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GENOMIC RESEARCH AND PROBLEM
OF HUMAN IDENTITY PRESERVATION[1]

ABSTRACT: The authors of the article have analyzed the problem of preserving human identity in the context of genomic research; reviewed the history of the development of the ideas about philosophical, psychological, and social aspects of the phenomenon; presented the conditions for the "identity crisis" formation in the information society and the idea of transhumanism on the identity transformation through biotechnology; characterized the legislative guidelines in the field of genetic engineering activities aimed at protecting constitutional human rights. In conclusion, the athors state that preserving identity as a necessary condition for the free development and formation of the individual in the situation of the biotechnical revolution actualizes the problem of protecting human dignity and their right to integrity.

KEYWORDS: genomic research, human identity, identity crisis, society, biotechnical revolution, bioethics principles

BADANIA GENOMICZNE I PROBLEM ZACHOWANIA
TOŻSAMOŚCI CZŁOWIEKA

ABSTRAKT: Autorzy artykułu przeanalizowali problem zachowania tożsamości człowieka w kontekście badań genomicznych. Dokonali przeglądu idei filozoficznych, psychologicznych i społecznych aspektów tego zjawiska, przedstawili uwarunkowania powstania „kryzysu tożsamości"

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w społeczeństwie informacyjnym oraz ideę transhumanizmu w kontekście transformacji tożsamości poprzez oddziaływanie biotechnologii. Scharakteryzowali wytyczne legislacyjne w zakresie działań inżynierii genetycznej, których celem jest ochrona konstytucyjnych praw człowieka, stwierdzając, że zachowanie tożsamości jako niezbędnego warunku swobodnego rozwoju i kształtowania się jednostki w sytuacji rewolucji biotechnicznej czyni problem ochrony godności ludzkiej i jej prawa do integralności aktualnym.

SŁOWA KLUCZOWE: badania genomiczne, tożsamość człowieka, kryzys tożsamości, społeczeństwo, rewolucja biotechniczna, zasady bioetyki

INTRODUCTION

Not only the scientific and technical, but also the philosophical, ethical, and social factors that form the humanitarian understanding of the risks of biotechnology and the conditions that ensure the acceptability of these risks for human society[2] are becoming increasingly important in the development of genomic biotechnologies, considered in the context of the general cultural process of the XX – XXI century.

On the one hand, deciphering the human genome structure and developing genetic engineering activities have opened up new opportunities for managing heredity, allowing to save humanity from inherited pathology, to find fundamentally new ways of treating diseases widespread in the human population and of their prevention, to improve the intellectual, physical and mental qualities of the human individual, to extend their life[3].

On the other hand, promising achievements in the field of "human-oriented" genomic research have actualized the problems of their social justification and ethical acceptability, necessitating the protection of human rights and dignity.

The advent of the era of intensive use of genomic biotechnologies for active intervention in human nature and practical changes in its genetic basis have brought the threat of the "natural man" disappearing, loss of their spiritual integrity, "blurring" of their image, transformation of their body into an object for genetic manipulation[4].

The emergence of social and ethical demands on the limits of possible scientific and technical intervention in the bodily and physical life of a person determined the emergence of bioethics as an area of interdisciplinary anthropological knowledge about the basic aspects of human existence[5]. Philosophical reflections of the dangerous knowledge developed within the context of genomic biotechnology and minimization of the risks associated with them and

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[2] R.R. Belyaletdinov, *Risks of modern biotechnologies: philosophical aspects: thesis abstract of candidate of philosophical sciences*, Moscow 2017.
[3] M.F. Lanovsky, *Human identity in the world of modern biotechnology: thesis abstract of candidate of philosophical sciences*, Moscow 2018; V.V. Fedorin, *Philosophical and methodological analysis of human genetic construction projects: thesis abstract of candidate of philosophical sciences*, Moscow 2017.
[4] T.V. Meshcheryakova, *Bioethics as a form of individuality protection in modern culture: thesis abstract of candidate of philosophical sciences*, Tomsk 2009.
[5] I.H. Malbakhova, *Bioethics as an interdisciplinary field of knowledge: social-philosophical aspect: thesis abstract of candidate of philosophical sciences*, Nalchik 2008.

significant to the social and humanitarian content, began to enter the circle of main areas of bioethics research.

The social threats that may result from using genomic biotechnologies are caused by the danger of severing the links between scientific knowledge and human values. Bioethics sees these values as the basis to regulate genomic research and attaches great importance to the concept of "human dignity", which means recognizing rational autonomy, right of choice, and integrity as inseparable properties of any human being.

The issues of understanding and preserving the cumulative integrity of a person are associated with the phenomenon of their identity, "reflecting the desire, inherent only to man, to see their own reflection in the picture of the world"[6]. Modern views on the problem of human identity were formed in the process of synthesizing the knowledge obtained in the study of philosophical, social and psychological aspects of this phenomenon.

RESEARCH METHODOLOGY

The analysis of the phenomenon of human identity as a social phenomenon should be based on the civilizational method, which allows to research the general cultural processes of the life of the individual and to study the influence of scientific, technical, philosophical, ethical and social factors. The general methodological basis of the study is the universal dialectical method based on the laws and categories of materialism. In addition, private and special methods of scientific knowledge, logical operations (deduction and induction, analysis and synthesis), sociological methods of analysis, etc.

The theoretical basis of the study is represented by the works where the foundations of the philosophical tradition were laid and developed; scientific developments reflecting certain theoretical and applied aspects of the phenomenon of human identity, etc.

RESULTS

Studies of the phenomenon of identity. The first studies of identity were conducted within the framework of philosophical knowledge. The term "identity" appeared and became widespread in the twentieth century, but the philosophical tradition of studying this phenomenon had been formed in ancient times.

Within the framework of the substantial classical paradigm, ancient philosophy was based on the postulate of unity: being and consciousness, God the Creator and his creation, the all-embracing Divine plan, and the individual and considered identity in the ontological context as a universal characteristic of being, its universality. The idea of identifying a person with the transcendent God, the universal principle, and their own kind was at the heart of the idea of human essence.

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[6] I.V. Malygina, *Identity in philosophical, social and cultural anthropology: textbook*, Moscow 2018, p. 7.

Christianity was at the heart of the philosophical perception of the picture of the world in Medieval Europe. Faith in God was the main vector that guided the person in life. Personal existence has had a value only in the perspective of its approach to the Divine ideal. The basis of identity was the spiritual development of the person, and understanding of the "inner self" occurred through understanding of the soul – the nonphysical integrity that determines the meaning of individual existence[7].

Philosophical reflections on the phenomenon of identity also bore the imprint of the main trends in the development of medieval society, consisting in its stability and rigid differentiation according to social strata. The class often inherited an association, determining the predominance of the group identity of a person, when their own "Self" was realized in an inseparable connection with a certain social group, laying at the heart of the social relations.

The philosophy of modern times has reflected the changes that have accumulated in public life in the XVI – XVII centuries, being manifested in the emergence of social mobility and increased mobility of the social basis of identity, the destruction of a single religious model of society and the gradual displacement of God from the picture of the world, in the secularization and differentiation of various forms of spiritual activity[8].

The religious determination of the identity phenomenon was replaced by the socio-historical one. Man was no longer seen as a sinful being whose meaning of life was manifested in the service of Christian ideals, but as a carrier of the "hidden Self", endowed with unique individual properties and abilities, and predetermining human history and destiny. Identity began to be interpreted as a modality of the cognitive-psychological structure of a person, a manifestation of the processes of their self-knowledge, self-determination, and a complication of the "Self-concept". During this period, the emphasis was placed on the anthropological aspect of the problem of identity, that is, the understanding of the person's "self", their integrity, which distinguishes them from the outside world and other people. The person formed ideas about the individual parties and the structure of their own personality through self-consciousness.

R. Descartes pointed to the process of human self-identification as self-sufficient, autonomous, and mental in its nature. He considered self-knowledge as the source of the most reliable knowledge. The ability to think independently became a condition of isolation of the person's "Self", their release from connection with a certain social group.

Representatives of English sensualism, D. Locke and D. Hume, understood identity as the continuity of the subject`s self-consciousness and noted the role of sensory experience in understanding the boundaries of self-knowledge and self-determination. They rejected the idea of a "substantial Self", linking reflexive "ideas of self" with the totality of self-feelings. They defined a person;s "self" as the integrity of the contents of the mind, formed based on the perception of the world around.

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[7] M.V. Zakovorotnaya, *Person`s identity. Social and philosophical aspects*, Rostov on Don 1999.
[8] *Ibidem*.

I. Kant imagined a person's "self", not just as a given, but as a created phenomenon, cognizable in the process of interaction with the world. He considered a person's self-consciousness as the basis for personality formation, which determines his morality and moral responsibility to other people. Thus, he emphasized the dependence of individual self-consciousness on the social context, the social nature of identity.

Thus, the characteristic features of the XVIII century: social dynamism of society, exit of philosophical reflection beyond the classical substantive approach, replacement of the divine will by the socio-historical order of nature and society – predetermined a new view of the human identity phenomenon, whose central formation factor was historicity[9].

Thus, Hegel's philosophical concept, based on the principle of historicism, considered self-consciousness as a result of the social activity development. The idea of the stage development of human consciousness in the process of their maturing and changing nature of interaction with society[10], was presented in his theory. At the stage of "lustful self-consciousness" there was a realization of a person's own individual existence, their own identity, and differences from others, and the desire for self-realization was formed. At the stage of "recognizing self-consciousness", individual mastered the sphere of interpersonal relations, which showed their similarities and differences with other people, which ensured the individuals' mutual recognition of each other, and understanding their own features. At the stage of "universal self-consciousness" the identity of the "selves" of different people was formed, due to the assimilation of the values common to the family, the native land, and the state.

In G. Hegel's approach, there was an understanding of conflict as one of the conditions to form the identity, when forming one's own "self" occurs through the awareness of one's difference from other people.

L. Feuerbach noted the importance of such factors as the nature of interpersonal communication with other people, as well as the specifics of the objective conditions of their existence for the self-consciousness genesis.

K. Marx, starting from the ideas formulated by L. Feuerbach, showed that a person's "self" is formed in the process of not just interpersonal communication, but joint labor and practical activities[11].

A person's self-distancing from the transcendent beginning, the natural environment and the social environment, happening against the background of cultural and historical dynamics of society, has led to their gradual individualization, differentiation of their personality and complication of their identity.

The social phenomena of the XIX century associated with the industrialization processes led to the deepening of the conflict between person and society and influenced the understanding of the identity concept. The technological progress changed the nature of social

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[9] *Ibidem.*
[10] I.V. Malygina, *Identity in philosophical…, op. cit.,* p. 15-16.
[11] *Ibidem*, p. 17.

relations, leading to cultivation of technical and scientific achievements and loss of the Christian worldview. Scientific knowledge, invading the sphere of human existence, contributed to the displacement of the usual intimate interpersonal relationships with impersonal relationships. The sphere of market and production began to gain more and more control over the circumstances of human life. These trends in social development led to human feelings of isolation, alienation, and loneliness. Under these conditions, the main direction of philosophy was "appeal to life, understood in a variety of biological, psychological, social, and personological forms"[12]. The philosophical perspective of the problem of human identity started to focus on analyzing the internal individual world of a person, its organization and structure, its mental nature and history of development.

In the XX century philosophy, the identity phenomenon was studied in various aspects – individual-reflexive, existential, social-communicative and cognitive.

The psychological knowledge that has been generated in a number of scientific approaches contributed to a large extent to the scientific establishment of the identity theory.

W. James, the leading representative of functionalism in psychology, considered identity as a subjective sense of self-conformity, conscious power, and resistance of "ego" in relation to the surrounding world. In his opinion, the reality, influencing the person according to their individuality, can act destructively, leading to loss of feeling of life, destruction of spiritual ideals, and distortion of the inner world. The restoration of the inner world, the acquisition of the meaning of existence is possible through volitional efforts and depends on what set of ideas forms the center of the person's spiritual life energy.

Z. Freud, the founder of the school of classical psychoanalysis understood identity on the one hand, as a psychological representation of a person about their "self", characterized by a subjective sense of their identity and integrity, and, on the other hand, as self-identification of a person with certain typological categories (gender, age, role, social status, group, culture).

He considered the internal process of identification – acquisition of identity – as a result of unconscious identification of the subject with the object (a child with their parent or another person), occurring during childhood. This interaction was determined by the biological and psychological aspects (fear of loss of love and fear of punishment), which was aimed at biological adaptation of a person and provided the ability of "self" to self-development. The stability of a person's identity largely depended on the level of conflict between intrapersonal structures: "It" (the unconscious part of the personality) and "Super-ego" (the part of "self" that is formed under the influence of social norms). The reduction of this conflict, the preservation of identity and the integrity of the "Ego" structure (part of the personality, realized as "self") has been achieved through protective mechanisms as special forms of psychological activity, ensuring the stability of the person's ideas about themselves and their biological adaptation.

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[12] *Ibidem*.

The representatives of neo-Freudian trends (A. Adler, K. Horney, G. Sullivan) took into account the influence of the social environment on the personal identity, considering it as the center of mental life, synthesizing the unconscious and conscious, personality`s mental properties and social experience.

In general, the proponents of the psychoanalytic approach noted the predominant role of unconscious mental structures in the individual`s identification and saw it as a condition for the individual's mental stability.

The spread of the term "identity" in the scientific world is associated with the name of E. Erickson, whose ideas were formed based on the views of W. James and Z. Freud. The basic concept of Erickson's theory of personality was "psychosocial identity", which has a dual nature and two interrelated aspects of manifestation. Identity was understood, on the one hand, as a sense of stability and continuity of one's "self" (continuity of one's past, present, and future), arising as a result of internal psychological synthesis, as a manifestation of the internal force of creating a person`s own moral integrity, and, on the other hand, as the integration of human experiences of their identity with certain social groups, as a result of perception of themselves through reference to some social context, through a system of socio-cultural norms and values. Thus, E. Erikson differentiated the concepts of individual and social identity[13].

In Erickson's understanding, one of the main factors of identity preservation is its historicity. The study of psychosocial identity depends on three interacting parties: "on the individual's personal connection with role integration in their group; on their guiding images – with the ideologies of their time; on the life story – with the historical moment"[14].

According to Erickson, identity was formed gradually throughout the life of a person. Its modification and structuring are related to personality dynamics consistent with the increase in the number of people important for the individual: from their mother to all mankind. From Erickson's point of view, identity development at each age stage is faced with the need to overcome the crisis, the success of which depends on the degree of adaptation to life. Three processes are involved in the identity formation – the biological, social and "Ego" ones. Attuned to historical reality, the Ego integrates the other two processes using protective mechanisms. The process of "ego synthesis" is the basis of organizing a person`s optimal order, with the help of which the person claims themselves as an individual. The loss of "ego synthesis" leads to personal integrity destruction.

Thus, the model of identity proposed by E. Erikson was characterized by important features for the understanding of this phenomenon and its subsequent scientific analysis: its historicity, structuring, representation of both personal components of identity and the influence of the social environment in it.

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[13] *Ibidem*, p. 54.
[14] M.V. Zakovorotnaya, *Person`s identity…, op. cit.*

One of his followers of E. Erickson's teachings, J. Marcia represented identity as the structure of the Ego – the inner, self-generating, dynamic organization of needs, abilities, beliefs, and individual history. Identity is manifested phenomenologically through the observed patterns of "problem solving". The structure of identity develops as a person makes various decisions about their life[15].

Depending on the conditions of identity formation (presence or absence of a crisis – the state of identity search; presence or absence of identity units – personally significant goals, values, beliefs when choosing a decision), J. Marcia differentiated four of its types: diffuse – neither the search nor the choice of a decision is carried out by the individual; mirror – the individual doesn`t carry out the search, the choice of a decision is influenced by external circumstances, other people; delayed – the individual undertakes an active search, but the decision itself has not yet been made; mature – it is characteristic when the individual carries out an active search and makes an independent decision.

Erickson's ideas about the stages of personal development and the connection of psychological and social aspects of identity formed the basis of the dispositional concept of personality by the domestic researcher Ya. Yadov. The concept of "dispositional structure of personality" developed by the author is substantially close to the essential and dynamic aspects of identity in Erickson's understanding. Within the framework of Ya. Yadov's concept, the following ideas are justified: about the person`s psychological need for social adaptation as a determinant of the social identity phenomenon; about forming a person's social identity as a process with consistently expanding boundaries and complicating structure due to the growth of the individual`s social interactions; about creating a multi-level holistic system as a result of this process, where the processes of the individual's identification develop from the identifying the individual: at the primary level – with their relatives, at subsequent levels – with reference groups, at the final level – with the social system through assimilation of socio-cultural values[16]. Thus, the development of identity as integrity is formed by the superposition and synthesis of level-by-level human identities.

E. Fromm pointed to the need for identity as an attribute of human nature. In his opinion, the development of mankind was accompanied by two trends: the progressive one, manifested in the process of human exit from their natural environment and liberation from natural attachments and connections, acquisition of identity; the regressive one, providing human security by identifying themselves with nature. Each new stage of the evolution of mankind, which determines the exit of human from the former settled state, is accompanied by the search for new forms of symbiosis with the world around[17]. The need to search for ever more perfect

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[15] V.A. Tsurkin, *To the problem of personal identity of the subject in psychology,* [In:] *Actual problems of formation of the collective as subject of innovation activity: materials of the All-Russian conference. Belgorod, 17-18 Nov. 2011,* resp. ed. V. Razuvaeva, Belgorod 2011, p. 100-105.

[16] I.V. Malygina, *Identity in philosophical…op. cit.,* p. 55.

[17] E. Fromm, *Ways out of a sick society,* [In:] *Problem of man in Western philosophy: Translations*, Comp. and afterward by P.S. Gurevich; gen. ed. By Yu. N. Popov, Moscow 1988, p. 443-482.

forms of unity with nature, surrounding people and oneself is the main psychological motivating force of human development, seeking to restore identity with the world, which is achieved by a person`s experiencing a unity with a particular social formation.

Thus, the study of individual aspects of the identity phenomenon has led to an understanding of its continuity, inconsistency, and crisis formation of its psychological nature, due to the subconscious desire of a person to gain unity with the world, the need to streamline their place in it[18].

In the European philosophy of the XX century, the tendency of considering problems of identity in the context of opposing person and society, person and circumstances of life also received a certain development.

This philosophical reflection of identity manifested itself most vividly in the views of existentialists (M. Heidegger, J.-P. Sartre, K. Jaspers). In their opinion, the experience of human self-determination is important for gaining one's own identity. Joining a person to any community leads to the loss of their own "self" and interferes with the freedom of choice. All biological and socio-cultural components of identity are an obstacle to creating one's own life history.

The main ideas of the existentialist theory can be summarized in the following provisions[19]: the true, deep "self" is integral and autonomous, it synthesizes itself; the life of the person who is aware of the fatal inevitability of the end is tragic and absurd; the person themselves is responsible for the meaningfulness of their existence, so it is essential for the individual`s self-determination to take root in culture, build a personal value vertical, to gain authenticity and thereby overcome the problem of their own finiteness. Thus, in the existentialist approach, the identity of a person started to be interpreted as a movement towards their authenticity.

A significant contribution to the understanding of the identity phenomenon as a social phenomenon considered in the context of social processes and relationships, was made by representatives of the sociological school (J. Mead, R. Turner, I. Goffman).

The founder of symbolic interactionism J. Mead viewed identity ("self") as a person's ability to perceive their behavior and life as a connected and unified whole. The self is formed in the process of interaction between two autonomous systems – the individual and society. D. Mead and his followers identified certain social mechanisms through which social experience became a part of the individual`s identity. Their essence was reduced to the process of verbalized and non-verbalized communication of the individual within a single symbolic space with "significant other", reference groups, through which their ideas about themselves as part of these groups were formed[20].

J. Mead distinguished two types of identity: conscious and unconscious. The unconscious is non-reflexive adoption by a person of the norms, behaviors, and habits of the social group to which they belong. The conscious is the result of the person's reflection about their behavior.

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[18] I.V. Malygina, *Identity in philosophical…, op. cit*.

[19] *Ibidem*, p. 20.

[20] *Ibidem*.

Within sociological researches, the issue of social functions of identity: adaptive, providing the individual`s adaptation to the world; integrating, connected with preserving and strengthening the social unity of society by assimilation of cultural norms, patterns of behavior, and ideals shared by members of this society; differentiating, establishing the distinction of social subjects and their social division was considered[21].

Addressing the issue of social conditionality of identity, J. Mead introduced its two aspects: "I" and "Me"[22]. "Me" describes a person as an individual determined by social conditions, social norms, and laws of existence; it is a kind of representative of society in the individual; "I" represents a person as an individual capable to independently determine the choice of goals and values and individual response to the social situation.

J. Mead's ideas on the presence of types of identity were developed by I. Goffman, who identified three types of identity: social – personality typification by other people based on the attributes of the social group to which it belongs; personal identity – a set of a person's individual characteristics and a unique combination of facts of their life, provided that this information is known to their partner in interaction; I-identity – subjective feeling of the individual's life situation and its originality.

The ideas about the personal and social aspects of the identity phenomenon have been studied in the research of cognitive psychologists (H. Tagefel, J. Turner, G. Breakwell). They considered identity as a cognitive system regulating behavior and represented by two subsystems: personal, expressed through self-determination in terms of physical, moral, and intellectual traits, and social, determined by the person's belonging to different social categories – sex, race, and nationality. The representatives of this trend identified the structure of identity, which includes the following components[23]:

– biological organism as the "core" of identity, eventually losing its importance;
– content component that combines the unique characteristics of the human personality, changing in its content and degree of connectivity as life and depending on the social context;
– value component, which is a system of estimates attributed to the elements of the content component;
– chronological component, considering the development of identity in subjective time.

The model developed in the framework of cognitive psychology summarized the views of representatives of the psychoanalytic direction and followers of social interactionism, emphasizing the need to take into account the temporal aspect of identity as an indicator of its variability throughout human life.

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[21] *Ibidem*.

[22] V.A. Tsurkin, *To the problem of personal identity…*, *op. cit*., p. 100-105.

[23] *Ibidem*.

CONCLUSION

Summarizing the above review of scientific research, it should be noted that the analysis of the nature and essence of human identity is possible only within the framework of interdisciplinary research. Identity is "a multidimensional process in human development, the study of which combines social, psychological, cultural, and biological aspects"[24]. The modern understanding of this phenomenon should be based on the traditions formed within the philosophical-anthropological and socio-philosophical research approaches to identity as a biological, psychological, socio-cultural phenomenon, and consisting of the following provisions[25]:

- identity is structural, including, among others, content and evaluation components;
- there are two aspects of identity: personal and social; ontogenetically, personal is secondary to social;
- identity is social in origin, being formed as a result of interaction with people and the assimilation of the language developed in the process of social interaction, the change of identity is due to social changes;
- identity is manifested at the behavioral level in the process of solving vital problems, and each decision made about yourself and your life will contribute to the identity structure formation;
- identity is a dynamic structure that develops throughout life, overcoming crises, able to change in both a progressive and regressive direction, which is a necessary condition for personality development.

Taking into account the basic provisions, identity is considered as a process of human development based on the choice and formation of life models in social interaction in the name of historical self-realization[26].

"Identity crisis" in post-industrial society. At the turn of XX – XXI centuries, a post-industrial or information society, due to the development of new communication technologies and services, a transition to electronic technologies at all levels of production, the introduction of information technologies in management, consumption and distribution, is being formed. The development of the information society has made fundamental changes in all social relations, including the creation of prerequisites for social and cultural movement of postmodernism.

The philosophical reflection undertaken within the framework of postmodernism has reflected the fundamental problems and contradictions of postindustrial society related to the position of the individual in the modern world and their identity. The desire to correlate the inner world of person with the external social in terms of complexity, increasing diversity

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[24] M.V. Zakovorotnaya, *Person`s identity…, op. cit.*
[25] *Ibidem*; V.A. Tsurkin, *To the problem of personal identity…, op. cit.*, p. 100-105.
[26] M.V. Zakovorotnaya, *Person`s identity…, op. cit.*

caused by the development and dissemination of knowledge, information systems and the latest, including biotechnologies, has become the determining factor in identity formation at present.

The transformation of social, economic, and political processes has created a plurality of perspectives, situations of choice, and identification processes for person. Frequent changes in social roles, movements in social space, and changes in the temporal and spatial framework of the existence and activities of all members of society have led to changes in the mechanisms of human identity formation[27]. Individual's search for their certainty started to be realized through numerous short, superficial intersubjective relations, mass communication media, and various information technologies that construct a person's perception of the surrounding reality, contributing to "massaging of needs, tastes, value orientations of people" and have become the most influential factors of identification[28]. Under the influence of the information environment, human consciousness started to acquire the features of fragmentation and discreteness, personal boundaries started to blur, stable value orientations started to disappear. In the modern world, the conditions for the onset of a global "identity crisis" have been formed.

The idea of personal identity devaluation was reflected in the philosophy of postmodernism. The representatives of postmodernism (J. Deleuze, J. Lacan, J. Baudrillard) rejected the principles of wholeness, consistency, organization of both the external and internal human world, and put forward the principle of singularity, considering human life as a chaotic set of singular events[29]. Instead of the wholeness of identity, postmodernism offered its decentration and fragmentation, instead of the wholeness of existence, it offered a collection of individual episodes. In this context, the possibility of personal identity formation and personal development is denied, they are replaced by deconstruction through decentralization and recombination of consciousness and personality[30]. Identity in this case would turn into an "ephemeral, multifaceted, fleeting entity"[31], bearing a "mosaic", situational, pluralistic character, leading to a crisis of personal identification.

The philosophy of postmodernism stated the destruction of basic human values, threatening not only their inner spiritual world, but also their nature, considered as "something bony, stable, imposing restrictions on the randomness of construction"[32].

The ideas of postmodernism, bearing the "identity and humanism erosion", cannot be evaluated "as the last and final word of the progress of philosophical thought and culture"[33].

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[27] I.A. Zvereva, *Identity as a philosophical problem: socio-cultural grounds: thesis abstract of candidate of philosophical sciences*, Moscow 2010.
[28] *Ibidem*, p. 4.
[29] E.S. Maslova, *Identity erosion in postmodernism*, "Humanities of the South of Russia" Vol. 7, No. 6/2018, p. 105-111.
[30] *Ibidem*.
[31] D.L. Shkarin, *Concept of "identity crisis" in modern social and philosophical discourse: theoretical and methodological aspect*, "Bulletin of Chelyabinsk State University" № 5(415) Philosophical Science 48/2018, p. 71-77.
[32] M.F. Lanovsky, *Human identity in the world of modern biotechnology: thesis abstract of candidate of philosophical sciences*, Moscow 2018.
[33] E.S. Maslova, *Identity erosion in postmodernism…, op. cit.*, p. 110.

In this regard, the development of genomic biotechnologies, which put humanity to face "the prospects of fundamental transformations of human nature"[34], required scientific consideration of new aspects of the human identity problem based on the heritage of philosophical anthropology and bioethics resources[35].

Problem of human identity in the light of genomic biotechnologies' development. The possibility of scientific and technical expansion into the world of human genes and the improvement of its genome that opened to people gave rise to ideas of human biological improvement and their transformation into a "post-man"[36].

The genetically modified human bioproject is actively supported by the representatives of transhumanism, a worldview that, according to George. Huxley recognizes the possibility and desirability of fundamental changes in the position of a man with the help of advanced technology "with the aim of eliminating suffering, aging, and death and significantly improving the physical, mental and psychological abilities of a person"[37]. The infinite biological perfection of man is considered by transhumanists as a response to the problem of "identity crisis"[38].

The uncontrolled provision of the possibility of genetic engineering to mankind causes the risk of the "natural man" disappearing, so the bioethical perspective of considering the issues of human identity preservation, its cumulative integrity requires the philosophical and social humanitarian expertise of biotechnological projects related to the improvement of human nature[39].

M.F. Lanovsky proposed a model of possible human identity transformation in the information society under the influence of biotechnology in his research[40]. Having synthesized the general ontological ideas and principles of human existence (human nature) contained in the basic philosophical strategies of identity research, he identified the basic elements of the identity structure. These included: the body, organs, genes, the subject with its essential characteristics, soul and spirit as the basis for determining the meaning of life, activity as a form and basis of human existence; existential phenomena of suffering and death[41]. The researcher presented a forecast of the development of the identity structure, deformed under the condition of the postmodern ideas absolutization and under the influence of the main trends of the information society.

The ideas of "bodycentrism" and freedom from historical traditions, natural determinations, and ties with God cultivated in the era of postmodernism will give a person the status of an impersonal socially determined body, which, along with other living and nonliving bodies, falls into a common manipulative-design space, where complete freedom will be created for their de-

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[34] B.G. Yudin, *Human nature: constructivism against naturalism*, "Higher education in Russia" No. 5/2005, p. 116.

[35] M.F. Lanovsky, *Human identity in the world…, op. cit.,* p. 16.

[36] N.A. Kalinina, *Human future in the light of changes in human nature* "Eurasian Union of Scientists (EU)" №5 (14) Philosophical Science/2015, p. 35-38.

[37] *Ibidem*.

[38] D.L. Shkarin, *Concept of "identity crisis" …, op. cit.,* p. 74.

[39] R.R. Belyaletdinov, *Risks of modern biotechnologies: philosophical…, op. cit.*

[40] M.F. Lanovsky, *Human identity in the world…, op. cit.*

[41] *Ibidem*, p. 26-27.

construction, reconstruction and destruction[42]. The model of *homo oeconomicus* developed in the framework of globalization and economocentrism of the post-industrial society will bring the nature and essence of man to items available to biotechnological design, reducing the structure of identity to the body, organs and genes, depriving it of the support of the resources of self, spiritual experiences, life story. Biotechnological intervention strategies adopted by political and administrative structures and businesses will influence the individual consciousness of the individual, making them subject to technological control and management.

Thus, the risks of loss of humanistic guidelines emerging in the information society, including in the context of the use of genomic biotechnologies actualize the problem of protecting human dignity and their right to integrity in the analysis of human nature and the reduction of the structure of his identity[43].

Protection of human integrity and legislative guidelines in the field of genetic engineering. Ethical and legal aspects of the protection of human integrity should be studied in relation to specific types of genetic engineering. G.B. Romanovsky determined genetic diagnosis (testing) and genetic therapy (gene therapy) in the framework of genetic engineering activity[44].

In the process of genetic testing, a person is tested for specific features of their genetic system to obtain information about the predisposition of the person to certain diseases. The logical continuation of testing is genetic counseling.

Genetic screening programs pose a number of ethical challenges: whether screening should be voluntary or mandatory, who has the right to access its results, and whether screening counselling is mandatory. Such information, on the one hand, is important for correcting human behavior to reduce the risk of disease, on the other hand, can be used for discriminatory purposes, primarily by employers and insurers [45].

From the point of view of the bioethics principles, genetic testing can be carried out only for health protection with free and conscious consent of the person; the results of genetic diagnosis, covered by the concept of "medical secrecy", should not become the cause of any kind of discrimination; and genetic counseling should be carried out only on a voluntary basis with consent of the tested person[46].

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[42] *Ibidem*; P.D. Tishchenko, *Biological re-de-con-struction of the human in man: the case of sexuality*, "Bioethics and humanitarian expertise" Issue 3/(Moscow)2009, p. 119-138.

[43] A.A. Roericht, *Bioethics and human rights: research (review)*, [In:] *Modern medical law in Russia and abroad: collection of proceedings*, edited by: O. Dubovik, D., Pivovarov, S. Yu, RAS INION. Center social science.-inform. research; Department of law; Institute of state and law. Center of ecological and legal research.; Adm.-legal research center, Moscow 2003, p. 206-221.

[44] G.B. Romanovsky, *Genetic engineering and constitutional human rights*, "Modern law" No. 9/2013, p. 28-33.

[45] *Ibidem*, p. 29.

[46] *Ibidem*, p. 31.

Genetic therapy is a therapeutic approach based on the introduction of certain genetic structures into the body to modify the human genome to combat hereditary diseases. Currently, gene therapy of somatic cells and germ cells is differentiated[47].

The therapy at the level of somatic cells is aimed at correcting the defect of an individual undergoing treatment. Such therapy is still experimental, aimed at the treatment of fatal diseases associated with one gene, being used in the terminal state of a person, when other methods of therapy were useless[48].

Carrying out gene therapy of germ cells, changing the genetic balance of the individual, violating their personal integrity, is clearly prohibited[49].

V.E. Semenkov distinguishes gene therapy and genetic improvement among the types of genetic intervention[50]. In contrast to gene therapy, which aims to cure a person, genetic improvement, aimed outside of therapeutic purposes to change the individual properties of a person, can be used to create individuals with outstanding abilities and should be legally prohibited[51].

To protect constitutional human rights, G.B. Romanovsky proposes the following legislative guidelines within the framework of the adoption of a special law on state regulation of genetic engineering[52]:

- proclaim the general principles of respect for human rights and prohibition of the commercial use of genetic material;
- prohibit any form of discrimination against a person on the basis of genetic characteristics;
- prohibit forced genetic counselling and universal genetic screening; provide for anonymous testing and counselling;
- allow gene therapy only for medical reasons.

Summarizing the analysis carried out in the article, it should be noted that the preservation of human identity is one of the eternal problems of philosophy, the core of which is the search for ways of free development and formation of human personality in the ever-changing conditions of social reality, protection of their existential rights and preservation – in the situation of biotechnical revolution – of their integrity.

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[50] V.E. Semenkov, *Ethical and legal issues in the field…, op. cit.,* p. 160-168.

[51] *Ibidem*, p. 167.

[52] G.B. Romanovsky, *Genetic engineering and constitutional…, op. cit.,* p. 32-33.

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