
EVOLUTIONARY BIOLOGY AND FOUNDATIONS OF ETHICS

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Abstract

The explanation of human being as a biological entity is successful but incomplete and it demands the use of multilevel hierarchical approaches to solving problems about the origin of human ethics and values. The paper is attempting to critically analyze some evolutionary philosophical approaches to the understanding of human ethics. The author presents his view of the problem in the context of Orthodox theological tradition.

Keywords: evolution, Biology, Sociobiology, ethics, values, philosophical-theological understanding

1. Introduction

Today many philosophers of science consider a wide spectrum of problems interconnected with evolutionary biology. Such biologists as R. Dawkins, W. Irons, R. Alexander, E. Wilson and E. Mayr assert that evolutionary biology can be an adequate basis for normative ethics. In this connection it is especially indicative that E. Wilson's sociobiology tries to reduce all variety of human life to evolutionary changes in nature and to generate on this basis new ethical values corresponding to the level of development XXI-century humankind. For example, E. Wilson wrote: "It is time to invent moral reasoning of a new and more powerful kind, to look to the very roots of motivation and understand why, in what circumstances and on which occasions, we cherish and protect life" [1].

In this connection it is interesting to analyze the ethical conceptions of neo-Darwinian philosophy and try to answer the question what view of human nature can lead to formation of ethical knowledge which should apply at all times and in all places. In agreement with P. Nowell-Smith we can define morality as a system which contains some fundamental propositions such as notions about human and world, conceptions of good and evil and rules which are constructed on these conceptions [2]. These propositions can include: 1) recognition of sense of the world; 2) understanding of human reason as the capacity of human nature which cannot be reduced only to material factors;

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3) recognition of real freedom of human beings; 4) recognition of the immutability of human nature.

Understanding the question of the foundations of ethics depends directly on the understanding of nature as a whole and human nature in particular. The answer to this question can impact on the substantiation of ethical teaching. If we suppose that human beings are only the product of biological evolution and its blind laws as neo-Darwinian paradigm suggests then humanity cannot be anything else than what would be defined as aspiration to the survival of species and ‘maximal reproduction of genes of this species’. However if humanity is something more than the product of biological evolution the answer to any questions about the foundations of ethical actions becomes absolutely different.

2. The Neo-Darwinian paradigm of Ethics

First of all, it is necessary to note a difference between neo-Darwinian biology and neo-Darwinian philosophy. Modern evolutionary theory or neo-Darwinian synthesis is a biological theory which systematically explains the diversity of living forms over time. Its central thesis consists of the assertion that the main forces of evolution are accidental changes and natural selection. Accidental changes give some organisms reproductive advantages and these ‘selected by nature’ individuals produce more descendants (or, as some neo-Darwinian thinkers have it, more survived genes). Modern synthesis also includes Genetics which explains the sources of changes and ways of translation these signs in evolution. We cannot to ignore many evidences of the evolutionary biology, for example, our genome has Endogenous retroviruses. There are about 98000 elements and fragments of them within human DNA. How can we explain such facts without evolutionary paradigm? But at the same time we cannot accept reductionist materialistic basis of the Darwinian evolution in its full expression because this paradigm reject any transcendental reality. We have to divide strong scientific theory from its philosophical implications.

The philosophical views of neo-Darwinians are varied but we can suggest some common factors: 1) nature is completely accidental and we cannot to find in it any final causes. Nature does not act for an end. New characteristics and new organisms can evolve fully accidentally and organisms survive only if they can meet changes of environment. 2) Accidental changes and natural selection can fully explain adaptations in living nature without the any necessity for a Creator. For example, such proponents of evolutionary biology as R. Dawkins claim that Darwin made it possible to be “an intellectually fulfilled atheist” [3]. 3) Humanity is just one species of animal. We are simply the product of material causes such as accidental mutations and natural selection, we don’t have an immaterial soul and, we are not the product of ‘special creation’. 4) Understanding of human behaviour should be based on the assumption that it is like the behaviour of any other animal and it is directed to maximum reproduction of human genes. For example, in the evaluation of Darwinian evolution geneticist F. Ayala wrote: “It was Darwin's greatest accomplishment

to show that the directive organization of living beings can be explained as the result of a natural process, natural selection, without any need to resort to a Creator or other external agent” [4].

It is necessary to note that the acceptance of evolutionary biology by scientists does not imply the acceptance of philosophical neo-Darwinism, which rests on the thesis of ontological reductionism while reducing all the highest levels of life’s organization to physical and chemical or molecular-biological processes and reactions. As F. Crick wrote: “The ultimate aim of the modern movement in Biology is in fact to explain all Biology in terms of Physics and Chemistry” [5]. From the neo-Darwinian point of view humanity is simply one of the animals, a product of material causes such as accidental mutations and natural selection. Therefore understanding of existing human behaviour must necessarily be based on the statement that it is like the behaviour of any other animals and is directed to the maximum reproduction of genes of this species.

First of all, it is necessary to make clear what neo-Darwinism means by ethics and what is specific in its representation of the origin of ethical norms? We can give some different descriptions of ethics. For example W. Irons wrote: “all of these theories and ideas are looking alike in their form, all of these suppose that moral senses and inclination to moral decisions are developed by evolution which is guided by natural selection... Morality is an advantage for individuals in the majority of populations... First of all, morality is a form of reciprocal altruism, and second, it is form of compelled altruism.” [6] In the same context, ethics was defined by E. Wilson and underlined that socio-biological statements start with neo-Darwinian representations and consequently try to explain ethics according to their role in stimulation of survival in the dynamics of natural selection. The dynamics of natural selection suppose that species are not invariable; moreover, they represent the set of every possible stage of evolutionary change. As D. Hull wrote: “One consequence of evolutionary theory is that species as such can have no essences... Rarely if ever can a set of traits be discovered which distinguishes one species from all other species throughout its existence. Species split into two or more species very gradually. At any one time there are species in all states of speciation” [7] Another biologist E. Mayr also underlines: “The species are the real units of evolution as the temporary incarnation of harmonious, well-integrated gene complexes” [8]. According to E. Mayr this process of constant changing species is the foundation for making ethical assumptions. He wrote: “There are two reasons why the traditional norms of the West are no longer adequate. The first is their rigidity. The essence of the evolutionary process is variability and change, and ethical norms must be sufficiently flexible and versatile to be able to cope with a change of conditions... Some of the ethical norms adopted by the pastoral people of the Near East more than 3,000 years ago are altogether inadequate for the modern urbanized mass society.” [9]. In Mayr’s view the assumption that ethical values can change in time has its origin in relativism. Neo-Darwinism insists on the relativity of moral norms in human societies and this thought is also underlined by sociobiologist E. Wilson: “The requirement for

an evolutionary approach to ethics is self-evident. It should also be clear, for example, that no single set of moral standards can be applied to all human populations, let alone all sex-age classes within each population. To impose a uniform code is therefore to create complex, intractable moral dilemmas.” [10] An argument was often propounded that human societies have different ethical codes which implies that there are no universal moral values. These values always are conditioned by culture and environment. But in opposition to this view we can say that there are some ethical principles which are common to all human societies, and their violation is culpable in any human society. But in these cases neo-Darwinists assert that these universal norms can be explained in evolutionary terms as advantageous to tribes in their struggle for existence. We can agree with this thesis but it does not explain the origin of these norms by an evolutionary process. Some of these norms do not have any advantage in this struggle and some, for example, monogamy, can decrease the reproductive advantage of tribes. Wilson’s position is clear: we need to postulate ethical pluralism so that we do not have any moral dilemmas!

According to neo-Darwinists, nature is not only essentially changed but anything made by nature has no purpose. All natural things are the products of blind forces. Hence, there is no reason for nature to dictate to us what should we do, and what we should not. From this point of view it would be ridiculous to doubt the moral correctness of artificial fertilization, foetal therapies or euthanasia. The moral problems which our society considers important demand explanation from the point of view of human uniqueness and originality, but today from a neo-Darwinian philosophical paradigm they can be simply removed from the agenda. The fact that evolution is a slow process, and thus human nature is not undergoing radical changes from year to year, ultimately does not argue in favour of a conservative ethic. Slowness of evolution in adjusting a population to changes in the environment is a reason to take things into our own hands and to begin the artificial evolution of human person. But, as noted M.D. Guerra, if there really are no natural limits to human beings, if nature really is in a constant slow state of flux, how can a Darwinian, even a morally serious Darwinian, oppose something such as the ‘new science’ of human cloning? A self-conscious Darwinian such as E. O. Wilson realizes that cloning is simply the next stage of human ‘modification’ [11]. So neo-Darwinism tries to form new ‘ethical principles’ which are self.

Another aspect of the neo-Darwinian paradigm is the accent on a materialistic explanation of the world of phenomena as a whole, and humanity in particular. For example, in his evaluation of Darwinian evolution geneticist F. Ayala wrote: “It was Darwin's greatest accomplishment to show that the directive organization of living beings can be explained as the result of a natural process, natural selection, without any need to resort to a Creator or other external agent” [4]. Biologist R. Lewontin also agrees with Ayala: “We have a prior commitment, a commitment to materialism. It is not that the methods and institutions of science somehow compel us to accept a material explanation of the phenomenal world, but, on the contrary, that we are forced by our a priori

adherence to material causes to create an apparatus of investigation and a set of concepts that produce material explanations, no matter how counterintuitive, no matter how mystifying to the uninitiated. Moreover, that materialism is absolute, for we cannot allow a Divine Foot in the Door.” [12]

But the real problem is that material nature does not have any criteria of moral behaviour. The basic obstacle with which neo-Darwinism collides in its attempt to find a foundation of ethics is that from the point of view of neo-Darwinism humanity is simply an animal whose purposes are identical to the purposes of other animals. For animals, success represents survival, but survival is only a means for the final purpose of reproduction – propagation of genes. P. Hefner summarized neo-Darwinian socio-biological ethical paradigm as follows: “The essence of reality is that the value and meaning of human essence is realized best ways in the behaviour of self-giving which improves the reproductive future of the subject” [2]. However one of the conditions for ethical action is that survival and reproduction are not the main or primary purposes. The purpose of human life is not simply living but in living according to higher principals of human nature such as reason and conscience. As genetics F. Ayala says: “If the preservation of human genes (be those of the individual or of the species) is the purpose that moral norms serve, Spencer’s Social Darwinism would seem right; racism or even genocide could be justified as morally correct, if they were perceived as the means to preserve those genes thought to be good or desirable and to eliminate those thought to be bad or undesirable” [13].

Another problem with a neo-Darwinian paradigm of ethics is that this conception fully rejects any purposes in nature. As R. Dawkins wrote: “there is, at bottom, no design, no purpose, no evil and no good, nothing but blind, pitiless indifference” [14], and S.J. Gould declared: “Nature just is — in all her complexity and diversity, in all her sublime indifference to our desires. Therefore we cannot use nature for our moral instruction...” [15] This rejection of any design or goals in nature with a wholly biological understanding of humanity demands that we recognize that human individuals cannot have any purpose besides the biological. But this recognition contradicts the highest sense of human existence. As J. Wolf noted the idea of design in nature isn’t a product of scientific but of philosophical reflection. This idea was lost by modern natural science, but the idea of design is not rejected only for the reason that design is not a direct consequence of scientific theory. In our explanation of humanity’s place in the world we cannot be satisfied reductionist view of nature which is proposed by Science. A natural worldview supposes that nature is nothing but pointless mechanism and accidental events. If we accept it fully, how can we assert that we have ethical obligations to created nature? “We have no ethical obligations to products of meaningless processes and random events. The experience of meaning and intrinsic value in nature is expressed by the idea of design in nature; therefore we cannot do without it. The idea of design in nature is a classical idea. The philosophical task from time to time is how we categorize it.” [16]

Now we need to consider another problem which is interconnected with the neo-Darwinian understanding of human nature in general and freedom of will in particular. If our behaviour is guided only by material factors then freedom is an illusion. In fact many biologists agree with this thesis when they talk about selfish genes. In agreement with the ontological reductionists paradigm such biologists as R. Dawkins wrote that species do not really exist but selfish genes. Materialist philosophy rejects a priori all that cannot be characterized as manifestations of matter. But it has to suppose that humans as other animals are wholly governed by 'selfish genes'. This resume is so tragic and so contra-intuitive that R. Dawkins in contradiction of his own view needs to assert: "We have the power to defy the selfish genes of our birth... We are built as gene machines and cultured as meme machines, but we have the power to turn against our creators. We, alone on Earth, can rebel against the tyranny of the selfish replicators" [17]. I'd like to ask Dawkins the following question: "How we can rebel against genes if we are gene machines, if we haven't any force in ourselves besides material elements which could make this rebellion?" The internal experience of humanity testifies that human is not conditioned only by material factors. Humanity can overcome its natural inclinations although it is often hard to do. If humanity is only a by-product of material factors then there is no place for moral duty or shame. It is necessary to note that a sociobiological explanation of moral values was criticized by R.S. Karpinsky. She wrote: "The gene-culture co-evolution of socio-biologists is completely abstracted from real human history. The notion of culture is only nominal. Socio-biologists cannot tell us anything about it or its opposite influence on genes and, it seems to me, they don't wish to talk about it when they call Biology 'a new science about human people'." [18] According to Karpinsky, socio-biologists overlook the fact that human genes are implanted in our culture, 'work' in quite different area of 'noo-sphere' (in words of V.N. Vernadsky) and we cannot define them as only biological. Even within the limits of the biological development of humanity it is necessary to speak not only about the influence of biology on human formation but also reverse cultural influence. When biological evolutionism is considered in the context of the investigation of co-evolution it clashes as most difficult problem, the human being. This problem is characterized by modern western philosophy of biology. For example, M. Ruse assumes in his article 'The Biological Sciences Can Act as a Ground for Ethics' that Biology can fully explain all characteristics of humanity: "Biology — let us now agree for the sake of argument, natural selection — has played some significant role in making us moral beings. Morality is an adaptation like hands, teeth, penises, and vaginas. Obviously Biology does not play the only role, and we must certainly allow culture some significant part also. How significant we can leave more or less open, between two false extremes — that everything is basically cultural (the blank slate hypothesis) and that everything is basically biological (the genetic determinism hypothesis). The point is that morality has come through human evolution, and it is adaptive." [19] Such indicative expansion of Darwinism which was born out of Sociobiology, as noted Karpinsky, cannot help to find

new methodological foundations for investigation of co-evolution [20]. We can agree with geneticist F. Ayala who wrote: "...morality exists in objective reality because our exalted intelligence allows us to anticipate the consequence of our actions in regard to others and to evaluate the actions in terms of these consequences... Morality is an adaptation that contributes to the biological success of our species, but it is an exaptation, rather than an adaptation, because it was not directly promoted by natural selection. Moral codes are products of cultural evolution, not direct outcomes of natural selection." [13, p. 333]

Modern moral relativism is directly connected to the loss by humankind belief in the necessity of absolute values and meanings and it is the reason for the modern existential crisis. A way out of this existential crisis is possible only if we could recognize that together with horizontal measurement of life of human person also there is also a vertical measurement. We can agree that humanity has a deep connection with the world of animals but at the same time we need to point out specific characteristics of human beings which mark them out from the animal world. This understanding forces us to recognize the complementarity of human nature and to understand this analogy we need to look at the founders of modern physics such as W. Pauli and N. Bohr, who supposed that we can discuss human experience at different levels and with different descriptions: "...the impossibility of combining phenomena observed under different experimental arrangements into a single classical picture implies that such apparently contradictory phenomena must be regarded as complementary..." [21] Bohr wanted to say that there were many different apparently contradictory ways of classifying human experience. A sunset could be examined from a physical point of view by thinking about the passage of light and why the sun appears to be red, or the combination of colours could be marvelled at from an aesthetic point of view. In his later essays, Bohr applied his thinking on complementarity to research into Philosophy, Biology, Psychology and culture. For example, in spite of their apparent contradictory nature he saw free will and determinism, or brain processes and consciousness, as essentially complementary methods of portrayal which completed each other. From this perspective we can assert that evolutionary understanding of humanity is only partial description and as its complement it demands another one which supposes that humanity is more than only biological it has a vertical dimension – image of God – because humanity was created by God's image.

3. The humanity from Orthodox-Christian point of view

The Orthodox-Christian view of humanity is founded on the understanding that a person belongs to two worlds – spiritual and natural, and at the same time is irreducible to either aspect of reality. From a biological point of view humanity is a part of all living beings and this is the reason why it can be considered as the object of biological science, but at the same time the existential experience of tragedy of human existence testifies that the essence of humanity is irreducible to biological factors and man is above merely natural

existence. The duality of human existence does not the fully divided worlds of ‘res cogitans’ and ‘res extensae’ of R. Descartes. This duality can be understood from the perspective of the Orthodox story of Creation as presented Saint Maximus the Confessor. Natural contemplation investigates the sensible world and comprehends in the λόγοι of being [22]. In view of Saint Maximus Creation, on the one hand, was evolved by guidance of the Divine Logos, and on the other hand, this guidance did not exclude the possibility of self-development and the formation of hierarchical structures within Creation by λόγοι which was initially put there by God. This close relation of Logos to the world is expressed by His energies or ‘small’ logoi (λόγοι). As E.L. Epiphaniovich noted: “according to threefold activity of Logos – creative, providential and judging – His λόγοι or ideas are manifested threefold: as fundamental sources of the natural laws (λόγοι φύσεως) and as goals or ways of Providence and Judgment (λόγοι προνοίας και κρίσεως)” [22, p. 131]. This supposes that humanity is a participant in Logos by nature because it was created by λόγοι which are dynamic forces of God. These λόγοι embrace all being of the Universe and the full extent of its existence. It means that humankind, life and the world are a consequence of simultaneous action of two kinds of reason - natural and supernatural - that is why any total explanation should include both aspects of reality. Humanity was created by image of God and it was called to deification, to be a participant of God’s nature. This first goal of Creation was destroyed by original sin and resurrection of Jesus Christ is the beginning of a new Creation in which humanity can actualize those λόγοι of Creation which connect us with other living world. This organic bond between humanity and the other world is one of the conditions of the future transfiguration of the world when God will be All in All. The Orthodox theologian V. Lossky wrote: “We are responsible for the world. We are that word, that logos in which the world is expressed and in depending from us this world can pray or blaspheme.” [23]

4. Conclusions

The Orthodox understanding of humanity supposes that we can accept the evolutionary origin of nature and humanity in the horizontal dimension but we have to add to this restricted explanation a vertical dimension which is interconnected with the ultimate goals and meanings of human existence. If we want to talk about ethics for XXI-century peoples we need to be open the possibility of recognizing God’s existence. Ethics has its foundations in the nature of mankind and, consequently, a mistake in the understanding of human nature can have fatal effects on its development. The negation of God’s existence inevitably brings to a negation of immaterial essences such as freedom of will, intelligence and meaning and this negation is reason of ethics destruction. But we need to assert that ethics is not the main essence of Christianity or religion. Christianity sees its main goal and essence as being the deification of humanity in Christ. This deification or transfiguration of all

Creation is the main essence of Christianity and ethics is one of the fundamental conditions of gaining this goal.

References

- [1] E.O. Wilson, *Biophilia*, Cambridge University Press, Cambridge, 2003, 138.
- [2] P. Hefner, *Theological Perspectives of Ethics and Human Evolution. Religion and Science: History, Method, Dialogue*, in Russian, Pomorsky University Press, Archangelsk, 2001, 302.
- [3] R. Dawkins, *The Blind Watchmaker. Why the Evidence of Evolution Reveals a Universe Without Design*, W.W. Norton & Company, New York, 1996, 6.
- [4] F. Ayala, *Darwin's Revolution*, in *Creative evolution?*, J. Campbell & J. Schopf (eds.), Jones and Bartlett Publishers, Boston, 1994, 4.
- [5] F. Crick, *Of Molecules and Men*, University of Washington Press, Seattle, 1966, 10.
- [6] W. Irons, Moral, Religion and Human Evolution. *Religion and Science: History, Method, Dialogue*, in Russian, Pomorsky University Press, Archangelsk, 2001, 281.
- [7] D. Hull, *Systematic Zoology*, **25** (1976) 174.
- [8] E. Mayr, *Animal Species and Evolution*, Belknap Press, Cambridge, 1963, 621.
- [9] E. Mayr, *Toward a New Philosophy of Biology*, Belknap Press, Cambridge, 1988, 85.
- [10] E.O. Wilson, *Sociobiology: The new synthesis*, Belknap Press, Cambridge MA, 1975, 564.
- [11] M.D. Guerra, *Religion & Liberty*, **11(4)** (2001) 10, available at <http://www.freerepublic.com/focus/news/1047185/posts?page=164>.
- [12] R. Lewontin, *The New York Review*, **44(1)** (1997) 31.
- [13] F. Ayala, *What the Biological Sciences Can and Cannot Contribute to Ethics. Contemporary Debates in Philosophy of Biology*, Wiley, Oxford, 2010, 330.
- [14] R. Dawkins, *River Out of Eden*, Basic Books, New York, 1995, 133.
- [15] S.J. Gould, *Rocks of Ages: Science and Religion in the Fullness of Life*, Ballantine Publishing Group, New York, 1999, 195.
- [16] J. Wolf, *Global Spiral*, **10(4)** (2009), available at <http://www.metanexus.net/conference2009/articles/Default.aspx?id=10856>.
- [17] R. Dawkins, *The Selfish Gene*, Oxford University Press, Oxford, 1989, 200.
- [18] R.S. Karpinsky, *Biology and Humanism. Philosophy of Biology: Yesterday, Today, Tomorrow*, in Russian, IF RAS, Moscow, 1996, 21.
- [19] M. Ruse, *The Biological Sciences Can Act as a Ground for Ethics. Contemporary Debates in Philosophy of Biology*, Wiley, Oxford, 2010, 303.
- [20] R.S. Karpinsky, *Global Evolutionism and Life's Sciences. Global Evolutionism*, in Russian, IF RAS, Moscow, 1994, 11.
- [21] N. Bohr, *Essays 1958/62 on Atomic Physics and Human Knowledge*, Interscience, New York, 1963, 25.
- [22] S.L. Epiphonovich, *Saint Maxumus the Confessor and Byzantine Theology*, Martis, Moscow, 1996, 127.
- [23] V.N. Lossky, *Essay about Mystical Theology of Eastern Church. Dogmatic Theology*, SEI-Centre, Moscow, 1991, 241.