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Environmental Medicine and The Philosophy of Environmental Protection

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We live in an epoch in which the natural sciences have moved away from philosophy. And after all, since times immemorial "the fondness for wisdom", and thus the term defining any kind of science, any science of the world meant philosophy.

This most general theory of reality constituted in a way the groundwork for 19th-century scholars, versed in various specialized fields, into which they composed, in a harmonious way, the findings of their research and the opinions which stemmed from this.

Out of all their achievements, the great creators of science, beginning with Aristotle, through Copernicus to Einstein, Schrodinger and others, formulated general philosophical conceptions, testifying to the correctness of their own vision of the world.

Then came the 20th century and with it emerged more and more narrowed down scientific specialities. This made it possible to obtain quickly verifiable results of theoretical reasoning, serving as an assurance for the scientists that they were following the correct road. No wonder, therefore, that many scholars consider today the search for philosophical generalizations, implicated by the various disciplines, as something outright unscientific. That is why the precipice is deepening more and more between the exact sciences, with physics, mathematics and contemporary biology at the head, and the humanities.

Before I embark on reasonings connected with the title of the present paper we should be fully aware of the fact that to each one of us the world is a complex of real objects with a variety of properties. A system in which we people live, move around and act. We are one of the things of the "world", in the form of bodies, of precise biochemical machines, of psychosomatic structure. But this world is nevertheless, being reflected

within ourselves in different ways, dependent on our personality traits, on the extent of our emotional maturity, on the state of our senses, on the resources of our life experiences, on the culture with which our social group has imbued us, on the ecological environment, which is the substance of which our bodies are made, etc. In brief, it depends on the historical period and the geographical space in which we live.

Detached from reality we examine this reality and try to learn more and more about it, in order to be able consciously to create a better fate for ourselves and the entire population of our globe. It is our desire to learn about the conditions that should be changed to achieve what we define as health. We feel disappointed when the environmental protection movement limits itself exclusively to information that so and so many tons of waste substances from factory chimneys are polluting the earth or contaminating the water, causing the dying out of many species of animals, etc.

Today we already demand that efforts should be made to protect the health, even if only based on hypothetical assumptions.

Since we possess the findings of experiments conducted with animals and retrospective observations made with people, from which we obtained data pointing to the fact that shortcomings in man's natural environment, the consequence of which are lack of manganese ions causing teratogenesis, molybdenum deficiency, causing caries, iodine deficiency—diseases of the thyroid gland, iron deficiency — anaemia, lithium deficiency — mental diseases, magnesium and chromium deficiency — lymphatic anaemia and atherosclerosis, selenium and copper deficiency — neoplastic diseases etc., we should already today adopt prophylactic measures. After all, quantitative changes of these mineral components of the soil which are brought about by our own activity, are due to incorrect use of chemical substances by agriculture or pollution of the soil with industrial waste. Therefore it is imperative that efforts should be made to restore the equilibrium of mineral components in the soil, water and with the same further trophic links related to man.

One of the reasons for the dramatic situation of our times seems to be the present-day universal fascination with the development of the exact sciences.

Physics and mathematics achieved the highest organizational level of science. Their development undoubtedly influenced the entire scientific world outlook. Biology too turned into one of the exact sciences and thanks to the discoveries made in this field biology directly exerts its influence on the development of communities.

Under the pressure of these sciences the human being succumbs to reification. He turns into a concrete material object of manipulations on the part of factors that are beyond his control. Bent on the effectiveness of current activity, wanting to obtain immediate results, he loses the ability of long-range anticipation of the side effects of his activity. Thus man in a way turns into an object and treats others like objects; in this way he

An indispensable attribute for the existence of mankind is the regulation of social life throughout the entire planet. This means: a just division of material goods, resignation from uncontrolled consumer ambitions, resignation from a too numerous progeny. Only in that case would the geometrical growth of population and the uncontrolled increase in industrial production stop endangering mankind.

losses one of the most important achievements: thinking from the position of broadly conceived humanism. Neglected is the ecological concern for the correct development of the population.

The philosophy of life in highly developed countries, in "affluent communities", does not define the limit of consumer goods a member of that society wants to achieve. It simply assumes that man, thanks to his ingenuity and science should move on continuously in his "conquest of nature," should improve the technique of producing things and improve a variety of physical parameters, such as speed, transportation, communication, memorizing etc., something we are witnessing today.

A reaction to these opinions are the more and more frequently raised voices of scientists, appealing to launch the principle: reduce production to the level where it still lets you breathe and then industrial production will not lead to the devastation of the ecological environment and a danger to life. In other words, on the one hand limits are set for production, but on the other hand: a limitless improvement of "conscience."

Thus, it becomes imperative to define not only the sociological but also the general philosophical attitude of man toward nature. In the dynamic development of the physical and biological sciences, which contributed to environmental changes that are detrimental to social health, there has to be found a proper place for philosophy, granting it full rights, so that its ideas and methods could be applied in those fields of science which regulate inter-human relations.

To the tasks facing the philosophy of environmental protection will therefore belong the utilization of experience in the sphere of the ecological conditioning of the psychosocial environment, which in turn will help to properly shape the biophysical environment. This will clear the road leading to a healthy development of mankind. Environmental medicine concentrates on these problems.

In place of some vague, general remarks, let us deal with just one example: the situation which — if life on our planet is not to become the subject of annihilation — has to be clarified and subjected to a thorough analysis, simultaneously in two aspects: from the point of view of integrated specialized sciences and its general aspect and that precisely by the philosophy of environmental protection. I have in mind here the problem of the

ties between man in his capacity as an inhabitant of the Earth and the solar system.

We, contemporaries, still seem to stick to the geocentric theory of the past. We consider the Earth and the social institutions existing on it as a closed system. It seems to us that our planet is "the centre of the world." Such thinking habits take us back to the epoch of obscurantism and in a thoughtless manner we destroy the environment, above all the green world of plants, which constitutes the tie with the Sun.

People of the epoch of the Renaissance sought for harmony in the structure of the world, throwing into relief the supreme place occupied in it by the Sun. The teachings of Copernicus, who transferred "the centre of the world" from the Earth to the Sun, brought about an important turning point in the whole of the philosophy of nature and ethics that had been in existence. As Copernicus emphasized, it is the task of all the noble sciences to pull man away from evil and to direct his mind towards greater perfection.

Today we know that the energy of the sun-rays transforms CO_2 and H_2O into the energy of foodstuffs. As we know this process takes place thanks to the action of the sunlight on chlorophyll, the green colouring matter of plants (photosynthesis). Thus, the link which connects us with the Sun is chlorophyll, the activity of which depends on its contents of Mg^{++} . Thanks to chlorophyll, in the process of photosynthesis, carbon dioxide and water is with the help of the energy caused by the sunrays turned into carbohydrates and proteins, substances with such high energy content as adenosine triphosphoric acid, reduced nicotinamide adenine dinucleotide phosphate and cyclic adenosine monophosphate. All these elements appear and act thanks to the presence of magnesium ion.

Meanwhile man in a thoughtless manner destroys the links with the Sun. He devastates the green world of the plants, ravages the fields and forests, because of incorrectly located industrial enterprises, since man is still unable to protect himself from the by-products of industry. What contemporary man is lacking is what one may call "an ecological conscience"—i.e. to subject his activity to ecological criteria.

Ecology is a science which examines the aspects of life by learning about the laws of nature. Its purpose is the working out of methods which would make it possible to create such living conditions for man that he could in his development achieve a subjectively fuller awareness of health and be able to protect himself and other people from impairment of the structure and functions of bodily organs, i.e. from sickness. This can be achieved through guarding the harmony of the biocoenosis, of which man is a particle.

The very essence of the ecology of civilizational diseases is the effort to find an answer to the question, why there exist in various geographical environments, at different times, fluctuations in the sick rate, regarding certain diseases.

Such research means putting questions to oneself as well as to other people and the surrounding world.

Present findings reveal that medicine as an institution is not adapted to the contemporary ecological situation, endangering the health of the entire international population.

Trying to find the reasons of the helplessness of medicine in its efforts to prevent infarct, cancer and other civilizational diseases, it seems to me that the answer to this is given by the present-day development of science.

Despite the fact that science to some extent is the "centre of the setting in motion" of civilization as a whole, its development is uneven. An explosive development can be noticed only in physics and technical sciences, more slowly in biological sciences and the development of the humanities, especially ethics and the science of inter-human relations, is very slow.

The science of medicine and medical treatment is at the borderline of these two last mentioned fields, i.e. biology and ethics, the laws of which determine man's history. They guide the human being towards the implementation of his natural needs, and above all—health.

The guiding idea for the medical sciences of the future is the effort to find an answer to the question why there exist such enormous differences in feeling healthy and, what follows, in being happy, not only in the various parts of the world, in various cultural models, but also regarding small geographical distances, why there are such differences in mortality rates, not related to old age.

As representatives of the world health service we have entered a historical epoch that is significant due to its attempts to synthesize. We notice a dialogue between the superpowers. The religions of the world unite in ecumenical efforts. Dialogues are conducted by the faithful with the non-believers. And scientists sometimes of very remote specialities unite their efforts.

But pride of place is taken above all by one large movement embracing the entire world, aimed at the protection of the equilibrium of the natural environment in which we live. The intention of this movement is obvious. It is a question here of the existence of the species. The inhabitants of industrialized countries die a premature death, they die at an increasingly younger age, due to arteriosclerosis and myocardial infarction, tumours and leukaemia, allergic and metabolic diseases etc., in brief—civilizational diseases.

Starvation and parasitic diseases destroy 2/3 of the populations of the countries of the Third World.

We, people living in countries with a high technical civilization, suffer because of the deteriorating "quality" of life. We suffer from a lack of subjective physical, mental and social fitness, defined as "health." The universal expression of the emotional disturbances of contemporary man is what we call "neurosis." This state of a subjective disturbance of feeling

In the situation that we have created ourselves, changing the natural environment in a manner that destroys ourselves, we more and more often die not of old age, but as the result of diseases, i.e. the damage of the structure and functions of the organs, caused by the waste products of technical civilization.

healthy is especially dangerous, since neurotic people have difficulties in organizing healthy living conditions.

It is getting more and more difficult to live in this world, which is being shaped by the dynamically developing technical and biological sciences, overwhelming with their magnitude, the values regarding knowledge about a healthy life, carried by the humanities but mainly by ethics and knowledge of inter-human relations.

Efforts made to improve the situation of mankind in the world by supplying a better quality of life are the right and duty of all people and each individual, not only those who belong to the medical profession. Man is not being born with a ready-made and complete moral equipment. Moral norms are the expression of the development of individuals and societies. No vivid imagination is needed to notice the outlines of the system of the moral values of tomorrow, on which the existence of the human species depends.

It would be worth-while to devote to them at least as much effort as mankind devotes to the Olympic Games and the development of the human body. A perfectly well developed, efficient and beautiful body of a human being with the mind of a moron, is worse than a soulless machine, since an ethically under-developed man sometimes can be the initiator of sufferings and the misfortune of millions.

The cultural level of a given society is reflected by its attitude towards nature, which means towards the biophysical environment. Man, perfecting the structure of his body with the help of all kinds of instruments, such as machines, creates technical civilization. During the course of this process he exhausts the natural resources, contaminates the biosphere with the waste products of technical civilization, which means he contaminates himself, too, and is unable to master the population explosion of the Third World.

Among all those who are aware of the danger carried by technics, the purpose of which is to make the life of people easier, the idea is taking shape to cut the links of the chain that is being tightened more and more around us, annihilating mankind with civilizational diseases.

Thus we make efforts to protect the endangered psychosocial environment, i.e. culture, which shapes inter-human relations. It is the latter which, improving the quality of life, favours a subjective feeling of well-being, of physical as well as mental and social fitness, which we, followers of Hippocrates, call health, and the disciples of Socrates—happiness.

But we are, nevertheless, aware of the fact that today not the doctors of medicine alone can be entrusted with prophylaxis, just as the problems of peace and war cannot be left exclusively in the hands of the military. After all, if an army of only one million people from the health service is supposed to fight the suffering of 3,500 million people, such an activity is *a priori* doomed to failure. The more so, since at present approximately one thousand million people from among the international community acquires knowledge which in its very essence is the antinomy of medicine (namely hating and killing other people), the role of doctors of medicine in such a relationship of forces cannot be fully effective.

Finally, we reach the conclusion that science in its present-day form has shaped a world that is full of pathogenic factors, which means it has given the world a shape we are fully entitled to consider bad.

Trying to find the reasons of this situation in science we notice that it is governed by the law of accelerated development. The number of scientific workers doubles every 10 years, every 15 years doubles the number of periodicals, and every 30 years that of scientific results. In 1665 there existed only two scientific periodicals. Today we have 100,000; in these periodicals appeared six million works. Most likely there will be twice as many in another 15 years.

Man is unable to process or to classify such an enormous amount of information at the present level of his biological evolution. Some scholars, e.g. J.D. Bernal, are convinced that the intellectual evolution of man has already reached its maximum. The brain of the average human being is not able to process and to classify more than seven items of information obtained simultaneously. No wonder therefore that we found ourselves in an epoch which J. Lukasiewicz called "an explosion of ignorance."

Personally, I do not agree with such an opinion. *We undoubtedly suffer because of the enormity of ignorance, mainly in the field of ethics and the science of inter-human relations. As a result we suffer because of insufficient knowledge about human health, which is the indispensable attribute of happiness.*

There are not many people yet who understand their own role regarding the problem and they shift the burden of the protection of their subjective health on to the shoulders of the physicians. And after all the quite specific nature of the fact that we are humans is that we are the ones who change the world. We create canons, norms, and ideals. We are simultaneously the creators of evaluations and of the objects that are being judged.

We understand our human duty of the incessant perfection of inter-human solidarity, being aware of the fact that people and animals are united by the instinct of self-preservation, the reflex of self-defence in protection of their own life. This requires no conscious effort. It is only the duty to protect the life of other people that makes it imperative for us to acquire a socially-shaped consciousness.

In the past nomads used to kill their aged and their crippled children.

During the period of slavery the slaves were deprived of the most elementary human rights. Feudalism treated the peasants as belonging to the land, just like utensils and chattel. The ethical and intellectual level of the people who today pollute the air, water and soil from the moral point of view does not surpass that of their barbaric ancestors.

In such a structure of the world it becomes increasingly more difficult to find a road leading to the satisfaction of the psychic and somatic needs of man, conditioning his health. After all, these roads have got lost in the uncontrolled inter-relations between the technosphere, the biosphere and the sociosphere.

Though machines facilitate the work of the muscles and help to solve extremely difficult intellectual tasks, they are not fit to perform the functions of masters and cannot serve as a model of human feeling and human thought. Unfortunately, however, this model is becoming more and more widespread under the sky of the technosphere. No wonder that the law of demand and supply continues to have absolute power; the reification of man and man's indifference contribute to the deepening of the precipice between people. Unselfish human kindness in regard to other people turns into a ridiculous relic of the past. Nevertheless, we must find the road leading us out of the impasse. Since we have found out that man is capable of changing his natural environment in a way that is suicidal for him, it is necessary to become convinced of our ability also to give the world a better shape.

All of us, scientists and writers, should abandon our positions of a specialist's secret and disseminate knowledge, so that it may reach the thatched cottages, too, something which today with our mass media is quite possible to achieve.

The humanities and above all ethics should not only keep step with technical sciences, but even outdistance the latter. What can save us is a scientific and humanistic revolution, which would embrace all the people throughout the world. One of its fundamental features, a condition for protection from the rapidly rising trends of civilizational diseases therefore is the awakening of an ecological conscience among youth and adults. This notion means to me the absolute necessity to protect the psycho-social and biophysical environment, in order consciously to improve "the quality of life", so that it would be conducive to health.

From Polish

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