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Cognitive Freedom: Human Rights Born from Today's Artificial Intelligence

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Abstract
When the manipulation of the human brain activity is a real possibility as happens nowadays, a minimum of ethical values should be respected and incorporated into international and domestic Law. These rules shall aim to regulate the application of neurotechnologies and artificial intelligence to the human brain. No State which claims to be respectful of human rights can exercise the power to coercively manipulate the mental states of its population. In this article, we discuss cognitive freedom, a new right born out of neurotechnologies, which can also be understood as an update of human free will adapted to the 21st century. It is -as we will see- a multidimensional concept, difficult to define due to its complexity. In this article, we propose to consider cognitive freedom as an entirely new human right aimed at preserving the very essence of human nature. To validate our hypothesis, we use a qualitative methodology, aimed at establishing a consensual opinion of experts in the legal and scientific fields, together with the assistance of the main sources of the law, namely positive law, case law and doctrine.

Keywords: human rights, neurotechnology, neuro-rights, cognitive freedom, legal disruption, artificial intelligence

Introduction

The fast development of neurotechnologies allows us to understand and to intervene directly in the functioning of the brain. Consequently, the manipulation of the human brain activity is today a real possibility. Despite claims of neutrality, the use of technology depends on human decisions and this fact may produce both positive and negative consequences. The medical and technological possibilities that can be unleashed by successfully deciphering the neural code generate relevant challenges. Based on this threat, a group of neuroscientists led by Dr. Rafael Yuste, published in the journal Nature, a series of ethical rules whose purpose is to regulate the application of neurotechnologies.[1] They called them "neuro-rights" and their first aim was to generate a discussion relevant enough that at some point, the law will rule on what is due and what is prohibited as regards the applications of neurotechnology.

The group of experts proposed to add certain neuro-rights to the Universal Declaration of human rights, or better yet, to elaborate an international treaty that specifies prohibited actions that are intertwined with neurotechnology and fundamental human rights. This legal regulation will be strengthened with monitoring committees, which would control uses arising from them.

[1] See the original article Four ethical priorities for neurotechnologies and AI, Nature Magazine, 11/08/2017. Available on the internet https://www.nature.com/news/four-ethical-priorities-for-neurotechnologies-and-ai-1.22960. All of the scientists who endorsed the initiative are mentioned there.

Beyond any methodology applied, their main intention was to establish consensual rules, which at the same time are effective. In this ever-changing neurotechnological scenario, another article published in Life Sciences, Society and Policy, advocated for the reconceptualization and even the creation of new human rights, namely the rights to cognitive freedom, mental privacy, mental integrity and psychological continuity".[2]

Human free will and cognitive freedom

To elaborate a working definition of cognitive freedom, we need to consider the difference between rights and freedoms. First, we limit the scope of our research to the legal sphere and, second, to the individual as the main holder of rights. In this context, we talk about human freedom as a legal category. However, even this reduced approach has an extremely broad scope.[3]

The concept of "human rights and fundamental freedoms" is commonly accepted in the modern theory of law and law-making practice. At the same time, in the former phrase, the term "freedom" is used in a slightly different sense than that inherent in the wording of the new right under analysis. This difference is clearly seen when comparing the English formulas: "rights and freedoms" and "right to liberty and security of a person". Here both terms "*freedom*" and "*liberty*" are used in the English language to denote the concepts covered by the single term "freedom" in Russian and Spanish. In the first case, the term "*freedom*", according to the ideas of the general theory of law, is almost identical to the term "*right*" used in its subjective sense. A significant number of scholars[4] agree on this, although a certain difference between freedom and the right is still noted. Thus, the literature emphasizes that freedom is, in fact, synonymous with a subjective right and characterizes the legal framework of individual behavior, in which a person realizes his spiritual and material needs[5]. Another work points out that if the term "*right*" is intended to emphasize that we are mainly talking about the right of an individual and a citizen to receive some material, cultural or spiritual good from society and the State, the term "freedom" speaks about the right of an individual to act without any interference from external, coercive force in a certain sphere of human activity[6]. It is in this sense that the term in question is used in naming certain subjective human rights/freedoms, namely freedom of thought, freedom of expression, freedom of assembly and association, etc.

A second meaning of "*liberty*" as used in the formula "*the right to liberty and security of the person*" has two fundamentally different approaches. Certain literature distinguishes liberal,

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[2]Lenca, Marcello y Andorno, Roberto (2017). Towards new human rights in the age of neuroscience and neurotechnology. Life Sciences, Society and Policy 13, p. 5. Published online (26/04/2017), available at https://doi.org/10.1186/s40504-017-0050-1 .

[3] See for example, Orlova O.V. Legal freedom of an individual in a civil society // Journal of Russian Law. 2007. №5. P. 76-83.

[4] See in particular Theory of State and Law: textbook / ed. by V.K. Babayev. M., 1999. C. 173; Theory of State and Law: textbook / ed. by A.V. Malko. M., 2010. C. 105; Theory of the State and Law: textbook for universities / ed. by O. V. Martyshyn. M., 2007. P. 467.

[5] See: Theory of State and Law: textbook / ed. by A.V. Malko. M., 2010. P. 105.

[6] See: Theory of State and Law: textbook for universities / ed. by O.V. Martyshin. M., 2007. P. 467.

democratic and social dimension of freedom, that is, freedom from the State, in relation to the State and provided by the State[7]. At the same time, the term "freedom" that corresponds to the English "liberty", is characterized as extremely narrow in its content; and, despite the fact that all human rights serve the realization of human freedom, in the considered understanding of this term it refers to a very specific aspect of freedom -physical or body movement- in its narrowest sense[8].

The right to liberty and security of the person is a paramount right in the theory of human rights. In terms of the generally accepted classification in legal theory and Russian and Argentinian constitutional law[9], as well as in international law[10] theory, this right can be classified as of a civil nature and characterized as a right that derives from the very nature of man and woman[11].

Identifying the international legal approach to the interpretation of the concept of "security of the person" is possible by referring to the practice and interpretation of the provisions set in Article 5 of the European Convention of Human Rights (ECHR hereafter) and Article 7 of the Interamerican Convention of Human Rights (IACHR hereafter). The former European Commission of Human Rights (hereinafter referred to as the ECommission) noted that the words "freedom and security" should be read together and refer only to physical freedom and inviolability. The Commission stressed that "liberty of the person" in the meaning of paragraph 1 of Article 5 of the European Convention[12] means freedom from detention and imprisonment, and "security of person" means protection from arbitrary interference with this freedom[13]. The second sentence of paragraph 1 of Article 5 of the Convention, which enshrines the right to liberty

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[7] See: *Nowak M.* U.N. Covenant on Civil and Political Rights: CCPR Commentary. Kehlam Rhein; Strasbourg; Arlington, 1993. P. 160.

[8] See: Ibid.

[9] See, in particular: Theory of State and Law: textbook / ed. by A.V. Malko. M., 2010. C. 105; Baglay M.V. Constitutional law of the Russian Federation: textbook for universities. 6-th ed., revised and supplemented. M., 2007. C. 191; Human rights: Textbook / otv. ed. by E. A. Lukasheva. Ed. by E.A. Lukasheva; Human rights: Textbook / Ed. by E.A. Lukasheva, 2nd ed. revised and updated M.A., 2009. P. 153

[10] See, in particular: International public law: textbook / ed. by K.A. Bekyashev. Ed. 5-th edition, revised and supplemented. P. 313-314. Although, for example, Professor O.I. Tiunov emphasizing the special nature of the right in question, refers it to the category of inalienable rights. See: Tiunov O.I. International humanitarian law: textbook for universities. M., 1999. P. 6.

[11] See: Theory of State and Law: textbook / ed. by A.V. Malko. M., 2010. P. 105.

[12] Corte Interamericana de Derechos Humanos. Cuadernillo de Jurisprudencia de la Corte Interamericana de Derechos Humanos No. 8 (2020). Libertad personal / Corte Interamericana de Derechos Humanos y Cooperación Alemana (GIZ). San José, C.R.: Corte IDH, p. 4.

[13] See: Application no. 5877/72, X. v. the United Kingdom, European Commission of Human Rights Decision of 12 October 1973, § 2; Application no. 5573/72, A.; B.; C.; D.; E.; F.; G.; H. and I. v. Federal Republic of Germany, European Commission of Human Rights Decision of 16 July 1976, § 28.

and security of person, reveals the essence of the restriction of this right through the concept of "imprisonment", but not through the concept of "deprivation of liberty and security of person" or in any other way. That is, there is an inseparable link between the concepts in question and, in fact, there is no independent meaning of the concept of "security of person" as it is used in the Convention. It should be noted, however, that the Human Rights Committee, for example, takes a slightly different position, treating the right to security of the person as a right with "horizontal effect"[14] i.e., extending it to the sphere of private relations.

As regards the interpretation of the article 7 of the IACHR, the Interamerican Court of Human Rights (IACtHR hereafter) has traditionally understood the right to personal liberty from the perspective of physical freedom (freedom of movement). However, the Court has recently given it a broad content, which is also associated with the possibility of self-determination. The IACtHR indicated that the protection of liberty, safeguard "both the physical liberty of individuals and personal security, in a context in which the absence of guarantees may result in the subversion of the rule of law and in depriving detainees of the minimum forms of legal protection."[15]

In Russian doctrine, however, we can find a different approach to the interpretation of the concepts of "freedom" and "security of person". Professor B.S. Ebzeyev notes that "the legal impact on the individual ... is mainly limited to the regulation of relations in the sphere of individual freedom and security"[16]. It is interesting to note in this regard that well-known Soviet scientists, when considering the category of "freedom" in the criminal context, pointed out its connection with the freedom of movement and control of oneself[17], understanding it in the physical as well as in the social and socio-psychological sense[18]. Nowadays, when commenting on Part 1 of Article 22 of the 1993 Constitution of the Russian Federation, which secures the right to liberty and security of person, some Russian experts note that it "refers to human freedom as part of the personal rights and freedoms of citizens, forming two institutions: 1) security of

[14] Communication no. 195/1985, William Eduardo Delgado Páez v. Colombia, Views of the Human Rights Committee of 12 July 1990, §§ 5.5, 5.6, 6 // Website of the University of Minnesota Human Rights Library. URL: http://www1.umn.edu/humanrts/undocs/session39/195-1985.html (accessed: 01.10.12).

[15] Among others see Case of Maritza Urrutia v. Guatemala. Merits, Reparations and Costs. Judgment of November 27, 2003, para. 642; Case of the Gómez Paquiyauri Brothers v. Peru. Merits, Reparations and Costs. Judgment of July 8, 2004, para. 82 3; Case "Institute for the Reeducation of Minors" v. Paraguay. Preliminary Objections, Merits, Reparations and Costs. Judgment of September 2, 2004, para. 2234; Case Tibi Vs. Ecuador. Preliminary Objections, Merits, Reparations and Costs. Judgment of 7 of September 2004, para. 975.

[16] Ebzeev B.S. Constitutional bases of individual freedom in the USSR / ed. by I.E. Farber. Saratov, 1982. P. 104.

[17] See: Noah I.S. Theoretical Issues of Incarceration. Saratov, 1965. P. 27.

[18] See: Sundurov F.R. Deprivation of liberty and socio-psychological prerequisites for its effectiveness. Kazan, 1980.P. 12.

person; 2) privacy"[19]; the right to personal inviolability includes physical, moral, mental inviolability and personal safety[20]. We can see that this right is interpreted much more broadly than in international law, including privacy, moral, physical and mental inviolability. Another author points out that "security of person includes both physical (life, health) and spiritual (honor, dignity) inviolability"[21]. With minor differences, this position can also be found in other commentaries to the Russian Constitution[22] and scientific works[23], although narrower approaches to the understanding of the right in question can also be found, which are close to or correspond to international law[24].

In the Argentine legal system, there are antecedents that recognized the transcendent hierarchy of individual rights and guarantees. Thus, the decrees of 1811 on individual security of persons can be mentioned. In 1957, a new reform to the Constitution introduced article 14 bis, which deals with the rights of workers, social security and the guarantees of unions.

As for the Argentine constitution, the so-called historic Constitution of 1853, inspired by the United States Constitution in its institutional design, already from its Preamble highlights the work of the constituent with the aim "[...] to strengthen justice, promote general welfare and ensure the benefits of freedom [...]" (Alberdi, 2002). Throughout its articles, the Constitution establishes basic guarantees, such as equality before the law, due process of law and defense in court, freedom of expression, the principle of legality, that of property, the exercise of any legal industry, among many other freedoms. Regarding freedom of conscience, in 1949, the Argentine Supreme Court said that it consists in not being forced to do an act prohibited by one's own conscience, whether the prohibition is due to religious beliefs or moral convictions (in *re* Agüero c/ Universidad Nacional de Córdoba, of June 30, 1949). It is important to highlight the work of the Supreme Court of Justice in creating the praetorian action of "*amparo*" for those cases in which the habeas corpus process was inoperative because personal or ambulatory freedom was not compromised, but the protection of constitutionally enshrined rights. This was stated in cases

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[19] The Constitution of the Russian Federation: Scientific and Practical Commentary / ed. and with the introductory article by B.N. Topornin. Ed. 3, revised and supplemented. 1997. P. 216. An identical position can be found in the book: The Constitution of the Russian Federation. Scientific and practical commentary and semantic dictionary / ed. by I.S. Yatsenko. M., 2003. P. 67-68.

[20] See: Constitution of the Russian Federation: Scientific and Practical Commentary / ed. and with the introductory article by B.N. Topornin. Ed. 3, revised and extended. Moscow, 1997. P 216

[21] Miroshnikova V.A. Commentary on the Constitution of the Russian Federation. M., 1997. P. 27.

[22] See, for example: Commentary to the Constitution of the Russian Federation / ed. by Yu.V. Kudryavtsev. M., 1996. C. 98-104; Commentary to the Constitution of the Russian Federation / ed. by V.D. Karpovich. 2nd ed. revised and supplemented. M., 2002. P. 147-157.

[23] See, for example: Morozov A.P. Constitutional right of man and citizen to freedom and personal inviolability in the Russian Federation: autoref. .... dissertation of candidate of jurisprudence: 12.00.10. Saratov, 2002. P. 11.

[24] See, for example: Kozlova E.I., Kutafin O.E. Constitutional law of Russia: textbook. 3rd ed. revised and supplemented. M., 2003. P. 261; Constitutional law of Russia: textbook / ed. by A.E. Postnikov. M., 2008. P. 151; Baglay M.V. Constitutional law of the Russian Federation: textbook for universities. 6-th ed., revised and supplemented. M., 2007. P. 215-219; Constitution of the Russian Federation: problem commentary / V.A. Chetvernin. M., 1997. P 153-159.

called Siri and Kot from 1957 and 1958, respectively. When ruling in the Costa case, the Court referred to freedom of expression, which includes the freedom to give and receive information, an object that has been specifically indicated by article 13, paragraph 1, of the American Convention on Human Rights, which relates freedom of expression and freedom of thought.

Freedom is the possibility of choice, provided that the subject is aware of the options available[25]. The phenomenon of freedom is complex both to understand and to practice in forms, institutions, norms, procedures and public life relations. Currently there is no common understanding of "freedom" since its definition and interpretation depend on factors such as history, cognitive abilities and the inner world of the individual. This circumstance accounts for countless definitions of the term nowadays. Freedom is also defined as the capacity of individuals, groups, and legal entities to act legitimately in accordance with their interests and goals, based on a sense of objective necessity, the absence of constraints or restrictions on activities that make freedom impossible or detrimental[26]. In the dictionary of S.I. Ozegov and N.Y. Schwedova, freedom is defined as the possibility for the subject to manifest his or her will on the basis of knowledge of the development of nature and society.

Initially, however, freedom was regarded as a natural given, just related to physical freedom. Thus, in the famous "The Institutes of Gaius" all peoples are divided into free and slaves[27]. However, thanks to human experience, the study of the term has become more complex. Over time, the term has taken on another meaning and has come to be used as a synonym of subjective right. It is this subjective right that is correctly associated with freedom, because it is a measure of freedom. If this measure is null and void (total non-freedom), all relations lose their legal character[28].

The modern interpretation of the phenomenon of freedom comes from the era of Humanism considering man as the measure of all things and each individual as the highest social value. Consequently, individual freedom was considered as an inalienable right, which is manifested through spiritual life, inner thoughts, desires, and feelings that distinguish any individual from others. Accordingly, freedom can be seen in two aspects: as a potential, internally conscious (the ideal component) and objectively as the existing possibility of its realization in specific conditions of social reality through action or omission (the material component).

The current legal understanding of freedom has its roots in the Enlightenment's interpretation of freedom as universal dependence on law, "the ability to do anything that is not forbidden by law"[29] complemented by the ideas of liberalism. Thus, the 1950 Convention for the Protection of Human Rights and Fundamental Freedoms defines freedom as the legal capacity to determine one's conduct, which can only be restricted by law[30].

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[25] Philosophy Logic and Methodology of Science Glossary of Concepts. 2010, Levin V.I.
[26] Raizberg B.A. Modern Socio-Economic Dictionary. Moscow, 2012, p. 460.
[27] Digests of Justinian / Edited by L.L. Kofanov. M., 2002. Vol. I: Book I-IV. P. 117.
[28] Varlamova N.V. Legal relations: philosophical and legal approaches // Jurisprudence. 1991. № 4. P. 51.
[29] Montesquieu Ch.L. On the Spirit of Laws. M. [Electronic resource].
[30] Convention for the Protection of Human Rights and Fundamental Freedoms. M., 2001. P. 5.

The current understanding of freedom, like the understanding of the individual, has historically developed much later than the idea of a right and the consideration of the individual as a subject of law. As a preliminary conclusion, the concept of personal freedom is different from that of legal freedom (freedom in law). Personal freedom is centered on the individual while legal freedom focuses on the holder of a right, which may not always be represented by a human being. Legal freedom only partially overlaps with social freedom. The volitional aspect of social freedom appears to be more variable than that of legal freedom. Legal freedom must be distinguished from actual freedom, the former being abstract in relation to the current conditions of enforcement. That is, freedom in its philosophical sense (as the unity of internal and external freedom) is not identical to freedom as a legal category (associated only with external freedom - legal freedom). Furthermore, it is important to stress that if in philosophy freedom is considered to be one of the most basic yet multidimensional categories affecting all aspects of human and social relations, legal approaches to the interpretation of freedom are strictly circumscribed and limited to the legal field.

Freedom as a legal category means the ability and opportunity of an independent subject through a conscious, independent choice to decide and exercise, within the prescribed legal limits, one of several options of action in accordance with their needs, desires, interests and goals, or abstain from taking any action. In other words, legal freedom is a lawfully enshrined (formalized), socially justifiable and necessary measure of the possible and proper behavior of individual and collective subjects of law, which meet social needs, guaranteed and protected by the State. This kind of freedom can only be objectified through legal means (law-making, law-implementation). It should be noted that in the history of legal thought, right is often defined through freedom and freedom through right. Thus, H. Hegel wrote: "Right is freedom as an idea in general"[31]. According to Montesquieu, "freedom is the right to do whatever is permitted"[32]. According to the scholar S. Nersesyants, right is a necessary form of freedom: "*A right is, by its very nature and therefore by its conception, a historically determined and objectively conditioned, form of freedom in real relations, measure of this freedom, form of existence of freedom, actual freedom*"[33].

In the view of some philosophers, the mission of law to "define" and "preserve" freedom is not merely a matter of placing limits on it, but there must be appropriate legal forms and methods, a legal order (positive law) defining and ensuring a degree of freedom proportional to the existing realities.

A distinctive feature of modern international law is the presence of a relatively new branch as international human rights law. The extension of international legal regulation to human rights,

[31] Hegel G. W. F. Philosophy of Right. M.: Publishing house "Thought", 1990, p. 89. [Electronic resource].

[32] Montecchier Ch.-L. The Spirit of Laws [Electronic resource]

[33] Nersesyants B. C. Right and Law. From the history of legal doctrines. Moscow, 1982, p. 342

according to G.I. Tunkin, is "*a great revolution in international law*"[34]. Lawyers focus on the fact that rights express a specific and historical degree of freedom inherent in a certain stage of human development, so the development of rights serves as an indicator of the development of human freedom.

Freedom is not possible if it is not guaranteed by the State. The measure of freedom is manifested only by positive Law, which defines the position and role of the individual in society. In this sense, the measure of human freedom as a specific certainty is represented by law. Lawyers rightly believe that positive law, with its normative force, is a measure of the freedom of the social subject, which is manifested in its legal space and time. It is positive law that gives freedom its necessary and essential quality: the coherence of actions of all members of society. This feature of human freedom was already noted by I. Kant, who proclaimed that everyone's freedom should be compatible with the freedom of others[35].

Information technology and cognitive freedom

From the foregoing, one of the theoretical propositions of crucial, overriding importance to the understanding of legal issues emerges. It is law, in its original essence, a form created by human beings that is logically and historically designed to be an institution designed to order freedom, to give it certainty and security, and hence a human content, a truly human value.

Right is not just a universal scale or an equal measure of freedom for individuals. Free individuals are the essence and meaning of any right. Wherever free identity, personality and legal value of an individual is denied, there is no right (and no legal principle of formal equality), and there can be no truly individual legal or other (group, collective, institutional, etc.) subjects of law. Law then, is as fundamental to society as freedom, which takes various forms both in individual consciousness and in the history of society.

According to humanists, the human intellect has unlimited potential for its own development. Information technology is one of the most powerful means of improving man and society. From this perspective of the application of information technology, the Darknet naturally appears to humanists as a special space where human freedom and creative energy are embodied. The opposing side, the anarcho-primitivists, believe that any technology is an interference with human nature, as its use always involves some form of control and the establishment of hierarchical systems. Thus, in their view, technology is a means of enslaving humans[36].

As a follow-up to these ideas, so-called "neo-Luddites" have emerged, who believe that the only way out of technological "slavery" is to return to traditional ways of doing things[37]. At

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[34] See Tunkin G.I. (1994). International Law: Legacy of the 20th Century // Russian Yearbook of International Law. S. Pb. p. 18.

[35] Kant I. (1964). Critique of Pure Reason // Kant I. Opus: in 6 vol. T. 3. M., 1964. P. 351.

[36] Vasilyev A., Ibragimov J., Vasilyeva O. Darknet as an elusive sphere of legal regulation // Jurislinguistics. 2019. Nr. 12. P. 10-12.

[37] Gorbacheva A.G. (2016). On socio-economic consequences of the introduction of converging technologies in human life // Human. R U. 2016. Nr. 11. P. 96-105.

the present time, there is an active discussion of the classifications of generations of human rights. For example, the first three generations of human rights are formulated in the International Bill of Human Rights. At the same time, the fourth generation of human rights began to form in the 1990s, and there are different points of view about this generation. According to F.M. Rudinsky, these rights should protect individuals from threats associated with genetic heredity experiments, i.e., such human rights associated with cloning and other discoveries in the field of biology[38]. Another point of view is held by the legal scholar Y.A. Dmitriev, who includes in this group the rights in the sphere of information technology. Professor A.B. Vengerov calls the fourth generation the rights of mankind (right to peace, nuclear safety, space, ecological, informational rights and others):

> "*The fourth generation is a legal response to the challenge of the XXI century, when we are already talking about the survival of humanity as a biological species, the preservation of civilization, the further, cosmic socialization of mankind. A new, fourth generation of rights is born, and, accordingly, international legal procedural institutions that ensure these rights arise. International humanitarian law is taking shape, humanism is becoming one of the milestones in the moral development of society*"[39].

Researchers A. N. Golovistikova and L. Yu. Grudtsyna in their article "Human Rights: Evolution of Development" suggest that "*perhaps the fifth or sixth generation of rights is on the horizon...*"[40]. They argue that the corpus of rights requiring protection will inevitably expand. However, this process cannot be assessed unequivocally. On the one hand, the expansion of the range of recognized rights should increase the legal protection of the individual, on the other hand, each "generation" brings with it a new logic of legitimization of claims, referred to as human rights, and conflicts of "new" rights with "old" are inevitable, resulting in a decrease, rather than increase, of the level of protection[41]. Timothy Leary summarized this concept by postulating "two new commandments of the molecular age"[42]: (i) You must not alter your neighbor's consciousness; and (ii) You must not prevent yourself from changing the consciousness of your neighbor.

Bioethics and cognitive freedom

The Law of the 21st century is due to intertwine classical and modern rights with other genetically specific rights, in response to advances in genetics and genomics. Some of them are already established in the Universal Declaration on the Human Genome (1997) and the International Declaration on Data Human Genetics (2003). Freedom is a cornerstone value in

[38] See Rudinsky F.M. Civil rights: general theoretical issues // Law and life. 2000. № 31.

[39] See Vengerov A.B. Theory of State and Law: Textbook. M., 2004. P. 176.

[40] See Generations of human rights: main stages of development of legal idea and legal institute: textbook edited by A. Yu. Sungurov. SPb., 2003. P. 80-91.

[41] See: Golovistikova A.N., Grudtsina L.Y. Human rights: evolution of development// Lawyer. M. 2006. № 6. P. 37.

[42] Two Commandments for the Molecular Age. Archived from the source on March 12, 2012.

liberal democracies. One of the most cherished kinds of freedom is freedom of thought. The main elements of freedom of thought, or "cognitive liberty" as it is sometimes called (Sententia, 2013), include privacy and autonomy. Both can be challenged by the new developments in neuroscience and artificial intelligence. In the XXI century, everyone has a fundamental right to dignity, uniqueness and non-discrimination on the basis of genetic heritage. European law has already established the fundamental principles of bioethics: dignity, autonomy, integrity, good faith, vulnerability, free and informed consent, responsibility and justice. In EU law, the prohibition of interference with the human genome has been in place since 2007. Today we are witnessing a rapid formation of secondary and tertiary EU law in the field of biotechnology applications. Proof of this is the fact that on April 29, 2021, the European Commission opened a discussion on the legal status of new genomic techniques in the European Union and proposed further negotiations between European countries on the creation of a Unified EU Patent Court.

Neuroethics is considered as part of bioethics, applied ethics, ethics of neuroscience and neuroscientific ethics. The emergence of neuroethics was the result of a general trend of humanitarian support for scientific megaprojects in biomedicine such as CRISPR-Cas9 genome editing methods. The term neuroethics is used in the field of the latest methods of studying the brain processes and using the results obtained in medicine, commerce, intelligent systems and other sciences.

Considering the advances in biomedicine and biotechnology, legal safeguards for the inviolability of the human person and protection of patients' rights are enshrined in the Council of Europe Convention for the Protection of Human Rights and Dignity with regard to the Application of Biology and Medicine (hereinafter referred to as the Oviedo Convention, 1997). These include the principles of biosafety and free, informed consent to any manipulation of human genetic material, including for medical and research purposes. The Declaration on the Human Genome went even further than the Oviedo Convention, emphasizing that a person's identity cannot be reduced to his genetic characteristics and requiring unquestioning respect for his uniqueness and diversity. Both the principles of confidentiality and non-discrimination on grounds of genetic heritage are enshrined in Articles 6 and 7 of the Declaration on the Genome.

The concept of "genetic testing" has been interpreted rather broadly in the international legal order, The European Commission referred to it as any test revealing genetic data or, more generally, genetic information which could provide, through analysis of nucleic acids or other material, information on the inherited characteristics of a group or of an individual. The result is a bank of confidential and personal information, of a particular socio-psychological and medical nature, which is important not only to the patient himself, but also to a wide range of his relatives. In this respect, it is necessary to keep in mind the biosafety regulations aimed at ensuring the safe creation, use and cross-border transfer of living modified organisms resulting from biotechnology (UNEP Biodiversity Convention, June 5, 1992). It is important to follow the procedure of obtaining and securing consent for medical intervention, donation and transplantation of human cells, tissues and organs, genetic research of the brain, the use of information technology in this sphere, including the processing of Big Data.

Specialized ethical bodies have a special role in regulating the legal, ethical and social aspects of scientific research. For example, UNESCO established the International Bioethics Committee (IBC) in 1993 and the Intergovernmental Bioethics Committee (IGBC) in 1998. The objectives of these bodies are to promote international dialogue on ethical and legal issues in medical and genetic developments, to promote the principles enshrined in UNESCO's international instruments in the field, and to disseminate information on advances in bioethics. The World Commission on the Ethics of Scientific Knowledge and Technology was also set up within UNESCO in 1997. It is an advisory body tasked with assisting UNESCO in implementing its bioethics programs.

A new human right called cognitive freedom

Cognitive freedom or "the right to mental self-determination" may be characterized as the freedom of the individual to control his or her own mental processes, cognition and consciousness, a concept that extends the freedoms of thought and action over one's body. It acts as a guarantee to think independently. A cognitively free person should not be forced in any way to change his or her consciousness against his/her will. It is the freedom of one's mind. John Stuart Mill wrote in 1869 *"freedom is not applicable as a principle under the order of things, when men are not yet capable of self-development by freedom"*. The nongovernmental organization Center for Cognitive Freedom and Ethics defines cognitive freedom as "*the right of each individual to think independently and autonomously, to use the full spectrum of his or her mind and to engage in multiple modes of thought*"[43].

Possessing cognitive freedom means being unrestricted in the ways of achieving altered states of consciousness, whether that means practicing meditation, yoga, using psychoactive substances, etc. Also, a cognitively free person should not be forced in any way to change his or her consciousness against his or her will:

> "*We're playing with half a deck as long as we tolerate that the cardinals of government and science should dictate where human curiosity can legitimately send its attention and where it cannot. It's an essentially preposterous situation. It is essentially a civil rights issue, because what we're talking about here is the repression of a religious sensibility. In fact, not a religious sensibility, but the religious sensibility*".[44]

Timothy Leary summarized this concept by postulating two new commandments of what he calls the molecular age: (i) You must not alter your neighbor's consciousness; (ii) You must not prevent yourself from changing the consciousness of your neighbor.[45]

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[43] Center for Cognitive Liberty and Ethics (September 15, 2003). Archived from the source on March 12, 2012. Verified on October 20, 2007.

[44] Terence McKenna (1988). Non-Ordinary States Through Vision Plants. - Mill Valley CA: Sound Photosynthesis. - ISBN 1-569-64709-7.

[45] Leary, Timothy (2012). Two Commandments for the Molecular Age. Archived from the source on March 12.

As we previously stated, cognitive freedom may well constitute a new item on the list of human rights[46]. The rapid development of advanced technology raises concerns not only among ordinary people, who find themselves unprepared for progress. Unfounded anxieties arise among advanced researchers as well. A group of Swiss scientists, headed by a lawyer from the University of Zurich and a neuro-ethics specialist from the University of Basel, propose to introduce into international law a new concept called as "cognitive freedom" or "freedom of mind". This is what those Swiss scientists talk about in a new study:

> *"Our thoughts are the last refuge of personal freedom, but advances in neural engineering and brain imaging techniques are compromising the freedom of the mind. We propose to legislate a human right against the coercive or invasive use of such technologies, as well as to protect the physical and mental aspects of the mind from possible harm"*[47].

According to the authors of the initiative, the use of methods of electrical stimulation of the brain, or such cases of implanting electrodes in the brain, raise concerns about the impact of these actions on the patient's personality. In defense of their position, the Swiss lawyers and physicians present substantial arguments. They recall that US military scientists have reported a procedure called "transcranial direct current stimulation" (tDCS), which enhances the mental capacity of personnel. Devices with this function are already available on the open market. Moreover, in 2011, scientists at the University of California, Berkeley, used brain scans to recover frames from movies that people had previously watched. To these, we can add the practice of brain electro-stimulation performed on people with Parkinson's disease. It is not uncommon for people to lose some aspects of their self-awareness after such an intervention.

Defenders of the right to cognitive freedom add that this process should not be delayed. This circumstance is resumed by one of the study's authors, lawyer Roberto Andorno who says "*It's always too early to evaluate technology until it's too late*"[48]. Professor Akulin states that *"with regard to various advanced technologies in medicine, there is a universal problem*[49]. First of all, he refers to the observance of medical secrecy and the right to protect personal health information. This rule may be extended to protect the mind from physical, informational, and manipulative attacks. If so, both direct and indirect attacks on a person's brain for purposes other than treatment indications would need to be considered. As part of the annual conference

[46] Sergei Soin (28 April 2017). «Kognitivnaya svoboda» — novyi punkt v spiske prav cheloveka (in English "Cognitive freedom" is a new item on the list of human rights). Available on the internet https://sciencepop.ru/kognitivnaya-svoboda-novyj-punkt-v-spiske-prav-cheloveka/

[47] Lenca M, and Andorno R (2017). Towards new human rights in the age of neuroscience and neurotechnology. Life Sciences, Society and Policy, 13 (1) PMID: 28444626 https://www.discovermagazine.com/mind/new-human-rights-for-the-age-of-neuroscience

[48] "It's always too early until suddenly it's too late" (19 April 2018). Glasgow Molecular Pathology Node. University of Glasgow website. Available on the internet https://www.gla.ac.uk/colleges/mvls/node/newsandevents/newsarchive/newsletterapril2018/headline_578957_en.html

[49] Akulin, Igor Mikhailovich, Doctor of Medicine, Professor, Head of the Department of Medical Organization at St. Petersburg State University, President of the Association of Lawyers in Medicine.

Medicine and Law in the 21st Century, which took place at the Faculty of Law of St. Petersburg State University in November 2021, the idea of introducing the concept of cognitive freedom was considered as one of the topics of discussion.

Cognitive freedom also includes the possibility to use emerging neurotechnologies, and on the other hand, to avoid their coercive use or use without prior informed consent. Neurotechnology is being developed to improve cognitive abilities. We may think of it as a kind of "cognitive doping". We need to draw a line when these enhancing neurotechnologies can be used properly, and how. It is also important to prevent possible inequalities between those who want and can afford to enhance their cognition capabilities compared to those who do not. In doing so, information derived from brain functioning should not be used to harm or discriminate against an individual, family, or group in both clinical and nonclinical areas, including employment, insurance, access to social integration and opportunities for increased general well-being[50] .

The right and freedom to control one's own consciousness and electrochemical processes of thought are the necessary basis for almost every other freedom. This way, cognitive freedom reveals itself as a prerequisite to the exercise of other freedoms: it constitutes the neurocognitive substrate. From this perspective, cognitive freedom becomes a conceptual update of freedom of thought. It is a previous phase of the latter. The possibility of manipulating the brain and neural activity would threaten this freedom, as it is possible to monitor, manipulate and alter cognitive functions. Authenticity and enhancement of human capabilities relates to cognitive freedom to the extent that neural manipulation enters the individual's sphere of free thought and leads him to perform actions that he later does not recognize as his own.

The possibility that any person can quickly distinguish themselves from the rest, to obtain ephemeral fame and eventually, economic returns, can serve as an incentive for an individual to decide to adopt improved neurotechnologies, such as those that allow to radically expand physical resistance or sensory or mental capacities. The concept of human authenticity becomes vital here. There is widespread concern that the use of neurological enhancements to intensify cognitive functions or alter emotions with the help of pharmaceutical or other biotechnological means undermines the authenticity of an individual[51]. This occurs when the subject's personality is altered to such an extent that others can affirm that "she/he is no longer the same." As Bublitz and Merkel assert[52], the main tension between the different theories of authenticity is between essentialist views for whom authenticity is threatened by everything that causes people to depart from who they really are and existentialists, for whom the individual is created according to his own ideals, whereby an authentic personality consists of self-defined and self-established characteristics.

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[50] European Commission (2004). Independent Expert Group. 25 recommendations on the ethics, legal and social implications of genetic testing. Luxembourg: European Community Official Publications Unit. 26 p.

[51] Bublitz, J. C., y Merkel, R. (2009). Autonomy and authenticity of enhanced personality traits. Bioethics, 23(6), p. 360.

[52] idem former footnote.

In this context, personal autonomy can be understood as an agent's state of being capable of responding to reactive attitudes such as praise and punishment. From this point of view, autonomy is a condition of moral responsibility. Personal autonomy requires certain minimum capacities such as (i) discernment regarding the act to be performed; (ii) the ability to act specifically, and (iii) the power to distinguish the consequences. Certain neurotechnologies can drastically transform the personality in such a way that it can be affirmed that the act in question does not belong to the individual because it is inauthentic.

According to the report of the aforementioned group of neuroscientists, the increase in human capacities, in addition to undermining the authenticity of the person, will produce effects on social norms, by posing problems of equitable access to technologies and generating new forms of discrimination. At present, different armies of the world are already discussing the possibility of providing their forces with improved mental abilities (the super intelligent agents), in order to better anticipate the combat configuration and more skillfully decipher the data streams. In civil life, the possibility of connecting a brain to the internet through an interface would raise the possibility of generating super-humans. This circumstance, if it is not based on medical advice to cure pathologies, could lead to the existence of a new social category, which would be distinguished from the rest by its enhanced human qualities. This artificially enhanced biology is ethically reprehensible, even recalls a feature of Nazi infamous medical experimentation, and demands International Law to regulate the issue.

Conclusion

No State, which claims to be respectful of human rights, can exercise the power to coercively manipulate the mental states of its population. Cognitive freedom is a multidimensional concept, difficult to define due to its complexity. Bublitz recognizes at least three "interrelated but not identical dimensions" of cognitive freedom. They are: (i) the freedom to change your mind or choose to do so, along with the means by which such change is made; (ii) protection against interventions in other minds to defend mental integrity, and (iii) the ethical and legal obligation to promote cognitive freedom. These three dimensions configure cognitive freedom as a complex right that involves some assumptions made up of negative and positive freedoms. Among the former, we find the freedom to decide on one's own cognitive domain in the absence of obstacles, barriers or prohibitions, whether governmental or not. Secondly, we have the freedom to exercise the right to mental integrity in the absence of restrictions or violations by third parties, such as corporations, criminal agents or even the government. Among the positive freedoms, Bublitz mentions the power to act in total control of mental privacy.

The disruption that AI and neurotechnologies generate may change the way the Law recognizes and protects rights. When faced with such a big challenge that is able to change the very nature of humanity, the "right to be a human-being" is paramount. We shall decide to remain human without any interference from neurotechnology and AI devices.

Possibly some of the answers related to the threats posed by biodiversity and neurodiversity could be applied to new situations, which are born out of neuro-rights. It is in this disruptive

context that we proposed to rethink our rights and freedoms and specially the immaterial freedom of mind of every human being to stop any entity (being the State or any other private being) from intruding our mind unless we accept it and manifest it with a previous informed consent.

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