SECTION 14.
SOCIOLOGY AND STATISTICS

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THE NATURAL AS ARTIFICIAL AS NATURAL (THE PATH TO THE UNITY OF GOD FROM MACHINE AND MACHINE FROM GOD)

Interest in the study of the artificial and the natural was evident even in ancient times. Thus, Aristotle pointed out that "of the things themselves, natural ones are more whole than artificial ones, as we have said with respect to the unified, for wholeness is a kind of unity." Moreover, of what comes into being, one comes into being naturally, another through art, a third spontaneously; and everything that comes into being, comes into being as a result of something, from something and becomes something," "and everything that comes into being — whether naturally or through art — has matter, for everything that comes into being can both be and not be, and this possibility is the matter of every thing; in general, nature is both that from which something comes into being and that in accordance with which it comes into being" [1, p. 175, 197-198]. In addition, "art in some cases completes what nature is unable to produce, while in others it imitates it; "If… things created by art come into being for the sake of something, then it is obvious that those existing by nature also come into being, for in both those created by art and those existing by nature the relation of the subsequent to the antecedent is the same" [2, p. 98]. Here it is appropriate to recall the Hippocratic imperative: "Nature is the highest guide. Indeed, if it is present in those who practice the arts, then the path to all that has been said above is open to them. For correct use cannot be learned either from wisdom or from art; before art is learned, nature flows and overflows in order to take origin; wisdom consists in knowing everything that is done by nature" [3, p. 110].

Lao Tzu recognized the importance of orientation toward nature and following the natural course, as well as the fact that one should not destroy natural destiny with artificially created intentions [4, pp. 254, 274]

K. Linnaeus established that: 1) Natural classes are created in such a way from the beginning that they are evident from their multitude; 2) Artificial classes replace natural ones until all natural ones are discovered: when, with the discovery of many more genera, they are revealed, it will be very difficult to establish clear boundaries of classes; 3) A trait is the definition of a genus and can be of three kinds: artificial, essential, and natural; 4) An essential trait endows the genus to which it belongs with its most characteristic, unique feature; 5) An artificial trait distinguishes a genus only from other genera of the same artificial order; 6) A natural trait must unite all possible features of a genus; therefore, it includes an essential and an artificial trait [5, p. 95, 118-119].

I.V. Goethe "observed in nature how lawfully she acts to produce a living form, a model for every artificial one" [6, p. 78]. As in the Bible: “And truly, ask the beasts, and they will teach you; the birds of the air, and they will tell you; or speak to the earth, and they will instruct you; and the fishes of the sea will tell you. Who in all this does not know that the hand of the Lord has done this?” [Job 12:7-9]

Ch. Darwin recognized that: 1) man, through selection, can certainly achieve great results and adapt organic beings to his own needs, accumulating insignificant but useful changes granted to him by the hand of Nature; but natural selection, as we will see further, is a force tirelessly ready for action, and it immeasurably surpasses the feeble efforts of man, just as the creations of Nature surpass the creations of Art; 2) the appearance of new forms and the disappearance of old forms, both natural and artificial origin, are interconnected [7, pp. 134, 243]. Continuing this thought of Ch. Darwin, we will give an example: monkeys, as is known, can be found in the jungle, in the zoo, in the circus. From the point of view of human economics, a wild monkey is valued at the cost of meat, i.e. minimum value; a monkey from a zoo is valued higher, and a circus monkey - at the level of maximum value. But, as we know, if wild monkeys disappear, the population of monkeys in zoos and circuses will quickly decline. So God and Nature are the best breeders.

The phenomenon of polarity in reasoning was noted by K. Marx, speaking about a very strange technique in which the existence of only two types of institutions is recognized: “some are artificial, others are natural” [8, p. 48].

A fundamental contribution to the development of the issues of the "artificial" was made by G. Simon, who in the section "how the artificial grows into the natural" proposed "four features that distinguish the artificial from the natural", where artificial objects: 1) "are constructed (though not always entirely intentionally) by man"; 2) "may outwardly resemble natural ones, but differ significantly from the latter in one or more respects"; 3) "can be characterized by their functions, purposes and degree of adaptation to the requirements of the environment"; 4) "often,

especially during their design, are considered not only in descriptive terms, but also from the point of view of the category of "should"". At the same time, he pointed out that "only some "innate" characteristics of the internal environment of a thinking person limit the adaptation of his thinking to the type of task facing him; everything else in his thinking and behavior in solving problems is "artificial", that is, acquired through training and is accessible to improvement through the discovery of more effective approaches" [9, p. 14, 37]. All this is consonant with the concept of T. Hobbes, in which he admits that "Human art (the art by which God made and governs the world) is an imitation of nature, as in many other respects, so in this, that it can make an artificial animal. For ... all automata (mechanisms ...) have artificial life? ... However, art goes further, imitating the rational and most excellent work of nature - man. For by art is made that great Leviathan, which is called ... the Commonwealth (or State), ..., and which is only an artificial man, though larger in size and stronger than the natural man, for the guardianship and protection of which he was created. In this Leviathan, the supreme power, which gives life and motion to the whole body, is an artificial soul; the magistrates and other representatives of the judicial and executive power are artificial joints; ... the advisers, who inspire him with all that is necessary to know, are memory; justice and laws are artificial reason and will; …договоры и соглашения, при помощи которых были первоначально созданы, сложены вместе и объединены части политического тела, похожи на то … «сотворим человека», которое было произнесено Богом при акте творения [10, с. 6-7].

The basic diagram of the disposition of artificial and natural is shown in Fig. 1.

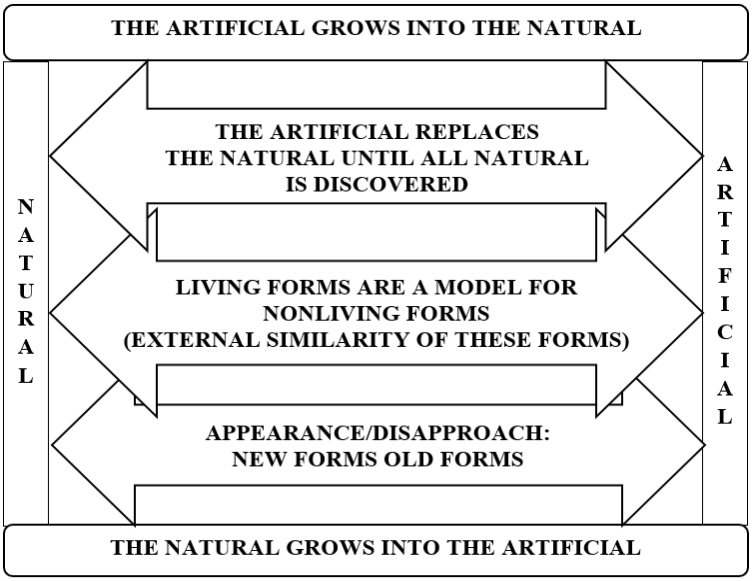

Fig. 1. **Schematic diagram of the disposition of artificial and natural**

Note: compiled by the author based on [1-9]

Almost all authors studying scientific problems of the natural and artificial, to one degree or another draw on religious texts. Thus, E. Durkheim believed that “philosophy and science were born out of religion because religion initially replaced science and philosophy” [11, p. 184]. A. Einstein supported the opinion that “in our materialistic age, only deeply religious people can be serious scientists” [12, p. 129]. As J. Bernal believed, “the ideas and theories of science are drawn from social life, first from magic, then from religion and even later from philosophy” [13, p. 41]. Moreover, in art, images of gods occupy an important place. From Hesiod we learn that “close by, everywhere among us, dwell the immortal gods”; in Homer, the gods, in addition to the fact that they performed the functions of scriptwriters and directors of military battles, they also directly control the actions of individual warriors. Accordingly, the specific role of "god ex machina" arose in ancient theater. In narratology, the expression "god ex machina" is used to indicate an unexpected resolution to a difficult situation that does not follow from the natural course of events, but is something artificial, caused by external intervention [14]. On the one hand, in the theater, "god ex machina" is intended to convince the audience that in any situation there is hope for miraculous salvation; on the other hand, "god ex machina" can create in the audience the feeling that the machine that brings God is more important and desirable than the God himself.

Even Augustine of Hippo pointed out that "when a man lives according to man, and not according to God, he is like the devil," and therefore two different and opposite cities were formed, because some began to live according to the flesh, and others according to the spirit" [15, pp. 658-659]. M. Luther agreed with him: "the human will is somewhere in the middle, between God and Satan" [16, p. 332]. In reality, all sighted people see machines, but God, as the Bible teaches, "no one has ever seen." This is how the sacralization of material things occurs: the iceberg of "god ex machina" turns over in the format of "machina ex god." In this regard, A. Toynbee pointed out the risks of two forms of error: the “pathetic” one, which endows inanimate objects with life, and the “apathetic” one, according to which living beings are treated as if they were inanimate objects [17, p. 81]. It is known that even atheists can have hope for the emergence of a “god ex machina”. But L. A. Seneca reminds us that “following hope comes fear” since “both are inherent in an uncertain soul, anxious about the future; and the main cause of hope and fear is our inability to adapt ourselves to the present and the habit of sending our thoughts far ahead: thus foresight, the greatest of the blessings given to man, turns into evil.” [18, pp. 25-27]. Therefore, those who hope for a “god ex machina” without making any effort run the risk of receiving not “help from God,” but a primitive “jack-in-the-box,” as the Bible also points out: “For he that hath, to him shall be given: and

he that hath not, from him shall be taken even that which he hath" [Mark: 4, 25].

If we speak of a person without piety, then Plato already pointed out that we are all "miraculous dolls of the gods" [19, p. 93], that is, artificial beings.

J. O. La Mettrie believed that "man is such a complex machine that it is completely impossible to form a clear idea of him, and therefore to give a precise definition." For this, a strong mind is needed to grasp and combine the enormous number of words with which the sciences I am talking about express their truths; on the contrary, sciences that speak the language of numbers or other signs are very easily assimilated" [20, pp. 180, 193]. Let us cite as an example that each Hebrew letter conveys three concepts: 1) a letter, that is, a hieroglyph; 2) a number, depending on its location; 3) an idea [21, p. 93].

But the image of the artificially created Homunculus, created in his tragedy "Faust," warns us that, firstly, it is extremely fragile; secondly, it can exist only in a closed space, while the natural universe is not enough; and thirdly, it gravitates toward a partnership with the devil, not with God [22].

K. Marx described an era in which "the natural connection with property has given way to an artificial connection" [23, p. 86]. At the same time, considering machines as "organs of human will, dominating nature, or of human activity in nature" or as "organs of the human brain created by human hand, the materialized power of knowledge" [24, p. 215], he did not point out that "the intellectual devastation artificially created by turning immature people into mere machines for producing surplus value is very different from natural ignorance, which leaves the mind in a state of thoughtlessness" [8, p. 364].

The diagram of the divergent-convergent evolution of the "god from the machine" and the "machine from the god" is shown in Fig. 2.

And today, as John Taylor Gatto argues, "the methodology of the American educational system is precisely that of treating people as machines. Bells ring, electrical circuits open and close, energy flows or is interrupted, quality is reduced to a numerical system of evaluation, a plan is carried out of which the machine parts have not the slightest idea" [25, p. 43]. And what is to be done? If we proceed from religion, then we should return to the state of a child [Matthew: 18: 3]. G. Hegel also argued that "forward movement is a return to the foundation, to the original and true, on which depends what we begin with, and which in fact gives rise to the beginning [26, p. 127]. If we take this literally, then humanity is, as it were, offered a journey from civilization to savagery.

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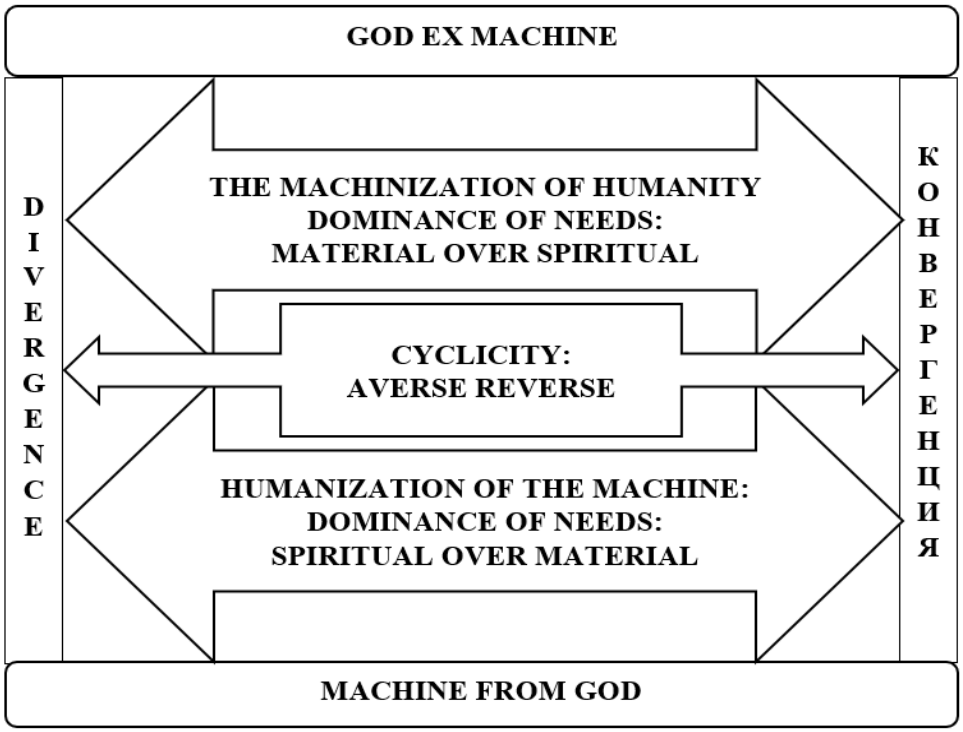

Fig. 2. **Diagram of divergent-convergent evolution of "deus ex machina" and "machine ex god"**
Note: compiled by the author based on [10-29]

Certainly, one could propose a journey from ignorance to fundamental truths. In this regard, an instructive example is the return to Buddha of the heroes of Wu Cheng-en's Journey to the West, where the Tang monk is somewhat like a "god ex machina," and Sun Wukong is a "machina ex god" (a stone monkey, formally civilized, but socially and psychologically savage). Having endured extremely difficult trials during their long journey, they became true partners, receiving from Buddha Tathagata the titles of Buddha of Virtuous Sandalwood Merit (Tang monk) and Victorious Buddha (Sun Wukong). In a certain sense, this is an allegory for the convergent evolution of man and machine, that is, a departure from both the sacralization of machines and the ideas of Luddism: the search for a golden mean.

Noting the low level of intelligent use of computers (10%), N. Wiener pointed

to the reason for this situation: "...in order to know what to give to a machine, intelligence is needed. And in many cases, a machine is used to buy intelligence that is not there. A computer is as valuable as the person who uses it. It can allow him to cover a greater volume of work in the same amount of time. But he must have ideas." [27] And the ideas themselves, Plato pointed out, "exist in nature as if in the form of models, other things are similar to them and are essentially their likeness, and the very participation of things in ideas consists in nothing other than their assimilation to them [28, p. 354]. And if "a master makes this or that thing, peering into its idea," then "no master creates the idea itself" [29, p. 390].

Conclusions:

* Man, as religion and philosophy teach, consists of three elements: 1) spirit; 2) soul; 3) body. The body is generally regarded as a natural element, although if the soul is associated with blood, then it also contains a natural element, and only the spirit is considered an artificial element. It is clear that while the body, by direct signs, can be measured quantitatively and qualitatively, like a natural element, romantic authors and physicians measure the soul very tentatively, while the spirit is assessed primarily by poets, philosophers, and theologians.

* At the same time, for God, who, as we know, "is all in all," everything is artificial and everything is natural. But He poses riddles and expects man to solve them, and it is precisely in the process of solving them that man develops as a species.

* At all times, questions of a completely natural, material nature have dominated the interests of civilizations, and since a certain time, technical questions have become more prevalent. At a certain point, it became apparent that the artificial was merging with the natural, and with the advent of computing technology, that the artificial, too, was beginning to merging with the natural. Interest in the unity of the artificial and the natural increased especially with the emergence of artificial intelligence.

* It is clear that technological progress is predetermined by the Spirit, not the body; blood could only act as an inhibitor or activator. And if the "god ex machina" was for a long time more of a prompter than an actor, then, with the unfolding of the machine age, he increasingly transformed into a "machine ex god," that is, from empirical, unconscious inventions, he became the product of scientific and theoretical, conscious activity.

* The accelerated advance of modern civilization into the largely unexplored era of digitalization requires a fundamental understanding of all its positives and negatives, so that all cycles and forms of this movement do not turn out to be a retreat into barbarism and savagery, as has happened in history.

References:

1. Aristotle. Works in 4 volumes. Volume 1. / Translation from Ancient Greek. Moscow: Mysl, 1976. – 550 p.
2. Aristotle. Works. in 4 volumes. Volume 3. Translation from Ancient Greek. Moscow: Mysl, 1981. – 613 p.
3. Hippocrates. Selected Books / Translation from Ancient Greek. Moscow: Gosizdat, 1936. 738 p.
4. Ancient Chinese Philosophy. Collection of Texts in Two Volumes. Volume 1. Moscow: Mysl, 1972. – 303 p.
5. Linnaeus, Karl. Philosophy of Botany. / Translation from Latin. Moscow: Nauka, 1989. – 456 p.
6. Goethe I.V. Selected Works on Natural Science. / Translation from German - Moscow: Publishing House of the USSR Academy of Sciences, 1957. - 553 p.
7. Darwin Charles. The Origin of Species by Means of Natural Selection, Or the Preservation of Favored Races in the Struggle for Life. / Sixth edition, with additions and corrections (thirteenth thousand). London: John Murray, Albemarle Street. 1873. P. 455.
8. Marx Karl. Das Kapital. Kritik der politischen Oekonomie. Erster Band Back I: Ber Produktionsproeesi dee Kapitals Herausgegeben von Friedrich Engels. Sechs te Uplage Das Recht der 'Dberaetauig ist Vorbehalten. Hamburg: Otto Meissners Verlag, 1909. – 739 p.
9. Simon, Herbert. The Sciences of the Artificial / Translation from English. 2nd edition. – Moscow: Editorial URSS, 2004. – 144 p.
10. Hobbes, T. Works in 2 Volumes. Volume 2 / Translation from Latin and English. – Moscow: Mysl, 1991. – 731 p.
11. Durkheim, E. The Elementary Forms of Religious Life. The Totemic System in Australia / Translation from English, German, and French – Moscow: Canon+, 1998. – 231 p.
12. Einstein, Albert. Collected Scientific Works. In 4 Volumes. Volume 4. / Translation from English – Moscow: Nauka, 1967. – 599 p.
13. Bernal J. Science in the History of Society / Translation from English. – Moscow: Foreign Literature Publishing House, 1956. – 735 p.
14. Babichev N.T., Borovsky Ya.M. Dictionary of Latin Catchwords. – Moscow, 2003. – 784 p. 15. Augustine the Blessed. On the City of God. / Blessed Augustine. – Minsk: Harvest, Moscow: AST, 2000. – 1296 p.
15. Erasmus of Rotterdam. Philosophical Works. Translation from Latin. – Moscow: Nauka, 1987. – 703 p.
16. Toynbee Arnold J. A Study of History / New York, N.Y. 10017 copyright 1946 by Oxford University Press, Inc. P. 697.
17. Seneca L.-A. Moral Letters to Lucilius: Treatise / Translated from Latin. – M.: Mir knigi, Literaturaya, 2006. – 528 p.
18. Plato. Collected Works in 4 Volumes. Volume 4; Translation from Ancient Greek. – M.: Mysl, 1994. – 830 p.
19. La Mettrie J.O. Works / 2nd ed. – M.: Mysl, 1983. – 509 p.
20. Encausse (Papus) Gerard. Kabbalah, or the Science of God, the Universe, and Man: New Modern Edition, Corrected and Supplemented, Edited by Olard Dixon / Translation from French. – M.: RIPOL classic: LADA, 2005. – 448 p.
21. Goethe Johann Wolfgang von. Faust: The Tragedy of the Old Testament
22. Marx, K., and Engels, F. Works. 2nd edition, Volume 1. Moscow: Gospolitizdat, 1955. 698 p.
23. Marx, K., and Engels, F. 2nd edition, Volume 46, Part II. Moscow: Gospolitizdat, 1969. pp. 1-290.
24. Gatto, John Taylor. The Puppet Factory: A Schoolteacher's Confession / Translated from English. Moscow: Genesis, 2006. 128 p.
25. Hegel, G.V.F. The Science of Logic. In 3 volumes. Vol. 1. / Translated from German. Moscow: Mysl', 1970. 501 p.
26. Machines Smarter than Men? Interview with Dr. Norbert Wiener, Noted Scientist. // U.S. News & World Report. – 1964. – Feb. 24. – Pp. 84-86.
27. Plato. Collected Works in 4 Volumes. Vol. 2 / Translation from Ancient Greek. – Moscow: Mysl, 1993. – 528 p.
28. Plato. Collected Works in 4 Volumes. Vol. 3 / Translation from Ancient Greek – Moscow: Mysl, 1994. – 654 p.