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Social and Economic Analogues of Ecological Phenomena

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ABSTRACT

The purpose of this study is to demonstrate the commonality of social, economic and environmental phenomena, the presence of related features.

Method: Comparative (comparative) analysis of humanitarian (social) economic and environmental phenomena and the identification of similarities and similarities in three types of phenomena.

Results: Based on the specific facts observed in biology or ecology and in human society, there are many similarities in these three types of phenomena.

Conclusion: The conclusion is made that taking into account the nature of environmental phenomena in human society (society) would be very useful and would lead to lower human costs.

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Introduction

Ecology as a scientific and academic discipline in human life, both in a theoretical and an applied sense, has numerous applications. Ecology and environmental phenomena have many connections with almost all scientific disciplines, such as philosophy, sociology, politics, economics, thermodynamics, chemistry, physics, mathematics, morphology, physiology, law, ethics (morality), pedagogy, etc., since ecology intensively penetrates almost all areas of human knowledge, including even our speech or language, and into all spheres of production and other activities. In other words, at the end of the 20th century, there is an intensive "greening" of science. Greening all the hypostases of being is an objective prerequisite for harmonizing the relationship between man, society and the biosphere. Earlier we considered the physical and chemical analogs of some laws of ecology. In this paper, we want to analyze the relationship between ecology and social and economic phenomena [1].

Materials and their discussion

Social analogues of environmental phenomena

We will begin the analysis of the problem considered in this article with social analogues of environmental phenomena. It is known from biology and ecology that during long-term cultivation in a given agrocenosis of the same agricultural crop (for example, corn, potatoes or wheat, etc.), the soil is depleted in certain nutrients necessary for the growth and development of this plant. If the lack of nutrients in the soil is not replenished by the introduction of nutrient fertilizers, composts or manure, then the agricultural yield in subsequent years will decrease. On the other hand, it is also known that every agricultural crop has natural enemies associated with them by trophic and topical relationships. With an excessive number of such natural enemies, the normal growth and development of plants is also disrupted. It is for these two reasons that such an agricultural technique is recommended as the correct crop rotation, i.e. consistent change of cultures in a certain area.

In the wild (not controlled by humans) nature under the influence of various (including the above) reasons over time there is a natural change of plant (and not only) ecosystems, that is, succession. In other words, some species of dominant (prevailing in a given biotope) crops are replaced by others, more suitable in the changed environmental conditions.

Something analogous to the phenomenon of succession can be observed in human society. So, for example, any boss of a more or less high position (or rank), fulfilling his official duties, is forced to encourage someone and punish someone, and cannot be equally good and kind for all his subordinates. If this leader holds this post for a long time, then over time he will have a large number of opponents, ill-wishers, envious people and even enemies. These opponents, of course, unite, weave intrigues (conspiracies) against the leader, and sooner or later will find ways to replace him from his post. Moreover, the temptation to overthrow a boss arises not only in the camp of enemies, but also among his friends and subordinates for various reasons and motives. This process is really observed in social life with one or another periodicity quite often. Moreover, the leader's stay at the helm depends on many

factors, including the level of his education, professional training, internal culture and upbringing.

It is known from ecology that the heterogeneity of the environment is created not only by abiotic factors, but also by the living organisms themselves. For example, an edificator (or builder) species creates conditions in a given biotope for the fixation there of other species associated with it by trophic, topical, and factory connections. Burrowing cohabitants, ecto- and endoparasites, etc [2]. can act as the latter. If at first both can coexist peacefully, then over time, with an excess of parasites, they can destroy the host.

Relationships that develop spontaneously between different types of living organisms in nature retain their significance in human society. It is worth, for example, a more penetrating person to infiltrate power structures, so over time he attracts his relatives there, or his loyal and devoted friends. This first one, who, by chance or by the will of fate, ended up at the top of the social pyramid, creates conditions for fixing its environment in it (in fact, becoming a parasitic layer over time) in order to increase effective work. No matter what social, economic, ethical, aesthetic slogans the high-ranking officials hide behind, the true motives of their actions and thoughts to ordinary people are clear and visible even with the naked eye. The edifier or builder in the environment he created himself feels very comfortable and comfortable, since at the same time he constantly feels the "group effect", a sense of satisfaction and his superiority over other people.

But the "builder" constantly experiences one inconvenience - it is to lose, to lose his dominant, dominant position, since there is nothing eternal on Earth, especially since the "reserve" always has a temptation to take the place of a leader at an opportunity. A change of leader is not always a tragedy for society, and sometimes even a blessing for it. We observe the same analogy in the animal population, when the change of the leader or leader as a whole is beneficial for the flock or herd (and does not harm them at all).

And the hierarchical construction of the pyramid of power, when each level has a certain share in the pie, is reminiscent of the tiering of trees and vegetation in a forest. Under the canopy of tall trees of the first and second sizes (under the auspices of high bosses), undergrowth, shrubs and grasses grow (subordinates of lower ranks feel free and confident). Just as shade-tolerant plants do not miss a small opportunity to intercept even weak sunlight and rise higher, so do the leaders of the second, third, etc. ranks are patiently waiting and do not miss their chance to rise higher in the career ladder.

Another analogy between social and environmental phenomena is competition in both nature and human society. The source of all forms of competition, rivalry and antagonism, as is known, is the lack of natural resources [3]. The law of limited resources is just the basis of the axiom - the saying of the American ecologist B. Commoner "there is not enough for everyone". Wars between states for the redistribution of natural resources (in particular, oil and gas), the confrontation between states and different peoples is basically the same nature, as well as intraspecific competition among animals and plants. The only difference is that if in the course of competition the best survive in nature, then in human society competition takes on more severe and ugly forms, and therefore often not the best remain [3].

One very important and useful conclusion can be drawn from the above material. Taking into account the nature and patterns observed in environmental phenomena in human society would be very useful for people, since this can avoid large human sacrifices and costs.

Economic analogues of environmental phenomena

Let us begin to present the essence of the problem with a simple phrase "ecological niche", which can be perceived as an example of the economic principle of "division of labor" in the economy. When closely related animals live together in the same biotope (or biocenosis), a fine delineation of ecological niches occurs between them. For example, in the African savannas, hoofed animals zebras, antelopes and gazelles use pasture food in different ways: zebras eat the tops of grasses, antelopes eat what the zebras leave for them, and gazelles feed on the lowest grasses. With such a specialization in nutrition, competition between these species is excluded, and they get the opportunity of peaceful coexistence (consensus), individual species almost do not lose their vital energy to clarify relations with each other, i.e. in the struggle for food, space, territory, etc. Species spend most of their vital energy on preserving their offspring (reproductive activity). In this regard, the concept of dividing an ecological niche, spontaneously established between related species in the course of a long evolution in wildlife, is very similar to the principle of division of labor, which is widely used not only in the practice of the world economy, but also in the economy of each individual country. At the same time, any production receives similar advantages and, naturally, higher labor productivity in it and its efficiency. It is likely that the economists of the past borrowed the principle of division of labor from nature, which has always served and continues to serve as a source of ingenious and wise decisions.

On the other hand, the concept of an ecological niche is akin to the principle of low-waste technology, which is also exemplified by nature itself, implementing it ideally through the establishment of food connections between organisms at different trophic levels.

The separation of ecological niches of various types, in addition to the tasks noted above, also fulfills the following very important problems. On the one hand, it contributes to a more complete and rational use of natural (in particular, forage reserves in the above example) resources, which in itself is very important from an economic point of view, especially in poor natural biocenoses (tundra, steppe, desert, etc.).
On the other hand, it undoubtedly accelerates the process of the circulation of substances in nature and thereby ensures the stability of life in the biosphere.

Thirdly, the narrow specialization of the species in nutrition, in the use of living space, in the time of activity and other traits contributes to the better survival of the species due to its better adaptation to abiotic and biotic environmental conditions.

In principle, such interspecific relationships as predator-prey, parasite-host, commensalism (parasitism), mutualism or symbiosis also serve the above-mentioned tasks. Moreover, this kind of relationship plays another important role in the mutual regulation of the number of species in nature, smoothing out the so-called "waves of life" that are periodically observed in nature, i.e. outbreaks of mass reproduction of certain animal species in favorable years for them.

Conclusion

From all of the above material, the following conclusions can be drawn:

1. 1. There are many analogies between living and inanimate nature, not only in external form, but also in internal content,

which makes them related and brings them together, to some extent erases insurmountable barriers, visible and invisible boundaries, allows, under very specific conditions, probable transitions between them, as well as the use of general laws for the benefit of humanity, in order to minimize unnecessary costs and for the benefit of humanity as a whole.

2. The connection of environmental phenomena with the fundamental sciences, the integration, complex and complex nature of ecology itself allows using the enormous scientific potential of all sciences (humanitarian, social, technical and natural) not only for a better understanding and disclosure of the essence, scale and nature of environmental problems of our time, but and apply the intellectual resource, capabilities and abilities, as well as the political will and energy of a huge army of scientists, their students and supporters to prevent environmental disasters and disasters and preserve nature. The greening of all branches of science and production, as well as the worldview of people, is the best guarantor of the harmony of man, society and the biosphere.

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