitsky, 1976, p. 8). This continued, Tovaritsky writes, until 1885, when the great French scientist Louis Pasteur first proposed a very radical anti-rabies remedy—an anti-rabies vaccine (“rabies” means, translated into Russian, *beshenstvo*). “However, even Pasteur himself, who saved humanity from a terrible disease, did not know its causative agent. The nature of the latter was studied only in 1936” (Tvarnitsky, 1976, p. 8).

From the point of view of the unwritten canons of medical ethics, doctors have the right to make mistakes. But some of them are able to acknowledge their mistakes; others are not. And yet this misfortune is small compared to the fact that in our time there are many such virologist specialists who, together with fake doctors, turn viral infection into a military weapon. This is the very thing that relates to the second of the three questions we posed above. The approach to it requires turning to fundamental virological research devoted to the study of viruses as biological objects. This is where all applied research comes from, including solutions to problems in medical virology (Mayer & Kenda, 1981, p. 95).

We have already noted that everything that belongs to living matter satisfies the criterion of chiral purity. Viruses are no exception in this regard. But by their origin, viruses are the results of reverse evolution, the result of a leap to a lower level of organization of living matter. This fact suggests that people, being at the top level, can also fall down the evolutionary ladder and even become like viruses in terms of a parasitic lifestyle. By making such a comparison, we do not intend to simplify the essence of the issue when touching society. When comparing the transformation of a certain human community and the transformation of living cells into viruses, one must not lose sight of spiritual factors. Among them, religion plays an important role in social life. When religion turns into the doctrine of “God's chosen people” (which, in particular, can be found in the pages of the Old Testament), it becomes a prerequisite for the above-mentioned transformation. As I. R. Shafarevich showed, although “God's chosen people” have ethnic roots, they cannot be identified with a separate specific ethnic group. To do this, he introduced the concept of “small people” (Shafarevich, 2013). Here we must also take into account the social factor—the stratification of society into classes, into rich and poor citizens, especially when it comes to the emergence of capitalism (Weber, 1930).

The key to deciphering it is the adverb “inter” (between). Hence the term international, denotes one of the forms of globalism.

Globalist-internationalists, who are also small people, set themselves the task of establishing world domination. When they now say that there is a deep state in the United States, one must keep in mind that it is inhabited by a small people. The image of a typical representative of the US deep state is presented in the novel by the American writer F. S. Fitzgerald (1896-1940), *The Great Gatsby*. This is the image of Meyer Wolfsheim, who in the first quarter of the 20th century created a large network of pharmacies, spread across many cities in the United States, in which the alcohol trade flourished (Fitzgerald, 1925, Ch. 4). There it came to the world of viruses. According to the official recognition of British scientists, the AIDS virus was created in biological laboratories in the USA. In 2019, a virus appeared under the abbreviated name COVID-19. Hundreds of American laboratories located in many colonial countries, may be, are working in this direction.

Modern virology receives a generalized expression, incorporating elements of sociology. At the same time, it can and must enter the fight against the forces of spiritual and religious darkness hanging over the world from the West. In this we see one of the means aimed at justifying Vernadsky's belief in the possibility and necessity of the transition of the biosphere to the noosphere.

The third question concerns the danger of spiritual degradation of human intellect. During Vernadsky's lifetime this danger was barely noticeable. But its onset was predicted and exemplarily presented by Alexander Green (1880-1932) in his fictional story *The Gray Car* (published in 1925, at a time when Vernadsky was working on his theories about the biosphere and living matter). The essence of the matter is that a person, transferring the function of his bodily organs to a machine, begins to liken himself to it and look at the world as if through its eyes. And by translating his mental actions into the language of calculating and mechanical operations, he begins to look at his intellect as a calculating mechanism, hence the idea of artificial intelligence, which is hoped to replace naturally developed intelligence and even surpass it.

In mathematics, artificial intelligence is represented through a recursive computational process, in which a real sign—a digit—is put in place of a number. Behind it remains an ideal-semantic universe of numbers, the existence of which we can judge by Gödel's theorems of incompleteness. It is forgotten when the virtues of artificial (technical) intelligence, which modern robots possess, are proclaimed. Robots bring benefits to a person's economic life, but they also pose a danger to a person confined within the framework of digitized activities. He risks becoming like an automatic robot, deprived of connection with the ideal-semantic universe of numbers and, in general, with the spiritual world as such. This is where mental disorders arise and requires the help of doctors familiar with the elements of biospherically enriched medical ethics. Vernadsky found the source of the spiritual component of human intelligence in the presence of a connection with the creative, anti-entropic component of time, with the potential of time, due to which the chiral purity of all living substances is maintained.

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