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СОВРЕМЕННЫЙ СОЦИАЛЬНО-БИОЛОГИЧЕСКИЙ КРИЗИС КАК ТЕХНО-ГУМАНИТАРНЫЙ ДИСБАЛАНС

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Предметом статьи является феномен социально-биологического кризиса. Показывается его комплексная природа и раскрываются интегративные механизмы. Кризис определяется как этап обострения противоречия между социальным и биологическим, нарушения их коэволюции. В современности главной причиной этого выступает экспоненциальный технологический рост. Он, по-видимому, нарушает важный коэволюционный механизм, который А.П. Назаретян обозначил как «техно-гуманитарный баланс». Показано, что современный кризис можно считать его «теневого» стороной, своеобразным дисбалансом. Ввиду специфики современных технологий он в первую очередь проявляется в информационном избытке, который мы предложили назвать «информационной инфляцией». В результате, психика человека оказывается объектом системного стресса, что может привести к росту не только психических заболеваний, но и соматических. «Внутренний» дисбаланс дополняется «внешним» дисбалансом, связанным с деградацией природной среды и становлением глобальной техно- и инфосферы. Делается вывод, что только рост сознательности в использовании новых технологий, развитие планирования и становление информационной экологии смогут вернуть коэволюции устойчивость и восстановить баланс.

Ключевые слова: социально-биологический кризис; адаптация; коэволюция; «техно-гуманитарный баланс»; десинхронизация; стресс; информационная экология.

Contemporary state of civilization in many aspects can be defined as crisis. It is connected with the strengthening of global existential risks [1] that make mankind's future more and more indeterminate. Moreover, crisis gradually begins to cover not only different social spheres but also natural basis of human life. The growth of non-communicable diseases and psychic loads, strengthening of mutagenesis, aging of population, ecological pollutions in the aggregate make people's life less healthy and let speak about «*dysgenics*» («deterioration») of human biology [14]. In our opinion, these and other dangerous trends give evidence of sociobiological crisis's presence. It, apparently, has complex nature, common features and integral mechanisms which should be researched.

The hypothesis of sociobiological crisis is based on the point of view that human biology isn't constant and continues to evolve. Such type of evolution without divergence and appearance of new kind of species is defined as phyletic. Evolution of man is possible because the fundamental way of biological existence consists in *adaptation*. Human organism saving fundamental morphological apparatus and

laws of its function at the same time should permanently adjust to the changing environment, not only the natural but also the artificial one. Actually, man should mostly adapt by feedback principle to namely these factors which are consequences of his own production activities. This fact has biological background: the adaptation interpreted as dependence on environment is only one half of the living existence. The second one vice versa shows the activity changing both environment and organism itself. This process is called *autopoiesis* [15]. But only in case of human it finds its highest expression because only human gets possibility to realize universal rational practice or *labor*. Nevertheless, human preserves strong connection between development of the social and the biological which is characterized as *coevolution*. Several ways of its understanding take place. First one is connected with the concept of *gene-culture coevolution* [7]. For example, E.O. Wilson reckons: «Human social evolution proceeds along a dual track of inheritance: cultural and biological. Cultural evolution is Lamarckian and very fast, whereas biological is Darwinian and usually very slow» [26,

p. 78]. In this case the social and the biological appear two different and at the same time equipotent subsystems of human life. It leads to dualism and reductionism. On the contrary, we believe that their relation is *dialectic* and there is definite *hierarchy between them*. The biological in human preserves its own general laws of existence but doesn't stay autonomous. The biological essentially depends on the social as «higher» (i.e. more complex) form of matter and is included into it as subsystem that means here basis or foundation. Therefore, all social phenomena can be interpreted as modes of adaptation, but it describes only their «shadow» aspect and seems to be result of simplification. At the same time they have over-biological essence because they are always connected with human conscious creation and universal transformation of environment.

The main operator of human adaptation is psychic apparatus and its brain basis because of central role in practical conscious activity and due to its maximal plasticity [11]. In addition, nervous system is integrative for other organism's systems and processes of homeostasis. That's why brain is characterized by famous futurologist S. Lem as more universal and flexible «*homeostat of the second kind*» («homeostat of the first kind», from his point of view, is genetic apparatus). Therefore, it composes an intermedium between the social and the biological, both stable and changeable [22, p. 221]. Many scientists such as S. Freud, K. Lorenz, A. Gehlen, H. Delgado, D. Dubrovsky etc. in different contexts believe that essential contradiction between psychic and material development of man takes place. In our opinion, such opposition seems to be result of abstraction. The crisis would be permanent and quickly degenerate to the catastrophe if it was true. According to the synergetic point of view [21], crisis appears *only a definite stage of nonlinear development connected with failure of equilibrium, amplification of fluctuations, growth of chaos and approximation to the bifurcation point («blow-up»)* which leads to big qualitative changes. Crisis is a maximum of uncertainty and nonlinearity in development because its fundament consists in *escalation of dialectic contradiction when intensive struggle between future tendencies of progress and regress occurs*. We suggest applying A.P. Nazaretyan's hypothesis of «*Techno-Humanitarian Balance*» [19] to the problem of sociobiological crisis. He understands the «humanitarian» primarily as system of moral and other spiritual regulators of technological progress, but we can define «humanity» wider as whole human nature including its biological basis and whole sphere of psy-

chic life. In this context contemporary crisis can be understood as *temporal disturbance between ways of technological and humanitarian development*, as their *disbalance*. Its possibility consists in objective difference between biological and social fundamental ways of existence. This temporal disbalance also can be described by such paradoxical expression as «*chronic desynchronization*».

Apparently, nowadays such disbalance is caused by interjacent character of present civilization, its transition to postindustrial (informational) stage. Contemporary society is characterized with the extension of new High-Tech, automation of productive processes, increase of communicative interactivity, expansion of information as main resource. All these trends lead to that speed of social transformations becomes more and more rapid. Technological growth gets *exponential character* [13]. It is also well known in synergetics that exponential growth causes turbulent state of instability. In contemporary situation technological and informational growth begins to put a major pressure directly on human mind. It leads to state which A. Toffler calls «*future shock*» [23] when human psychic ceases to catch high transformations and suffers from loads. There is obvious evidence: psychic disorders (mostly, neuroses and depressions) become the main part (13 %) of global burden of diseases [2]. Nevertheless, it doesn't mean that mind loses possibility to adapt in principle: it means only that it finds constant obstacle for adaptation. That's why J. Naisbitt points out that the core of contemporary balance should be *balance between high technologies and spiritual comfort*: «The operative guide word for the original formulation of high-tech/high-touch is balance: to balance the material wonders with the spiritual demands of our human nature» [20, p. XV]. At the same time namely it becomes the central problem of present existence.

Deformation of psychic balance leads to condition which is accompanied with the increase of the level of *stress*. It is known that prolonged stress (especially, emotional one [3]) has a general negative impact on organism. It happens because deformations of homeostasis occur and its degeneration to *allostasis* [16], which is background for different diseases, begins. First of all, the growth of stress is caused by overabundance of information as main resource of postindustrial society. New net technologies generate this overdose because, in M. McLuhan's words, essentially they are *artificial extensions of nervous system* [17], so that they rapidly and widely expand human's realm of perception. In the end, because of

cognitive limitations of human psychic (for example, in the sphere of memory) a new kind of stress appears, namely «*info-stress*» [10]. For designation of information's hypertrophy we suggest term «*information inflation*». Instead of term «*information explosion*», it expresses an ambivalent character of this growth manifested in depreciation of meaning, loss of selectivity, psychic disorientation etc. Secondly, it is made not by informational volumes alone but also by *acceleration of transformational tempos*. It seems that living in net society can deform many natural rhythms of human organism. The simplest example is disturbance of circadian rhythm of sleep-wake cycle [8]. In the end, all psychic problems reflect in body with growth of psychosomatic defects and diseases: it shows in negative way that mind is always literally «*em-bodied*» (F. Varela, G. Lakoff). In other words, loss of equilibrium by nervous system as central one can cause a *whole cascade of failures in other regulatory and signal systems of organism*. In the end, chronic psychological stress manages to cause destabilization even of genetic apparatus [6]. This is possible because all physiological processes within organism as complex system have their informational components which provide its integrity and coherency [9]. External «*information inflation*» manages to disturb this internal coherency. In the end, we believe that *the exponential growth of social processes' speeds gets into contradiction with relatively inertial biological processes whose main (and quite «conservative») aim consists in maintenance of homeostasis*. That's why even mind gradually fails to catch up too rapid informational streams. It shows once more that *the core contradiction of crisis has not static but dynamic nature and is significantly connected with temporal disturbances*.

The fact that contemporary crisis has relation with global ecological situation should be admitted. The loss of balance also takes place there. Exponential technological growth leads to enormous pressures on environment, causes its high instability and can lead to sudden collapse [18]. But degradation of natural component of environment is only one side of the coin. The other one is a formation of the *global technosphere* that constantly gets adaptive systems of organism mobilized: «*Culture and technology have facilitated biological adaptation, but they have also created and continue to create new stressful conditions that require new adaptive responses*» [5, p. 6]. In postindustrial civilization namely information in situation of its overabundance («*informational pollution*») appears the most dangerous source of stress.

But we should also remember that because of global unevenness in economic progress and in transition to postindustrial stage developing countries continue to use backward technologies which are coupled with «*classical*» material pollutions and high levels of contaminants in environment. In fact, exponential progress is appropriated by the most developed countries, so that developing countries forms their periphery where masses of people still suffer from less complex type of crisis which is connected with poverty, marginalization, disorders and terrible ambient conditions [24]. Material environment of their lives itself appears major stressful factor. That's why ecological crisis is essentially connected with contradictions of global capitalism. In result, ecological crisis with its negative impact appears an external addition of sociobiological crisis. *We can conclude again that the last one has complex («endo-exogenic») nature which is connected with escalation of contradiction between the social and the biological, desynchronization of their coevolution and loss of balance*.

In conclusion, we believe that break of techno-humanitarian balance with psychical disorientation is caused by lack of conscientiousness in possibilities of new technologies' application. Apparently, famous cognitive distortion, *the Dunning-Kruger effect* [12], can take place not only on level of individual personality but also of whole society. It is essentially a *paradox of ignorance and incompetence*: because of technological hypertrophy contemporary civilization begins to believe in its own omnipotence, but it appears only illusion due to absence of knowledge about all consequences and optimal parameters of using of new technologies, especially informational ones. This means that *regress can appear a result of not only the pure catastrophe but also of inner ambivalent character of the progress itself, loss of its balance and underestimation of these contradictions by society*. Nevertheless, it doesn't mean at all that we should «*freeze*» our technological progress: on the contrary, *our «summa technologiae» should be added with new type of technologies which can help to regulate technosphere and to program optimal ways of its development, including influence on our psychic life*. These «*intelligent technologies*» can also be used in resolving of social contradictions of contemporary capitalism such as global inequality of production's development due to their planning functions, portability, easy spreading and «*non-consumability*» of information as their main resource. Furthermore, we can also expect development of such technologies which of course can't literally

«transcend» human biology but can help to wide our capabilities for maintenance of our psychic homeostasis. For example, V. Vinge supposes that the future path of it is not a radical construction of post-human with *artificial intelligence* (AI) but development of more and more perfect human-computer interfaces or, in other words, our *intelligence amplification* (IA) [25]. In the end, it is obvious that contemporary crisis appears not only obstacle but also *stimulus*: it creates need for a new coevolutionary format which should be built on the *conscious scientific planning* and directed to *sustainable development*, both internal and external. New science and system of practices called *information ecology* [4] will play central role there because information continues to become the most fundamental resource and value of our civilization.

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CONTEMPORARY SOCIOBIOLOGICAL CRISIS
AS TECHNO-HUMANITARIAN DISBALANCE
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The subject of the article is phenomenon of sociobiological crisis. Its complex nature is shown and integrative mechanisms are revealed. The crisis is defined as the stage of escalation of the contradiction between the social and the biological, the break of their co-evolution. Nowadays technological growth appears the main reason for it. It, apparently, breaks an important co-evolutionary mechanism, which A.P. Nazaretyan called «techno-humanitarian balance». It is shown that the current crisis can be regarded as its «shadow» side, a kind of disbalance. Due to the nature of modern technology it is primarily manifested in the information abundance, which we propose to call «information inflation». As a result, the human psychic appears the object of the systematic stress, which may lead not only to increase of mental disorders but also somatic ones. «Internal» imbalance is complemented by an «external» one that is associated with the degradation of the natural environment and the emergence of a global techno- and info-sphere. We conclude that only growth of awareness in the use of new technologies, development of planning processes and the establishment of an information ecology can help co-evolution to return its sustainability and to restore balance.

Key words: sociobiological crisis; adaptation; coevolution; «techno-humanitarian balance»; desynchronization; stress; information ecology.

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