

4. Development of philosophical ideas about nature in retrospect of the current environmental crisis

4.1 Introduction

Today, government programs, international foundations, and community conservation organizations (like Global Nest, WWF, EEA, IUCN etc.) in many countries are markedly limiting the practice of barbaric exploitation of nature. At least for the public consciousness, the contradictions between the appreciation of *individual* living beings and the preservation of ecosystems of their *species* existence [131] or the discussion of the right of certain landscapes to remain in the wild remain intact [132]. However, the ideological eclecticism that has developed in this area (Earth ethics, bioethics, ecofeminism, social ecology, ecosophy...) leads to a one-sided understanding of environmental ideas, the depletion of the most humane values and the selective adaptation of relevant institutions to local pressing interests.

It is known that during the historical separation of the category of nature from the mythological and religious, socio-anthropological and natural-scientific spheres in the philosophical discourse fixed several of its meanings, that replace each other depending on the context:

1) the innate essence of an *individual* thing (or class of things), represented in a visual image, the relationship of properties or framework of development;

2) the world as a *whole*, taken in the sensory diversity of phenomena (processes, properties) or as an abstract substance, or as a set of all forms of motion of matter – from mechanical to social;

3) the material *half* of the world, which is the antipode, environment, product or initial basis for the development of the spiritual half (man, society, god).

The first meaning was introduced in antiquity, and although not completely out of use (for example, attracted by the Enlightenment, when they, despite the external diversity of people asserted their legal equality on the basis of a common «nature»), in the XVII-XVIII centuries transferred its terminological authority in the European worldview to the second of these common meaning [133]. It, in turn, came into

categorical opposition to the third as φύσις *and* natura (or both natura naturans *and* natura naturata), which denote, respectively, a spontaneous organic self-sufficient generating principle *and* a long material connection of phenomena devoid of expediency.

Not so long ago, this opposition has become entrenched in the public consciousness and has entered into a more general opposition to anti-scientism *and* scientism, leading all discussions on nature management (toxic pollution, greenhouse effects, deforestation, etc.) to the impasse of «internal contradictions of scientific and technological progress»: the more objectively mankind learns about nature, the more intensely it delimits itself with it as a «resource», «past» and «environment», as a result of which survival as the original goal of knowing nature passes into its arbitrary exploitation and, ultimately, destruction. Instead, the alternative overcoming of «alienation» from nature often appeals to irrational moral and value arguments such as «compassion» from the philosophy of J.-J. Rousseau, A. Schopenhauer, A. Schweizer, O. Leopold or «anthropocosmism» in the spirit of the philosophy of V.I. Vernadsky, N.F. Fyodorov, M.G. Cholodny, K.E. Tsiolkovsky, O.L. Chizhevsky.

As evidenced by the collisions of selfishness and moral acceptability surrounding cloning, euthanasia, artificial insemination, intensive poultry farming, plantation agriculture and other recent advances in medicine, energy, ecology or biotechnology, the watershed between living and non-living, natural and artificial, or Cicero's terminology, «first» and «second» natures is not easy [134]. The classical science, except for the famous outbreak of the physioocratic economic opinion in the XVIII century, encouraged scientists to perceive the parameters of human influence on nature in purely moral, applied and secondary aspects, and the present post-industrial civilization is generally transformed from interaction with nature as such (mining, fishing, forestry or agriculture) or transformed (use of energy and materials for machine production of goods) for interhuman relations. It is their «reset» in the new legal and axiological space that is beginning to be perceived as an internal anthropocentric resource for overcoming external environmental contradictions.

However, this resource is increasingly burdened by the mediation of interpersonal relationships through telecommunications and computer technology, which go beyond the original feasibility and acquire their own quasi-natural ontology [135]. In this way, the controversy over the enlightenment idea of scientific and technological *progress* is renewed, which, on the one hand, frees the human spirit from the burden of *material nature*, and on the other – conquers human nature with it. In addition, the lack of terminological reflection on the above innovations (works by H. Jonas [136], P.S. Karako [137], G.E.R Lloyd [138], A.M. Malivsky [139], V.V. Petrov [140]) leads to the dual status of the respective problems and their palliative solution either by rational measures of science and law, or by irrational means of religion and morality.

Given that considerations of nature have become perhaps the first philosophical considerations in Europe, the task of historical and philosophical reconstruction of promising models of nature awareness in the relationship of subjective and objective, rational and irrational aspects in the context of the current global environmental crisis.

4.2 The process of understanding nature in antiquity

Considering the history of ideas about nature, we can distinguish several qualitatively unique, but also interconnected epochs. In primitive times, in the mythological consciousness, the *natural* world differed little from the *human*: the phenomena of nature (and even supernatural forces) were often endowed with human traits, and vice versa. In particular, it is about *animism* – endowing the soul of forests, fields or mountains; the cult of *mother-nature* – the identification of all natural processes with the ability to spontaneous fertility and endless renewal of life; *totemism* – the kinship of the whole tribe with a particular plant, animal or landscape; symbol of the *world tree* – the imaginary arrangement along the plant axes of the structures of space, time, calendar, material elements, fauna, phenology, etc. The intersection of the above two worlds was *genesis*: the ability to generate and grow in pedigree are crucial in nature and primitive society, not without reason the plots of many explanatory myths are reduced to describing family ties or individual origins of plants, animals, humans or the world as a whole.

In pre-Greek society and in the early period of antiquity, myth was the basis of all human ideas, and *nature*, according to him, was alive, spiritual, endowed with meaning and self-worth. Mythological spirits were the defenders of every *object* of nature and in their totality were opposed to social measures or personal intentions as a true, unchanging and related neighborhood. With the advent of philosophy and science, nature becomes categorical as synonymous with *existence* with semantic nuances of *self-sufficiency* (independence from the arbitrariness of people or gods), materiality and sensuality, which can be inherent not only in the «neighboring» but also in the human world. For example, in Hippocratic medicine, the term φύσις corresponds to the *meaning* of human body constitution, etiology of the disease and the active substance of the drug, and senior sophists in the context of educational theory add to them the meaning of ancestral and personal inclinations [141].

In contrast to today's familiar environmental meaning, which is capitalized, early Greek «nature» is more individual, as evidenced by modern European translations of the Hippocratic aphorism φύσεις ἰατροὶ νόσους, when for different diseases had to imagine many different healing natures [142]. The disease here is the result of unequal struggle of internal forces and harmful external causes – improper groundwater, air composition, climate extremes, nutrition... Thus, in Hippocratic teachings, in contrast to Eastern medicine, the causes of health and ill health associated mainly with environmental conditions.

Pre-Socratic philosophers, depending on their worldview, imagined nature as an innate fundamental state of things with their material composition of elements and atoms (Democritus), unchanging internal structure (Heraclitus) or changeable appearance (Parmenides). As philosophy developed, these differences manifested themselves in the alienation into the «fractional» categories of existence of the «numerator» of natures and the «denominator» of being, with a tendency to define the cosmic order as a «denominator». Similar changes are taking place in Ancient Greece with an understanding of the personal origins of man. At the beginning of the epic era (IX century BC) the realization of individuality took place at the level of ethnocultural features, which in Homer's «Iliad» and «Odyssey» were represented by the famous

«heroes». In the Hesiodian epos (VIII-VII centuries BC) the number of advice on life and agriculture already indicates the disintegration of family and patriarchal heredity and the need to artificially instruct individuals or separate them from the secrets of economic activity institution of «ostracism» – ten years of expulsion from his native settlement, but not from a family that then had a wider geography among the Greeks).

In the VII-VI centuries B.C. prominent exiles, such as Pythagoras or Heraclitus, began to restore on their own lost with community care global awareness with the help of theoretical means of philosophy or lyrical poetry and music. And only in the V century B.C. independent thinking about supra-individual reality becomes the norm for both individuals and the polis states in which they live, creating the basis for the word *ἰδιώτης*, which in democratic polises meant a person separated from political power, not authorized to speak from the general point of view. From now on, expulsion to an «outside» world became impossible and was replaced by execution, which coincided with the predominance of state law over tribal law and overcoming «tragic» cases of responsibility of individuals for the crimes of their entire community [143].

In a gradual way of being, the beginning of which was previously seen mainly in the viable forms of nature, takes the form of cosmic or even human mind, as the younger sophists thought. Since Plato, such an intelligent being has increasingly moved beyond the world as far from absolute and devoid of perfection to the higher realm of ideas, while nature acquires the role of a general spontaneous mediator – a means of movement or a source of properties – in the expedient ordering of lower material bodies.

At the same time, in parallel use, the «embryos» meaning of nature as the internal device of any individual (idea or thing) is preserved, which potentially determines its properties. Aristotle on this basis contrasts the natural with the artificial: plants and animals have a cause in themselves, so their existence is essential in any change; artistic (technical) products make sense only in the final manufacture, so do not have a life [144, p 143-161; 145].

Similar differences between Plato and Aristotle are observed in political doctrines, although, at first glance, both presuppose a priori *harmony* of man and society in the

person of the family and the state on the basis of the common good. In Plato, it is due to the greater effectiveness of collective efforts for physical survival, while Aristotle continues this argument with the possibility of released in this way resources for personal self-realization (εὐδαιμονία). At the same time, both classics, without denying social inequality, criticized the heredity of caste privileges (*meritocracy*), depending on the harmonious relations in society from political *practice*, which was not so much as an arena of power struggle, as the quintessence of human life. «Every citizen, as much as he wished and had free time (due to the presence of slaves), participated in the sovereignty of the people, that is, could enjoy the realization of their own participation in governing the state» [146, p. 55.].

Herefrom the meticulous attention to state *regimes*: Aristotle, for example, described as many as 158 varieties to reduce them to 6 known types, which obviously set completely different *conditions* for the εὐδαιμονία of the citizens of the polis. Interestingly, with the aim, like his teacher, of social conditions for electing leaders, educating them and other people in civic virtues, pursuing the interests of the common good, caring for the rule of just laws... Aristotle finally identifies them with the *republican* regime (πολιτεία) unacceptable to Plato. The fact is that he justifies his choice through the socio-economic structure of society: the ruling middle «middle class» is the *majority* in the polis, which inevitably leads to stabilizing and moralizing social consequences, while Plato begins with the moral foundations and adjusts the social organism to them (utopia).

In the Hellenistic-Roman era, the imperial scale of political life went beyond personal moral responsibility, turning yesterday's polis common good, with which the Athenian classics could associate life, to analogous to partial selfish interests. In particular, Diogenes of Sinope, still full of the morality of the Socratic common good, as can be seen from his compliments to virtuous citizens, already understands that at the level of available to the person polis experience good becomes accidental even in the forms of consecrated tradition. The apparent arbitrariness of the new monarchs in granting civil rights led the «Crazy Socrates of Sinop» and his followers to regard laws and traditions as immoral and unreasonable conventions subject to pantomime ridicule.

Instead, the example of dogs (κύων) emblematic of the Cynic school, which in the role of the natural antithesis of culture in all policies behave the same, shows that the most general cosmopolitan level of public good paradoxically begins to coincide with a single natural. The shortest to this nature in the Cynics – the reduction of vital needs to the physical (rural), and then from this ideal emotionally and culturally impartial by the method of dialectical wisdom (ἀδιάρροπον) to deduce the rest of the norms of social life [147].

Thus, although natura as a material-sensory and space-time «numerator» of space is no longer a management matter, the ancient cosmic *principle*, which represents any thing as part of something greater, allows it to retain the power that generates and motivates things. No wonder the Epicureans, the naturalness of the sage, implies the liberation of the soul from superstition in order to follow the desire to enjoy and avoid suffering. For the Stoics, «living by nature» means subordinating one's own behavior to the innate *intuition* of morality and art, which is present in man through the expediency of his bodily organization (as is present in the matter of the body «fiery pneuma») and corresponds to intelligent and fatal arrangement of cosmos.

4.3 Contradictions of the natural ontology of the Middle Ages

Medieval ideas about nature bear the imprint of the general ontological duality of this era. On the one hand, being a strong-willed divine creature, nature is wonderful, full of the greatness of the Plan for her. In Aurelius Augustine and the subsequent Franciscan tradition of theology, this is illustrated primarily by the aesthetic advantages of nature, in which Christian creationism is combined with Stoic and Platonic arguments of *proportion* and *harmony* of parts: without these principles of beauty, the Creator did not leave, according to the bishop of Hippo, not a feather of a bird or a leaf of a tree, each time combining in visible creatures corporeal and incorporeal nature [148, p. 234, 1399.]. Hence, Severin Boethius sees the basis of the harmony of opposites in the good provided by the Creator and concludes that actions in nature can not contradict him [149, p. 247].

On the other hand, being struck by original sin, nature loses its substance and needs to be renewed. In the days of patristics, this is manifested in the interpretation of nature as a guide to the divine *will* concerning the passage of man through all the vicissitudes of irreversible world history, so all natural things are moral *symbols* of otherworldly meanings and a resource of human existence to improve and save the soul [150]. This perception of nature corresponded to the predominance of unconquered natural landscapes in Europe at the time, the confinement of small centers of Christian civilization hostile natural and barbaric environment [151, p. 528–543.].

This duality has affected the understanding of society: the human community, in fact, is a mixture of *two types* of individuals, guided by opposite motives and subject to different assessments. Aurelius Augustine defined their relationship through a synthesis of ideas such as creationism, the fall, the linearity of history, ecumenism: those who belong to the City of God are willing to accept the church's *higher* guidelines, while the representatives of the Earthly City rather they are subject to the *earthly* coercion of state institutions or prominent figures. One of the applications of this dualism was the dramatic distinction between imitation of Christ and family devotion, because long after the destruction of ancient state and legal institutions, family affiliation was a condition of personal survival. ««...» The behavior of many of the upper echelons, based on asceticism and the Christian emphasis on the individual connection of the soul with God, rejected by both pagans and non-ascetic Christians, which provided for the distribution of family property to the poor instead of multiplying it for heirs, or abstinence from marriage and the obligation to have children to procreate, significantly contributed to the intensification (which continues to this day) of the process of individualization: for the first time individual well-being (also spiritual) became more important than family wealth» [151, p. 44].

Although the self-awareness of medieval society took place in similar static rich oppositions which are given by God (rich / poor, free / unfree, laity / clergy, people / rulers), in practice the social organization established by the institutions of the *church* (sacerdotium) and the *state* (regnum) for several centuries was a *compromise* for the systematic preaching of the gospel and the administration of the sacraments require a

diverse secular infrastructure, and governance, from some scale, is forced to supplement direct reward or violence with threats, promises, and generally values and spiritual guidelines. Philosophical and theological reflection has shown that in a sinful world, pious knights, peasants, or kings form a system of forced but necessary inequality for social protection, production, or rule. If in this way the earthly City, at least, represses moral evil more than itself, it becomes useful to the *City of God* in the role of its forerunner or reflection. Then the political structure in society is perceived as provided by the Creator, at least the rulers look chosen by God, and political resistance – as a denial of God's will.

After the translation of Aristotelian «Politics» in 1260, Thomas Aquinas substantiates this function on the basis of peripatetic schemes of substantial teleology through a hierarchical classification of laws, where each of the lower servants uses to achieve the goals of the higher:

- «eternal law» (*lex aeterna*), which regulates the involvement of certain things in the upper good;
- «commandments of Moses» (*lex divina*), which translate the divine will into the form of social traditions;
- «natural law» (*lex naturalis*), which is the basis of morality both inside and outside the church;
- «human laws» (*leges humanae*), which adapt new historical possibilities of man to the public good.

In a similar way, Thomism defines the Creation of nature through the divine *mind*, which contains the intelligentsia that gives rise to the hierarchy of created «natures». This «scale» begins with intelligible theologically active «forces» (substantial qualities), which delegate the driving functions of the divine management of world history: ««...» He governs the lower [things] through the mediation of the higher ones, and not because of a lack of His ability, but because of an excess of His goodness, so that the ability to cause is also transmitted to creation» [152, p. 196]. Although the root causes remain in the possession of the absolute divine Will (*theocentrism*), in this way a system of causal relations is formed between the created things: in the «book of

nature» appears its own grammar in the form of world order Ordo (*natural centrism*). It begins to give man coordinates for a clear proportion of his own free initiatives and their moral significance on the part of the divine Subject: without direct and constant theistic care, man can receive gratitude or punishment indirectly – through instructive (non)violation of the Ordo.

So, on the one hand, *nature* restores the objectivity lost in late antiquity in a new form of «space cathedral» [153], where each component is a goal for the lower step and a means for the higher. However, on the other hand, its observed legal conformities are only specifications of the properties of the absolute Subject, which through these relative evidences can be known («natural theology»), endlessly improving both them and human ideas about them [154]. According to Bonaventure, ««...» in the present state of our nature, the created world is a scale for ascension to God. Among the creatures, one is God's footprint, the other is His image, one is corporeal, the other is spiritual, the other is transient, the other is immortal, one is outside of us, the other is within us. Therefore, in order to attain contemplation of the Primordial Source, who is supremely spiritual, eternal, and superior to us, we need to go through traces that are corporeal, minimal, and external to us, and this will lead us to God» [155, p. 489.].

4.4 The relationship between man and nature in the Renaissance and the Reformation

Although the idea of nature as a «scale of beings» is still found in Dante's ascent from the depths of hell to the celestial spheres to the top of paradise (and the minds of naturalists continue to possess until the time of Charles Darwin) already in the days of the Renaissance of piety and knowledge of God begins to penetrate *intensely* the vertical of entity. In art, the above-mentioned intensification of ontology acquires a humanistic direction in projects of *artificial* reproduction of the spiritual essence («root causes») of the divine creation, materialized and sensualized in nature. Practicing the works of «second nature» famous artists and inventors of the Renaissance are trying to discover the limits of the original Plan, secularized in the harmony of the sensual necessity of the «first, or created nature».

The possibility of assimilating universal natural actions in the form of laws of symmetry, perspective projection and strict proportion becomes the best evidence of involvement in the same root causes that medieval philosophers sought to reach through endless interpretations of the written word. In this way, humanism not only removes moral and substantial constraints from the sublunary world of nature, but also sets out to show perfect examples of overcoming the erroneously established order of sin – these are visible images of the infinite, beauty as sensually comprehensible greatness of the divine mind [156].

As such an *independent* involvement of Renaissance man in the higher senses, he begins to build his life not on the basis of traditional patterns, but on the basis of consciously determined by the mediation of nature. As before, the created and sinful order required an educational *superstructure*, but its moral *modification*, lowered by God in addition to Creation, began to be replaced by *political*, normatively provided by prominent figures. Together with the focus on the common good, the great geographical discoveries of overseas lands and the reception of the *concepts* of Platonic utopia, neo-Pythagorean brotherhood, the communal tradition of the Essenes, this led to the flourishing of rational projects of an ideal society in the role of building the «kingdom of God» or «heavenly Jerusalem» on Earth. As with Plato, the social condition of new projects was the abolition of private property, but unlike the ancient context, much attention is paid to equal work, spiritual leisure, the study of «creatures of the Lord» for their *own* reasons, and much hope is placed on «machines to transform nature for a happy and creative life».

In other cases, under the influence of economic degeneration of feudalism, dynastic leaps at court, cynical militarism of monarchs, sacred examples of justification of disobedience and other trials of medieval law, ontological levels of sacred celestial and simple earth halves began to differ by sectors and strata of public life. From this point of view, Protestantism is the dilution of political governance (*Res publica romana*) and spiritual life (*Res publica christiana*) in a society united by autocracy, and Machiavellianism is their consolidation as goals and means, respectively, in a society forever divided by *class* goods.

A strong impetus to this anti-traditionalism was made by the Copernican revolution in astronomy, which, together with the structure of the world order of Aristotle and Ptolemy, shook its symmetrical moral and religious scale of values [157]. When in this way the inner, self-conscious life of the individual in its intensity and significance begins to compete with his external life, he has a sense of isolation from nature and comparison with its relative forces in the ancient scheme of *microcosm* and *macrocosm*.

In the natural philosophy of the Late Renaissance, each of these halves of the natural *cosmos* is a harmonious whole in which individual creatures are connected to others horizontally and vertically by a mixture of material, linguistic, symbolic, and psychological regular relations. In such a *speculative* way, the teachings of B. Telesio, P. Pomponazzi, F. Patrizi, R. Fludd, T. Campanella, G. Bruno et al. provided the restoration of ancient substantiality in *nature*, making it a sensual incarnation of truth. It is through this pantheism that the foundations are laid for future veneration in German idealism and romanticism of *naturalness* as the priority inherited in nature of integrity, harmony and ease in the process and results of human creativity or simply social behavior [158].

At the same time, on the other side of the Alps, the principle of *sola fidei* dictates to Protestants an exclusively *empirical* way of understanding nature, because it, like man, through the re-actualization of voluntarist creationist rhetoric seems hopelessly distant from otherworldly meanings. For example, for matter this is manifested in the abolition of internal activity – all spirituality and unmathematical qualities («occultism») in favor of only «corpuscular texture» – visual and commensurate with everyday trade and craft experience and Lutheran understanding of the Eucharist. Such «small machines of nature» are no longer driven spontaneously – by inner souls, mutually agreed upon by a higher Plan or worldly sympathy – but by the *actions* of other parts of matter, ideally covered by *formal means* of mathematical functions.

So, just as a Protestant man is forced to rely on earthly means of salvation, he can know nature only through its hypothetical ordering by means of experiment and mathematics. Unlike *natural philosophy*, where the «book of Nature» is endowed with

substantiality and is perceived as homogeneous – with equal expediency of all elements, including man, the status of the *Protestant* «book of Nature» is purely epistemological: on the one hand – enterprising man, on the other – spontaneously atomistic nature [159].

4.5 Formation of subject-object dichotomy in Modern times

In Modern times there is an intersection of traditional alternatives in the notions of *nature*: it returns to itself from the afterlife, but the form of its discovery is considered as «raw». By philosophically reducing («idealizations») these «raw materials» to the sum of «inanimate» interacting forces and scientific comprehension of their stable combinations in the role of natural laws, man is able to natural phenomena «bring to readiness», but not in the direction of their moral and aesthetic improvement, but for free human goals. For example, F. Bacon, describing the utopian island of Benshalem in 1623 by analogy with Plato's myth of prosperous Atlantis, deviates from Plato when it comes to nature: it does not fall apart in bounties, its benefits can only be obtained by scientific study and technical transformation [160].

According to environmental ethics, such a technological perspective became possible due to the agreement of modern European scientists atomistic and Platonic images of nature, which equally denied it spiritual expediency: Democritus figurative unification of matter allowed universal mathematical nomology, and the Platonic vertical world hierarchy found a continuation in horizontal Cartesian dualism [161].

Thanks to the program works of F. Bacon, G. Galileo, R. Descartes and others the exploitation of nature is normalized as the realization of the freedom of the *subject who sets goals*, and scientific and technological achievements are celebrated as the overpowering and mastery of the material-empirical *object*. In this system of values, images of nature appear as a workshop for a skilled enterprising man [162, p. 5]. The privilege of human domination over nature is dictated by a new interpretation of inherited worldview axioms: «the image and likeness of the Creator of all things» is now seen in the *universal* mind, which allows man to *intensively* realize the extensive embodiment and gradual course of natural laws. According to Galileo, such an

awareness corresponds to the original creative idea of the world and is manifested in *mathematical* language, the knowledge of which alone allows to «read» the original «book of Nature» [163].

The polarization of nature and man as a purely corporeal *object*, guided by spontaneous forces, and a *subject* with spirituality, capable of endowing natural forces with mechanistic meanings, has been noted since the end of the XVIII century is criticized by natural philosophy. For example, in F. Schelling's «speculative physics» in addition to the mechanistic empirical properties of things established by natural science, universal theoretical principles (polarity, development and organic integrity) are substantiated, which allow to cover barely known to science phenomena with *non-mechanical* causality – «animal electricity», electrolysis, electromagnetism, oxygen combustion, cellular metabolism and more.

In the boundless and continuous «hierarchy of productivity» of self-sufficient and internally unified deified nature, which is concretized in these «phenomena of development», *quantitative* mathematical dependences indicate only the external and surface level of processes. Together with the language of experimental and mathematical science, they are subject to subordination to *qualitative dialectical* principles that reflect the deployment of this productivity, when nature, finding an obstacle in finite things, splits into an object involved in *real* relationships and unconsciously creative subject possessing general *expedient* connection. The human mind, reproducing these laws, rises «hierarchy of productivity», thus acting as an instrument of self-awareness of Nature [164, p.184].

Such a Nature with its inherent values (Unum, Bonum, Verum, Pulchrum), demonstrating to the alienated man the ideal of integrity, can be found in the natural philosophy of Goethe and «romantic» aesthetics, whose ideas were rethought in the «philosophy of life» and existentialism. However, as a result of Hegel's influential «castling», nature finds itself in the place of an intermediate step of man's dialectical path to the ideal of the rational Spirit. Considering its supra-individual integrity as a system of conditions and results of human socio-cultural activity, Hegel on a new level continues the main subject-object dichotomy for the new European *mentality*.

4.6 The development of human civilization within the subject-object paradigm

In the Modern philosophical society, this dichotomy is often regarded as a prerequisite for civilizational progress and ecological regress at the same time. Leading among its practical applications are, first, the *liberal model* of public administration, which proclaims the individual *freedom* of citizens to grow and meet their own needs, which limits itself only to considerations of social security and subject-subject law and order. The organizational basis of this *model* was the revolutionary abolition of legal, economic or spiritual privileges (*egalitarianism*), the mechanistic rejection of human history of higher expediency in favor of earthly optimism (*social progress*), the formation of independent judiciary and electoral political system (*democracy*), while among the practical consequences – entrepreneurship (*laissez-faire*), competition, free thought and the positivist orientation of the social sciences and humanities (law, socio-economic philosophy, political philosophy, history).

Secondly, the subject-object dichotomy is continued in this principle of *laissez-faire*, which unfolds into a expedient rationality type of activity («Zweckrationalitaet» of Max Weber), which instead of moral and value principles is subject to regulatory agreements and dictates to scientists experimental-technological («neutral») attitude to studied natural objects, and producers – market guidelines for *maximizing* profits. Expedient rationality, in turn, enables an industrial way of management, based on *unlimited* expedient transformations of nature due to its mechanistic uniformity, analyticalness and predictability.

In retrospect of these three appendices, human civilization was doomed sooner or later to encounter progressive limitations of its vital activity in terms of the limit parameters and resource capabilities of the natural environment. Under the conditions of a «stalemate» situation, which, similarly to the effect of a nuclear bomb, is called an «environmental bomb», the *classical guidelines* for the development of civilization look historically transient or purely tactical and are subject to new *strategic* ones.

In particular, reports from the Club of Rome in the late 1960s state that scientific «neutrality» and economic «maximalism» about nature must be subordinated to the

«optimistic» value of human survival as a species [165]. Aimed at providing social development strategies, it is at least designed to prevent social pathologies and focus on improving social health in the form of medicine indicators, demography, social insurance, ecology, etc. In this way, in the 1970s, system-analytical «global models» of world dynamics were developed, which in 1992 at the International «Earth Summit» in Rio de Janeiro were implemented in the principles of «living within ecological possibilities», which forbids humanity to endanger future generations to the extent of its current needs [166].

Soon, in leading civic communities, classical innovation begins to be balanced by interdisciplinary guidelines of «sustainable development» through the appropriate selection of means of management and associated with the preservation or intensive restoration of nature. Moreover, halting the depletion of the natural environment here correlates with bridging socio-economic gaps and extremist doctrines, as well as outpacing technological progress, so that it has become a *coevolutionary* factor: «future technologies must ensure the use of biosphere products beyond the ecological capacity of the planet. These limits should “fit” in 1% of bioproducts of the entire biosphere, taking into account the specifics of certain ecosystems» [167, p. 20].

The ideological justification of this strategy is often seen in the concept of the noosphere E. Le Roy, P. Teilhard de Chardin, V.I. Vernadsky, who considers man as such a stage of *self*-awareness of the natural evolution of the biosphere, which in the future through the mind is able not only to adapt but also to curb its natural development. In particular, it is a question of coordination of rates of development of technical and social systems for the sake of preservation of a human race and its biosphere resources thanks to transition to a planetary (and even wider) level of planning of own life [168].

However, the necessary scientific basis usually remains *ambivalent*, ensuring the creation of both environmental and operational applications, and the choice between them rests on deadlocks: external administrative and legal feasibility usually contradicts economic as long-term interagency – short-term departmental, and internal ethical appeals to various *irrational* values – from mythological syncretism in worldview

images of anim(at)ism, world tree or mother-nature [169] to environmental pluralism without any worldview coordination of life values of man and nature.

For example, in the latter case, according to C.D. Stone [170], M.A. Warren [171], A. Brennan [172] and others, coexistence with nature means an equal partnership not only in the material-spatial neighborhood, but also in interpretations of rationality. The human mind and its historical development in culture, including the stage of modern science, bears the flaw of artificiality, while any natural life contains the inexhaustible advantage of *harmony* of unity and diversity, order and chaos, causality and spontaneity, selfishness and general expediency, reproducibility and uniqueness...

4.7 Assertion of the intrinsic value of life: science and bioethics

Meanwhile, these deadlocks of the strategy of optimizing the relationship between global civilization and nature, as a continuation of the well-known extremes of scientism and anti-scientism, are a natural result of efforts to solve *modern* environmental problems based on the *classical* understanding of science and nature. According to the outstanding philosopher and methodologist of science O.P. Ogurtsov, in current science the idea of choosing a single true theory from a variety of *descriptions* and *explanations* has been overcome, although the requirement of their transparency, consistency and argumentation in the constant critical dialogue with each other [173, p. 473].

The objective properties they represent today are so mobile and unstable that they merge with methodological design procedures. Moreover, the *post-classical* type of cognitive activity mediates subject knowledge about the object not only with technical or conceptual tools, but also with such mental structures of the scientist as goals and values. For the first time, non-classical thermodynamics came to this conclusion due to the development of the «complexity» of dissipative structures, fractals and vacuum fluctuations observed in open and non-equilibrium systems.

Since their energy was not dissipated, but went to the spontaneous emergence of new structures, they eventually showed an atypical for inanimate matter ability to *negentropic* self-organization. Therefore, in the correct description of these processes,

scientists began to combine analytical procedures inherent in mathematical physics, and individual-historical, more inherent in biology. ««...» Unlike small systems, such objects are characterized by level organization, the presence of relatively autonomous and variable subsystems, mass stochastic interaction of their elements, the existence of a management level and feedback to ensure the integrity of the system» [174, p. 360].

Thus, the methodology of studying inanimate matter of modern science began to produce tools previously detailed only on living matter with its *activity*, which dialectically combines the ability of arbitrariness («freedom»), which increases with the systematic scale of organisms, and the ability to be influenced (at the highest level – to have «feelings») together with the ability to accumulate experience of these influences (at the highest level – to have «memory»). On the other hand, complex phenomena represented by «nonlinear» mathematical theories have become a model for the study of living things, displacing the sentimental aspects of biology and the humanities pragmatic.

If for classical natural science nature appeared primarily as a geographical envelope of the Earth, which separately studied the atmosphere, lithosphere, hydrosphere and embodied in 2 million species of biosphere, today this «primordial nature» is understood from the extreme positions transformed by human practice forms of the *anthroposphere* and *biotechnosphere*. The facts about them are not considered relevant to the removal in the relevant theory: being «alive», they force the researcher to treat reality as a subject, not a passive object or means. «In classical science, nature acted as an „inverse object”, in non-classical – as an „irreversible subject”, as an extremely fragile totality of the organic species, which includes man himself «...»» [175, p. 344].

Along with the status of «quasi-subject» in nature as a whole and individual natural beings begins to recognize *inherent value*, which can not be reduced to a decisive role in natural ecosystems or economic, historical, aesthetic demand in social life [176]. The leading example of its implementation and problematization is medicine, in which the increased opportunities for life manipulation already exceed the status of purely rational means of reducing pain, prolonging life, recovering or reducing

the cost of care, so not fully achieving these goals, but requiring in each situation the value justification of intervention in the existing natural and social order.

Attempts to systematize such justifications have been made since the late 1960s under the auspices of bioethics as a supplement and deepening of special medical deontology, which fixed the rules of patient-physician relations, greater requirements for the relationship of scientists and subjects, consultants and clients, human and living organisms in the broader context of conservation, protection and progressive restructuring of life on the planet. At the same time, the professional value of human life, reaching the Hippocratic slogan «*primum non nocere*», is combined with a number of socio-moral values (to do good, to respect the personal, to seek justice, to adhere to the truth, to seek common consent) and receives philosophical interpretation through the category of self-value any life.

Life has long been considered one of the deepest mysteries: on the one hand, it is clearly and directly accessible to anyone, and on the other – ambiguously abstracted from other properties of being and not subject to direct artificial reproduction. Therefore, *metaphysical* possibilities of interpretation of life are an inexhaustible source of controversy in the spirit of preformism and epigenesis, creationism and evolutionism, vitalism and materialism.

Reflective methods of metaphysics, as shown by A. Schopenhauer and his critic A. Schweizer, allow a person to comprehend his own life and his intuitive value attachments as if from within and much clearer than is still available through scientific and theoretical means. Therefore, the value of human life, for example, as a *natural* being and as created in the image and likeness of the *Creator*, despite the same condemnation of different forms of violence often involves different assessments of such conscious encroachments on life as abortion, euthanasia, death penalty, suicide... [177] And when it comes to simpler forms of life or common with animals reflexes and instincts, the role of experimental generalizations of physiology, neurology, ethology, etc. is greatly enhanced.

Thus, the mysteries of life are somewhat diminished when viewed in a purely natural, *phenomenological* way. The classic list of distinctive qualities of living

organisms, which is traditionally given in academic and educational publications [178], is reduced to the following points:

- universal cell construction in the sense of living units with fractal properties;
- the integrity of the form, which is a functional set of mutual corrections of all cellular changes;
- provision of metabolism with its ability to use someone else's matter and include it in your own body;
- ability to develop through the absorption of external resources, growth and differentiation from simpler to more complex states;
- the ability to preserve itself as a differentiated whole against the background of external influences (in particular, damaging intrusions) and internal instability (in particular, molecular thermal motion);
- restrictions on the time of individual existence (from birth to death);
- the ability to transmit and selectively consolidate the specific features of their own constitution to their offspring (heredity and variability).

Recently, *environmental* feasibility has been added to this list: although natural life has unfolded in a huge variety of species with very different constitutions, all organisms and the factors of their existence are so closely intertwined in the network of adaptation and relationships with each other and with the environment that blurred dichotomies «living» / «inanimate», «expedient» / «caused», «individual» / «collective» [179].

Thus, there are grounds for a deeper understanding of the *safety* of life relevant to bioethics, which includes maintaining the stability of the genome of a particular species (against biotechnology, such as genetically modified organisms), viability of individuals (against chemical and radiation pollution) and qualitative diversity of species (against the background of excessive exploitation of «useful» and extermination of «non-useful» to humans species) etc. [180]. The threat to safety of life arose after centuries of human practice of reclamation of agricultural land, changes in water regime in places of residence, production or transport flows of mankind,

impact on the gas composition of the troposphere, extensive selection of varieties and breeds and so on.

The bioethical aspect of this problem involves elucidating the general spatial and historical relationships and indirect mutagenic factors (ionizing radiation, pesticides, antibiotics) of living things studied, as well as the population and ecological levels of their existence. Ultimately, the final assessment of genetic safety is based on a philosophical understanding of *health* as the achievement of freedom at different levels of existence based on the ability of natural or social organisms to adapt and develop, and *disease* as entering into life's oppression due to deviations and disturbances in homeostasis caused by both unnatural lifestyles and unfavorable environments, including social (economic crises, legal nihilism, political arbitrariness, etc.).

Thus, in bioethics, a connection is established between the actual treatment and the prerequisites for a normal life, the moral duty of the specialist and the socio-legal provision of his opportunities, which are reflected in the indicators of social health and environmental balance. Therefore, bioethical criticism means not only the *denial* of certain tools, methods and technologies (from vivisection of animals to human cloning), but also demands to improve these indicators and the work of various social institutions and involve civil society.

Well-known representative of environmental ethics B.G. Norton sees such conclusions as an opportunity to officially recognize in science the presence of *values* that guide the ever-existing freedom of action of the scientist, in order to further test and determine the most *effective* among them. And these effective values are not necessarily reduced to economic or political: among them are spatial-communicative, historical-symbolic, social identification, and so on [181]. The only question is how to systematize them into one or another type of ecological culture?

4.8 Regulation of the value of life and nature in humanistic and environmental ethics

If the traditional moral *discourse* usually appeals to the principles of *interhuman* relations, then the environmental – to the strategy of *ecological* relations between man

and nature. The first, despite all the latest changes, is perceived in the public consciousness mainly as a fundamental ethic, and the second – as its environmental application, along with legal codes of nature. A common example of such a position is Kant's call for the protection of animals, as their suffering leads to human rudeness [182]. In extreme expression, this anthropocentric *discourse* continues to hold opposition, such as «subject – object», «culture – nature», «person – environment», «human – inhuman», contrasting the higher value of man and the instrumental expediency of nature (as far as and can serve as raw materials, energy and healthy living space). However, he does not rule out historically balanced and humanistic views of nature.

Thus, V. Hösle demonstrates that the odious expansion of technological civilization into nature and the ecological crisis caused by it is a consequence of the educational reduction of the sphere of *subjectivity* to domination and exploitation [183, p. 180–212]. Therefore, the reconstruction of the dominant *relationship* of people with nature should be carried out through the revision of *intrapersonal* relations – from competition, domination and conflict resolution to the values of cooperation, dialogue and compromise with the opposite party in will, action and thinking.

One way or another, at least since the time of A. Schopenhauer, there has been a lack of such discourse and the need to directly incorporate the principles of living beings into general ethics, so that the protection of natural beings has the same moral value as defending human interests. «Ecological ethics presupposes ecological conscience and moral feelings of love, respect, camaraderie, generosity, admiration, gratitude, compassion and pity, guilt and shame that man *can* and *should* experience “in the name of natural beings themselves”, their “inner value” and “natural rights”, and not for themselves and their own goals, even if such a goal – the improvement of man» [184].

Thus, a number of Council of Europe conventions adopted since 1965 on the protection of animals – those transported, fed on farms, kept at home, used for scientific purposes – mention freedom from thirst, hunger and malnutrition, pain, wounds, disease and more. discomfort, such as fear and stress – in other words, the freedom of

their normal life. The 1982 UN World Charter of Nature already states that *all* forms of life must be able to live normally. Experts who contributed to the development of the provisions of these documents relied on a similar to the humanistic principle of self-worth (inherent value) of life of any living being: despite the fact that for someone it is, after all, a means of subsistence, for her, her life is one and the greatest *goal* of existence and motivation for behavior.

Today, man on the scale of his own influence and its adverse effects is part of a community much wider than humanity, and mobile digitalization erases the contours of the human home (οἶκος), which has traditionally served as an existential reference point, a watershed between internal controlled and external spontaneous space [185]. In this way, the usual bioethical issues related to the human body (transplantation, cloning, eugenics, euthanasia, artificial insemination or abortion...) are rethought in the broader context of the natural environment of this body and the spiritual ties between man and nature.

The subject field for distinguishing between moral and immoral are actions not only on the human community (*anthropocentrism*), but also on the community of flora, fauna, water, soil, etc. (*biocentrism*, *ecocentrism*) [186, p. 6-7, 141, 241-242]. Therefore, in the influential «deep ecology» of A. Naess, S. Kvaløy and N. Faarlund the importance of organisms is considered independently of man – in the context of the net of egalitarian biosphere relations – and extends to *inorganic* nature (*physiocentrism*) [187].

Human superiority over other beings, the new environmental ethics, in contrast to the traditional considers the occasion for *care* and *responsibility* for them: in the «ethics of the Earth» J.B. Callicot [188, p. 28-29] and the concept of «common world» (mitwelt) K.M. Meyer-Abich, they are explained by the ability of man to reveal the aesthetic potential of natural objects. Moreover, K.M. Meyer-Abich in the spirit of natural philosophical ideas considers human culture as a continuation of natural creativity [189, p. 129].

4.9 Conclusion

The current international level of measures to harmonize economic expansion into nature and the principles of ecological balance reveals the need for an appropriate worldview scale of *rethinking* the relationship between man and nature, beginning with the recognition of their *mutual* influence and ending with reformulation of fundamental definitions. From this point of view, they appear to be relatively long-lasting and reproducible connections over a certain historical period, in which objective *reality* is a prerequisite for the existence and spiritual development of mankind not only as an *external* environment but also as a potential for *internal* possibilities.

According to the historical and philosophical review, significant changes in the understanding of nature have always been accompanied by the development of its content: the successful development of nature changes the consciousness of people, which is enshrined in the forms of social experience. The content of natural-philosophical and socio-philosophical concepts throughout history has changed in the direction from the original social metaphor of the «organism», in which all organs are connected primarily by subject dependencies to the conventional coordination of essential individuals. Other coordinates of the joint development of these concepts were the distinction between naturalness and morality.

In antiquity, the category of *nature* generally denotes the sensory-material side of the world, which is responsible for the origin and appropriate movement of things, while the essential results of the movement of things are responsible for *being*, and the connection of things – *cosmos*. In early antiquity, the order of space was determined by *nature* by the criterion of viability of individual things and their relationship in the great organism of the world, in classical and late – by *being* by the criterion of logic. In addition, throughout antiquity, there are alternative meanings of nature as the driving and life-giving *principle* that gives rise to individual things («*individual* soul») or forms material bodies in general in accordance with the meaning of higher being («*World* Soul»).

With the establishment of Christian dogmas (about the creation of the world and man by God, kenosis, divine revelation, the historical goal of salvation) at the heart of

the medieval worldview, man's attitude to nature acquires a *dual* status. In the early Middle Ages, *nature* had both utilitarian and moral-symbolic significance for man (the embodiment of the relationship of righteousness, sinfulness, virtue and vice). In the age of *scholasticism*, it was objectified as the leader of a higher authority, the divine Mind or Will, accordingly *acquiring* a hierarchical order for a man prone to sinful disorder or *requiring* it from a man capable of moral and practical improvement. In both cases, the natural and human organization of life is subject to the organic principle – what is a goal for some, is a means for others.

The scholastic duality of understanding of nature continued in the Renaissance and the Reformation in the fields of art, philosophy, politics and religion. Thus, in art, mimetic and cathartic concepts provided for the adoption of human divine creativity through two strategies of dealing with created nature – imitation of the external pattern of creatures *and* overcoming their empirical imperfection. A similar opposite is inherent in spiritual life: in *natural philosophy*, the potential of divine authority transferred to Renaissance *man* led to the hypostasis of his mind in the form of its rational foundations (*ragione*) of nature itself; in the *reformist* picture of the world such grounds are not revealed, but are invented by man through the dismemberment and ordering of experience, just as more or less expedient conglomerates of bodies and structures are hypothetically combined from individual atoms.

Exit in Europe in the XVII century the values of *freedom* in the first place and the corresponding increase in the importance of the means to achieve it lead to the beginning of the formation of classical scientific *methodology*. The metric and experimental *idealization* of experience envisaged in it led to the fact that nature itself was denied immanent spontaneity and all «secondary qualities». The despiritualization of the picture of the world carried out in this way ensured the perception of nature as a «semi-finished product» and the possibility of its purposeful exploitation, and explanatory science is in common with technical practice.

In modern science, there are ontological grounds for weakening the classical subject-object dichotomy of man and nature. On the one hand, they rise to the status of universal means, previously detailed only on living matter, on the other hand, the

leading objects of physical chemistry and thermodynamics, represented by «nonlinear» mathematical theories, become a model for studying living things. Combined with the awareness of the threatening trend of destroying the conditions for scientifically and technically armed management and restructuring the system of guidelines for the development of human civilization, methodological changes in modern science contribute to combining the values of human and natural life.

The original bioethical model of such an association, based on a rethinking of the phenomenon of life and its security measures, helps to soften the «neutral» standard of scientific knowledge and at the same time highlights the *problem* of the leading authority for regulating the values of life and nature. Attempts to solve it by redrawing the structure of ethics are reflected in the methodological principles of anthropocentrism, biocentrism, ecocentrism, physiocentrism, as well as in categorical neologisms about nature (such as «biotechnosphere» or «mitwelt») or, at least, in reviewing the internal structure of classical categories.