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Elena Olegovna

THE INSTITUTE OF LEGAL RESPONSIBILITY IN THE CONTEXT OF THE DEVELOPMENT OF ARTIFICIAL INTELLIGENCE TECHNOLOGIES: A CRITICAL ANALYSIS

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Arkhipov Vladislav Vladimirovich

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INTRODUCTION

Relevance of the research topic. The legal regulation of relations with the use of artificial intelligence carriers (hereinafter referred to as AI carriers, and AI for the "artificial intelligence")[1] is an urgent issue for law enforcement and a popular topic among modern researchers of the most relevant areas of legal science. From the very first mention of AI in the literature to this day, issues related to philosophy and ethics, theory and practice of computer technology, and after them – to the results of algorithmic activity of AI carriers complicated by the component of self-learning - remain controversial and traditionally cause uncertain discussions in the scientific and among professional lawyers. In 2022 only, and only in Russia, about 10 highly specialized legal conferences (forums, other events) were held, each of which raised topics related to the legal regulation of relations with the artificial intelligence. Each time, researchers discussed the issues of granting AI legal personality (it so happened that, for the most part, for the purpose of solving problems in the field of copyright, this was heard at events and traced in publications), with threats and problems of legal regulation in this area. And this is not surprising. Now the activity of AI carriers surrounds us everywhere: typing an email, we can see pop-up prompts (for example, the most commonly used words in phrases we enter); trying to post unoriginal or prohibited content on social networks – we face automatic locks from systems that recognize such types of information; entering parameters into programs that generate text poems, music or paintings – we get works that sometimes cannot be distinguished from those born of human creativity. AI carriers successfully «recognize» faces and voices, translate from one language to another, win chess and Go against people, create recommendations for customers on the use of products and even «drive» transport. As noted in the literature, «for many years, artificial intelligence was under the power of grandiose

[1] Further, any physical or virtual carrier of the codes forming the AI is meant as an AI carrier. Given the existence of various approaches to the definition of AI (the main part of the study pays attention to its consideration), the author adheres to the understanding of AI adopted in the technical field and does not imply AI autonomy in that understanding in which it is inherent in the consciousness of intelligent beings, and therefore the presence of a carrier is always assumed for the inclusion of AI code (to place it in them).

plans to recreate the capabilities of the human brain. We dreamed of machines that could understand and recognize us, help us make decisions. In the last decade, we have been able to achieve our goals, but not in the way that the pioneers of the industry imagined»[2].

At the same time, the real, rather than visible, effectiveness of AI today is mainly reduced to areas related to big data technologies and statistics. But despite the fact that researchers in the field of robotics and computer technology have revised the fundamental vision of the problem, and some of them even noted that they «created a mind, but not like ours»[3], humanitarians are still looking for ways to «humanize» AI, endow it with human rights, and recognize AI carriers as full-fledged subjects of public relations. Current study proposes a theoretical model for understanding the institution of legal responsibility through the prism of artificial intelligence technologies as an integral part of the modern digital environment, but not in connection with certain speculative signs of hypothetical AI legal personality, which many authors try to find in its carriers, but by referring to a different theoretical level of problem formulation, which can be clearly presented in the following questions: who is responsible for the harm caused by AI carriers? What are the possible variants for determining the composition of legal liability if we adhere to the approaches proposed by various AI researchers and, in certain cases, allow the possibility of endowing AI with certain signs of legal personality?[4] And is any of these approaches acceptable at the current stage of development of legislation and legal thought? Which of them should be the basis for theoretical ideas about the responsibility associated with harm caused by AI carriers? Is it acceptable to describe only theoretical models of legal liability of AI carriers, without reference to the practical implementation of these models? These and other

[2] Artificial intelligence. What is worth knowing about the coming era of intelligent machines / ed. by D. Haven; translated from English by O.D. Sayfutdinova. P. 41.

[3] The same source. P. 41. At the same time, it should be noted that, from the point of view of modern interdisciplinary research, the phrase "created a mind" should still be considered a figure of speech.

[4] It is the problem of legal personality that is currently the key one among a number of aspects of legal responsibility, which is studied by the author in the context of the development of AI. Further in the work, this issue will be covered in detail.

issues related to the transformation of ideas about legal responsibility determine the content of this study.

M.V. Zaloilo, referring to a number of researchers, predicts the appearance in the legal doctrine of «new subjects and quasi-subjects of law in the context of digitalization of public relations, new subjects of the information society and the knowledge society, new hybrid entities involving both natural human intelligence, social intelligence of population groups, and artificial intelligence», and argues that the theory The law has faced challenges that «boil down to solving the issue of developing a general theory of important legal phenomena relevant to the branch of legal sciences (for example, an updated approach to the category of legal personality)»[5]. The issues of the transformation of the institution of responsibility can also be considered similar challenges and assumptions can be made about the appearance of hitherto non-existent concepts and constructions of this social phenomenon in the doctrine. However, perhaps, on the contrary, all these «quasi-», «pseudo-», «units» and other innovations are completely unnecessary, and conceptually nothing needs to be changed in the understanding of responsibility, and it is not worth introducing new things into the theory and doctrine of law just for the sake of the new? Is there any practical sense in developing new concepts and concepts, or the existing legal regulation may be sufficient and should already apply to relations arising from harm caused by AI carriers? This dilemma must be solved within the framework of the theory of law, which is why it was decided to conduct an analysis of the institution of legal responsibility in connection with the development of AI, presented in this study.

The problems of responsibility of AI carriers are of interest not only to researchers. The Concept of development of regulation of relations in the field of artificial intelligence and robotics technologies until 2024 (approved by the Government of the Russian Federation on August 19, 2020 No. 2129-r) identifies responsibility for causing harm using artificial intelligence and robotics systems as

[5] Zaloilo M.V. Artificial intelligence in law: a scientific and practical guide / edited by Dr. of Law, prof. D.A. Pashentsev. M., 2021. Pp. 37-38.

conceptual problematic areas of regulation of artificial intelligence and robotics technologies (which is associated with the presence of a number of problems that do not have an unambiguous solution): «The general vector of possible changes should be aimed at ensuring the effective and fair functioning of institutions legal liability and the distribution of liability in the event of such harm». The principles of responsibility for AI decisions and actions are announced in The Montreal Declaration for a Responsible Development of Artificial Intelligence of November 3, 2017[6], and are declared in the Asilomar AI Principles of 2017[7]. The last of these documents have not been adopted at the state level, and nevertheless, they express the general opinion of developers, scientists, public figures in the field of AI, who by no means refuse to take responsibility for actions involving AI carriers, in the appearance and (or) work of which they are involved. States and international communities are interested in developing legislation in the field of responsibility for actions involving AI carriers.

Thus, the relevance of the research topic can be disclosed in the context of the following aspects:

1) *The theoretical aspect.* In legal science, there is no single and global concept of understanding the specifics of legal liability for actions committed with the use of AI carriers; approaches to the composition of legal liability for harm caused using AI carriers are different and contradictory; approaches proposed by individual authors to solving these problems based on the establishment of a special kind of legal personality need critical reflection. At the same time, branch legal sciences should have a common basis in understanding responsibility in the field of activity of AI carriers for further conclusions within the framework of certain types of responsibility and its individual compositions;

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[6] Montréal Declaration: Responsible AI [Electronic resource] // Université de Montréal. URL: https://ethics.cdto.center/3_8#link210 (date of access to the source: 05/31/2024).

[7] Asilomar AI Principles. 2017 [Electronic resource] URL: https://futureoflife.org/ai-principles/?cn-reloaded=1 (date of access to the source: 05/31/2024).

2) *The normative aspect.* The norms of the current legislation on legal liability are among the most developed, since they are part of an interdisciplinary legal institution that has been developing for a long time. At the same time, science notes the idea (acting as the subject of critical analysis), according to which the norms on responsibility for acts committed using AI are undeveloped due, on the one hand, to the «patchwork» legal regulation of the scope of AI[8], on the other hand, the lack of specific practical proposals from applied researchers. The question of whether such norms are necessary in general or not – is the one of the main issues of this study. The state of affairs that define the relevance of this issue may just be the result of insufficient theoretical study of the problems of transformation of legal responsibility in connection with the development of AI;

3) *The practical aspect* related to the direct implementation of special legal regulation in the area under consideration (as well as general legal regulation in relation to the area under consideration), which is premature to talk about at the moment due to the lack of a separate special regulatory regulation, although it should be noted that the possibilities and mechanisms for applying general rules on liability are already being considered.

The appearance of this work is due to the state of theoretical and legal science in relation to the topic under consideration. Many authors *hypothesize* that the emergence, development and widespread use of AI technologies requires a revision of fundamental concepts from the field of legal theory. This is not surprising, since such hypotheses arise naturally in legal science as scientific and technological

[8] Among nine sectoral areas of legal regulation The Concept of development of regulation of relations in the field of artificial intelligence and robotics technologies until 2024 – for only four of them relates to the liability for harm caused using AI and robotics systems: 1) protection of citizens' health (the problem of distributing responsibility for harm to the patient's health resulting from the use of artificial intelligence and robotics technologies in the process of providing medical care, due to the lack of a legally established list of cases in which full or partial decision-making using artificial intelligence and robotics systems is allowed); 2) legislation in the field of transport (liability in case of harm from highly automated vehicles); 3) urban planning (assessment of information about the building, installed equipment, operating conditions, risks and responsibility of the operating organization for emergency situations) and 4) legislation in the financial sphere (here the Concept offers special conditions for the distribution of responsibility of players financial market in the application of artificial intelligence systems – in the format of "regulatory sandboxes"). Thus, the basic issues or fundamental areas of responsibility for the harm of AI carriers in the public and municipal administration sector, in the implementation of the "smart city" concept, in industry, in the field of space activities, as well as in other areas were not reflected in the Concept.

progress with respect to each new technology. [9] One of the key tasks of the study is to investigate this hypothesis and, as a result, determine whether it is permissible to talk about the transformation of the institution of legal responsibility in connection with AI at the level of legal theory, and if so, in what specific sense and to what extent. However, the objective of this work was not to systematize normative legal acts or to develop specific legislative norms. The author conducts a study of the institutional components of legal responsibility, in relation to which scientists are attempting conceptual modifications at the level of legal theory. However, these aspects affect, at least, the significance of the first, theoretical aspect of the study, and of the second, the legislative one.

The degree of elaboration of the research topic. Analyzing legal issues related to AI from the perspective that corresponds to the subject orientation of this study, the authors, most often, focus on certain narrow topics, paying most attention to its legal personality. One of the most striking such examples of recent years, which is a comprehensive study of the problem (with rather controversial, but interesting conceptual conclusions), can be called P.M. Morkhat's dissertation research on AI «unit» (and his monographs on AI published on its basis). There are other large forms that combine studies of various aspects of the legal status of an AI carrier, but which are not a single whole: most often, these are monographs, individual paragraphs of which are written by different authors, which is why it is often not possible to consider that these sources comprehensively investigate one fundamental problem, and the research is united by a common cross-cutting theme), although, undoubtedly, they are relevant material, it is in demand and even mandatory to study when forming positions for system analysis (we are talking about collective monographs, for example, on the transformation of law in the

[9] For example, in the 1990s, there was widespread discussion that the Internet might change approaches to the application of national law in the context of international interaction. At the same time, as a result, the development of the Internet in this perspective has led rather to point-to-point changes in theoretical approaches to understanding the limits of regulatory legal acts in space and in the circle of persons. This is quite a lot, and such changes need to be conceptualized at the level of individual studies, however, the verified changes turned out to be, ultimately, not as large-scale as expected. We believe that in the case of the institute of legal responsibility in the field of AI, the situation is similar.

digital age, edited by A.A. Vasiliev; legal and ethical aspects of the development and application of AI and robotics systems, edited by V.B. Naumov; interdisciplinary research of fundamental problems and applied tasks of AI – a Russian Foundation for Fundamental Research grant project No. 18-29-16193; monograph by I.R. Begishev and Z.I. Khisamova on criminal law and criminological aspects of the use of AI for criminal purposes, and many others). Voluminous works of modern authors – S.A. Sinitsyn (on the state of Russian and foreign civil law in the context of robotization and digitalization) R.V. Dushkin (on AI technologies and their current state), D.V. Bakhteev (on the ethical and legal foundations of AI), E.V. Ponomareva (on quasi-subjects of law), N.A. Skrebneva (on the theoretical aspects of legal responsibility in public and private law) and other researchers – formed the basis for understanding approaches both to AI itself and to issues of legal responsibility in this area. Certain aspects of the legal responsibility of AI carriers are touched upon in the works of A.A. Antonov, N.N. Apostolova, V.V. Arkhipov, S.S. Gorokhova, A.G. Kibalnik, M.A. Lapina, V.A. Laptev, A.V. Neznamov, N.V. Neznamova, R.S. Rakhmatulina, E.A. Sviridova, E.D. Selivanova, O.R. Skopenko, E.Y. Tsukanova, V.K. Shaidullina and other authors. We would especially like to note the expanding base of *branch* research in the field of AI responsibility: for example, M.A. Melnichuk, D.V. Chentsova, I.N. Iriskina, K.O. Belyakov are interested in studying the civil liability of AI, D.A. Kravtsov, I.N. Mosechkin and I.R. Begishev solve the problems of AI criminal liability: I.R. Begishev devoted his doctoral dissertation to the issues of criminal law protection of public relations related to robotics (a huge layer of his dissertation research is devoted to understanding AI and responsibility for the actions of its carriers). But in educational materials, the topic of responsibility in the field of regulating relations with AI is often not covered at all[10].

[10] See: Filipova I.A. Legal regulation of artificial intelligence: a textbook. Nizhny Novgorod, 2020; Fundamentals of artificial intelligence: a textbook / E.V. Borovskaya, N.A. Davydova. 4th ed. M., 2020, etc.

The research of foreign authors can be distinguished into a separate group of sources. In foreign works, the issues of the application of sanctions (against people and their actions) using AI were particularly topical several years ago. For example, the Norwegian researcher Christopher O. Hernes, director of digital technologies at Sbanken (the first Norwegian digital bank), back in 2015, in his article on the principles of AI in the field of financial technologies, asked: «Would you let a robot secure your financial future?»[11]; John Kingston (University of Nottingham Trent, UK) already in 2016 wondered what laws would apply if a self-driving car killed a pedestrian[12]. Among foreign authors, one can note the interest directly to the practical aspects of AI application: apparently, this is due to the earlier dissemination of information about AI developments outside specialized research institutions abroad and the focus on their wider and faster commercialization, and, as a result, previously formed practical problems (discrimination in evaluation individuals, unreliable analysis of the prospects of relapse, accidents with autonomously manned vehicles, etc.). In addition, this study is based on a number of foreign sources, among which there are fundamental ones related to previous periods (A. Turing, J. Searle, D. Dennett, J. Fairfield, etc.), as well as modern research (J. Dempsey, M. Claussen-Karlsson, E. Lavalier, U. Pagallo, G. Hallevi, S. Chesterman, etc.), although due to the general «historical youth» of the topic, alternative views on the periodization of this topic are possible source categories.

As for issues of legal responsibility that are directly related to the stated topic, the theory of law has a rich history of studying this area and a variety of theoretical approaches. Fundamental and applied concepts of legal responsibility are described in the works of S.S. Alekseev, Ya.V. Bakardzhiev, S.P. Bortnikov, A.S. Bondarev, S.N. Bratus, A.F. Vishnevsky, Yu.I. Grevtsov, D.E. Zakharov, A.A. Ivanov, O.S. Ioffe, O.E. Leist, D.A. Lipinsky, N.I. Matuzov, V.S. Nersesyants,

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[11] Hernaes O. Would you let a robot secure your financial future? [Electronic resource] // Hernaes.com. 2015. August, 19. URL: https://hernaes.com/2015/08/19/would-you-let-a-robot-secure-your-financial-future/ (date of access to the source: 05/31/2024)

[12] Kingston J. Artificial Intelligence and Legal Liability // ResearchGate. November, 2016. DOI: 10.1007/978-3-319-47175-4_20

A.V. Polyakov, E.V. Timoshina, T.N. Radko, V.A. Tarkhov, R.L. Khachaturov, A.A. Chistyakov, A.P. Chirkov, M.D. Shargorodsky, L.S. Yavich and other authors. Analysis of these sources has shown that the problems of legal liability are deeply worked out at the general theoretical level, however, issues related to the responsibility of AI carriers are studied only in certain aspects, or (and this happens most often) are not touched upon at all. On the one hand, they could not be touched upon in the formation of concepts of legal responsibility, which are currently recognized as fundamental in the theory of law. On the other hand, the question may arise as to whether the fundamental aspects in this area should really change in connection with the development of AI technologies, or whether the context of these technologies should be ignored at the level of high theoretical generalizations, just like many other examples of technological development that appeared as fundamental concepts in the field of legal responsibility were formed, They were deservedly not taken into account in them, because they could not change the essence of these concepts.

The theoretical basis of the research. The theoretical basis of the research, in addition to the works of the above-mentioned authors, is formed by the works of A. Alekseychuk, P.P. Baranov, A.A. Vasilyev, E.A. Voynikainis, I.V. Vorobyova, A.V. Gabov, G.A. Gadzhiev, E.A. Gromova, J. Zacharia, G.G. Kamalova, L. Kaplan, S. de Conca, K. Manheim, O.I. Miroshnichenko, A.V. Neznamov, V.D. Salakhutdinov, O.A. Serova, S.M. Solaiman, P.H. Winston, I.A. Khavanova, D. Shpoper, R.V. Yampolsky, O.A. Yastrebov and many other researchers.

The normative and empirical basis of the research is:

1) Russian and foreign legislation and other official documents of the state, interregional and international level (including analytical documents and strategic planning documents) in the field of AI regulation, such as the Resolution of the European Parliament «Norms of Civil Law on Robotics», the Federal Law of the Russian Federation dated April 24, 2020. No. 123-FZ «On conducting an experiment to establish special regulation in order to create the necessary conditions for the development and implementation of artificial intelligence technologies in

the Subject of the Russian Federation – the Federal City of Moscow and Amending Articles 6 and 10 of the Federal Law «On Personal Data»; The Concept of the development of regulation of relations in the field of artificial intelligence technologies and robotics for the period up to 2024, the National Strategy for the Development of Artificial Intelligence for the period up to 2030; the European Union Regulation on Artificial Intelligence dated March 13, 2024 (EU AI Act); Resolution of the European Parliament 2017 «Civil Law Norms in relation to robotics» (European Parliament resolution of 16 February 2017 with recommendations to the Commission on Civil Law Rules on Robotics 2015/2103(INL): P8_TA-PROV (2017)0051); etc.;

2) materials of foreign and international intergovernmental agreements and conclusions based on research results (mainly analytical reports and recommendations), in particular: the Recommendation of the OECD Council on AI (2019) and the OECD study «Artificial Intelligence in Society» dedicated to it; Declaration on Cooperation in the field of AI (Brussels, 2018); Montreal Declaration on Responsible AI Development (Montreal, 2017); White Paper «On Artificial Intelligence – a European Approach to Excellence and Trust» (2020) (EU AI White Paper), etc.;

3) data from law enforcement practice, as well as other open information sources (including news) about the harm caused by AI carriers.

The object of the research is social relations arising from legal liability related to harm caused by AI carriers.

The subject of the research: theoretical approaches to the issue of legal responsibility of AI and (or) AI carriers; legal norms, the subject of which is legal responsibility in the field of relations regarding the use of AI carriers.

The purpose of the work is to confirm or refute the hypothesis of the transformation of the institution of legal responsibility in the context of the development of AI, based on a comprehensive theoretical analysis of legal norms and conceptual approaches, to identify the features of this process, and, focusing on the current state of legal theory, to develop the most acceptable and practically

applicable general theoretical concept of legal responsibility in the field of harm caused by AI carriers.

To achieve this goal, it is necessary to solve the following **research tasks**:

– based on the analysis of the development of ideas about AI in jurisprudence and other related fields of scientific knowledge, as well as in the context of Russian and foreign legal regulation, - to select (or formulate) the definition of an AI carrier, determining its possible place in the structure of legal responsibility;

– to assess the acceptability of the modern understanding of AI in legal science from the standpoint of the semantic meaning of this phrase (including from the point of view of the hypothetical legal personality of the phenomenon behind it, assumed by some researchers), without distracting, however, from the context of legal responsibility;

– to consider the concepts of responsibility of AI carriers existing in the theory of law and interdisciplinary research and determine their admissibility for the purpose of developing a unified concept;

– to find out (since there is a common belief among researchers that there are actually few specific offenses expressed in causing harm by artificial intelligent systems[13]) whether the existing experience of causing harm with the participation of AI carriers is really not enough to develop a unified concept of responsibility in this area based on empirical data, as well as to adopt appropriate legislation regulating issues of responsibility of AI carriers;

– to investigate and generalize the solutions proposed in the theory of law in the field of application of legal liability in relation to AI carriers or solutions following from general theoretical concepts;

[13] See: Kamalova G.G. Legal responsibility and ethics in the field of application of certain types of artificial intelligence and robotics systems // Legal and ethical aspects related to the development and application of artificial intelligence and robotics systems: history, current state and development prospects: monograph / under the general editorship of V.B. Naumov. St. Petersburg, 2020. p. 85.

– to substantiate, based on the approaches to legal responsibility available in the theory of law, the dual nature of responsibility for actions involving AI carriers, for which to conduct its dichotomous analysis[14];

– to develop theoretical and legal foundations for the conceptualization of legal responsibility in the field of AI application at the level of legal theory.

Methodology and methods of research. The methodological basis of the research is the universal dialectical method of scientific cognition of theoretical and legal concepts of responsibility in relation to relations complicated by the presence (use) of AI. General scientific (formal logic, generalization, comparison, formalization, analogy, classification, forecasting, modeling, analysis and synthesis) and narrow scientific (formal legal, comparative legal, systemic structural) methods of cognition are used; as well as the method of analytical research (in particular, the analysis of the regulatory framework, printed and electronic publications), and the method of theoretical and legal modeling.

The scientific novelty of the research is due to an integrated approach in the work, the use of not only narrowly sectoral legal concepts (from the field of intellectual property law, approaches to civil liability, etc.) or even general theoretical concepts, but also the expansion of the field of knowledge in the direction of mathematics and computer science (and principles developed in these areas), the practice of experimental regulation of liability for actions involving AI carriers, as well as the value component of legal responsibility. Assessing in more detail the scientific novelty of this work, the following elements should be highlighted, which were first reflected by the author in the study:

– the study of the semantic meaning of the phrase «AI» as an independent basis for understanding the subject of research;

[14] At the level of theoretical views, the dichotomy of legal responsibility for actions involving AI carriers is expressed: 1) in retrospective and prospective manifestation; 2) in the formation of the subject and the subjective side of responsibility; 3) in understanding the objective side (the actual and legal basis) of legal responsibility. The reasons for the problematic application of contractual and non–contractual liability to relations involving AI are also investigated from the perspective of the European legal tradition.

– the application of an unconventional approach for theoretical and legal research (based on its legal personality and autonomy in solving the issue of legal responsibility of AI) to consider the AI carrier in the context of legal responsibility (avoiding the granting of rights and the formation of a quasi-entity to the primary formulation of the question of responsibility as an interdisciplinary institution);

– formulation of the concept of AI based on its essential characteristics and practical application, and not based solely on a speculative understanding and compilation of available theoretical definitions;

– dichotomous division (separation) as a research method[15] in the theoretical view of the legal responsibility of AI carriers;

– analysis of known examples of harm caused by AI carriers during the study period;

– generalization and classification of solutions for the application of the institute of legal responsibility in relation to acts committed using AI carrier;

– formulation of the conceptual foundations for the institute of legal responsibility in the field of AI application, taking into account existing international legislative initiatives and principles formed by developers and researchers of AI, as well as the value content of law.

The theoretical significance of the research consists in the fact that this study presents a systematic analysis based on the fundamental concepts of the theory of law of the applicability of classical concepts of legal responsibility to acts committed using AI carriers. For the first time, at the level of monographic research, the experience of critical reflection on the hypothesis that has already become «traditional» for the theory of law and interdisciplinary research about the need to resolve the problem of legal responsibility in this area through the establishment of legal personality of AI is presented. The question of the possibility of postulating the transformation of legal responsibility in the context of the development of an essential understanding of AI from the practical side is considered; for this purpose,

[15] This refers to one of the methods of formal logic used in philosophy.

the approaches available in the theory of law to the legal regime of AI in the context of understanding legal responsibility for acts committed using AI carriers are generalized and analyzed; options for solutions for the application of legal responsibility are presented with regard to acts committed using AI carriers, the optimal option has been selected and justified; The theoretical views reveal and describe the dual nature of legal liability, which is expressed in: 1) in retrospective and prospective properties; 2) in the formation of the subject and the subjective side of responsibility; 3) in understanding the objective side (actual and legal basis) of legal responsibility; the conceptual foundations of legal responsibility in the field of AI application are formulated. The conclusions drawn in the work can serve as a basis for further scientific developments in the field of legal theory and industry research on legal responsibility.

The practical significance of the research consists in the possibility of using the results obtained as a result of the work carried out in the process of improving current legislation, including the development of new regulatory legal acts regulating responsibility in the field of AI application, as well as aimed at solving related issues. In addition, research findings can be included in the educational material during lectures and seminars for law students in the disciplines of «Theory and History of State and Law», «Digitat Law», as well as specialized disciplines fully or partially devoted to the legal problems of the use of AI technologies.

The approbation of the research results was carried out in the following main directions:

1. The presented thesis approvals submitted for protection in this dissertation research were presented at the following scientific and practical events:

– II International Forum Festival «Intellectual Property for the Future» (St. Petersburg, April 22-29, 2021), topic of the report: «Online business and problems of intellectual property protection» (English: «Online business and IP protection issues»);

– III International Conference of Young Scientists «Intellectual Property: a look into the future» (Moscow, October 28, 2021), topic of the report: «Some

problems of responsibility of artificial intelligence in connection with the uncertainty of its legal status»;

– X International IP Forum (Moscow, February 18-19, 2022), topic of the report: «On granting artificial intelligence copyrights: opinions, criteria, trends in science and international law enforcement practice»;

– International scientific and practical conference «The author in the modern ecosystem of intellectual property» (Moscow, April 21, 2022), topic of the report: «Autonomy as a criterion of legal personality of artificial intelligence and its application in the field of intellectual rights»;

– II International Forum Festival «Intellectual Property for the Future» (St. Petersburg, April 21-28, 2022), topic of the report: «On granting copyrights to artificial intelligence: opinions, criteria» (English: «On granting artificial intelligence copyrights: opinions, criteria»);

– All-Russian conference «Online Business: legal support» (St. Petersburg, April 22-23, 2022), topic of the report: «Legal issues of blockchain technologies, artificial intelligence, NFT and other modern phenomena»;

– XV International Conference «Law and the Internet» (Moscow, October 27-28, 2022), the topic of the report: «The problem of legal personality of artificial intelligence carriers in the context of legal responsibility»;

– VII International Scientific and Practical Conference «Science, society, technology: problems and prospects of interaction in the modern world» (Petrozavodsk, November 17, 2022), topic of the report: «Problems of legal personality of artificial intelligence in the context of legal responsibility»;

– III International Forum Festival «Intellectual Property for the Future» (St. Petersburg, April 18-26, 2023), the topic of the report: «The authorship of AI: trends in law enforcement practice»;

– XIV International Scientific and Practical Forum «Days of Intellectual Property in the Northwestern Federal District» (St. Petersburg, April 17-26, 2023), topic of the report: topic of the report: «The evolution of understanding aspects of authorship related to the use of artificial intelligence in the United States»;

- III International Scientific and Practical Conference «AUTHOR/AUTHOR – 2023» (Moscow, April 27-28, 2023), topic of the report: «Issues of authorship related to artificial intelligence: international law enforcement practice»;

– 4.0 International Scientific and Practical Conference «Challenges of the Information Society: trends in the development of legal regulation of digital transformations» (Moscow, HSE, May 24-25, 2023), topic of the report: «Issues of responsibility for the activities of AI carriers»;

– Russia. Artificial intelligence. 2023. The first professional Russian forum on artificial intelligence (Moscow, Plekhanov Russian University of Economics, June 06, 2023), topic of the report: «Artificial intelligence: the concept of «Younger Brother»«;

– The third All-Russian forum of successful digital practices in education «Formation, upbringing and development of personality in the era of artificial intelligence» (online format, August 09-10, 2023), topic of the report: «The concept of Artificial Intelligence is the younger brother»;

– Conference «Big Data Analytics & Artificial Intelligence Day 2023» (Moscow, TAdviser: The State. Business. IT, October 10, 2023), the topic of the report: «Is the responsibility of artificial intelligence carriers possible»;

– XXXII International scientific and practical conference «Medialaw-2023» (Moscow, HSE, December 07-08, 2023), topic of the report: «Variability of elements of the composition of legal liability with the participation of artificial intelligence carriers»;

– IV Specialized Exhibition «Robotics and Artificial Intelligence» (Moscow, UWC Bizon, March 12-13, 2024), topic of the report: «Legal regulation of liability in the application of AI: from theory to practice»;

– IV International Forum Festival «Intellectual Property for the Future» (St. Petersburg, April 21-28, 2024), topic of the report: «Legal regulation of liability in the application of AI in the field of copyright: from theory to practice».

2. The conclusions and main provisions of the dissertation were published during 2021-2024 in 7 papers, including 5 scientific articles in peer-reviewed academic journals included list of the Higher Attestation Commission:

1) Fedoruk E.O. On the problems of responsibility of artificial intelligence in connection with the uncertainty of its legal status // Proceedings of the III International Conference of Young Scientists «Intellectual Property: a look into the future». / Russian State Academy of Intellectual Property, Moscow, October 28, 2021 / edited by O.A. Flyagina. – M.: RSAIP, 2021. pp. 133-141.

2) Fedoruk E.O. Autonomy as a criterion of legal personality of artificial intelligence and its application in the field of intellectual rights // Proceedings on intellectual property: Scientific Journal of the UNESCO Department of the HSE on Copyright, related, cultural and information rights. Volume 41. 2022. No. 2. pp. 90-97. (The academic journal is included in the HAC list of peer-reviewed academic journals.)

3) Fedoruk E.O. The problem of legal personality of artificial intelligence carriers in the context of legal responsibility // SCIENCE, SOCIETY, TECHNOLOGY: PROBLEMS AND PROSPECTS OF INTERACTION IN THE MODERN WORLD: collection of articles of the VII International Scientific and Practical Conference (November 17, 2022). Petrozavodsk: «New Science», 2022. pp. 115-123.

4) Fedoruk E.O. Evolution of understanding of aspects of authorship related to the use of artificial intelligence in the USA // Problems of economics and legal practice. 2023. No. 2. pp. 14-19. (The academic journal is included in the HAC list of peer-reviewed academic journals.)

5) Fedoruk E.O. Questions of authorship related to artificial intelligence: international law enforcement practice // Proceedings on Intellectual Property: Scientific Journal of the HSE UNESCO Chair on Copyright, Related, Cultural and Information Rights. Volume 45. 2023. No. 2. pp. 103-112. (The academic journal is included in the HAC list of peer-reviewed academic journals.)

6) Fedoruk E.O. Variability of elements of the composition of legal liability with the participation of artificial intelligence carriers // Education and Law. 2024. No. 5. pp. 296-300. (The academic journal is included in the HAC list of peer-reviewed academic journals.)

7) Fedoruk E.O. Conceptual foundations of legal responsibility in the field of artificial intelligence application // Legal science. 2024. No. 7. p. 50-54. (The academic journal is included in the HAC list of peer-reviewed academic journals.)

3. When mastering the additional education program of St. Petersburg State University «Internet Management» (during The Summer School on Internet Management organized by the Coordination Center of domains .ru / .рф together with St. Petersburg State University, July-August 2023) the provisions of the study were used to prepare and present an analytical essay (scientific report) on the topic «Generative AI: issues of understanding the subjectivity of AI and the authorship of intellectual property objects created using generative AI» (published among the best essays on the website with the results of the program: https://summerigschool.cctld.ru/results/).

The structure of the dissertation, reflecting the purpose and objectives of the research, is represented by an introduction, three chapters, including 12 paragraphs, a conclusion and a bibliographic list.

The main scientific results of the research:

1) The place of the AI carrier in the structure of legal responsibility, as well as the justification for his lack of legal personality, is determined by the author on the basis of a value-based approach to the content of legal responsibility, which in the theory of law was done for the first time in relation to legal relations complicated by the presence of an AI carrier[16].

2) The acceptability of the modern understanding of AI in legal science was assessed by the analytical philosophy of language – from the standpoint of the semantic meaning of this phrase, which allowed to refute the existing theoretical

[16] See: § 4 of chapter III, pp. 169-173.

assumptions of the legal subjectivization of AI speakers (giving them the status of subjects of law), which, unfortunately, have already reached the level of theses in the relevant paragraphs of academic educational literature, which generates further cognitive distortions among young scientists and unsubstantiated conclusions about the existence of legal personality in AI[17].

3) The inadmissibility of subjectivization of AI is considered in depth on the example of one of the most popular areas among modern AI researchers – the application of intellectual rights. The author was among the first researchers to translate the world's first Copyright Registration Guide for Works containing materials generated by artificial intelligence (published by the U.S. Copyright Office on March 16, 2023) and presented an analysis of the approaches of this department at the level of scientific research[18].

4) Contrary to the widespread opinion in the research environment about a small number of specific offenses in the field of AI activities, the sufficiency of empirical data on harm caused by AI carriers has been proven – for the adoption of appropriate legislation regulating the liability of AI carriers[19].

5) The concept of the composition of legal liability is highlighted and analyzed, options for the possible place and role of the AI carrier in this composition are investigated. Depending on the formation of the subject (which corresponds to the subject of the offense), understanding of the actual and legal composition (which corresponds to the objective side of the offense), in the order of academic assumption of the existence of opinions on liability, the author deduces various variants of the composition of legal liability with the participation of the AI carrier[20].

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[17] See: § 1 of chapter II, pp. 57-61.

[18] See: § 3 of chapter I, pp. 51-56. The result is presented in the scientific publication: Fedoruk E.O. Evolution of understanding of aspects of authorship related to the use of artificial intelligence in the USA // Problems of economics and legal practice. 2023. No. 2. pp. 14-19.

[19] See: § 1 of chapter III, pp. 116-127.

[20] See: § 2 of chapter III, pp. 127-149. The result is presented in the scientific publication: Fedoruk E.O. Variability of elements of the composition of legal liability with the participation of artificial intelligence carriers // Education and Law. 2024. No. 5. pp. 296-300.

6) The inadmissibility of replacing the sign of autonomy in a legal context with autonomy in the sense of a technical feature of the subject is justified (this, unfortunately, is allowed by the overwhelming majority of the author in relation to AI and its carriers). The author has clearly shown the difference between reconstructing autonomy as a meaningful legal category and replacing it with autonomy in a technical sense[21].

7) The theoretical and legal foundations of the conceptualization of legal responsibility in the field of AI application have been developed and proposed[22], which is the main result of this research achieved by the author, which can be used in further studies of AI responsibility (in the fields of law and legal science).

The conducted research made it possible to formulate and substantiate the **thesis approvals submitted for protection[23]:**

1. At the center of the system of the modern legal paradigm is a person endowed with will and aware of himself as a responsible subject of law. In the case of responsibility of another subject – in any case – there will be an inextricable link with this «conscious and strong-willed person» who is able to experience legal responsibility, recognize and bear it. The existence of a subject of law (human) as the main condition for the existence of the law itself, it is developed in the principle of mutual legal recognition, which necessitates its further implementation in all legal branches, which is especially important for the conceptual construction of the institution of legal responsibility (including when it comes to liability using AI carriers). Substitution or replacement of legal personality with other grounds for the development of theoretical ideas about legal responsibility is unacceptable.

2. Based on a critical inductive analysis of the approaches available in modern legal literature on giving any legal status (legal regime) to AI carriers, it is

[21] See: § 4 of chapter II, pp. 127-149. The result is presented in the scientific publication: Fedoruk E.O. Autonomy as a criterion of legal personality of artificial intelligence and its application in the field of intellectual rights // Proceedings on intellectual property: Scientific Journal of the UNESCO Department of the HSE on Copyright, Related, Cultural and Information Rights. Volume 41. 2022. No. 2. pp. 90-97.

[22] See: § 4 of chapter III, pp. 159-169. The result is presented in the scientific publication: Fedoruk E.O. Conceptual foundations of legal responsibility in the field of artificial intelligence application // Legal science. 2024. No. 7. pp. 50-54.

[23] Published in the article: Fedoruk E.O. Conceptual foundations of legal responsibility in the field of artificial intelligence application // Legal science. 2024. No. 7. pp. 50-54.

concluded that in all the works listed in a representative sample, the authors were based on a criterion that can be characterized as the «criterion of autonomy», while considering it sufficient for in order to give a special legal regime or even legal personality to AI carriers. At the same time, it is necessary to separate the understanding of autonomy in the technical meaning and the understanding of «autonomy» (in this case, represented as a conditional category) for the purposes of jurisprudence. In the latter case, we are not talking about the possibility of an object to function without the intervention of circumstances external to it, but about the basic premise of law as such – the idea of a subject endowed with freedom of will and, as a result, responsibility (even if «freedom of will» in this case is interpreted as a kind of basic irrefutable presumption), with taking into account which the idea of law is formed as an order of relations based on the principle of mutual (consensual) recognition. With this approach, it becomes obvious that AI is not at all autonomous in the sense that it should be so for the purposes of law. The very formulation of the question of the legal personality of AI, including and primarily on the basis of the specified and specially understood criterion, is based on the groundless animation of an object of the material world, which is considered autonomous in the legal sense, is erroneous. Accordingly, since attempts to endow an AI carrier with legal personality are based on an erroneous criterion of autonomy and do not take into account the real technological essence of AI, even theoretical considerations about who is responsible in case of harm caused by an AI carrier and how the damage will be compensated exclude the possibility of raising the question of the legal personality of an AI carrier, since this question will always assume exclusively consideration of lower-level issues – about who exactly from among the currently recognized subjects of law (first of all, we are talking about individuals and legal entities) will be responsible in a particular case. By definition, without changing the fundamental concepts of law as such, it cannot be either an AI or an AI carrier.

3. The analysis of verified law enforcement practice on the facts of harm caused as a result of the use of AI in decision support systems, as well as in robotic

technology[24], showed the theoretical validity and practical validity of understanding the AI carrier as a product and result of human activity (tools; technical solutions; result of intellectual activity, etc.). The remaining options with hypothetical legal personality of AI (various kinds of «quasi-personality», which is actually equating the legal regime of the carrier with the legal status of a person – a subject of legal relations; analogy with legal entities, giving the status of a thing – by analogy with animals and sources of increased danger) - are meaningful exactly until the question of responsibility for «actions» of these «subjects», since this issue remained outside the scope of the research searches of the authors who proposed the above options. At the same time, the number of cases of harm caused by AI carriers will increase, which additionally actualizes the urgent need to develop legal norms in sectoral areas, and from the theory of law requires the construction of elements of the composition of legal liability based on the legal relations existing today, implemented in objective reality. In this regard, the limitation of the framework of the AI carrier by the legal status of the object of law is not only justified by the established practice of causing harm using AI carriers, but also dictated by «white spots» in industry legal regulation.

5. From the point of view of the methodological strategy of legal research in the field of problems of legal liability for actions committed using AI, priority should be given to resolving the question of what are the basic principles of legal liability in connection with harm caused by AI carriers in general, rather than issues of endowing AI carriers with legal personality or quasi-legal personality. The need to formulate this approach in the form of a research principle is due to two circumstances. The first of them is that at the moment there is already a sufficient

[24] The author insists that such facts are already enough to consider the conclusions on them sufficiently sound. At the same time, it is absolutely incorrect and unacceptable to compare the harm caused by the use of AI carriers or their "independent activities" with the damage caused by human actions (for example, the argument that the number of victims of unmanned vehicles is single, and thousands of people die from the steering wheel of a drunk driver per year is often used by participants in panel discussions on events of various levels and kinds): regarding the use of AI – we live in a regime of experimental legal regulation in clearly defined territories, and the number of AI carriers that caused damage is hundreds, and even thousands and tens of thousands of times less than traditional tools / methods / methods of committing offenses – just for the reason that they are used thousands of times less than traditional elements of objective the parties to the offenses.

amount of both legal conflicts and empirical material related to harm caused using AI carriers. The second is in the ongoing attempts, which are not based on a correct conceptual understanding of the theoretical foundations of legal responsibility, to propose a solution to these legal conflicts through the creation of a new subject or quasi–subject of law – AI or a AI carrier.

6. The semantic analysis of the English terminology used in the construction of the concept of AI, carried out by the method of analytical philosophy of language, confirmed that initially it meant «artificial analyzer», AI was not endowed with signs of human consciousness, and taking into account the fact that the success of imitation of «human decision-making» served only as an indicator of high productivity of algorithmic constructions (Turing test), - There are no etymological grounds for using the term «intellectual» in the understanding of the «animate» inherent in man and analogous to human consciousness. Understanding the history of the formation of the term «artificial intelligence» allows us to refute the existing theoretical assumptions of the legal subjectivization of AI carriers (giving them the status of subjects of law), which, unfortunately, have already reached the level of theses in the relevant paragraphs of academic educational literature, which generates further cognitive distortions among young scientists and unreasonable conclusions about the presence of legal personality in AI. Attempts to detect an AI carrier as a subject of law on the basis of «animating» (giving it the status of a subject of law) are currently possible no further than at the level of hypothetical educational tasks.

7. Similarly, the issue of purposeful search for cause-and-effect relationships, which are allegedly caused by the «actions» and «decisions» of AI, should be addressed. AI always «acts» indirectly and without generating cause-and-effect relationships in their understanding as a «volitional decision – implementation». The development of «causal AI» («casual AI»), «focused» on the analysis of cause-and–effect relationships, rather than on recognizing patterns of data, is an important task of the near future. And this is essential for understanding the objective side of the offense and the component of its causal relationship when using AI as a tool,

but not in the context of the outward embodiment of intent, the realization of intention, volitional act.

8. A critical rethinking of the ideas expressed in the scientific literature devoted to the problems of legal responsibility for actions using AI carriers allows us to come to the following conclusion, taking into account the idea of the fundamental impossibility of endowing AI with signs of legal personality: from the point of view of legal theory, it is conceptually permissible to consider an AI carrier only as an instrument (when it is used in the performance of the objective side of an offense – intentionally by the subject, - when creating such an instrument in order to cause harm; or when an AI with the ability to self-learn has «made a decision» to commit actions / omissions that qualify as an offense), a means of committing an offense (contributes to the commission of an offense, facilitates it) or a method (method, technique – if the AI was created, programmed to commit offenses, but not through the carrier itself, but by launching destructive mechanisms with its help, including in the Internet environment. This understanding is also valid in case of programmer error or unauthorized access by a third party, which caused damage or modification of AI functions, as a result of which an offense was committed) – as part of the basis of legal liability.

9. At the level of theoretical generalizations characteristic of the theory of law, the resolution of the problems of legal responsibility with AI should be based on classical concepts of legal responsibility, and there are no grounds to change the concept of legal responsibility in connection with the development of AI and based on ideas about hypothetical legal personality, and cannot arise, since legal responsibility from the point of view of legal theory It functions in the paradigm of values protected by law. The appearance of an AI carrier as an object of relations in connection with and about these values, as well as its absence, cannot be a reason for replacing elements of the traditional composition of responsibility, since with the development of AI, the relations themselves regarding legal responsibility do not become inherently complicated. Otherwise, we would have to conceptually change the constitutional value-based principles of the state and society. The

development of society, technics and technology, and even the creation of high-tech facilities cannot by themselves be the reason for the transformation of the institution of legal responsibility. Since the AI carrier can only be an element of the objective side of the offense, and at the center of the paradigm of legal responsibility is still a legal entity endowed with will, legal awareness, responsibility, and located in the paradigm of moral values (including those necessary for making legally significant decisions in situations of uncertainty) – in the sense that in which this includes personal accountability and the ability to act within ethical standards, – attempts to build new models of legal responsibility based on the substitution of concepts cannot be considered acceptable for the theory of law.

10. An urgent task of the theory of law in the field under consideration is the formation of the conceptual foundations of legal responsibility for acts committed with the use of AI carriers. Such foundations should be based on the most reasonable and acceptable solutions for the application of legal liability, the essential nature of AI, the principles of its responsible design and application. In the context of this approach, the following conceptual foundations of legal responsibility in the field of AI application are formulated and proposed for consolidation at the level of an element of theoretical legal doctrine:

1) Since AI (the carrier of AI) cannot act as a subject of legal liability, when harm is caused as a result of AI making «decisions», in each case it is necessary to identify the appropriate person – the developer, manufacturer, seller and (or) user (operator) of AI technologies – who has the characteristics of a subject of legal responsibility in his traditional or, depending on the circumstances of the case, a group of such persons.

2) The impossibility of a special exemption from legal liability for harm caused by the AI carrier, due to the imaginary inability to establish the subject of such responsibility, an increased degree of mediation of the act – indirectly committed with the help of AI carriers, or the «shifting» of this responsibility to the AI carrier itself. Such subjects should be identified depending on the elements of specific offenses related to harm caused by AI carriers – at the level of branches of law.

3) A high degree of conditional autonomy of AI (in the technical sense, as this concept is used by researchers) cannot exclude the responsibility of the programmer (developer), manufacturer, seller and (or) user (operator), however – provided there are no technological software «bookmarks»[25] and errors (made unintentionally) in the program code that can lead to causing harm by an AI carrier, – may be a circumstance mitigating punishment.

4) Since, in the context of legal liability, AI can be considered exclusively as a component of the objective side of the offense (instrument, means or method of committing an offense), it is necessary to avoid using exclusively theoretical constructions and artificially created and not applicable in practice concepts (units, quasi-entities, digital personalities, etc.) in the course of legal argumentation and in legal technique. At the same time, the causal relationship between the acts of the subject of responsibility and the consequences that have occurred (which, obviously, should be investigated at the sectoral level in relation to certain types of offenses) cannot be directly identified with the fact that through AI, indirect communication of legal entities realizing their own will with the help of AI carriers, including «self-learning» ones, is carried out.

5) The fact that the possibility of AI errors in some cases may be consciously recognized (for example, during legal regulation within the framework of experimental legal regimes) cannot be a reason for exemption from harm compensation by persons responsible for the development, commissioning or direct operation of AI carriers.

Summarizing the presented thesis approvals submitted for protection, implementing a value-oriented approach to legal responsibility, and implementing the above conceptual foundations in relation to legal responsibility in the field of AI, it is impossible not to come to a general conclusion, which is important for further industry research: no matter how difficult it is to determine who exactly is responsible (subjects of legal responsibility) caused harm by their actions or

[25] Which were intentionally embedded in the program code with the potential to cause a harm by the AI carrier.

omissions, the technical expression of which was the «actions» of the AI carrier, nevertheless, it is necessary to structure legal relations in which AI can act as an element of the objective side of the offense, and isolate cause-and-effect relationships in these legal relations in relation to legal entities that determine the processes taking place in objective reality and manage them, which AI is not given.

CHAPTER I. Legal responsibility: conceptual foundations in the context of relations with the use of artificial intelligence carrier

1. Basic concepts of legal responsibility in the theory of law

To understand the essence of any phenomenon, including social ones, researchers are engaged in analysis and synthesis. «Each phenomenon can be considered cognized if and only if it has been analytically decomposed into elements (in this case, the element should be understood as strictly «indivisible» «units» that make up the studied object) and then «assembled» from them»[26], – A.V. Maltseva and K.G. Maltsev write, referring to on the ideas about the forms of knowledge derived by Galileo, Newton and logically generalized by Leibniz. In this regard, in order to understand legal responsibility, it is necessary to present it in the form of constituent parts, defining their properties and connections, and then present this composition in unity, which will constitute the concept. At the same time, for the purposes of our study, such a review will be carried out with the assumption of the presence of a special element in the composition of legal liability – the AI carrier. The structure of this definition will depend on how it is positioned within this structure[27]. But first, it is necessary to review the main approaches to understanding legal responsibility in educational and scientific literature, and also, following A.V. Polyakov and E.V. Timoshina[28], to justify why legal responsibility, in order to understand it for the above purposes, is considered precisely as a social phenomenon, and also why such a phenomenon should be structured into constituent elements.

The classical approach is usually considered to be the understanding of legal responsibility as the application of measures of state coercion, the implementation

[26] Maltseva A.V., Maltsev K.G. On the concept of place and structure of a social phenomenon // Bulletin of the Nizhny Novgorod University named after N. I. Lobachevsky. Series: Social Sciences. 2006. No. 1(5). p. 282.

[27] The Big Soviet Encyclopedia identifies the definition as the unity of essential properties and connections of objects reflected in thinking; a thought that distinguishes and generalizes objects (objects) of a certain class according to common and in their totality specific to them. The Big Soviet Encyclopedia [Electronic resource] // SLOVARonline. URL: https://bse.slovaronline.com/31502-PONYATIE (date of access to the source: 05/31/2024).

[28] Polyakov A.V., Timoshina E.V. General theory of law. Textbook. St. Petersburg State University, 2017. p. 311. This approach appeals to many researchers. See, for example: Abramov V.G. The concept of the Institute of legal responsibility in environmental law // Bulletin of the Mordovian University. 1995. No. 3. p. 39.

of the sanction of the rule of law. O.E. Leist defined legal responsibility as «the application to a person who committed an offense of measures of state coercion provided by the sanction of the violated norm, in accordance with the procedure established for this purpose»[29]. This understanding was shared by O.S. Ioffe[30], who was supported by M.D. Shargorodsky[31]. This approach has been narrowed by a number of authors. So, L.S. Yavich understands the legal responsibility as is the implementation of the sanction of the rule of law, therefore, the subject of the offense has a duty to be sanctioned by the legal norm for non-fulfillment of the obligation determined by the disposition[32]. Modern authors also understand legal responsibility as a measure of state coercion: «Legal responsibility is a measure of state coercion based on legal and public condemnation of the offender's behavior and expressed in the establishment of certain negative consequences for him in the form of restrictions on personal and property order»[33].

N.S. Malein reduced responsibility to punishment, the duty of suffering negative consequences: «Responsibility in the sense of negative property consequences can only be expressed in the form of a duty that did not exist before the offense»[34]. S.N. Bratus understood legal responsibility as the realization of a duty based on state or public coercion identical to it[35]. Interpretations close to classical approaches in understanding legal responsibility are preserved in later studies: V.I. Chervonyuk defines it as the obligation of a person who has committed an offense to undergo the consequences of his act[36]. A.A. Chistyakov, also laying the basis for the term «duty», deduces the following concept of responsibility (more precisely, one of its types): «Criminal liability is the obligation of a person not to violate criminal law prohibitions under threat of punishment and to suffer adverse

[29] Leist O.E. // General theory of State and Law. Academic course: In 3 volumes, 2001. Vol. 3. p. 491.
[30] Ioffe O.S. Responsibility under Soviet civil law. L.: Publishing House of the Leningrad University, 1955. p. 27.
[31] Ioffe O.S., Shargorodsky M.D. Questions of the theory of law. M., Gosyurizdat, 1961. pp. 314-318.
[32] Yavich L.S. Law and Socialism. M., 1982. p. 136.
[33] Theory of State and law: Textbook / V.K. Tsechoev, A.R. Shvanderova. M.: Prometheus, 2017. p. 243.
[34] Malein N.S. Property liability in economic relations. M.: Nauka, 1968. pp. 12-13.
[35] Bratus S.N. Legal responsibility and legality. M., 1976. p.85.
[36] Goyman-Chervonyuk V.I. An essay on the theory of state and law. M., 1996. p. 298.

consequences if they are violated»[37]. «Legal responsibility is the legal realization activity of the state, in particular, in its form such as the application of legal norms to offenders»[38], - N.I. Matuzov wrote, although he further highlighted «at least two aspects of responsibility – negative (retrospective) and positive (prospective)». E.V. Lazareva in as a distinctive feature of legal responsibility, state coercion to comply with legal norms, strictly established by law and the associated test of negative consequences are highlighted[39]. N.A. Chertova and I.V. Ershov cites a similar definition: «Legal responsibility is the obligation of a person to undergo deprivation of state authority for a committed offense»[40]. N.A. Skrebneva considers the approach to understanding legal responsibility through the category of state coercion to be the most appropriate – «due to the fact that it reflects the essence of this phenomenon as one of the independent forms of realization of the protective function of law, expressed in the application of State coercion measures to the offender and the adverse consequences associated with them»[41].

However, there are other approaches to understanding legal responsibility. Thus, P.A. Varul, V.V. Lutz and other authors proposed to define it as a condemnatory assessment of the state as a reaction to the committed offense[42]. V.A. Tarkhov understood legal responsibility as an obligation regulated by legal norms to give an account of his actions; the need to appear before society in the person of the relevant state bodies and account for the committed act[43]. I.N. Senyakin defined legal responsibility as a legal relationship arising from offenses between the state, represented by its special bodies, and the offender, who

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[37] Chistyakov A.A. Theoretical and methodological problems of the doctrine of criminal liability and the mechanism forming its basis: Abstract. diss. for ... academic degree of the Doctor of Law. Ryazan, 2003. p. 11.

[38] Matuzov N.I., Malko A.V. Theory of state and law. Textbook. M., 2004. p. 217.

[39] Lazareva E.V. Legal regulation of medical activity in the Russian Federation (Particular aspects of theory and practice): Diss. for the academic degree of the Candidate of Law. Saratov, 2006. C. 149.

[40] Theory of state and law: a textbook for students in the field of preparing 40.03.01 – Jurisprudence (bachelor's degree) / N.A. Chertova, I.V. Ershova; North-Arctic State University. Arkhangelsk, 2021. p. 62.

[41] Skrebneva N.A. The concept of legal responsibility: doctrinal approaches // Bulletin of the Academy of Law and Management. 2017, No. 2(47). p. 73.

[42] Morozova L.A. Theory of State and law: Textbook. 4th ed., reprint. and additional M.: Russian legal education, 2010. p. 311.

[43] Tarkhov V.A. Responsibility under Soviet civil law. Saratov, 1973. pp. 4-10.

is obliged to undergo appropriate deprivation and adverse consequences for the offense committed, for violating the requirements contained in the norms of law[44]. V.G. Fedorov also believes that legal responsibility is a legal relationship whose subjects comply with legal prohibitions and implement legal opportunities, which are accompanied by certain penalties and incentive sanctions[45].

L.A. Morozova, combining the above traditions and approaches and classifying them, depending on the key ideas embedded in the concept of legal responsibility by representatives, identifies six groups of interpretations of legal responsibility (six key features that are presented as key to the phenomenon)[46]:

1) consideration through the category of protective legal relationship (V.K. Babaev, S.A. Komarov, A.V. Malko, I.N. Senyakin, etc.);

2) the duty of suffering consequences (V.I. Chervonyuk);

3) implementation of the sanction of the rule of law (Prof. O.E. Leist, O.S. Ioffe and M.D. Shargorodsky, I.S. Samoshchenko and M.H. Farukshin);

4) punishment for an offense (prof. N.S. Malein);

5) the reaction of the state in the form of a condemning assessment (P.A. Varul, V.V. Lutz, and others);

6) a report on their actions (V.A. Tarkhov).

A.G. Chernyavsky, apparently combining most of the above approaches, forms a fairly broad idea of legal responsibility, understanding it as a legal form of state coercion, which consists in the offender undergoing restrictions contained in the sanction of the violated legal norm, and carried out through a protective legal relationship[47]. Earlier in the literature there was another unifying approach to the definition of legal liability (with a reservation – retrospective): according to A.I. Kozhevnikov, it should be understood as «the obligation of the offender,

[44] Senyakin I.N. Legal responsibility // Theory of State and law / Edited by N.I. Matuzov and A.V. Malko. M., 1997. p. 543.

[45] Fedorov V.G. The concept of legal responsibility and its regulatory and protective nature // State and Law. 2009. No. 9. pp. 87-92.

[46] Morozova L.A. Theory of State and law: Textbook. 4th ed., reprint. and additional M.: Russian legal education, 2010. p. 311.

[47] Chernyavsky A.G. Legal responsibility. M., 2015. p. 322.

carried out within the framework of a protective legal relationship, to be subjected to deprivation of a personal, material or organizational nature, reflected in punitive (punitive) sanctions of violated norms of law»[48]. T.N. Radko's position is interesting in combining two aspects in the concept of legal responsibility that cannot be taken into account separately: objective, containing an obligation arising from a violation of a previously existing (and, apparently, not fulfilled) duty of the subject; and subjective (personal), including the offender's suffering negative consequences[49].

N.A. Skrebneva also identifies several approaches to the definition of the concept of legal responsibility[50], noting among them both classical and earlier approaches, as well as modern views of legal science, and trying to cover them in a significant volume. Taking into account the detailed analysis conducted by this and other authors, an obvious conclusion arises that the understanding of legal responsibility, in general, depends on which of its constituent parts or which of its features the researcher considers fundamental for forming an idea of this social phenomenon. In turn, the guidelines for each author depend on his own beliefs about what he considers to be dominant in the theory of law for the purposes of understanding responsibility. If the law itself, in the understanding of the author of the approach, is «a legal instrument associated with the state and consisting of a whole system of norms, institutions and branches»[51], then it is logical that he represents legal responsibility as «the legal realization activity of the state, in particular, in its form, as the application of legal norms to offenders»[52]. And, for example, the interpretation of law as a «multifaceted phenomenon of public life», references to the meaning of law as, first of all, a social value, as well as linking the emergence of law with the recognition of a free autonomous personality, naturally

[48] Kozhevnikov A.I. Subjects of legal responsibility: diss. for the academic degree of the Candidate of Law. M., 2004. p. 30. A similar definition was expressed by G.A. Prokopovich: Prokopovich G.A. Theoretical model of legal responsibility in public and private law: diss. for the degree of Doctor of Law. St. Petersburg, 2010. p. 91.

[49] See: Radko T.N. Theory of functions of law: monograph. Moscow: Prospekt, 2015. pp. 223-224.

[50] Skrebneva N.A. Legal responsibility in public and private law (issues of theory and practice): diss. for the academic degree of the Candidate of Law. M. 2018. pp. 17-40.

[51] Matuzov N.I., Malko A.V. Theory of state and law. Textbook. M., 2004. p. 70.

[52] The same source. p. 217.

leads to the conclusion that «legal responsibility can be defined as a special legal state, in which by virtue of which a person is obliged to undergo certain deprivations of a state-enforced nature for the committed offense»[53]. In addition, one should not forget that responsibility – as a social phenomenon – is inherent exclusively to people, since they are the ones who are able to use responsibility (not only in a «positive» sense, but also in a «negative» sense more familiar to law) as a tool for self-actualization, personal growth and effective management of one's own life[54]. «In Russian psychology, the idea of responsibility has been established as a strong-willed personal quality, which manifests itself in the exercise of control over human activity»[55]. At the same time, it is impossible to deny the presence of a volitional component in making value choices and making decisions – both in young children, and in those suffering from mental disorders, and in persons with limited physical abilities: all of them, being subjects of law, have legal capacity and the so-called «existential freedom» (which, according to A.V. Polyakov, is the «initial condition for the existence of law»). Without recognition of such freedom («equal legal personality»), there can be no right itself[56]. And although the values of the above-mentioned subjects of law may not coincide with those generally recognized in society (due to general underdevelopment or mental or physical characteristics that lead to distorted consciousness), their actions are evaluated by other people from the position of a generally accepted understanding of volitional behavioral acts, and exemption from legal liability is applied, rather, as a measure of social leniency, rather than as a public rejection or non-recognition of legal personality for such people.

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[53] Abdulaev M.I. Theory of state and law: textbook for higher educational institutions. Moscow: Financial Control publ., 2004, pp. 95-96, 101, 321.

[54] Chumakova E.V., Lukyanova S.P. The structure of responsibility in the context of an existential choice of personality // Bulletin of South Ural State University. 2009. № 18. The series "Psychology". Issue 5. p. 37.

[55] Leontyev, D.A. Responsibility / D. Leontiev // Psychological lexicon. Encyclopedic dictionary: in 6 volumes /Ed. - comp. L.A. Karpenko; under general. edited by A.V. Petrovsky. M., 2006, P. 176.

[56] See in more detail: Polyakov A.V. The deficit of freedom as a political and legal problem // Proceedings of the Institute of State and Law of the Russian Academy of Sciences. 2018. Volume 13. No. 4. pp. 49-50.

It is interesting that the word «responsibility» in Russian is not considered as an homonym, although depending on the context it clearly has a different meaning. A vivid comparison: a «responsible official» (as the one who heads the project, and sometimes nominally) or a «responsible person» (endowed with a sense of deep duty, highly moral). The moral (internal) and the nominal (external) are clearly different in meaning. The essence of the concept of responsibility, most often, requires disclosure using synonyms or using descriptive adjectives. In different situations, the semantic shade of responsibility will change, implying both its external expression (duty, position, management, guarantee, guarantee) and internal content (duty, conscience, discretion), and sometimes even external attributes (dignity, reliability, the ability to «answer to ...»), strengthening the semantic situational structure (authority, significance, seriousness) or giving some kind of inevitability (then responsibility is implied as inevitability, necessity, and sometimes fate, fate). At the same time, for example, in English the words «liability» (used for legal responsibility) and «responsibility» (as the ability to accept responsibility, the ability to answer)[57], which are translated into Russian in the same way (both are «responsibility», although in the first case a descriptive adjective is necessarily added «legal», and in the second – the meaning may be implied, and not related to the legal context) – not only different in meaning, but also in spelling. In addition to these terms, there is the concept of «accountability», which is widely used in regulatory legal acts aimed at regulating the processing of information, including personal data, the use of digital technologies, including artificial intelligence technologies.

From the above semantic analysis, it is obvious that in order to understand legal responsibility, it is necessary to analyze which of the meanings is embedded in the term «responsibility», for which to answer the questions: can «legal» be an internal experience, does this «legal» manifest itself externally (if so, how), or «legal» is a

[57] Here and further, the interpretation of English words is given according to the dictionary: Oxford Learner's Dictionary of Academic English (OLDAE) [Electronic resource] // Oxford Learner's Dictionaries: inform portal. URL: https://www.oxfordlearnersdictionaries.com/ (date of access to the source: 05/31/2024).

descriptive attribute that makes such responsibility unrelated to other senses than state–legal coercion (and therefore legal responsibility can only mean «liability»).

Regarding the first question (about responsibility as an inner experience): If we adhere to the understanding of responsibility as a feeling based on awareness of a moral imperative, the answer to the question posed will undoubtedly be positive. The moral imperative here refers to the so-called «law of higher wisdom», formulated by Confucius («Do to others what you wish for yourself»[58]), and found later in religious dogmas, social norms, and philosophical traditions. After all, one of the formulations of the Kant's categorical imperative, who calls for acting «only according to such a maxima, regarding which at the same time you can wish it to become a universal law»[59] as the basic law of his ethics, is also consonant with the «law of higher wisdom», and develops it, transforming from «wisdom» into ethics and law (which Kant thinks more broadly, than a legal law: his law is the very nature of all things). This understanding of the «legal» reflects responsibility as an internal, meaningful and deeply moral experience of a person, helping him to learn law through emotions and feelings. The perception of legal responsibility in this way is organically consistent with the image of L.I. Petrazhitsky's law, described by E.V. Timoshina as «a product of complex, language-mediated emotional and intellectual motivational processes in the mind of the subject»[60].

Interestingly, people begin to «feel» responsibility at an early age. The psychological crises of children aged 1, 3 and 7 years old are associated with the establishment of the boundaries of what is permissible: a small person, as it were, «tests the strength» of those people who are next to him at this moment, and the world toughness itself (to the extent that it is possible to «reach out»). Moreover, if a parent or other close person does not clearly convey to the child what is allowed

[58] In a different interpretation: "What you don't want, don't do to others." See: Karyagin K.M. Confucius. His life and philosophical activity. St. Petersburg: Printing house of Yu.N. Erlich, 1891.P. 40.

[59] Kant I. Fundamentals to the metaphysics of morals // Op.: in 4 vols. Vol. 3 / prepared to the ed. by N.V. Motroshilova, B. Tushling. M., 1997. p. 143.

[60] Timoshina E.V. Theory and sociology of law by L.I. Petrazhitsky in the context of classical and postclassical legal understanding: Abstract. … diss. for the degree of Doctor of Law. M., 2013. p. 2.

and what is not, as well as if he shows illogic in indicating the limits of possible behavior or permissible actions, this may be even worse for the formation of a mentally healthy human personality than excessive restrictions or unjustified strictness. The basis for overcoming crises is precisely clear boundaries and consistent repetition of activities – the so-called rituals that form habits and being a support for further socialization of a person, his acceptance (first of all, parental, and then from society)[61]. The child can not only be, but should be limited in the manifestations of freedom: 1) to the extent that it violates the freedom of other people; 2) if his actions become dangerous for himself or for other living beings; 3) with an eye to the social norms of the society in which the child lives. This is how the formation of a conscious, strong-willed and free personality occurs, «feeling» the reverse side of his freedom – responsibility; and this is how the foundation is laid for the formation of «mutual legal recognition», laid by A.V. Polyakov as the basis of the theory of law as mutual communication of volitional subjects[62]. And in this light, the socio-moral (freedom of will in choosing behavior) and psychological (awareness of one's own behavior) grounds of legal responsibility will reflect the inherent inner meaning of this concept.

Speaking about the external manifestations of «legal» in the understanding of responsibility, it is necessary to analyze its grounds such as the actual (legal fact of committing an illegal act) and procedural (if it requires the use of measures of state legal influence), as well as to identify the compliance of the person who committed the offense with the properties of the subject of legal responsibility established by law, and find out is it necessary in this particular case to exclude legal consequences for the subject of liability (incident, force majeure, necessary defense, etc.). From

[61] See in more detail: Erikson E.H. Childhood and Society. New York, 1963. 2nd ed. p. 19-53; Obukhov.A. Importance of the first year of life and the subsequent development of child (Review of D. Vinnikott's conception) // School of health. 1997. Vol. 4. No. 1. p. 24-39; Bocharov V.V. Anthropology of age: Textbook. St. Petersburg, 2001. pp. 42-48, 65-68, 82-87; and other.

[62] Polyakov A.V. The principle of mutual legal recognition: Russian philosophical and legal tradition and a communicative approach to law // Proceedings of the Institute of State and Law of the Russian Academy of Sciences. 2021. Volume 16. No. 6. pp. 39-101.

here comes the suffering of consequences, the realization of law, the restoration of justice.

Is legal responsibility embedded in a large social responsibility system? Obviously, yes. In the sense that not all social relations are regulated by law, as well as the norms of morality, religion and other social norms – they do not extend their effect throughout society. Thus, legal liability (in the sense of «liability») means belonging to a relationship regulated by law in the state.

Thus, legal responsibility is understood as a dual phenomenon (further, a dichotomous analysis of this phenomenon will be carried out in the context of actions using AI, however, it is already possible to draw a preliminary conclusion that the «external» and «internal» meaning inherent in the very concept of legal responsibility reflects its duality), multidimensional (based on the before the legal responsibility of the tasks – and ensuring the functioning of the legal system of society, and fixing the limits of measures of state coercion, and indirect impact on all subjects of law) and three-level: always social, legal and state. For the moral and psychological grounds of responsibility and, in general, the very possibility of its existence in society, a person with legal capacity is necessary; for the actual ones, the norms of law (second level) are needed; for procedural ones – procedures implemented at the state level (meaning also their implementation by specially authorized representatives of the state).

To resolve the question about the possibility of embedding AI carriers in public relations within the framework of such a social phenomenon as legal responsibility, it is necessary to analyze its composition.

2. The composition of legal liability as a social phenomenon: the question of AI carriers

In the theory of law, it is not customary to single out the concept of the composition of legal liability. Traditionally, its signs and types are considered. Nevertheless, for the further development of the main concept of the study, it is necessary to analyze the composition of legal responsibility in relation to relations in which the AI carrier

«appears» in one capacity or another. At the same time, we must not forget that legal responsibility as a kind of social responsibility should be understood as a social phenomenon. As A.S. Shaburov correctly points out, «the very concept of «responsibility» arises only in human society, where each subject has freedom of choice, that is, a conscious preference for a certain form and mode of behavior in society»[63]. B.Ya. Tokarev explains that the institution of legal responsibility arises as a reaction, a form of self-defense of society from criminal encroachments and attempts on its foundations, and It acts as a certain means of public opposition, localization of licensing processes[64]. N.V. Vitruk writes: «The essential characteristics of the phenomenon of responsibility are genetically determined by economic, political, cultural and other dependencies that develop naturally and historically in the process of industrial, spiritual and other human activities, in the process of formation and development of the system of social relations»[65]; and considers it important to understand that only human interaction with other people manifests its social nature, generates social qualities, which confirms the fair conclusion: «it is impossible to live in society and be free from it»[66]. The structure of legal responsibility will depend on that, which place in this society is assigned to the AI carrier, even with the same elements of its composition. At the same time, the very type of legal liability may not change. The structure differs from the composition by the ordering of the elements. That is, the same composition of elements can be ordered in different ways, and from this difference in structures, externally different things, phenomena, and processes will exist or occur (flow). And if you introduce a new element, then the essence of the entire structure can change dramatically. In addition, if the elements of the structure interact with each

[63] Actual problems of the theory of state and law: textbook / team of authors; ed. V.D. Perevalov. M. 2021. p. 384. (Author of the paragraph "Legal responsibility" – Prof. A.S. Shaburov.)
[64] Fundamentals of State and Law: A textbook. Under the scientific editorship of V.A. Rzhevsky, V.T. Gaikov. Rostov-on-Don, 1996. p. 186.
[65] Vitruk N.V. General theory of legal responsibility: Monograph. M., 2008. p. 8.
[66] The same source. p. 8.

other in an orderly manner, each performing its own function, then they form a system.

In fairness, it should be noted that the structure of responsibility (in its various manifestations) has been described by a number of authors. Thus, A.A. Chistyakov writes: «The use of the term «composition» in the study of the problem of a phenomenon is not accidental. Any phenomenon (if we consider it as a construction, structure, formulation, etc.) is a set of elements connected in a certain way. It seems that all aggregates are systems»[67]. Considering the structure of criminal responsibility, he draws the following conclusion: «... from the point of view of the structure of criminal responsibility, it consists of the following elements: the object of criminal responsibility, the subject of criminal responsibility and the content of criminal responsibility»[68]. A.R. Smirnova, considering the problem of forming a sense of responsibility, considers its behavioral components and modes (varieties of constituent elements) types and styles of performance[69]. E.V. Chumakova and S.P. Lukyanova examine the structure of responsibility in the context of the existential choice of a person and identifies three of its elements: 1. Awareness of responsibility in the future: awareness of the situation, vision of alternatives, prediction of consequences; 2. Awareness of responsibility in the current time: making an informed choice; 3. Awareness of responsibility in retrospect: recognizing oneself as the author of one's actions, accepting the consequences[70]. The research of R.R. Khasnutdinov, who devoted one of his works to structuring the legal liability system itself, is also interesting[71].

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[67] Chistyakov A.A. Elements of criminal liability (to the formulation of the problem) // A Human: crime and punishment. 2014. No. 3(86). p. 66.

[68] Chistyakov A.A. The structure of criminal responsibility // A Human: crime and punishment. 2015. No. 2(89). p. 27.

[69] See: Smirnova A.R. On the structure of responsibility // Bulletin of the Udmurt University. Philosophy series. Psychology. Pedagogy. 2017. Vol. 27. Issue 4. pp. 464-467.

[70] See: Chumakova E.V., Lukyanova S.P. The structure of responsibility in the context of an existential choice of personality // Bulletin of South Ural State University. 2009. № 18. The series "Psychology". Issue 5. pp. 37-42.

[71] Khasnutdinov R.R. Structure of the legal liability system // Right. Journal of the Higher School of Economics. 2014. No. 4. pp. 30-44. R.R. Khasnutdinov argues that modern system researchers no longer explain the obvious connection between the concepts of system and structure, but use the concept of "system structure", however, its further research boils down to classification and systematization of responsibility by type based on the use of various criteria.

Distinguishing legal responsibility from social responsibility, N.I. Matuzov writes: «the signs [of legal responsibility] can be expressed in a peculiar formula consisting of a number of questions: Who's in charge? for what? how? To whom? based on what?[72]« We believe that this is the formula of legal responsibility, which contains both elements (components forming its structure) and directly signs (not included in the composition, but manifested in the systemic interaction of structural elements). Within the framework of the classical system of representations, legal liability will always include the following elements: 1) the subject of legal liability; 2) the basis of legal liability (actual and legal[73]); 3) the obligation to undergo negative consequences and (or) compensation for harm. Among the signs defining the essence of legal responsibility as a separate type of social responsibility, there are: state-compulsory nature; application on the basis of formal prescriptions in the format of a special procedure (procedural nature). This is how it is proposed to understand the composition of legal liability.

Depending on the place and role of the AI carrier in this composition, the structure of legal responsibility may change – depending on the formation of the subject (which corresponds to the subject of the offense), understanding of the actual and legal composition (which corresponds to the objective side of the offense). Further in the work, these options are considered in more detail in the framework of the study of the problem of legal personality in the context of legal liability for acts using AI carriers, as well as in the analysis of the dichotomous nature of legal liability. This is done as an academic assumption of the existence of opinions on issues of responsibility related to AI carriers and research of these views, which serves the purposes of both inductive and deductive research of the issue. Taking into account the conclusions that are set out in the following sections

[72] Matuzov N.I., Malko A.V. Theory of state and law. Textbook. M., 2004. p. 216.

[73] N.N. Voplenko proposed, in addition to the above-mentioned grounds for bringing to legal responsibility, to single out a subjective basis, which is a person's freedom of will, that is, the freedom to choose an illegal or law-abiding behavior. If a person did not have such freedom, then the person cannot bear the burden of legal responsibility. See: Voplenko N.N. Offenses and legal liability. Volgograd, 2005. p. 117.

of the work, schematically the options for structuring the composition of legal liability can be presented as follows[74]:

Elements of the offense	**Variant 1** (based on the hypothesis of legal personality of AI of any kind)	**Variant 2** (based on the «classical» concepts of the theory of law)
The subject of responsibility	The AI carrier	An individual or a legal entity – a developer, manufacturer, owner or user (operator) of an AI carrier[75]
The basis (factual, legal)	The «committing» by an AI carrier of a socially dangerous act, the responsibility for which is established by legal norms	Objectively existing and possible types of offenses in the future. (There is currently no special legal regulation in this area, therefore, in some cases, the formation of legal grounds may be required.)
The obligation to suffer negative consequences and (or) compensation for harm	The «suffering» of negative consequences is allowed only in the format of external influence on the «subject» of AI, and compensation is allowed only within the framework of compensatory (for example, insurance) measures. At the same time, proponents of the idea of legal personality of AI, by analogy with legal entities, can use arguments commonly used in the field of legal entity theory.	It is assigned to the responsible person – the subject of responsibility – who is a person endowed with freedom and responsibility, or inextricably linked with such a person.

Clarification is required regarding the basis of legal liability, the formulation of which is among the urgent tasks of legal doctrine and modern legislation. It seems reasonable to single out (that's made by I.R. Begishev and Z.I. Khisamova) the following typical situations, which can be the basis for the formation of a theoretical

[74] See: Fedoruk E.O. Variability of elements of the composition of legal liability with the participation of artificial intelligence carriers // Education and Law. 2024. No. 5. pp. 296-300.
[75] Further, we will substantiate such a separation of subjects of legal responsibility in the field under consideration.

model of responsibility for acts related to AI carriers, as well as possible subsequent legislative regulation (legal definition of the relevant elements of offenses)[76]:

1. When creating an AI system, an error was made that led to the commission of an offense;
2. Unauthorized access was made to the AI system, which resulted in damage or modification of its functions, as a result of which an offense was committed;
3. An AI with the ability to self-study has «made a decision» to commit actions/omissions that are qualified as offenses;
4. AI was created to commit offenses[77].

At the same time, even taking into account the assumption of the occurrence of situation No. 3, it should be insisted on the impossibility of practical implementation of the first variant of the structure of legal responsibility – in relation to AI carriers and considering them as independent subjects of responsibility, since all the elements assumed (and they are artificially constructed) in this case do not fit into the understanding characteristic of modern law and existing public relations. In the case of an AI carrier making a «decision» to commit an offense, this circumstance cannot be called a volitional decision and conditioned by its internal illegal (criminal) intention of the AI. The probability of intentionally forming such decisions, all other things being equal, is questionable, since legal AI systems do not teach this (for the purposes of this argument, we do not consider situation No. 4, in which AI is initially created to commit offenses). Only assuming (purely hypothetically) that the AI system is so complex that a «decision» to commit an offense may actually take place, one can try to insist on a similar variant for the development of the AI «decision-making» scenario, as well as formulate it hypothetically. However, in reality, so far no such data has been found in the investigation of incidents of harm caused by AI carriers, among specific practical examples, and I would like to believe that this will not happen. In the end, despite

[76] In reviewing the formulations, the author has removed the criminal legal context.

[77] See: Begishev I.R., Khisamova Z.I. Artificial intelligence and criminal law: monograph. M., 2021. p. 113.

the ongoing long-term «hype» with the ethical task of the trolley – the railway-truck, which should be guided along the path of causing death (including when selecting candidates for certain positions related to the need to make decisions based on moral choice, and when psychologically working with the value aspects of a human personality), it is categorically impossible to put it for AI: precisely because that no designer, developer, or «creator» puts such decision-making mechanisms into the system he designs (unless, of course, he implements his own malicious or even criminal intent).

Obviously, when we say «artificial intelligence» and «decision-making by artificial intelligence», we mean the functioning of software that produces a «forecast» based on big data analysis, and no more. In other words, the term «decision-making» in relation to AI is not a conscious volitional act of a legal subject who feels a sense of responsibility towards him, and is generally able to have feelings when determining the direction of activity, predict the possible consequences of his actions (in the understanding of the realization of mental activity) and experience – both before the realization of the plan, and also after (feeling guilty). And the «decision-making» of AI as such consists in the implementation of a predetermined conditional automatic output, which can lead to other automatic actions: this sequence is laid down by the developer (human). As it was clarified earlier, legal responsibility is impossible without a subject, while the subject can only be a person endowed with free will and making an informed choice, as a result of which his responsibility – as a reflection of the limits of freedom – is based on the principles of mutual legal recognition. Accordingly, the problem of responsibility for the actions of AI can be solved either by recognizing the AI of the subject, or by explaining under what conditions a person will be responsible for the actions of AI. Legal responsibility presupposes the presence of such a subject who has consciousness and will, is able to realize or morally tolerate the act being committed, worry and regret the offense committed[78]. It is also necessary to have

[78] Compare: if the subject is not aware of what is being done – due, for example, to his young age or mental characteristics, he is released from responsibility.

volitional conscious behavior, objectively expressed externally, conditioned by emotional impulses, selfish motives, personal interest and (or) other internal motives, which is realized in the form of the realization of one's own plan – it is this behavior that can claim the status of the actual basis of legal responsibility[79]. As for the obligation to suffer negative consequences and compensation for damage caused by a hypothetical subject of the offense (AI carrier), none of the above assumptions are currently legally implemented today (in addition, such «suffering» is inherently different from what a person in a legal relationship experiences regarding the implementation of legal responsibility). «In Russian psychology, a sense of responsibility correlates with one of the highest mental functions – with will and with the quality of performance»[80], – writes A.R. Smirnova. «Responsibility as a feeling is a high level of responsibility development, since when experiencing it, the child internally correlates his capabilities, understands the need for action, which ensures high quality of the task»[81]. However, the AI carrier is devoid of feelings, and all attempts to endow it with human qualities, against the background of creating fictions with elements of legal personality, are doomed to objective criticism: if you understand the mathematical structure of AI, presented in the form of computer programs and databases recorded on a material carrier, it becomes obvious that there is no natural essence in it, and it is doubtful whether the question of this is even possible.

3. Prospects for the development of the institute of legal responsibility in relation to relations related to AI

Due to the fact that traditionally in the theory of law, a legal institution is understood as «a group of legal norms that regulate social relations similar in nature and content, characterized by significant features»[82], it is necessary to specify that

[79] Compare: AI will never be able to explain the reasons for its own behavior with experiences or emotions; the true causes of harm by the AI carrier are always only mistakes – intentionally laid down or accidentally arisen. In the latter case, they were either not known earlier or were not eliminated in a timely manner.

[80] Smirnova A.R. On the structure of responsibility // Bulletin of the Udmurt University. Philosophy series. Psychology. Pedagogy. 2017. Vol. 27. Issue 4. p. 464.

[81] The same source. p. 467.

[82] Melekhin A.V. Theory of state and law: textbook with educational and methodological materials. M., 2009. p. 260. We find a similar understanding among other authors, for example: "A legal institution is a group of legal norms interconnected

in this dissertation research the institution of legal responsibility is understood in a broad sense: «the institute is a special one created on a normative basis (meaning social norms) a social structure capable of existing at various levels (macro- and at the microsocial level) and uniting by its action one or another (and sometimes all) sphere of public relations (depending on the sphere of its action)»[83]. At the same time, as T.A. Ovchinnikova points out, «all definitions of the institute of legal responsibility emphasize that it is complex in its structure and intersectoral»[84]. It is obvious that the institution of legal responsibility is intersectoral (civil, criminal, administrative, disciplinary, constitutional and legal types of responsibility are most often distinguished according to the relevant branches of law), can be structured depending on the allocation of various elements and levels within it. D.A. Lipinsky includes micro and macro levels in the structure of legal responsibility, identifies coordination, subordination and genetic connections between macro-levels fill this institution with signs and characteristics[85].

Solving the fundamental question of how much (and whether at all) the theory of law should change with the development of new technologies, it is necessary to be aware of whether the current public relations involving AI carriers are fundamentally different from those in which AI carriers are not involved. Obviously, it is unwise to change the «basis» depending on the emerging new elements of the «superstructure». But, assuming the presence of signs of the subject of legal relations in AI (or, at least, turning to a critical analysis of one of the main hypotheses that are periodically clearly traced in modern scientific literature), it will

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by subject-functional relationships that regulate a specific type of public relations and, therefore, acquire relative stability and independence of functioning". – Morozova L.A. Theory of State and law: Textbook. 4th ed., reprint. and added. M.: Russian legal education, 2010. p. 201. N.I. Matuzov unites the norms of law, depending on the content, nature of prescriptions, spheres of action, forms of expression, subjects and methods of regulation, sanctions, etc. –into institutions. See: Matuzov N.I., Malko A.V. Theory of State and law. Textbook. M., 2004. p. 150.

[83] Belyaeva G.I., Kuzmenko V.I., Umarova A.A. On the question of the concept and characteristics of legal institutions // Gaps in Russian legislation. Law journal. 2018. No. 4. p. 101.

[84] Ovchinnikova T.A. The concept and structure of the institute of legal responsibility // Education and law. 2022. No. 2. p. 182.

[85] Lipinsky D.A. Macro level of the Institute of Legal responsibility // Law. Journal of the Higher School of Economics. 2019. No. 1. pp. 25-44.

be necessary to reconsider all the essential features of the institutions of law in which all subjects interact.

In popular science literature, extremely dangerous consequences from the development of «strong AI» are often predicted. For example, S. Schneider writes: «With insufficient care, the implementation of AI technology can go sideways for us, in other words, instead of simplifying life, it can bring suffering, death or exploitation of people. Some AI-related threats to human prosperity have been discussed for a long time. These are hackers capable of disrupting the operation of power supply networks, and superintelligent autonomous weapons systems that came like from the movie "Terminator"«[86] , and fake videos manipulating public consciousness, unmanned projectiles and automated computer hacking. Yu. Harari names the destructive power of technology as a challenge that completely threatens humanity as a species: automation will destroy millions of specialties; technology will be able to destroy not only the economy, politics and philosophy of life, but also our biological structure; since people will give AI the right to make decisions for them, power will shift to algorithms; with the help of biological knowledge, data and computer calculations, it will be possible to simply «hack» the body, brain and consciousness of each person, and even understand him better than he himself[87]. However, nowadays there are no sufficient grounds to assert that in the foreseeable future a «strong» AI, dominant and destructive, will actually be created or will arise in an «evolutionary» way. Referring to the Decree of the President of the Russian Federation dated October 10, 2019 No. 490 «On the development of artificial intelligence in the Russian Federation» (where, in fact, the concept of «strong» AI is fixed), we find that «strong AI» does not mean such a «human-like» AI, but «a type of artificial intelligence that is able to perform various tasks, interact with humans and independently (without human intervention) to adapt to changing

[86] Schneider S. Artificial you: machine intelligence and the future of our mind / Translated from English M., 2022. p. 9.

[87] Andreeva A. Futurologist Harari named three main threats to humanity in the 21st century [Electronic resource] // RBC Trends. 2020. June 04. URL: https://trends.rbc.ru/trends/futurology/5e2ef4499a79474925acdf08 (date of access to the source: 05/31/2024).

conditions» (paragraph «h» of art. 5 of National Strategy for the development of artificial Intelligence for the period up to 2030), – that is, this is an AI, which contains technologies for further improvement without human participation (and with this understanding, some neural networks will already formally belong to the category of «strong AI», although no one claims to endow them with legal personality). Actually, we do not even have confidence and at least some evidence that any of the existing «weak» (aimed at completing tasks in a certain «narrow» segment of public relations) AI works absolutely without errors, or that the percentage of these errors will not be able to increase in the future, but will only decrease. In this regard, the author is impressed by the conclusion of F. Pasquale, who places the prevention of the most unfavorable outcomes of the «AI revolution», as well as the realization of its potential, in absolute dependence on «our ability to develop a wise attitude to such a balance». At the same time, «to improve our lives», in his opinion, the following postulates should lead:

1) an empirical argument: right now, AI and robots most often complement, rather than replace, human labor;
2) the property of a value character: in many areas we must maintain this state of affairs;
3) Political judgment: our governance institutions are indeed capable of achieving just such a result[88].

Returning to the question of the possibility of transforming the institution of legal responsibility in connection with the development of AI, and noting the existence of such contradictory approaches and forecasts that exist in the research environment regarding further changes, let us nevertheless focus on the fact that the theory of law is based on principles of law that have signs of solidity and value, and correspond to moral, political and the economic values of society[89]. This means, to some extent, the «intolerance» of the doctrine to concepts that are contradictory, not

[88] Pasquale F. New laws of robotics: Defending Human Expertise in the Age of AI / Translated from English by A. Koroleva, under the scientific editorship of S. Shchukina. M., 2022. p. 11.
[89] See: Smirnov D.A. On the concept of principles of law // Society and law. 2012. No. 4(41). P. 36.

time-tested, and not accepted by most of the scientific community. Therefore, many of the ideas proposed by modern authors cannot claim to be serious and deep in their perception. Thus, certain signs of subjectivity among AI carriers[90] do not allow conceptually changing the concept (term) of subjects of rights and legal relations, since this contradicts the current system of values and legal relations, and following this, the understanding of legal responsibility; a number of revealed logical connections between AI and natural intelligence and conclusions about the non-use of these intelligences in direct confrontation[91] cannot equate the subjective side of the offense committed by an individual with the subjective (and even more objective) one a party to an offense «committed» by AI or with the participation (with the help of) an AI carrier; etc.

In this regard, it is impossible not to recall the conceptual basis for understanding responsibility, formulated by Prof. Yu.I. Grevtsov: «For understanding responsibility, including legal responsibility, it is fundamental that, realizing a particular social role, the subject of law often acts (must act) as a moral being – and responsible. Rather, such responsibility includes personal accountability and the ability to act within ethical standards. Responsibility is certainty, reliability, honesty, decency towards oneself and others»[92]. Any legal environment, even one that cannot be called highly developed, is based on unshakable principles: valuable, logical, thorough. And over the years, the norms of law that have been forming and developing, no matter what modern society and state we find ourselves in, will not be able to deviate from the generally recognized understanding of the subjects of responsibility and other components of this institution.

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[90] Will be considered in the relevant section of this study.

[91] See: Troeshestova D.A., Abrukov V.S., Stepanov A.G. The problem of the formation of a system of interaction between organizational structures of natural and artificial intelligence in the information society // Bulletin of the Chelyabinsk State University. 2012. No. 1. pp. 121-122.

[92] Grevtsov Yu.I. Lectures on the general theory of law textbook. St. Petersburg: Publishing House of St. Petersburg University, 2019. p. 177.

In this regard, it would be appropriate to give a practical example of how, even in a case-law system, value-oriented and centuries-old rights are protected and respected. On March 16, 2023, the Copyright Office of the Library of Congress (United States Copyright Office, hereinafter referred to as the USCO) published a Guide on Copyright Registration for works containing materials Generated by artificial intelligence[93] (hereinafter referred to as the Guide). By its nature, the document refers to «policy statements» (eng. «statement of policy»), and aims to «clarify the practice of verifying and registering works containing materials created using AI technology»[94]. In the Guide under consideration, the USCO mentions several applications in recent years in which AI technology was presented as the author or co-author of the work, or included statements in the sections «Created by the author» or «Note to the Copyright Office» notes indicating that the work was created with the help of AI or with its assistance. And individual applicants did not disclose information about the inclusion of materials created with the help of AI, but mentioned the names of AI technologies in the title of the work or in the «Acknowledgements» section of the application. These precedents were the reason for the publication of the Manual. The USCO believes that public guidance is needed on the registration of works containing AI-generated content, and the Guidance now reflects the policy that the USCO applies, in compliance with the requirements of the Copyright Act regarding human authorship, to applications for registration of such works, and also contains recommendations for applicants.

As explained in the Guidance, the use of complicated AI technologies is one of the recent developments capable of creating «expressive material»: this term is used to refer to the results of AI functioning, which, if they were created by humans,

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[93] Copyright Registration Guidance: Works Containing Material Generated by Artificial Intelligence // Federal Register / Vol. 88, No. 51 / Thursday, March 16, 2023 // Rules and Regulations. P. 16190-16194.

[94] *Here and further – the author's translation. The materials are published in the scientific article:* Fedoruk E.O. The evolution of understanding the aspects of authorship related to the use of artificial intelligence in the USA // Problems of economics and legal practice. 2023. No. 2. pp. 14-19. *International practice on this issue is covered in a scientific article:* Fedoruk E.O. Questions of authorship related to artificial intelligence: international law enforcement practice // Proceedings on Intellectual Property: Scientific Journal of the HSE UNESCO Chair on Copyright, Related, Cultural and Information Rights. Volume 45. 2023. No. 2. pp. 103-112.

would be subject to copyright, as defined in Article 102 of the Law. These technologies «train» on a huge number of pre-existing human-created works and use the findings from this training to create new content. Some systems work in response to a user's text instruction, called a «prompt» (short text phrases, queries). The result of the generation can be textual, visual or audio and is determined by the AI based on its design and the material on which it was trained. These technologies, often described as «generative artificial intelligence», raise questions about whether the material they create is protected by copyright, whether works consisting of both human-created and artificial intelligence-generated materials can be registered, and what information applicants wishing to register them must provide to the USCO in their application.

The problems of registering such works are no longer hypothetical questions, since the USCO has repeatedly received and considered applications for registration of authorship of works in relation to the AI with which they were created. One of such applications was submitted back on November 03, 2018 by Stephen Thaler – for the registration of an art work – a two-dimensional image «A Recent Entrance to Paradise», which, as indicated in this application, «was autonomously created by a computer algorithm running on a computer». Thaler sought to register this computer-generated work as a work authored by the «Creativity Machine» itself. Refusing (repeatedly) on February 14, 2022, the USCO, as expected, referred to the Law according to which «the work must be created by a person», and also indicated that «the Thaler must either provide evidence that the work is the product of human authorship, or convince the agency to move away from the age-old practice in the field of copyright. He did neither». As a justification for the position, the USCO also refers to judicial precedents, starting with the earliest known: the decision of the US Supreme Court No. 18 of March 17, 1884 on the claim of the Lithographic Company Barrow-Giles v. Sarony[95], in which it identified the photographer as the

[95] Materials on the case of Burrow-Giles Lithographic Company v. Sarony, 111 U.S. 53 (1884) [Electronic resource] // U.S. Supreme Court: informational portal of the U.S. Supreme Court. URL: https://supreme.justia.com/cases/federal/us/111/53/ (date of access to the source: 05/31/2024)

author of the works, created with the help of a camera, ending with later ones, which also talk about authorship as an objective expression of a person's creativity and ideas; the case of Mazer v. Stein[96], 1953 (even when used commercially in the decorative products sold by Abraham Mazer, Zold Stein was obliged to indicate the authorship of this artist, use this decor only with the permission of the latter and pay remuneration to the author); the case Goldstein v. California[97], 1973 (regardless of artistic value, any copyrighted works are subject to legal protection, including pornographic photos of Melvin Goldstein, which, in accordance with the First Amendment to the US Constitution, guaranteeing freedom of speech and the press, cannot be censored and constitute high art); the case of Eldred v. Ashcroft, 2003[98] (on the validity period of copyrights to works in accordance with the DMCA – Digital Millennium Copyright Act of 1998). The precedents of the lower courts of the United States were also mentioned: in particular, the decision of the Ninth Circuit Court in the case Urantia Found. v. Kristen Maaherra[99], 1995, which clarified: in order for a book «authored by non-human spiritual beings» to be protected by copyright, it must be compiled by a person who selected and ordered such revelations» because copyright laws were intended for protecting not the creations of divine beings (but people). The case of «monkey selfies» (Naruto v. Slater[100]) 2018: it is indicated that the monkey cannot register the copyright for a

[96] Materials on the case of Stein v. Mazer, 111 F. Supp. 359 (D. Md. 1953) [Electronic resource] // U.S. Supreme Court: informational portal of the U.S. Supreme Court. URL: https://law.justia.com/cases/federal/district-courts/FSupp/111/359/1816149 / (date of access to the source: 05/31/2024)

[97] Materials on the case of Goldstein v. California, 412 U.S. 546 (1973) [Electronic resource] // U.S. Supreme Court: informational portal of the U.S. Supreme Court. URL: https://supreme.justia.com/cases/federal/us/412/546 / (date of access to the source: 05/31/2024)

[98] Materials on the case of Eldred v. Ashcroft, 537 U.S. 186 (2003) [Electronic resource] // U.S. Supreme Court: informational portal of the U.S. Supreme Court. URL: https://supreme.justia.com/cases/federal/us/537/186 / (date of access to the source: 05/31/2024)

[99] Materials on the case Urantia Foundation v. Maaherra, 895 F. Supp. 1347 (D. Ariz. 1995) [Electronic resource] // U.S. Supreme Court: informational portal of the U.S. Supreme Court. URL: https://law.justia.com/cases/federal/district-courts/FSupp/895/1347/1570651 / (date of access to the source: 05/31/2024)

[100] Materials on the case Naruto v. Slater, No. 16-15469 (9th Cir. 2018) [Electronic resource] // U.S. Supreme Court: informational portal of the U.S. Supreme Court. URL: https://law.justia.com/cases/federal/appellate-courts/ca9/16-15469/16-15469-2018-04-23.html (date of access to the source: 05/31/2024)

photo taken with the camera. In the case Kelley v. Chicago Park Dist[101]., 2011, it was established that the «living garden» cannot be the author: «garden management is a completely human undertaking.» In the case Satava v. Lowry[102], 2003, it was concluded that jellyfish are not protected by copyright, since «they were first created by nature, are the common heritage of mankind, and no artist can use copyright law to prevent others from depicting them». Thus, according to the USCO, the authorship of a person is a fundamental element of copyright protection[103].

Another case that the USCO refers to in the manual as an example of an attempt to register the co-authorship of humans and AI is the application of artist Kristina Kashtanova, whose copyright for the «graphic novel» – the comic strip «Dawn of Dawn» - was originally registered by the United States Copyright Office (USCO) on September 15, 2022, however, on February 21 In 2023, the USCO sent a repeated letter to Kashtanova's representative with information about the change in the previous decision, indicating that the decision was subject to review due to the presence of unprotected parts of the work. So, in the artist's application, the work was named as a «comic book» («comic book»), containing 18 pages, one of which is a cover depicting a girl, the name of the work («Zarya of the Dawn») and the words «Kashtanova» and «Midjourney» are indicated. However, the application did not disclose that the author used AI to create any part of the work, and therefore the USCO concluded that the word Midjourney on the cover does not indicate Kashtanova's rejection of authorship in relation to any part of the work. More recent USCO research, as well as a letter from the artist's representative dated November

[101] Materials on the case Chapman Kelley v. Chicago Park District, No. 08-3701 (7th Cir. 2011) [Electronic resource] // U.S. Supreme Court: informational portal of the U.S. Supreme Court. URL: https://law.justia.com/cases/federal/appellate-courts/ca7/08-3701/08-3701-2011-02-15-opinion-2011-03-16.html (date of access to the source: 05/31/2024)

[102] Materials on the case of Richard Satava, an Individual; Satava Art Glass, a Sole Proprietorship, Plaintiffs-appellees, V. Christopher Lowry, an Individual; Christopher Richards, an Opinion Individual; Makawao Glassworks, Llc, Dba Hot Island Glass, Defenders-appellants, 323 F.3d 805 (9th Cir. 2003) [Electronic resource] // U.S. Supreme Court: informational portal of the U.S. Supreme Court. URL: https://law.justia.com/cases/federal/appellate-courts/F3/323/805/575893 / (date of access to the source: 05/31/2024)

[103] The text of the USCO Refusal is available at the link: [Electronic resource] URL: https://www.copyright.gov/rulings-filings/review-board/docs/a-recent-entrance-to-paradise.pdf (date of access to the source: 05/31/2024)

21, 2022, indicate the use of Midjourney AI technology in the creation of the work. The principles of operation of this technology (with samples) are also described in the USCO letter, while the Bureau comes to the following conclusion: «The process by which a Midjourney user obtains an ultimate satisfactory image through the tool is not the same as that of a human artist, writer, or photographer. As noted above, the initial prompt by a user generates four different images based on Midjourney's training data. While additional prompts applied to one of these initial images can influence the subsequent images, the process is not controlled by the user because it is not possible to predict what Midjourney will create ahead of time». Therefore, the USCO concluded that the images contained in Kashtanova's work are not original copyrighted works: «the Office will not register works produced by a machine or mere mechanical process that operates randomly or automatically without any creative input or intervention from a human author». And although young artist claims to have «guided» the structure and content of each image, the process described in Kashtanova's letter makes it clear that it was Midjourney, and not Kashtanova, who created the «traditional elements of authorship» in the images. And again relying on the first precedent in the field of copyright protection (Burrow-Giles Lithographic Co. v. Sarony), taking into account the fact that Midjourney generates images in an unpredictable way, Midjourney users are not the «authors» of images created using technology for copyright protection, and this program itself cannot claim authorship due to the fact that it is not a human being, the USCO canceled an earlier decision on copyright registration Kashtanova's rights to the entire «Zarya of Dawn» comic strip: « Had the Office known the information now provided by Ms. Kashtanova, it would have narrowed the claim to exclude material generated by artificial intelligence technology. In light of the new information, the Office will cancel the previous registration pursuant to 37 C.F.R, § 201.7(c)(4) and replace it with a new registration covering the original authorship that Ms. Kashtanova contributed to this work, namely, the "text" and the "selection, coordination, and arrangement of text created by the author and artwork generated by artificial intelligence». Since these materials contain primarily textual material,

they will be re-registered as an unpublished literary work. «To the extent that Ms. Kashtanova made substantive edits to an intermediate image generated by Midjourney, those edits could provide human authorship and would not be excluded from the new registration certificate», «the record for the cancelled registration will indicate that the cancellation was due to a failure to exclude non-human authorship contained in the work «, – the response dated February 21, 2023 said[104].

The above example refers to only one area in which AI is used – the generation of intellectual property objects. USCO has a rich practice of dealing with requests for registration of such facilities. However, based on the unshakable postulates that only a human can be an author, the agency does not create new precedents and does not even consider the possibility of recognizing authorship for AI.

As prospects for the development of the institute of legal responsibility in the key of understanding AI, there are only exclusively research attempts to recognize the need for transformation associated with the «subjectivization» of AI. However, there will be no fundamental changes in this direction (at least in the foreseeable future).

[104] See: Re: Zarya of the Dawn (Registration # VAu001480196). February 21, 2023 [Electronic resource] // United States Copyright Office: official website. URL: https://www.copyright.gov/docs/zarya-of-the-dawn.pdf (date of access to the source: 05/31/2024)

CHAPTER II. Understanding the essence of AI in the context of legal responsibility

1. The semantic meaning of the concept of AI

In 1950, Alan Turing, in one of the philosophical journals, posed the question: «Can a machine perform actions indistinguishable from conscious ones?»[105] and created the famous test – the «imitation game» (today commonly known as the «Turing Test»), from which the history of AI is counted. In this test, a person was asked to correspond with a machine and a person answering incognito (via a computer screen or teletype), and determine who exactly gives the answer. If a person systematically mistakes a car for another person, then the machine can behave «consciously»: the machine can be considered «reasonable» if its reaction cannot be distinguished from a human one. In 1956, at the Dartmouth Seminar, J. McCarthy first proposed the term «Artificial intelligence (AI)»[106], and M.L. Minsky defined AI as a process in which machines perform those tasks that would require intellectual efforts from humans[107]. AI was translated into Russian as ИИ («искусственный интеллект»), and this expression has been fixed, so far without successful attempts to challenge or delve into the essence of the concept, the results of which would be reflected in a change in the language standard. And further, for more than seventy years, the primacy among the reasoning of the minds of human scientists has been the question of the presence or absence of an autonomous mind (consciousness) and conscious expression of will among the carriers of this very

[105] Turing A.M. Computing Machinery and Intelligence // Mind, New Series, Vol. 59, No. 236 (Oct., 1950), pp. 433-460. Published by: Oxford University Press on behalf of the Mind Association Stable.

[106] «J. McCarthy defined artificial intelligence, on the one hand, as the science and technology of creating intelligent machines, and on the other – as the ability of a computer to do what people can do, i.e. what is related to intelligence», – Mazurov V.A., Starodubtseva M.A. Artificial intelligence as a subject of law // The Transformation of Law in the digital age: a monograph / Ministry of Science and Higher Education of the Russian Federation, Altai State University; edited by A.A. Vasiliev. Barnaul: Publishing House of the Alt. university, 2020. p. 189. P. 121.

[107] This concept was also developed by N. Rochester, K. Shannon and other researchers: McCarthy J., Minsky M.L., Rochester N., Shannon C.E. A Proposal for the Dartmouth Summer Research Project on Artificial Intelligence. August 31, 1955 // AI Magazine. Vol. 27. No 4. P. 12-14. And further the concept was formulated by J. McCarthy in this way: " What is artificial intelligence? – It is the science and engineering of making intelligent machines, especially intelligent computer programs. It is related to the similar task of using computers to understand human intelligence," – McCarthy J. What is artificial intelligence? [Electronic resource] // Formal Reasoning Group: portal of Stanford University. 2007. December 11th. URL: http://www-formal.stanford.edu/jmc/whatisai/node1.html (date of access to the source: 05/31/2024).

AI[108]. However, if you deal with the difficulties of language, you can get one step closer to understanding what exactly scientists of the mid-20th century put into the concept of «Artificial Intelligence (AI)». Then it is necessary to track the development of ideas about the hypothetical legal personality of AI, as well as to turn to the analysis of the experience of harm caused by AI carriers known from publicly available sources. After that, according to the initial research hypothesis, the prerequisites for the transformation of the institution of legal responsibility will become clear and it will be possible to assess their validity, timeliness, relevance, correctness and compliance with value imperatives.

Since the concept of AI came from the English language (it was in it that it was first proposed to the scientific community), it is necessary to pay attention to a number of features related specifically to this language (using an analytical research method for this purpose). There are several adjectives in the English language that characterize cognitive abilities (intelligence, education, intelligence, etc.), and each of them carries its own lexical load and etymological content, having different meanings due to this.

So, «smart, educated» in a general, neutral sense, is «умный»[109]; in a narrower sense, the word conveys the possession of great knowledge, well-read, outstanding thinking abilities. Also, «smart» can convey an ironic or even mocking meaning: in Russian, this word corresponds to «умник», but the paronym of this word («умница») will also be «smart boy / girl». Compare: modern phones equipped with a huge number of functions, in addition to «connecting people by phone», are called smartphones, but not intellectual phones, right? It's the same with smartwatches, and also, for example, smart contracts…

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[108] See: Simon H.A. Modelling Human Metal Processes // RAND Corporation Paper. P-2221. 20 February 1961; Dreyfus H.L. Artificial Intelligence // The ANNALS of the American Academy of Political and Social Science. Vol. 412, Issue 1. doi:10.1177/000271627441200104, and others.

[109] Here and further, the interpretation of English words is given according to the dictionary: Oxford Learner's Dictionary of Academic English (OLDAE) [Electronic resource] // Oxford Learner's Dictionaries: inform.- reference portal. URL: https://www.oxfordlearnersdictionaries.com / (date of access to the source: 05/31/2024).

«Clever» is also smart, but in the meaning of «resourceful», «quick-witted», sometimes even «cunning», «clever» (here – in a negative sense). If a person is «clever», he may not be «so smart», but smart enough to seem well-read. Clever also has a certain creative potential, creativity, and dexterity. «Clever trick» («хитрый трюк») – negative coloring, «quirkiness». If the «smart man» can be well-read, but not adapted to life in everyday terms, then the «clever man», on the contrary, copes well with solving problems due to his ingenuity.

Before turning to intelligence, let's take as an example a couple more adjectives: «bright» and «brilliant»: one is brighter than the other! About «bright» in Russian they will say «bright head», «gifted», «capable». This is usually what they say about children, capable students who like to learn, ask questions, «grasp on the fly». When describing adults, they usually use «brilliant» – «outstanding», «brilliant». Moreover, it may not always be about a person's mental abilities. «Brilliant plan» is a «блестящий план», «brilliant career» is a «блистательная карьера». Scientists, artists, writers and other outstanding people of their era are also referred to as «brilliant».

Finally, intelligent means «умный», but not in the meaning of the concepts «smart» or «clever», and even more so «bright» or «brilliant», but in the sense of «разумный», speaking of life forms on planet Earth or the «intelligence» of animals; possessing analytical abilities, speaking of, perhaps, not even a well-read or uneducated person, but able to draw conclusions based on the available data. Intelligent is about good mental (in the sense of learning ability) and analytical abilities. Therefore, if we follow the lexical meaning of the word and apply it correctly, then «artificial intelligence» is about an artificial «mind» in the sense of an «analyzer», and not about the owner of consciousness. There is no question at all about the «mind» (mind, mind, reason) that a person possesses.

Continuing to follow the path of the analytical philosophy of language, we logically face the question why the word «sentient» (also «intelligent» as «sentient being») is not used to form the concept of AI. Many years after the appearance of AI, «sentient» began to be used, and is now used quite widely (for example,

«sentient machine»), but initially it was not fixed for what its founders understood by AI. Why? In any case, we can be content with an answer that will always be beneficial for refuting any attempts at semantic analytics: having been introduced by a specific scientist, the concept has become fixed, as it was first proposed. However, there is a temptation to believe that J. McCarthy meant by «artificial intelligence» precisely the analytical abilities of the machine, which reminded him of human ones. And semantic analysis confirms this.

Let's summarize. «Smart» and «clever» can mean «умный» in a general sense, however, «smart» is usually used in the context of «well-read», and «clever» – emphasizing such a property of the mind as intelligence. «Intelligent» – has good learning and analysis abilities. «Bright» is capable, promising for a bright future. «Brilliant» is outstanding, in different senses of this concept (both regarding the mental abilities of adults, and about various other concepts: research, career, plan, life, etc.).

Thus, it can be concluded that at the dawn of AI development, scientists clearly used the term «intelligence» to emphasize the ability of AI carriers to learn, presenting them as **artificial («искусственные») analyzers**, and not as owners of consciousness, and even more so without assuming that in a couple of decades, discussions about the presence of consciousness in AI, which will not subside even seventy years after the emergence of the term «AI». Without sharing attempts (from the side, which seem futile) to search for consciousness and intelligence in AI, similar to human ones, it is worth agreeing with the following conclusion of N.N. Apostolova: «Human intelligence and digital intelligence are two parallel completely different «universes». It is not clear on what basis human qualities, rights, duties and responsibilities are attributed to a «smart» robot. To create something like this, you need to clearly know and understand how the human brain and consciousness work and work, but we still don't really know this»[110]. The fact that neural networks are designed on the model of the functioning of the human

[110] Apostolova N.N. Responsibility for the harm caused by artificial intelligence // North Caucasian Legal Bulletin. 2021. No. 1. p. 114.

brain (consciousness) became possible due to the method of storing numerical information in network-type databases, which is similar to storing an image in long-term memory, as well as the existence of a «pointer system» that allows a person to quickly extract the desired symbol and all the data that is associated with it. However, a person stores data presented not in the form of indirect numerical (binary) models, but images and symbols; Moreover, symbolic images in the human brain are combined into sets of facts and connections between them, memorized and extracted as a whole. At any given time, a person can process and interpret no more than 4-7 such sets. Computer neural networks work differently, storing information in arrays and working with it faster than a human. However, the process of human thinking is extremely complex, more complicated than that of the most powerful AI carrier (however, it does not follow that this complexity may concern a part that is conscious and controlled by will). «One eye cell is capable of performing in 10 ms processing equivalent to solving a system of 500 nonlinear diffurifications. The human eye has at least 10 million cells, and the Cray-1 computer needs to spend about 100 years to reproduce the processes that occur every second in our eye. The relationship between consciousness and the brain resembles the model of the relationship between software and hardware»[111]. But it's not about speed or scale. «Making a replica» of the brain is not the same as recreating it in a form even close to natural. And the first step towards realizing the falsity of the direction identifying AI with the human mind and the utopianism of theories of endowing AI with legal personality should be the above-mentioned semantic analysis of the concept of AI.

2. The development of ideas about AI. The problem of legal personality in the context of legal responsibility of AI carriers

In 1980, John Searle made it clear that an ordinary computer with ordinary software could not be considered an AI, and identified two types of it: a «strong» AI (which should have «consciousness» – in the human sense) and a «weak» AI (which should simply solve intellectual problems). But, contrary to Turing, Searle

[111] Rodzin S.I. Artificial intelligence: A textbook. Taganrog, South Federal University, 2015. pp. 14-15.

does not allow the theoretical attribution of consciousness to a machine, since it is unique, and algorithms cannot be aware of their actions the way humans do. In support of his reasoning, Searle offers a thought experiment «The Chinese Room», in which a person can be put in conditions of unconscious actions. The car is always in the «Chinese box»[112].

The opposite approach is followed by the American philosopher Daniel Dennett, who considers it possible to create AI with human consciousness: «Consciousness in our usual understanding does not exist. What we call it is just a form of understanding our and others' behavior. The human cognitive system arose as a result of evolution. AI evolves in exactly the same way. Only instead of genes, AI has Turing machines»[113]. To prove this, Dennett cites the theory of intentionality (the properties of consciousness being directed at something)[114]. The intention of consciousness is fueled by desires, fears and hopes that a person will attribute to a machine, for example, playing a game of chess with it. In Dennett's ideas, it is not difficult to find, on the one hand, Kant's views on cognition of the surrounding world (we cannot know the «thing in itself»), and on the other hand, the unjustified a priori endowment of AI with properties (the presence of «human consciousness»), which, however, we cannot know (as «the thing in itself»). Nevertheless, an AI carrier is not a simple thing of the surrounding world, possessing a priori features. For the appearance (development) of AI the humanity did not use sensory cognition, but conclusions based on reasoning, and reason and its categories (along with categories of sensory cognition) are quite enough to describe the processes occurring at the time of the creation of AI carriers, and to analyze exactly how this AI functions. A.V. Polyakov and E.V. Timoshina, following E. Husserl calls the focus on the object of cognition (intentionality) the most important, fundamental

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[112] See: Searle J. Minds, Brains, and Programs // The Philosophy of Artificial Intelligence / Boden M. (ed.) Oxford, 1990.

[113] Dennett, Daniel. Consciousness Explained (ed. by Allen Lane). London: The Penguin Press. 1991. [Electronic resource] // Semanticscholar.org: informational portal. 2016. URL: https://www.semanticscholar.org/paper/Consciousness-Explained-Daniel-C-Dennett-Dennett/8d650ceb0246da0f38fa23fc554d57fa827e8a9a (date of access to the source: 05/31/2024)

[114] Polyakov A.V., Timoshina E.V. General theory of law. Textbook. St. Petersburg State University, 2017. pp. 18, 36.

property of consciousness: «In the process of cognition, the subject receives certain information – new information about the object of interest to him, which is expressed in a symbolic (linguistic and figurative) form,» and therefore «Cognition is possible only as a manifestation of the activity of human consciousness and acts as an activity, the form of human behavior»[115]. However, there is no question of giving intentionality to anyone (or anything) other than a person in the fundamental textbook of these authors. At the same time, by legal personality (or legal capacity), they understand «the ability of a subject to be a bearer of subjective rights and legal obligations and independently acquire and exercise them (enter into legal communication)»[116], and communicative legal relations can arise between subjects only when they realize themselves to be subjects of law, which means «to put themselves in a communicative legal attitude to the surrounding social world»[117].

Scholasticism about the «human face» and the «mind and consciousness» of AI continues today, capturing not only philosophical minds. Lawyers are seriously thinking not only about giving AI carriers legal personality, but also about issues of their legal responsibility. S.S. Alekseev defined legal personality as the ability of persons to be subjects of law, in particular, to act as participants in legal relations, to have subjective rights and legal obligations and to be able to realise them[118]. As part of the legal personality, he singled out legal capacity, including, in turn, delictworthiness (the ability of a person to bear legal responsibility for committing illegal acts – offenses[119]). Later, these concepts were separated, defining legal capacity as the ability of an individual to exercise rights and fulfill duties through his actions[120]. The delictworthiness, as pointed out by Yu.A. Denisov reflects the ability of the subject to be responsible for his actions to society and, accordingly, characterizes the level of social viability and maturity of the individual, his level of

[115] Polyakov A.V., Timoshina E.V. General theory of law. Textbook. St. Petersburg State University, 2017. pp. 18.
[116] The same source. P. 258.
[117] The same source. P. 259.
[118] Alekseev S.S. The mechanism of legal regulation in the socialist state. M., 1966. p. 145.
[119] Alekseev S.S. General theory of law: the course in 2 volumes. Vol. 2. M., 1982. p. 147.
[120] Radko T.N., Lazarev V.V., Morozova L.A. Theory of State and law. M., 2014. p. 257.

understanding of the social significance of his actions and the ability to follow this understanding in his behavior[121]. Being an integral part of legal personality, delictworthiness can also be endowed with an industry character: different types of legal liability (in a particular industry) have their own requirements for the subject of the offense and, consequently, for the subject of legal liability (for example, the different age of the subject in criminal, administrative, civil law), and based on the features of legal liability in public and in private law, the researchers state, in addition, the presence of peculiarities of delictworthiness in the public and private law field[122].

Considering delictworthiness and legal capacity as components of the generic concept of legal personality for them, modern researchers note: «In domestic legal science, there is a relatively uniform understanding of legal personality as the ability recognized by law of a person to have legal rights, freedoms, duties and legitimate interests and to exercise them independently (personally) or through legal representatives, as well as to be responsible for their illegal implementation»[123]. However, in most cases, when considering options for granting legal personality to AI carriers, unfortunately, they are silent about the issues of the delictworthiness of AI and the possibility of holding its carriers accountable. Researchers are more interested in determining the legal status of AI carriers[124]. And every year there are more opinions about the subjectivization of AI. So, ten years ago, M.Yu. Mitrenina expressed the idea that «a robot is an independent intellectual machine that can be perceived as a «separate being» ..., an almost equal participant in communication (taking into account its interactivity along with the ability to learn)», and she also drew attention to the fact that if «such robots will be If they are used everywhere,

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[121] Denisov Yu.A. General theory of offense and responsibility. (Sociological and legal aspects). L.: Publishing House of LSU, 1983. p. 81.

[122] Skrebneva N.A. Legal responsibility in public and private law (issues of theory and practice): Dissertation for the degree of Candidate of Law. M. 2018. p. 97.

[123] Shigabutdinova A.L. Legal personality as an element of the legal status of a person // Problems of the theory of law and legal realization: Textbook / Ed. by L.T. Bakulin. M., 2017. p. 145.

[124] See: Serova O.A. Robots as participants in the digital economy: problems of determining the legal nature // Civil law. 2018. No. 3. pp. 22-24; Mikhaleva E.S., Shubina E.A. Problems and prospects of legal regulation of robotics // Actual problems of Russian law. 2019. No. 12. pp. 26-35; and others.

thanks to the benefits for business and government programs, then people will have to build relationships with them»[125]. P.M. Morhat defines artificial intelligence as a fully or partially autonomous self-organizing (itself-organizing) computer-hardware-software virtual or cyber-physical, including bio-cybernetic, system endowed with / possessing the abilities and capabilities to think, self-organize, learn, make decisions independently, etc.[126], and also deduces the concept of «AI unit», considering it as electronic legal person[127]. R.V. Dushkin talks about the modeling of AI technologies of certain aspects of higher psychological functions of a person[128], P.P. Baranov[129], and after him V.A. Shestak and A.G. Volevodz[130] mention the prerequisites for the formulation of the concept of «electronic person» and state the possibility of further considering it as a subject of law (because, in essence, an electronic person is a set of legal rights and obligations, the content of which can be recognized by the actions of AI). «As soon as AI begins to realize itself, people will be forced to take into account the new acting The factor is the system's own interests»[131], concludes E.G. Avakian. «The most interesting, of course, are those systems whose final result of creative work is practically impossible to predict. That is, the influence of human will on this result is minimal», writes N.D. Larina – «Such objects of artificial intelligence are self-learning

[125] Mitrenina M.Yu. Human capabilities and robotics: who will be the object of creativity? // Humanitarian Informatics. 2014. Issue 8. p. 18.

[126] Morkhat P.M. Artificial intelligence: a legal view: A scientific monograph. M., 2017. p. 69.

[127] Morkhat P.M. The unit of artificial intelligence as an electronic person // Bulletin of the Moscow State Regional University. Series: Jurisprudence. 2018. No. 2. pp. 61-73.

[128] See: Dushkin R. Artificial Intelligence. M. 2019. p. 194.

[129] Baranov P.P. Legal regulation of robotics and artificial intelligence in Russia: some approaches to solving the problem // North Caucasian Legal Bulletin. 2018. No. 1. pp. 39-45.

[130] Shestak V.A., Volevodz A.G. Modern needs of legal support for artificial intelligence: a view from Russia // All-Russian Journal of Criminology. 2019. Vol. 13, No. 2. pp. 200-201.

[131] The Pygmalion Paradox: what is the future of artificial intelligence in the field of law? (Open dialogue between Elena Avakian and Vitaly Kastalsky) [Electronic resource] // Sphere: engineering-reference portal of the Legal Academy LLC. 2016-2024 URL: https://legalacademy.ru/sphere/post/paradoks-pigmaliona-kakoe-buduschee-zhdet-iskusstvennyi-intellekt-v-sfere-prava (date of access to the source: 05/31/2024).

systems that accumulate «experience» in the course of their activities, transformed into new codes»[132].

Arguments about endowing AI with human properties, considering it as manifestations of reason, humanizing machines – naturally entail both reasoned objections from colleagues[133] and the development of discussions about new subjects in law[134], some audacious provisions of which are even introduced into educational material for future specialists in the field of jurisprudence. Thus, A.V. Minbaleev considers big data operators, robots, and digital personalities to be among the subjects of digital relations[135]. There are also peculiar «conciliatory» judgments. For example: «Artificial intelligence does not have the necessary cognitive and mental function. It is just a global analytical engine that compiles thoughts and program codes. The question is rather how works created by AI should be protected. Here we can talk about the emergence of other rights. The AI does not need personal non-property rights, which are included in the copyright, because it does not have a personality»[136]. The same author: «In my opinion, artificial intelligence is a program. A progressive, self-learning, but still a program written by some people for other people»[137]. Another partially conciliatory position was proposed by V.V. Arkhipov and V.B. Naumov, who, within the framework of a deliberately provocative hypothesis, proposed to consider the robot in one case as property, and in the other as a subject of law («robot-agent»), who is a participant

[132] Larina N.D. Problems of the development of legal science in the Russian Federation in the field of copyright and artificial intelligence // Current trends and innovations in the development of Russian science: a collection of scientific articles. Part VII. Scientific ed. Shaidenko N.A. M., 2020. p. 145.

[133] See: Sinitsyn S.A. Russian and foreign civil law in the context of robotization and digitalization. The experience of interdisciplinary and sectoral research: monograph. M., 2021. pp. 34-48; Gabov A.V., Khavanova I.A. The evolution of robots and the law of the XXI century // Bulletin of Tomsk State University. 2018. No. 435. p. 225.

[134] See: Pevtsova E.A. The influence of artificial intelligence on human legal activity // Journal of Russian Law. 2020. No. 9. pp. 19-31.

[135] Minbaleev A.V. Digital legal relations: concept, types, structure, objects // Digital law: textbook / under the general editorship of V.V. Blazheev, M.A. Egorova. M., 2020. p. 67.

[136] Avakian E. In pursuit of superintelligence: Can artificial intelligence be considered an author? // Rossiyskaya Gazeta. February 06, 2020 No. 25 (8079).

[137] What the robot wrote: IPQuorum experts discussed the legal status of artificial intelligence and the blockchain system // Rossiyskaya Gazeta: Special Issue – Intellectual Property. April 20, 2018 No. 85 (7548). p. 2.

in public relations, along with the «owner of the robot-agent»[138]. Moreover, the latter, despite endowing the robot-agent with the characteristics of a legal entity, is responsible in case of harm caused by this robot-agent.

The concept of quasi-subjects of law[139], repeatedly expressed[140], substantiated in detail by E.V. Ponomareva and supported by a number of authors[141], deserves special attention in the context of the study of the legal personality of AI. Thus, E.V. Ponomareva argues that «the subject of law is a special ideal type that cannot be obtained in the process of studying ethnology, anthropology, history, political science, it is formed according to completely different requirements imposed on it by legal communication. Such a subject should be able to enter into legal communication due to the presence of free will and the ability to act in law, due to the ability to acquire rights and fulfill legal obligations through their actions. Without these requirements for the subject of law, law itself will cease to exist as a communicative rationality»[142]. Condemning the fact that it is customary to perceive the subject exclusively «materialistically, extremely naturally, which does not correspond to the very subject of law», as well as based on the understanding of the

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[138] Arkhipov V.V., Naumov V.B. Artificial intelligence and autonomous devices in the context of law: on the development of the first Law on robotics in Russia // SPIIRAS proceedings. 2017. Issue. 6. Pp. 53-56.

[139] See: Ponomareva E. V. Subjects and quasi-subjects of law: theoretical and legal problems of differentiation: Diss. for the academic degree of the Candidate of Law. Yekaterinburg, 2019; Ponomareva E.V. The phenomenon of the quasi-subject of law: questions of theory: monograph / ed. Jurid. Sciences, Associate Professor S.I. Arkhipova, M., 2020.
It should also be noted that the authors have made attempts to study the concept of quasi-objects before. See, for example: Myskin A.V. A branch of a legal entity as a quasi-subject of civil law // Civil law. 2014. No. 1. pp. 6-9.

[140] See: Iriskina E.N., Belyakov K.O. Legal aspects of civil liability for harm caused by the actions of a robot as a quasi-subject of civil law relations // Humanitarian Informatics. 2016. No. 10. pp. 63-72. The authors substantiate the need for the introduction of a new quasi–subject of civil legal relations, a Robot, by saying that "it is necessary to resolve liability issues in order to avoid such situations when the injured party may find itself in an extremely disadvantageous position. And regardless of the presence or absence of contractual relations, the harm caused by the actions of Robots should be compensated according to the relevant rules and regulations." See: Gadzhiev G. A. Is a robot agent a person? (Search for legal forms for regulating the digital economy) // Journal of Russian Law. 2018. No. 1. pp. 15-30. The author points out that the definition of the legal status of a "robot agent" will be possible in the future, when there are real prerequisites for their intelligence, i.e. consciousness and will in their legal, rather than psychological interpretation, should be recognized "as subjects of law" (quasi-subjects)".

[141] See: Melnichuk M.A., Chentsova D.V. Civil liability of artificial intelligence // Justice and Law. 2020. No. 6. p. 67; Poduzova E.B. Subjects and quasi-subjects of digital relations: notarial and civil aspects // Notarial Bulletin. 2021. No. 11. pp. 5-15; Neznamova N.V. Civil liability of artificial intelligence // Annual All-Russian scientific and practical conference "Modern approaches to ensuring and realizing human rights: theoretical and sectoral aspects" (Moscow, December 08, 2021). M.: Russian New University, 2021. p. 247.

[142] Ponomareva E.V. Methodological problems of differentiation of subjects of law and quasi-legal subjects // Scientific notes of the V. I. Vernadsky Crimean Federal University. Legal sciences. 2018. Vol. 4 (70). No. 4. p. 76.

subject of legal relations exclusively in the subject area of law, E.V. Ponomareva insists that «the signs of the subject of law and the very construction of the subject of law (legal entity) should be developed abstractly, as a certain epistemological model without reference to a specific historical epoch, without indicating what cultural, historical or socio-economic role this or that subject played,» and refractive the focus of the formal legal approach to modern legal relations, the concept of a quasi-legal entity is derived, which may not have all the characteristics of a legal entity, but its legal capacity is officially (in the law; in the judicial system) or unofficially (in the legal doctrine) recognized, he has a socio-legal value and his role in the legal system is special: «this is the rightholder, the bearer of subjective law, unlike the real subject of law, who has not only rights, but also legal obligations, is able to fulfill them independently or through his own representatives»[143].

At the moment, it is problematic to predict to what extent the described concept will be viable, and whether the legislator will rely on it when improving legislation. But, despite its one-sidedness (in fact, granting only rights, without duties and responsibilities), the recognition of AI carriers as quasi-subjects of law can very well satisfy the interests and opinions of a significant part of society – business and the scientific community, who advocate giving these carriers the characteristics of subjects of law. However, in this case, since the quasi-participant in the legal relationship is the bearer of exclusively rights, but not obligations, the question of who will be responsible for the unlawful actions of such a quasi-entity becomes extremely important. Bearing in mind that «a legal relationship can arise only between such entities that have legal personality», and «legal personality, or legal capacity, means the ability of a subject to be a carrier of subjective rights and legal obligations and independently acquire and exercise them (enter into legal communication)»[144], we see the perversity of logic in the unilateral interpretation of

[143] Ponomareva E.V. Methodological problems of differentiation of subjects of law and quasi-legal subjects // Scientific notes of the V. I. Vernadsky Crimean Federal University. Legal sciences. 2018. Vol. 4 (70). No. 4. p. 76.
[144] Polyakov A.V., Timoshina E.V. General theory of law. Textbook. St. Petersburg State University, 2017. p. 258.

the subjectivity of AI. Such an interpretation is impossible within the framework of the current general legal paradigm. Even if we hypothetically assume the possibility of recognizing such, roughly speaking, a half-hearted format of legal personality, in which the issue of responsibility is not raised at all, or solved, as well as the implementation of duties, selectively and (or) indirectly (through representatives), this will mean the end of all modern law in the sense in which we know it.

As part of the consideration of the legal personality of AI, we also need to pay attention to the opinion about AI as an object of virtual reality. Thus, A.V. Popova, based on the views of E. Kastronova, set forth by V.V. Arkhipov and V.B. Naumov, describes another model of understanding AI as an «artificially constructed subject of law», but not in objective, but in virtual reality: E. Kastronova correlates the concept of «interference» (creation of a certain status in virtual reality) with the process of creating a legal entity in legal reality: «A legal act creates a fictitious person (legal entity)... A similar legal act of interference would have a similar purpose: the creation of a fictitious space... defined by the charter of the interration of the synthetic world. Such a charter could... to clarify the legal status of events taking place in such a world and the property that accumulates in it... I could define the rights of people acting in various roles, such as developers, users and those who are outside such a world». Consequently, AI and certain types of robots can be entered into special registers, like registers of legal entities, as artificially created human subjects of law[145].

«Futurists have proclaimed the birth of a new species, machina sapiens, which will take the place of man as an intelligent being on earth. Critics claim that the «thinking machine» is an oxymoron. Machines, including computers, with their foundations of cold logic, will never be able to be insightful or creative like humans»[146]. It is difficult to disagree with the fact that AI remains an object today,

[145] Popova A.V. New subjects of the information society and the knowledge society: on the issue of normative legal regulation // Journal of Russian Law. 2018. No. 11. p. 19.

[146] Hallevy G. The Criminal Liability of Artificial Intelligence Entities // Akron Intellectual Property Journal, Vol. 4 [2010], Iss. 2, Art. 1. P. 175.

but not a subject of legal relations. Even contrary to popular and increasingly broadcast modern opinions about the «human» characteristics and functions of AI carriers, focusing on illustrations of AI works (images of robots with a human face), we believe this is only a tribute to fashion, and deceptive pictures[147] can only cause even greater fantasies. The AI contains data on the basis of which the program performs calculations. The mechanism of «decision-making» by the program (if it can be called such) is very different from the human one. The robot cannot justify this decision for personal reasons, regret the choice, or find a fundamentally different way to solve the problem, based, for example, on intuition. If a person in the process of cognitive activity or learning can make a discovery («Eureka!»), then the machine is based solely on the information loaded into it. Nevertheless, the algorithms and activities of AI carriers are indeed already integrated into the systems of interaction not only of objects of the technical world, but also in the relationship «man-machine» and even «man-man». Therefore, in order to form a holistic view of the current state of legal responsibility of AI carriers, it is fair to generalize approaches to the legal regulation of the responsibility of these carriers in the context of regulating its legal status (and later, in the development of this provision, legal responsibility). I.A. Aleshkova, summarizing the concepts she studied, suggests that three approaches be distinguished in this matter[148]:

1) solve the issue by analogy with individuals[149];

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[147] Technically, algorithms and all AI activities are a set of numbers, codes.

[148] Aleshkova I.A. The digital status of personality and the legal status of artificial intelligence: new in legal constructions // Law, digital technologies and artificial intelligence: collection of articles / ed. by E.V. Alferova. M.: INION RAS, 2021. pp. 195-196.

[149] Two similar precedents have been created in history at the moment: 1) the granting of Saudi citizenship to the gynoid robot Sofia in 2017. See about this: The android robot Sofia became a citizen of Saudi Arabia [Electronic resource] // TASS: news portal. 2017. October 26. URL: https://tass.ru/ekonomika/4680400 (date of access to the source: 05/31/2024); Hatmaker T. Saudi Arabia bestows citizenship on a robot named Sophia [Electronic resource] // TechCrunch: information portal. 2017. October 26. URL: https://techcrunch.com/2017/10/26/saudi-arabia-robot-citizen-sophia / (date of access to the source: 05/31/2024); and other sources; and 2) the granting of the status of an adopted child in 2017 and the inclusion in the population register of the humanoid robot Fran (from the series of Japanese Pepper robots) in Hasselt, Belgium. Astrid Hannes, director of the PXL Hasselt Research Institute, and Francis Fox, head of the IT department of this institution, were recorded as the "parents" of the robot. See more details: Filonova A. The first humanoid robot received a birth certificate [Electronic resource] // Discover24: news portal. 2017. February 06. URL: https://discover24.ru/2017/02/pervyj-robot-gumanoid-poluchil-svidetelstvo-o-rozhdenii / (date of access to the source: 05/31/2024).

2) equate robots with animals[150];

3) use a concept close to legal entities. The possibility of granting AI the status of a legal entity is expressed by a number of authors[151].

We consider it necessary to add to this list an approach that defends the status of any robot «regardless of the complexity and functionality it performs» – solely as a product and result of human activity, which is «essentially a human tool»[152]; «there are no philosophical, technological or legal grounds to consider them something other than artifacts generated by human intelligence, and therefore products»[153]. It would be reasonable to attribute to the same approach the opinion that AI is only an object of intellectual property: this position is aimed at preventing manipulation by humans when abusing AI systems[154]. Recognition of AI as a type of property is also possible within the framework of this approach: «It is advisable to include digital technologies, artificial intelligence both as a type of property and as protected results of intellectual activity in an enterprise as a property complex (Article 132 of the Civil Code of the Russian Federation)»[155].

S. Chesterman insists on the possibility of granting AI systems the right to "a status comparable to individuals": Chesterman S. Artificial intelligence and the limits of legal personality // International and comparative law quarterly. 2020. Vol. 69, No. 4. P. 820. U. Pagallo, referring to Roman private law, draws analogies between the legal status of slaves and Robots: A robot, like a slave, has no rights and obligations; A robot, like a slave, can make decisions that have legal consequences, including for the owner; slaves were endowed with property (peculi), - it is required to endow Robots with property; slaves and Robots are capable of causing harm: Pagallo U. The Law of Robots: Crimes, Contracts, and Torts. New York, London, 2013. P. 28.

[150] See: Evseev E.F. On the relationship between the concepts of "animal" and "thing" in civil law // Legislation and Economics. 2009. No. 2. pp. 23-26. Guided by the fact that animals have their own will to perform actions, E.F. Evseev considers it necessary to define them as an animate thing. In the development of this judgment, A.V. Popova emphasizes the lack of the possibility of imposing legal liability on both animals and, by analogy, robots as objects of legal relations: Popova A.V. New subjects of the information society and the knowledge society: on the issue of normative legal regulation // Journal of Russian Law. 2018. No. 11. p. 19.

[151] See: Fedorina A.A. On the issue of the legal status of robotics and artificial intelligence // Business and Law. Appendix to the journal "Business Law". 2018. No. 4. pp. 3-8, Krysanova N.V. The legal personality of artificial intelligence: discussions in domestic and foreign studies // Law, digital technologies and artificial intelligence: collection of articles / ed. by E.V. Alferova. M.: INION RAS, 2021. pp. 218-230.

[152] Sinitsyn S.A. Russian and foreign civil law in the context of robotization and digitalization. The experience of interdisciplinary and sectoral research: monograph. M., 2021. pp. 61-62.

[153] Gorokhova S.S. On some aspects of public legal responsibility in the field of the use of artificial intelligence and autonomous robots // Legal research. 2021. No. 5. p. 29.

[154] Omorov R.O. Intellectual property and artificial intelligence // E-management. 2020. No. 1. p. 48.

[155] Golik V.V., Zhosan I.A., Shurinkin O.O., Vasiliev A.V., Stefanchikova P.A. Artificial intelligence in civil and family law // Annual All-Russian scientific and practical conference "Modern approaches to ensuring and realizing human rights: theoretical and sectoral aspects" (Moscow, December 08, 2021) M.: Russian New University, 2021. p. 394.

But such a civil assessment of the «behavior» of AI, as the actions of a source of increased danger[156], is still better not to separate into a separate concept, but to combine it with the second approach (where robots are equated with animals) – by analogy with the relationship of humans with animals and «intelligent» AI carriers. This may also include the previously researched quasi-subjective understanding of the essence of AI carriers, since the issues of responsibility in this approach also remain outside the context of legal personality, although the authors draw more analogies with the rights of people – individuals in the issues of granting quasi-subjects rights.

In the development of discussions about the possibility of establishing legal liability for AI carriers, some authors are surprised to find that in practice, for example, an industrial AI robot may have signs of a legal entity: «So, a robot may have registration (let's pretend, registration in Federal Service for Environmental, Technological and Nuclear Supervision) and an accounting number; have economic competence corresponding to the objectives of its activities; to have a property base, since the robot is a priori a material value; he can be brought to legal responsibility (for example, in the form of forced shutdown or modification of the program, as well as disposal, at least responsibility)»[157]. However, researchers usually rarely make a specific choice in favor of developing any of the four concepts of the subject of legal responsibility proposed above[158]. Nevertheless, it is obvious that legal regulation is in urgent need of improving legislative norms on responsibility for the actions and decisions of AI carriers[159]. These are not just the opinions of theorists. This need is due to the accumulated experience of causing harm by AI carriers (discussed below), as well as expressed at the official interstate level. Thus, having provided recommendations to the European Commission in 2017, the European

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[156] Antonov A.A. Artificial intelligence as a source of increased danger // Jurist. 2020. No. 7. pp. 69-74.

[157] Laptev V.A. The concept of artificial intelligence and legal responsibility for its work // Law. Journal of the Higher School of Economics. No. 2. 2019. p. 88.

[158] We mean proposals for the formulation of the concept of legal responsibility of these special subjects, the specification of the composition of torts and their consequences, etc.

[159] Soulez P.-M. Questions juridiques au sujet de I'intelligence artificielle // Enjeux numériques. № 1. Mars, 2018. P. 81-84.

Parliament in the Resolution «Norms of Civil Law on robotics» considered the hypothetical possibility of endowing robots as carriers of artificial intelligence with a special legal status capable of making decisions, interacting with third parties, having rights and obligations (including paying taxes), and – and this is especially important – to be responsible for your actions[160].

However, it is worth noting that for a qualitative study of the essential characteristics of AI and the formation of a legal and technological understanding of what AI carriers are, attention should be paid to the practical aspects of creating and using these objects. In this regard, the proposal of I.R. Begishev seems to be very reasonable: he said that: «It is necessary to conduct a massive study of the achievements of robotics in order to form a common strategy among representatives of the scientific community and the business community, which will allow the formation of a new generation of specialists in the field of robotics, who will have deep ties with society and will be able to defend their positions in discussions. In addition, a correct understanding of the science of robotics as such will be formed»[161].

Thus, considering the hypothesis of the legal status of an AI carrier in the context of legal liability, the following approaches can be identified in the theory of law that are important for developing options for applying liability to AI carriers:

1. Endowing the AI carrier with legal personality by analogy with individuals;

2. Giving the AI carrier the legal status of a thing by analogy with animals and sources of increased danger;

3. Identification of the AI carrier as a quasi-legal entity with the status of an organization by analogy with legal entities;

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[160] Civil Law Rules on Robotics European Parliament resolution of 16 February 2017 with recommendations to the Commission on Civil Law Rules on Robotics 2015/2103(INL): P8_TA-PROV (2017)0051 [Electronic resource] // European Parliament: official portal. URL: https://www.europarl.europa.eu/doceo/document/TA-8-2017-0051_EN.html (date of access to the source 05/31/2024).

[161] Begishev I.R. Criminal law protection of public relations related to robotics: Diss. for the academic degree of the Doctor of Law. Kazan, 2022. p.174.

4. Understanding the AI carrier as a product and result of human activity (tools; technical solutions; result of intellectual activity, etc.) – that is, limiting the scope of the AI carrier to the legal status of the object of law.

In conclusion, I would like to note that, in the author's opinion, the variety of approaches to understanding AI[162] is a consequence of the inclusion in research processes regarding this concept of representatives of the humanities – philosophy, sociology, law, which became «cramped» within the framework of the originally translated meaning on the part of its founders. Mathematicians and computer scientists did not need thought experiments or humanization of machines. They are bold dreamers – they were just playing imitation and competing in who could mislead a person with the help of technology (after all, until now the classic Turing test as a positive result assumes just the indistinguishability of reactions and actions of man and machine). And the understanding that the scientific community has come to over several decades has changed a lot compared to the original views. Technical thought is also developing. But if we talk about the existence of a certain scientific purity of the concept, then researchers in the field of sciences of the humanities in this regard did not contribute to its preservation by formulating interesting (and sometimes very unexpected, for example, the same units of P.M. Morhat) concepts, which, however, were and remain doomed to exist exclusively in the format of private theories[163].

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[162] Already in 2021, there were five different definitions of AI in the Glossary of Concepts on AI and Robotics: "1) an engineering and mathematical discipline engaged in the creation of programs and devices that simulate human cognitive (intellectual) functions, including data analysis and decision-making; 2) the science and technology of creating intelligent machines, especially intelligent computer programs; the property of intelligent systems to perform creative functions that are traditionally considered the prerogative of man; 3) a set of technological solutions that allows you to simulate human cognitive functions (including self-learning and finding solutions without a predetermined algorithm) and obtain results comparable to, at least, the results of human intellectual activity when performing specific tasks. The complex of technological solutions includes information and communication infrastructure, software (including those using machine learning methods), processes and services for data processing and solution search; 4) a set of technological and software solutions that allow simulating human cognitive functions, and used to solve applied problems using computer vision systems, natural language processing, speech recognition and synthesis, recommendation systems and intelligent decision support systems, as well as systems based on promising methods); 5) a number of methods that they allow the machine to simulate human learning, namely, to study, predict and make decisions and perceive the environment," Begishev I.R., Khisamova Z.I. Artificial intelligence and robotics: glossary of concepts. M., 2021. p. 17.

[163] See also: Fedoruk E.O. The problem of legal personality of artificial intelligence carriers in the context of legal responsibility // SCIENCE, SOCIETY, TECHNOLOGY: PROBLEMS AND PROSPECTS OF INTERACTION IN THE MODERN WORLD: collection of articles of the VII International Scientific and Practical Conference (November 17,

3. The legislator's approach to the definition of AI

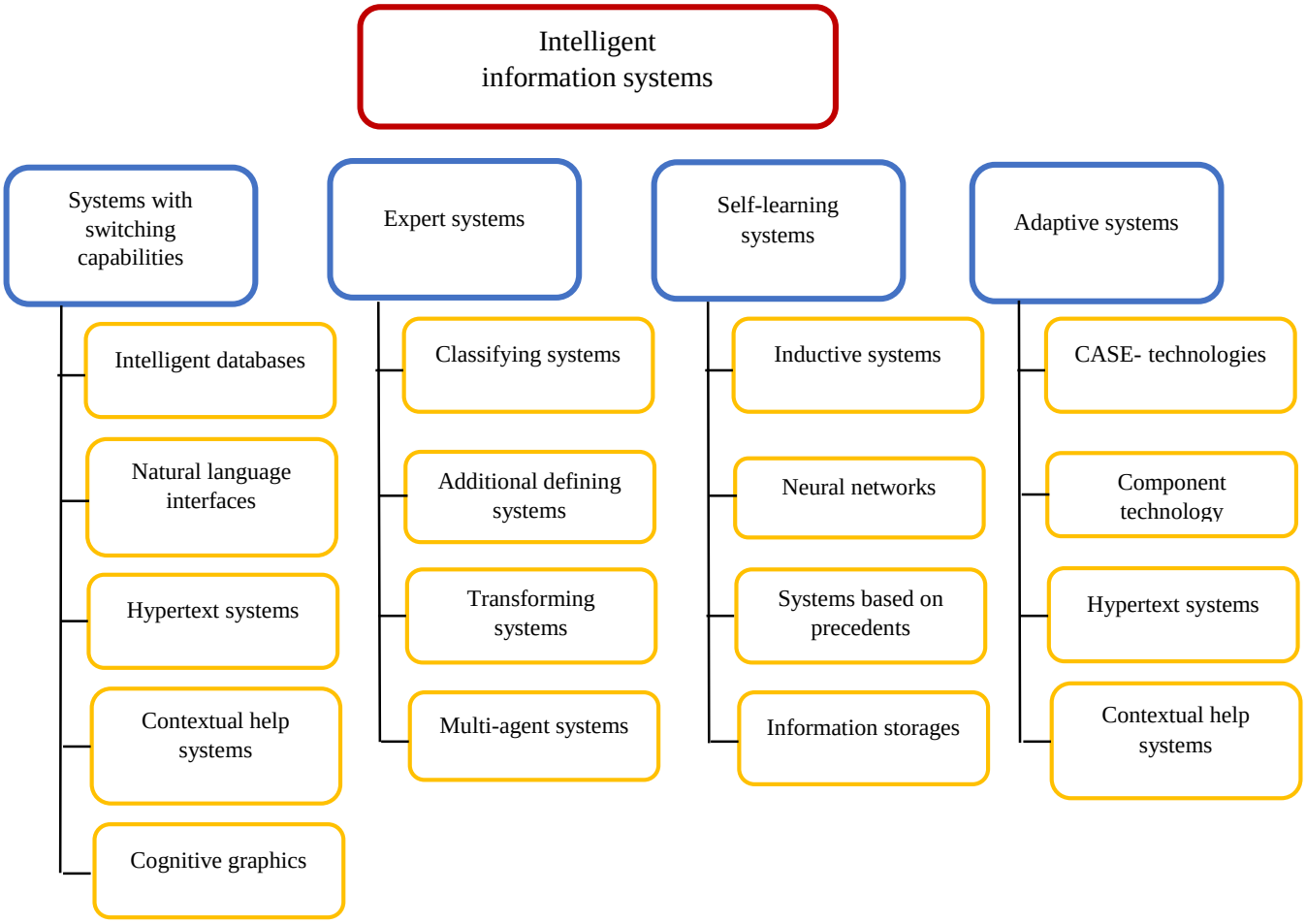
Unfortunately, among the variety of definitions of the concept of «artificial intelligence» formulated in various studies, there is no single one. I.R. Begishev and Z.I. Khisamova identifies two main reasons for the lack of formation of this concept and the controversial nature of the issue concerning the development of a single definition of AI: on the one hand, this is the fact that the «composition» and «main mechanisms» of AI are not clearly defined, on the other hand, the interdisciplinary nature of the concept under consideration, «in view of which in logic, psychology, linguistics, cybernetics, There are many terms in discrete mathematics and programming that define the essence and meaning of AI»[164]. Having conducted a detailed analysis of the arguments presented in the literature on this subject, D.V. Bakhteev says that there are a huge number of definitions of what artificial intelligence is or should be[165]. This is not surprising, since for several decades the idea of AI has been imposed on society as a kind of analogue of a living one. Manufacturers working with algorithms demonstrate robots similar to humans, pets, and parts of the «human» body at exhibitions. Writers and directors are pursuing the idea that there is something similar to the human mind inside AI. However, everything related to machines, algorithms, and what is considered AI today is just a set of numbers in certain sequences, and the data of these sequences changes based on algorithms (programs) embedded in AI. That is why it seems unacceptable to draw parallels between the work of AI and human thinking, although some of the authors' arguments are undoubtedly the subject of both scientific interest and discussion in journalism.

2022). Petrozavodsk. 2022. pp. 115-123; Fedoruk E.O. On the problems of responsibility of artificial intelligence in connection with the uncertainty of its legal status // Proceedings of the III International Conference of Young Scientists "Intellectual property: a look into the future". M. 2021. pp. 133-141.

[164] Begishev I.R., Khisamova Z.I. Artificial intelligence and criminal law: monograph. M., 2021. p. 12.

[165] Bakhteev D.V. Artificial intelligence: ethical and legal foundations: monograph. M., 2021. p. 8.

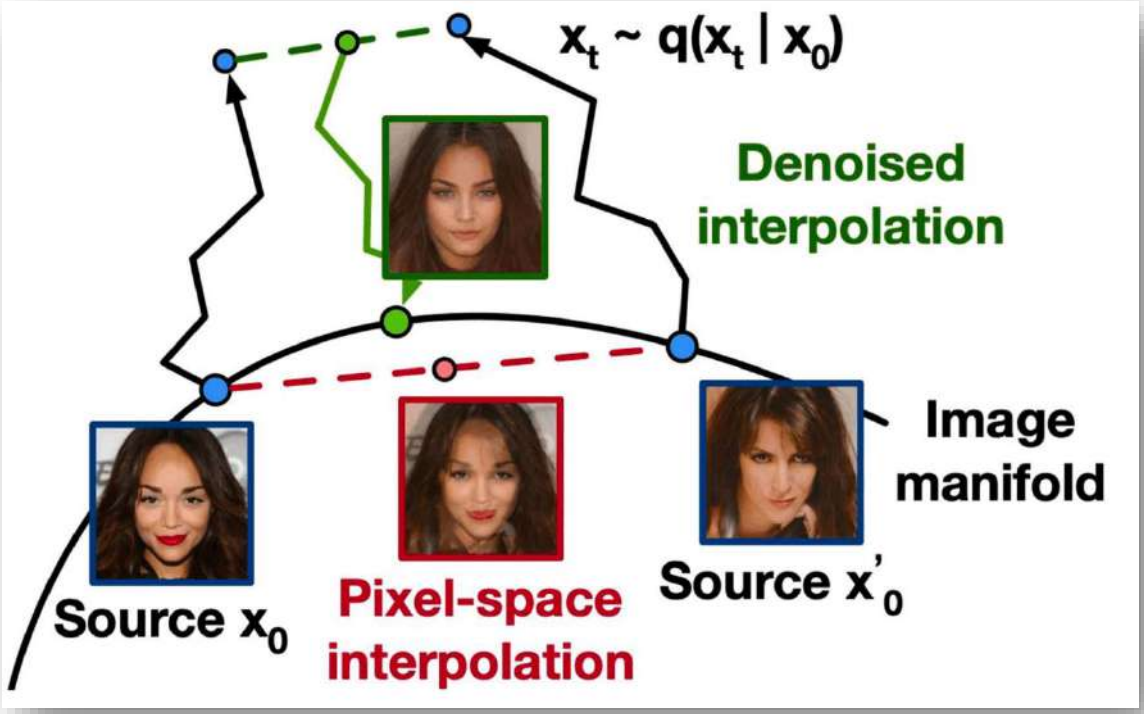
Practically none of the really serious work on AI, written by a mathematician, engineer, or other representative of the exact sciences, contains reflections on any intentions of AI, its awareness of itself, and endowing it with human qualities. Because these people know how AI systems are programmed, how their «learning» takes place, and that there is nothing of a human or any human-like creature inside a robot, program and (or) system. Moreover, at present we are dealing with the most narrowly focused AI systems with such characteristics as: «developed communicative abilities; the ability to solve complex poorly formalized tasks; the ability to self-study; adaptability»[166], and classified by type as follows:



AI is a digital system formed by a huge array of data and algorithms loaded into it – rules for solving problems or sets of instructions describing the order of

[166] Ostroukh A.V. Introduction to artificial intelligence: a monograph. Krasnoyarsk, 2020. p. 111. Classification of intelligent information systems, presented below – from the same source, p. 112.

actions of the AI carrier to solve a certain task[167]. It is the order, not the sequence, since in the latter case, the AI carrier would not be able to execute independent instructions in any arbitrary order, in parallel. That is, in fact, the AI system is a set of program codes. Using the example of generative neural networks, the visualization of the algorithmic work of AI can be simplified and clearly seen in the image below. Despite the apparent inexplicability of the process of «generating» images (allegedly, AI «creates» something), researchers quite specifically and using mathematical formulas express the algorithmic processes occurring in neural networks[168].



The diagram above, which clearly demonstrates the operation of the noise-canceling diffusion model (which is used in generative AI), demonstrates the difference in results between pixel interpolation and hidden image interpolation[169]:

[167] For the present research, AI will be understood in this way. And as an AI carrier, any physical or virtual carrier of the codes that form AI is meant.

[168] See, for example, the report:: Ho J., Jain A, Abbeel P. Denoising Diffusion Probabilistic Models // arxiv.org: information portal. 2020. December 16. doi.org/10.48550/arXiv.2006.11239.

[169] This image was borrowed from the above article by Ho et al. and is used to illustrate the work of generative AI in the case Andersen v. Stability AI Ltd.: Materials in the case of Andersen v. Stability AI Ltd. et al, 3:23-cv-00201, (N.D. Cal. Jan 13, 2023) EC No. 1. P. 18 [Electronic resource]: US District Court for the Northern District of California: informational portal of the District Court of the Northern District of California, USA. URL:

Even by virtue of this description alone, it seems futile to search for options for granting legal personality to AI carriers and leave behind only the legal position of the object of legal relations: the algorithmic work of mathematical formulas embedded in the neural network clearly does not indicate the presence of a strong-willed, reasonable and creative personality somewhere there, behind a pile of these numbers and codes. However, realizing that AI is «closely» both within the framework of property law and within the framework of intellectual property, following J.A.T. Fairfield, I would like to agree that computer code can be represented as a kind of virtual property. His positive answer to the question: «Should computer code designed to act as property of the real world be regulated and protected as property of the real world?», Fairfield argues in detail, presenting this new form of ownership – virtual property, «which more effectively manages competing, persistent and interconnected online resources»[170]. Another relevant (and more descriptive than functional) definition is the following: «AI is the property of a technical or software system to perform functions that could previously have been performed exclusively by a human or other biological being»[171], as well as the definition of AI proposed by P.N. Biryukov, based on research by foreign authors (mainly American): «a set of theories and techniques used to create machines, capable of imitating intelligence»[172]. Assessing the possibility of granting AI legal personality, A.A. Vasiliev and D. Shpoper reliy on such aspects of subjectivity as the ability to think and make independent decisions,

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https://storage.courtlistener.com/recap/gov.uscourts.cand.407208/gov.uscourts.cand.407208.1.0.pdf (date of access to the source: 05/31/2024).

[170] See: Fairfield J. A.T. Virtual Property [Electronic resource] // Boston University Law Review. 2005. Vol. 85. Indiana Legal Studies Research Paper No. 35. P. 1047-1101. URL: http://ssrn.com/abstract=807966 (date of access to the source: 05/31/2024). However, it is worth paying attention to the utopian realization of the idea of cyberseparatism (separation of cyberspace from real space), since classical subjects of law do not "transform" into some other ones that exist separately outside the usual reality, and therefore there is no need for the existence of the institution of virtual property. See about this: Arkhipov V.V. Virtual property "many years later": does the noble dream of digital lawyers have a future? // Law. 2023. No. 9. P. 23. And, in fact, Article 1259 of the Civil Code of the Russian Federation, which refers to computer programs that are protected as literary works as objects of copyright, narrows the possibilities of understanding AI, which – in fact – is just a manifestation of the work of a software product. Nevertheless, the existence of different approaches to understanding what AI is helps to make a meaningful analysis of its essence.

[171] Vorobyova I.V., Salakhutdinov V.D. Problems of legal regulation of artificial intelligence // Malyshev readings-2020. Science and education: the future and the goals of sustainable development: proceedings of the XVI International Scientific conference, in 4 parts / edited by A.V. Semenov. M., 2020. Part 4. C. 62.

[172] Biryukov P.N. U.S. activities in the field of artificial intelligence // Bulletin of the VSU. Series: Law. 2019. No. 3. p. 324.

and conclude: «Artificial intelligence does not have volitional ability. Therefore, granting legal personality to artificial intelligence in any case will be a fiction»[173].

In favor of the absence of the need for further theoretical speculation about the endowment of AI carriers with legal personality, normative ideas about AI testify. Moreover, at the legislative (national and even international level), the issues of terminology related to AI have already been settled in many documents[174]. Thus, in the Glossary on the Council of Europe's website on Artificial Intelligence, AI is defined as «a set of sciences, theories and techniques whose purpose is to reproduce by a machine the cognitive abilities of a human being. Current developments aim, for instance, to be able to entrust a machine with complex tasks previously delegated to a human»[175]. This concept is the basis for the Guidelines on Artificial Intelligence and Data Protection T-PD(2019)01 (Convention 108), developed by the Advisory Committee on the Protection of Individuals with regard to the Automatic Processing of Personal Data on January 25, 2019[176]. This document provides both general guidance[177] and guidance for developers, manufacturers and service providers; for legislators and policy makers.

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[173] Vasiliev A.A., Shpoper D. Artificial intelligence: legal aspects // News of the AltSU. Legal sciences. 2018. No. 6(104). p. 24.

[174] This research examines the regulatory definitions of Russia, the United States and the European Union. Although it is worth noting that in a number of developed countries, the formation of legal regulation of AI is more active. For example, in the UK, on July 18, 2022, the Guidance "National AI Strategy – AI Action Plan" was adopted, which noted that AI is a general-purpose technology: "Like a steam engine, electricity or the Internet, artificial intelligence is a general-purpose technology capable of revolutionizing every aspect of our lives, to help realize our ambitions to become a scientific superpower and contribute to economic growth across the UK. The UK is doing well in AI – from scientific research, where we rank third in the world in terms of citations in academic journals; to investment – getting more investments in AI companies than France and Germany combined in 2021." See: National AI Strategy – AI Action Plan (Guidance) [Electronic resource] // Office for Artificial Intelligence: the official portal of the UK Government. 2022. 18 July. URL: https://www.gov.uk/government/publications/national-ai-strategy-ai-action-plan/national-ai-strategy-ai-action-plan (date of access to the source: 31.05.2024).

The Basic Law of Japan dated December 14, 2016 No. 103 "On improving the use of data in the public and private sectors" uses the term "technology related to artificial intelligence", which refers to technology for the implementation of intellectual functions such as learning, inference and judgment, embodied by artificial means and the use of appropriate functions implemented by artificial means. See: Basic Act on the Advancement of Public and Private Sector Data Utilization No. 103 of December 14, 2016 [Electronic resource] // URL: https://www.japaneselawtranslation.go.jp/en/laws/view/2975 (date of access to the source: 05/31/2024).

[175] Overview of the Council of Europe and Artificial Intelligence [Electronic resource] // The portal of the Council of Europe. URL: https://www.coe.int/en/web/human-rights-rule-of-law/artificial-intelligence/glossary (date of access to the source: 05/31/2024).

[176] [Electronic resource] // The portal of the Council of Europe. URL: https://rm.coe.int/guidelines-on-artificial-intelligence-and-data-protection/168091f9d8 (date of access to the source: 05/31/2024).

[177] 1. The protection of human dignity and the protection of human rights and fundamental freedoms, in particular the right to personal data protection, are important in the development and implementation of AI applications that may have

Researchers reasonably call the European Union the world leader in regulatory regulation in the field of artificial intelligence[178]. The Declaration on cooperation in the field of AI was signed by 25 EU countries, each of which is interested in the technical development of AI[179]. And another important document for research regulating the issues of promoting the introduction of AI and eliminating the risks associated with certain types of use of this new technology in the EU is the so-called White Paper «On Artificial Intelligence – the European Approach to Excellence and Trust» adopted in 2020[180]. It defines AI as «a set of technologies that combine data, algorithms and computing power». Is the question being raised about the inherent properties of natural intelligence in AI? Not at all. On the contrary, back in 2017, in the resolution of the European Parliament P8_TA-PROV (2017)0051 «Norms of civil law on robotics», artificial intelligence was defined precisely as «a non-biological autonomous cyber-physical system capable of interacting with other similar systems, self-learning, adapting its decisions, actions and behavior in accordance with environmental conditions»[181]. The question raises about the

consequences for individuals and society. This is especially important when artificial intelligence applications are used in decision-making processes.

2. The development of AI based on the processing of personal data should be based on the principles of Convention 108. The key elements of this approach are: legality, reference, definition of goals, proportionality of data processing, confidentiality by design and intent, responsiveness and demonstration of compliance (accountability), foresight, data reliability and risk management.

3. An approach aimed at preventing and mitigating potential risks of personal data processing is a necessary element of reflected innovations in the field of artificial intelligence.

4. In collaboration with the risk assessment guidelines supported in the Big Data Guidelines adopted by the Convention Committee 108 in 2017 [Electronic resource] // The Council of Europe portal. URL: https://rm.coe.int/t-pd-2017-1-bigdataguidelines-en/16806f06d0 (date of access to the source: 05/31/2024), a broader understanding of the possible results of data processing should be taken. This point of view should teach not only human rights and fundamental freedoms, but also the functionalism of democracies, as well as social and ethical values.

5. AI applications should always fully ensure the rights of data subjects, especially in the light of article 9 of the Convention 108.

6. Applications and should allow data subjects to exercise meaningful control over the processing of data and related events – for individuals and society.

[178] Neznamov A.V., Naumov V.B. Issues of the development of legislation on robotics in Russia and in the world // Legal research. 2017. No. 8. pp. 14-25.

[179] Unmanned buses have passed test launches in Estonia, Belgium has given citizenship to a humanoid robot, Switzerland has invented an AI that generates Beethoven's music and many others.

[180] White Paper On Artificial Intelligence – A European approach to excellence and trust / Brussels, 19.2.2020; COM (2020) 65 final [Electronic resource] // The portal of the Council of Europe. URL: https://ec.europa.eu/info/sites/info/files/commission-white-paper-artificial-intelligence-feb2020_en.pdf (date of access to the source: 05/31/2024).

[181] Civil Law Rules on Robotics European Parliament resolution of 16 February 2017 with recommendations to the Commission on Civil Law Rules on Robotics 2015/2103(INL): P8_TA-PROV (2017)0051 [Electronic resource] // European Parliament: official portal. URL: https://www.europarl.europa.eu/doceo/document/TA-8-2017-0051_EN.html (date of access to the source 05/31/2024)

possibility of «self-learning», but it is difficult to assume that in this context we are talking about learning precisely as a cognitive function of human consciousness. The fact that the definitions of AI coming from the European Union are based on the concept of software is considered by researchers as an important step in the legal understanding of the concept of AI, which is likely to be implemented in the legal systems of European states[182].

The Organization for Economic Co-operation and Development (OECD) updated the definition of an AI system at the end of 2023, making a small but very significant addition to it. An artificial intelligence system in the OECD's view is a machine system that, for explicit or implicit purposes, determines how to generate output data based on the input data received, such as forecasts, content, recommendations or decisions that may affect the physical or virtual environment[183]. As you can see, it is the person who sets the goals of the system, which excludes the absolute independence of AI. In May 2019, the OECD Principles in the field of Artificial intelligence were adopted on the basis of the OECD. They set standards for AI that are «practical and flexible enough to stand the test of time». At the same time, the OECD notes that various artificial intelligence systems differ in the level of autonomy and adaptability after deployment, but there is no understanding of the essential characteristics of autonomy and adaptability[184].

In the Review of Artificial Intelligence by L.A. Harris (her concept of AI, by the way, was taken as a general basis by the Congressional Research Service when preparing the report «Artificial Intelligence and National Security» for members of Congress committees and commissions[185]), emphasis is placed on the fact that, although definitions differ, AI in general can be considered as computerized systems which, according to the general idea, work and react in the way that intelligence

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[182] Vlasov G.D. Legal challenges of artificial intelligence: the European response // Law, digital technologies and artificial intelligence: collection of articles / ed. by E.V. Alferova. M., 2021. p. 209.
[183] See: OECD AI Principles overview [Electronic resource] // OECD.AI: official portal OECD. URL: https://oecd.ai/en/ai-principles (date of access to the source 05/31/2024).
[184] See: OECD, Recommendation of the Council on Artificial Intelligence, OECD/LEGAL/0449 [Electronic resource] // URL: https://oecd.ai/assets/files/OECD-LEGAL-0449-en.pdf (date of access to the source 05/31/2024).
[185] Artificial Intelligence and National Security: CRS REPORT [Electronic resource] / / Congressional Research Service. Updated on 10/10/2020. URL: https://sgp.fas.org/crs/natsec/R45178.pdf (date of access to the source: 05/31/2024).

usually requires: for example, to solve complex problems in real situations. According to the Association for the Advancement of Artificial Intelligence (AAAI), researchers generally strive to understand «the mechanisms underlying thinking and intellectual behavior, and their embodiment in machines»[186]. Further, in the above-mentioned report, analysts of the US Congressional Research Service Daniel S. Hodley and Kelly M. Seiler[187] cite the regulatory regulation on AI from the US National Defense Regulation Act (FY2019 National Defense Authorization Act), which identifies five types of AI:

1. Any artificial system that performs tasks in changing and unpredictable circumstances without significant human control, or that can learn from experience and improve performance when working with datasets.

2. An artificial system developed in computer software, physical hardware, or other context that solves tasks that require human perception, cognition, planning, learning, communication, or physical actions.

3. An artificial system designed to think or act like a human, including cognitive architectures and neural networks.

4. A set of methods, including machine learning, which is designed to approximate a cognitive task.

5. An artificial system designed for rational action, including an intelligent software agent or embodied robot that achieves goals using perception, planning, reasoning, learning, communication, decision-making and actions[188].

Also, this report provides a taxonomy of historical definitions of AI (AI Concepts), which from a scientific point of view are analyzed as approaches to research in the field of AI in the study of S. Russell[189], and further in depth, based

[186] Overview of Artificial Intelligence, by Laurie A. Harris [Electronic resource] // Congressional Research Service. Updated on 10/24/2017. URL: https://crsreports.congress.gov/product/pdf/IF/IF10608 (date of access to the source: 05/31/2024).
[187] Daniel S. Hoadley, U.S. Air Force Fellow; Kelley M. Sayler, Analyst in Advanced Technology and Global Security [Electronic resource] // Congressional Research Service. Updated on 10/10/2020. URL: https://crsreports.congress.gov/product/pdf/R/R45178 (date of access to the source: 05/31/2024).
[188] Artificial Intelligence and National Security: CRS REPORT [Electronic resource] // Congressional Research Service. Updated on 10/10/2020. URL: https://sgp.fas.org/crs/natsec/R45178.pdf (date of access to the source: 05/31/2024).
[189] RusseIl S., Norvig P. Artificial intelligence. A modern approach (AIMA-2). M., 2018. p. 35.

on a number of works by other authors, are covered in D.V. Bakhteev's monograph[190] (the authors of the concepts and concepts are indicated in the footnotes to the paragraphs their works devoted to the analysis of approaches to AI).

1) Systems that think like humans[191];
2) Systems that think rationally[192];
3) Systems that act like people[193];
4) Systems that act rationally[194].

In addition, an analysis of each of the systems and related terminological features of AI, autonomous and automated systems is provided. «Understanding the relationships between these terms can be difficult because they can be used interchangeably in the literature, and definitions often contradict each other. For example, some studies distinguish between automated systems and autonomous systems based on the complexity of the system, arguing that automated systems are strictly rule-based, while autonomous systems exhibit artificial intelligence»[195].

As you can see, foreign analysts and legislators do not focus much attention on scientific and philosophical approaches to developing a single definition of AI, but are based on what functionality is embedded in the concept and on what principles to organize the interaction of «intelligent» machines and humans. At the same time, the scientific community advocates the need to clarify the features of terminology and develop a unified conceptual framework in the field of AI. «The term does not have a clear definition from a technological point of view. It covers a variety of technologies with different characteristics and operating modes. This is the first problem that legislators will have to solve if they want to develop a legal framework specific to AI»[196], says Canadian researcher E. Lavalier. German scientist J. Schuett

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[190] Bakhteev D.V. Artificial intelligence: ethical and legal foundations: monograph. M., 2021. pp. 8-28.
[191] Bellman R. Introduction to Artificial Intelligence: Can Computers Think? San Francisco, 1978.
[192] Winston P.H. Artificial Intelligence. Massachusetts, 1992.
[193] Kurzweil R. The Age of Intelligent Machines. Cambridge, 1990.
[194] Luger G.F., Stubblefield W.A. Artificial Intelligence: Structures and Strategies for Complex Problem Solving. San Francisco, 1993.
[195] Artificial Intelligence and National Security: CRS REPORT Electronic resource] // Congressional Research Service. URL: https://sgp.fas.org/crs/natsec/R45178.pdf (date of access to the source: 05/31/2024).
[196] Eric Lavallée. Development of a legal definition of artificial intelligence: Different countries, different approaches [Electronic resource] // Lavery. 2020. March 10th. URL: https://www.lavery.ca/en/publications/our-publications/3200-

has a similar opinion: «When politicians want to regulate AI, they must first define what AI is. However, legal definitions differ significantly from those of other disciplines. These are working definitions. The courts should be able to determine precisely whether a particular AI system is considered legitimate»[197].

In the 2017 U.S. Artificial Intelligence Bill S.2217[198], AI was defined as any artificial systems that perform tasks in various and unpredictable circumstances, without significant human control, or that can learn from their experiences and improve their performance. Such systems can be developed in computer software, physical hardware, or in other contexts that have not yet been considered. They act rationally and achieve their goals through perception, planning, reasoning, learning, communication, decision-making and action. And, for example, in the Revised Code of Laws of the State of Nevada (USA), back in 2011, the concept of AI appeared (section 482A «Autonomous vehicles», §482A.020), which still refers to the use of computers and related equipment in such a way that a machine can duplicate or imitate human behavior[199]. As indicated in the Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence adopted by the President of the United States on October 30, 2023[200], the term «artificial intelligence» or «AI» has the meaning set out in 15 U.S.C. 9401(3)[201]: a machine system that can, for a given set of human-defined goals, to make predictions, recommendations, or decisions that affect the real or virtual environment. Artificial

development-of-the-legal-definition-of-artificial-intelligence-ai-different-countries-different-approaches.html (date of access to the source: 05/31/2024)

[197] Jonas Schuett. A Legal Definition of AI [Electronic resource] // ResearchGate. 2019. August. URL: https://www.researchgate.net/publication/335600149_A_Legal_Definition_of_AI (date of access to the source: 05/31/2024).

[198] [Electronic resource] // URL: www.nitrd.gov/pubs/2017supplement/FY2017NITRDSupplement (date of access to the source: 02.02.2022).

[199] 2011 Nevada Revised Statutes Chapter 482A – Autonomous Vehicles NRS 482A.020 – Artificial intelligence defined [Electronic resource] // Justia. 2011. URL: https://law.justia.com/codes/nevada/2011/chapter-482a/statute-482a.020/ (date of access to the source: 05/31/2024).

[200] Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence [Electronic resource] // The White House: the official portal of the White House, USA. 2023. October 30. URL: https://www.whitehouse.gov/briefing-room/presidential-actions/2023/10/30/executive-order-on-the-safe-secure-and-trustworthy-development-and-use-of-artificial-intelligence/ (date of access to the source: 05/31/2024).

[201] This is the definition proposed in Article 9401 of Chapter 119 "National Initiative for Artificial Intelligence" // US Code 2020, Section 15 "Commerce and Trade" (National Artificial Intelligence Initiative (US Code. Title 15 – Commerce and Trade. Chapter 119)) [Electronic resource] // Authenticated U.S. Government Information. URL: https://statecodesfiles.justia.com/us/2020/title-15/chapter-119/sec-9401/sec-9401.pdf?ts=1660330225 (date of access to the source: 05/31/2024).

intelligence systems use machine and human input data to perceive real and virtual environments; abstract such perception into a model through automated analysis; and use the output of the model to formulate options for information or actions.

Let's turn to the Russian legislation. In pdp. 2, paragraph 1 of art. 2 of Federal Law «On conducting an experiment to establish special regulation in order to create the necessary conditions for the development and implementation of artificial Intelligence technologies in the Subject of the Russian Federation – in the federal city of Moscow and amendments to Articles 6 and 10 of the Federal Law «On Personal Data» dated 04/24/2020 No. 123-FZ, artificial intelligence is defined as a set of technological solutions that allows simulating human cognitive functions (including self-learning and finding solutions without a predetermined algorithm) and obtaining comparable results when performing specific tasks, at least with the results of human intellectual activity. The complex of technological solutions includes information and communication infrastructure (including information systems, information and telecommunication networks, other technical means of information processing), software (including those using machine learning methods), processes and services for data processing and solution search.

An almost similar definition is enshrined in the «National Strategy for the Development of Artificial Intelligence for the period up to 2030» (approved by Decree of the President of the Russian Federation dated October 10, 2019 No. 490 «On the development of artificial intelligence in the Russian Federation»): artificial intelligence is a complex of technological solutions that allows you to simulate human cognitive functions (including self-learning and finding solutions without a predetermined algorithm) and obtain results comparable to, at least, the results of human intellectual activity when performing specific tasks. The complex of technological solutions includes information and communication infrastructure, software (including those using machine learning methods), processes and services for data processing and solution search (pdp. «a» clause 5). And again, there is no comparison with human functions, but a well-defined set of technical constructs.

The Draft Recommendation on the Ethical Aspects of Artificial Intelligence adopted on September 14, 2021 at the General Conference of the United Nations Educational, Scientific and Cultural Organization (UNESCO) during the 41st General Conference (Paris, 2021) session (which, by the way, was supported by the majority of UN member states) explicitly states: «This Recommendation It is not intended to offer the only possible definition of artificial intelligence, because over time and as technology develops, such a definition would require changes. Rather, the goal is to draw attention to the key characteristics of artificial intelligent systems that have fundamental ethical significance. In this regard, AI-based systems are considered in this Recommendation as technological systems capable of processing data and information in a way that resembles intelligent behavior and includes, as a rule, aspects such as reasoning, learning, recognition, forecasting, planning and control»[202].

The European Union Regulation on AI dated March 13, 2024 (EU Artificial Intelligence Act) does not contain the concept of AI, but it does disclose which AI systems and models it applies to. In particular, these are: an artificial intelligence system; a high-risk artificial intelligence system; a general-purpose artificial intelligence model (including being part of an artificial intelligence system); a general-purpose artificial intelligence model with systemic risks. An artificial intelligence system, on the other hand, means a machine system designed to work with various levels of autonomy, which can be adaptive after deployment and which, in order to achieve explicit or implicit goals, draws conclusions from the received input data, how to generate output data such as forecasts, content, recommendations or decisions that may affect the physical or virtual environment[203].

[202] Implementation of the Recommendation on the Ethics of Artificial Intelligence (AI). 42 C/INF.16 [Electronic resource] // UNESCO General Conference. 2021. URL: https://unesdoc.unesco.org/ark:/48223/pf0000387369 (date of access to the source: 05/31/2024).

[203] EU Artificial Intelligence Act [Electronic resource] // The Act Texts. Final draft. 2024. URL: https://artificialintelligenceact.eu/the-act/ (date of access to the source: 05/31/2024).

4. Critical reasoning of granting AI legal personality. The understanding of autonomy

Thanks to the bold statements and philosophical and conceptual analyses of researchers, as well as due to the implantation of the image of «AI with a human face» in various spheres of human life, the scientific community has been discussing for decades that it can be not only an object, but a subject of legal relations. But in earlier works on this topic, there are clearly fewer «humanizing» definitions of AI: «a new technology for working with information, including ways to handle databases, procedures for processing it and auxiliary tools that help the user to contact the computer»[204]; «a certain machine, if it has the ability to simulate at least one function traditionally included in the sphere of intelligent activity»[205]. The ELIZA program, created in 1966 by Joseph Weizenbaum, which modeled question phrases, although it became revolutionary, did not pretend to be «independent» and replace a psychotherapist (today this machine is called the first chatbot[206]). However, even then there were provocative judgments, for example, about the existence of an «artificial superintelligence» capable of surpassing the intelligence of anyone, even the most intelligent person[207]. Today, scientists are even bolder about how natural can be supplemented and even replaced by artificial: about the need to expand the concept of «rationality» to artificial systems[208], about the highly controversial properties of AI – «algorithmic bias» and «inexplicable intelligence» – as risks to democracy and privacy[209], about the ability to self-learn from a strong artificial intelligence, which indicates a higher level of autonomy[210], etc.

It is difficult to disagree with the fact that AI remains an object today, but not a subject of legal relations. N.V. Ostroumov believes that «artificial intelligence

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[204] Moiseev N.N. Algorithms of development. M., 1987. p. 16.
[205] Shileyko V.A. Discussions about artificial intelligence. M., 1970. p. 5.
[206] Artificial intelligence. What is worth knowing about the coming era of intelligent machines / ed. by D. Haven; translated from English by O.D. Sayfutdinova. M., 2019. pp. 25-26.
[207] Good I.J. Speculations Concerning the First Ultraintelligent Machine // Advances in Computers. 1966. Vol. 6. P/ 31-88.
[208] Bakhteev D.V. Artificial intelligence: ethical and legal foundations: monograph. M., 2021. pp. 15.
[209] Manheim K., Kaplan L. Artificial intelligence: Risks to privacy and democracy // The Yale law journal. Yale, 2019. Vol. 21. p. 106-188.
[210] Sviridova E.A., Rakhmatulina R.S., Shaidullina V.K., Gorokhova S.S., Lapina M.A. Issues of economic and legal responsibility in the application of artificial intelligence technologies in the coal industry // Coal. 2020. No. 7. p. 58.

should be distinguished as a separate object of law, while it is necessary to identify identifying features that make it possible to distinguish a computer program from artificial intelligence»[211]. S.A. Sinitsyn[212], although and he calls it a «self-learning program», convincingly argues the futility of attempts to endow AI with human characteristics. However, people and animals can be trained: living intelligent beings. The AI contains data on the basis of which the program performs calculations. The mechanism of «decision-making» by the program (if it can be called such) is very different from the human one. The robot cannot justify this decision for personal reasons, regret the choice or find a fundamentally different path based, for example, on intuition. If a person can make a discovery in the process of cognitive activity or learning, then the machine is based solely on the information loaded into it. «At the same time, we must not forget about the important feature of artificial intelligence. Indeed, the algorithm itself is not capable of making «subjective» decisions, but the quality of its decisions depends on what data is included in it»[213]. By allowing random decisions and trusting the robot in the process of «self-development», «self-learning», but at the same time not processing errors, not correcting mechanisms and not improving downloadable decision-making algorithms by AI carriers, the harvest of vicious algorithmic decisions will be richer with each turn of AI development. The problem of the impossibility of knowing the processes occurring inside the carrier (that is, as if in the AI itself), which gives rise to conclusions that the AI has its own consciousness and makes decisions autonomously based on its own interests, is solved simply: by analyzing data chains and algorithmic consequences from these data, which were produced by the AI carrier. However, «simple» does not mean «easy». The arrays of this data are so large that it will take an incredibly long time for the above-described study. Strictly

[211] Ostroumov N.V. Artificial intelligence in law: an overview of existing concepts of legal regulation of relations involving a carrier of artificial intelligence // Law and order. 2021. No. 3 (31). p. 61.
[212] Sinitsyn S.A. Russian and foreign civil law in the context of robotization and digitalization. The experience of interdisciplinary and sectoral research: monograph. M., 2021. p. 35.
[213] Kodaneva S.I. Artificial intelligence in public administration and justice // State and law in the new digital reality: monograph / under the general Ed. of Dr. of Law I.A. Umnova-Konyukhova and Dr. of Technical Sciences, Prof. D.A. Lovtsov. M., 2020. p. 178.

speaking, robots were created in order to facilitate human activity, to free up time that the same person could spend on independent calculations. A calculator is just an accountant's tool, but not a decision–making machine. So computers, robots, and even the «strongest» AI (which, in addition to solving simple tasks, use this «experience» for more complex subsequent calculations, that is, they «learn») have always been, are and will remain precisely objects – human inventions, but not intelligent beings – human competitors. And as for AI errors, they only indicate that an insufficient amount of data has been loaded into AI as training material, as well as that sufficient «manual» (human) work has not been carried out to track algorithmic errors. Otherwise, how could honey or onions be recognized by AI as overly sexual images by AI algorithms?

However, there is a contradiction again: «As soon as AI begins to realize itself, people will be forced to take into account a new operating factor – the system's own interests», says E.G. Avakian[214]. What kind of awareness can we talk about? It seems rather strange to allow the system to have «its own interests». Will AI ever have an interest of its own? Will humanity be able to give an unambiguous positive answer to this question at all? If only the one who programmed the AI can give it tasks and goals, this question will be at least a little justified. And obviously, these will be exclusively goals within the interests of the «creator», but not the AI itself! And, by the way, «create» is not equal to «construct», «write a program». Can an AI programmer who downloads data and composes algorithm codes be equated with the creator of a reasonable subject, the bearer of rights and obligations? Is the «production» of a person equivalent to the «creation» of a machine? «We are fascinated by ourselves and our intelligence», – foreign researchers write, – «and there is nothing surprising in our desire to endow machines with a «spark of humanity»[215].

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[214] The Pygmalion Paradox: what is the future of artificial intelligence in the field of law? (Open dialogue between Elena Avakian and Vitaly Kastalsky) [Electronic resource] // Sphere: engineering-reference portal of the Legal Academy LLC. 2016-2024 URL: https://legalacademy.ru/sphere/post/paradoks-pigmaliona-kakoe-buduschee-zhdet-iskusstvennyi-intellekt-v-sfere-prava (date of access to the source: 05/31/2024).

[215] Artificial intelligence. What is worth knowing about the coming era of intelligent machines / ed. by D. Haven; translated from English by O.D. Sayfutdinova. M., 2019. p. 8.

As one of the justifications for the legal personality of AI, the authors rely on the «ability» of AI to «create» intellectual property objects. History knows more than one example of attempts to recognize the authorship of technical solutions, but none of them succeeded until 2018. So, back on March 17, 1884, the U.S. Supreme Court in its decision No. 18 on the claim of the Lithographic Company Barrow-Giles v. Saroni identified the photographer as the author of the works created with the camera[216].

As for modern law enforcement practice, let's focus on three cases that have already become landmark in the issue of «granting» AI copyrights (such a choice is dictated by scientific realities, in which researchers most often put at the head of their arguments about the possibility of endowing AI carriers or AI itself with legal personality – understandable manifestations of the effectiveness of AI «efforts» taken for similar to what a person produces when creating copyrighted works[217]):

The first was considered by the court of Shenzhen (China, Guangdong Province), which ruled that «a work created with the help of artificial intelligence is subject to copyright protection»[218] (the case of Tencent's lawsuit against Shanghai Yingxun Technology Company). The lawsuit was filed by technology giant Tencent, the developer of a program for automatic news writing called «Dreamwriter». She has been generating news materials since 2015, and on August 20, 2018, she «wrote» a financial report that includes the Shanghai Index for that day and information on currency exchange and financial flows. As stated in the article itself on the Tencent Securities website, «the article was automatically written by Tencent Robot Dreamwriter»[219]. But this did not stop Tencent from filing a lawsuit against Shanghai Yingxun Technology Company, which copied the robot's article on its website. As a result, «The People's Court of the Shenzhen Nanshan

[216] Materials on the case of Burrow-Giles Lithographic Company v. Sarony, 111 U.S. 53 (1884) [Electronic resource] // U.S. Supreme Court: informational portal of the U.S. Supreme Court. URL: https://supreme.justia.com/cases/federal/us/111/53/ (date of access to the source: 05/31/2024)

[217] The author does not share this position.

[218] Court rules AI-written article has copyright [Electronic resource] // China Daily Global. 2020. September 01.URL: http://www.ecns.cn/news/2020-01-09/detail-ifzsqcrm6562963.shtml (date of access to the source: 05/31/2024)

[219] 文章由腾讯机器人Dreamwriter自动撰写

District stated that the defendant, Shanghai Yingxun Technology Company, violated Tencent's copyrights and should bear civil liability»[220], and awarded 1,500 yuan (US$216) for economic losses and as compensation for violated rights. It should be noted (and this is important) that the beneficiary in this case was the company that owned the robot that generated the content.

What criteria have become decisive in determining the authorship of AI in this case? The court pointed out that «the form of expression of the article meets the requirements of written work, and the content indicates the selection, analysis and evaluation of relevant information and stock market data <...> the structure of the article is reasonable, the logic is clear and there is a certain originality in it»[221].

The second law enforcement «omen» regarding the authorship of AI appeared to the world in South Africa, where a patent for an invention authored by AI was issued for the first time[222]. The process was initiated by the developer of the «device for autonomous data loading» DABUS («device for the autonomous bootstrapping of unified sentiment»), Stephen Thaler, who has been trying for several years to obtain a patent for the invention of a food container («food container based on fractal geometry») on behalf of DABUS.

Although patent applications in which DABUS is listed as the inventor have also been filed with patent offices in other countries (in particular, in the United States and Great Britain), they have been unsuccessful. The High Court of England and Wales rejected two patent applications by Thaler, stating that AI is not an «individual» and therefore cannot be considered an inventor under the UK Patents Act 1977. The European Patent Office also rejected the application, stating that AI systems do not have legal personality and, therefore, cannot claim legal ownership

[220] Court rules AI-written article has copyright [Electronic resource] // China Daily Global. 2020. September 01. URL: http://www.ecns.cn/news/2020-01-09/detail-ifzsqcrm6562963.shtml (date of access to the source: 05/31/2024)
[221] The same source.
[222] See: In a world first, South Africa grants patent to an artificial intelligence system [Electronic resource] // The Conversation. 2021. August, 05. URL: https://theconversation.com/in-a-world-first-south-africa-grants-patent-to-an-artificial-intelligence-system-165623 (date of access to the source: 05/31/2024), Naidoo M. In a world first, South Africa grants a patent to an artificial intelligence system [Electronic resource] // Quartz. 2021. August, 09. URL: https://qz.com/africa/2044477/south-africa-grants-patent-to-an-ai-system-known-as-dabus/ (date of access to the source: 05/31/2024).

of their products. The U.S. Patent Office said AI does not meet the definition of «concept» which is usually defined as a mental action performed by an inventor[223]. And the experts of the Patent Office of South Africa, guided by the opinion that creative machines can process and critically analyze data, learning lessons from them (this process is known as machine learning), decided to grant patents to S. Thaler for inventions, the author of which is specified in the application DABUS.

The third positive opinion regarding the authorship of AI was expressed by the Federal Court of Australia in a decision (subsequently overturned by a higher instance) dated July 30, 2021, by which DABUS was also recognized as the inventor[224]. And in this decision, perhaps, the most interesting and detailed justification of the criteria for granting AI copyrights. The only thing that needs to be clarified is that the Australian court separates the concepts of the inventor and the patent holder and concludes that «the inventor may be an artificial intelligence system, but in such circumstances cannot be the owner, controller or patentee of a patentable invention»[225]. Let us turn to the substantiation of authorship in the court decision: The alleged invention is the result of DABUS processes (paragraph 9). <...> Thus, and for the following reasons, in my opinion, an artificial intelligence system can be an inventor for the purposes of the Law. First, an inventor is an agent;

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[223] In the USA, S. Thaler tried to appeal the decision of the patent office in court; his representative was Prof. R. Abbott. By the decision of the appellate instance – the United States District Court of 05.08.2022 – on the decision of the Court of the Eastern District of Virginia in case No. 1:20-cv-00903-LMB TCB (presiding Judge Leonie M. Brinkema) – the refusal of TPO to Thaler was recognized as lawful. Based on individual precedents, as well as on the norms of the legislation of the Fourth Circuit, the court pointed to the possibility of overturning a decision made as a result of administrative proceedings only if the agency's decision is "arbitrary, arbitrary, made as a result of abuse of authority, or otherwise does not comply with the law" or if the agency's actions "exceed the established jurisdiction, powers or restrictions by law." The court did not see these signs in the agency's decision and emphasized that the Patent Law explicitly provides that inventors are "natural persons". Since 2011, with the adoption of the Leahy Smith Inventions Act in America, the Patent Law defines an "inventor" as "an individual or, in the case of a joint invention, persons collectively who invented or discovered the subject matter of the invention" (the individual or, if a joint invention, the individuals collectively who invented or discovered the subject matter of the invention). See the Materials in the case Thaler v. Vidal. Appeal No. 21-2347 [Electronic resource] // FedCircuitBlog. 2022. 05 August. URL: https://fedcircuitblog.com/other-cases/thaler-v-vidal/ (date of access to the source: 05/31/2024).; the text of the decision of the Federal District Court is available for review: [Electronic resource] // URL: https://fedcircuitblog.com/wp-content/uploads/2022/05/21-2347-Thaler-v.-Vidal-Opinion.pdf (date of access to the source: 05/31/2024).

[224] The decision on the case of Thaler v Commissioner of Patents [2021] FCA 879 [Electronic resource] // Federal Court Of Australia. URL: https://www.judgments.fedcourt.gov.au/judgments/Judgments/fca/single/2021/2021fca0879 (date of access to the source: 05/31/2024)

[225] The decision on the case of Thaler v Commissioner of Patents [2021] FCA 879 [Electronic resource] // Federal Court Of Australia. URL: https://www.judgments.fedcourt.gov.au/judgments/Judgments/fca/single/2021/2021fca0879 (date of access to the source: 05/31/2024)

an agent can be a person or a thing that invents. Secondly, this interpretation reflects the reality from the point of view of many other patentable inventions, in respect of which it cannot be reasonably claimed that the inventor is a human being. Thirdly, nothing in the Law (meaning the Australian Patents Regulations Act 1991) contains a reverse conclusion (paragraph 10).

So, the Australian court went the opposite way (the law does not contain direct prohibitions on determining authorship by another «agent» rather than an individual). Further in the decision, the court delves deeply into the definition of AI and how it is trained: «When training an artificial neural network, all its data and threshold values are initially set randomly. The training data is fed to the input layer and passes through subsequent layers, multiplying and folding in a complex way, until it arrives in a transformed form on the output layer. During training, data and thresholds are constantly adjusted until training data with the same labels consistently produce the same results. <…> DABUS can be described as self-organizing as the cumulative result of algorithms that jointly generate complexity. DABUS generates new patterns of information, rather than just linking patterns. In addition, it is able to adapt to new scenarios without additional human involvement. In addition, the artificial intelligence software is self-assembling. Thus, it is not just a human-made program that then generates a range of possible solutions to the problem in combination with a filtering algorithm to optimize the result. In addition, it can be said that DABUS in some sense imitates the aspects of the functioning of the human brain. <...> one should not treat the concept of «inventor» narrowly. And this will hinder innovation not only in the field of computer science, but also in all other scientific fields that can benefit from the results of an artificial intelligence system», the court concluded[226]. To this approach of the court, which advocates a broader view of the concept of «inventor», one would certainly like to add a broader view of the concept of «autonomy», in the application of which one could hardly so

[226] The decision on the case of Thaler v Commissioner of Patents [2021] FCA 879 [Electronic resource] // Federal Court Of Australia. URL: https://www.judgments.fedcourt.gov.au/judgments/Judgments/fca/single/2021/2021fca0879 (date of access to the source: 05/31/2024)

boldly assert that it is AI, without «additional human participation», that is capable of «doing» anything at all[227].

However, on April 13, 2022, the appellate instance of the Federal Court of Australia overturned the original decision, pointing out that the patent is issued specifically for the results of human labor and ideas that arose in the minds of one or more people, and not a machine, and that current Australian law does not allow the registration of a patent for a machine that cannot have a name, address and legal capacity[228].

In September 2021, scientists from the Federal Polytechnic School of Lausanne, with the help of an orchestra, presented to the audience an excerpt from Ludwig van Beethoven's tenth symphony, generated by the artificial intelligence BeethovANN[229] created by them. One of the Yandex services uses a neural network to generate each subsequent word (or even phrase) in a sentence: for sure those who use Yandex.Mail noticed such suggestions when we wrote emails). The YaLM language model, on which the program runs, is based on 3 billion parameters and is trained on parts of Wikipedia pages, news articles, books, and open entries on social networks. The same technology has been used to generate answers for «Search» and «Alice» since 2021[230]. A year earlier, in the summer of 2020, the news about the first registration of a «program written by artificial intelligence» with the Russian Patent Office spread all over the world[231]. Sber AI has registered a program with Rospatent that allows AI to recognize and analyze objects in virtual reality. However, among the software developers in the department, not AI is indicated, but

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[227] Next, the concept of AI autonomy will be discussed in more detail.

[228] The decision on the case of Commissioner of Patents v Thaler [2022] FC FC 62 [Electronic resource] // Federal Court Of Australia. URL: https://www.judgments.fedcourt.gov.au/judgments/Judgments/fca/full/2022/2022fcafc0062 (date of access to the source: 05/31/2024).

[229] Artificial intelligence has completed the unfinished 10th symphony of Beethoven [Electronic resource] / / Dog: News portal. 2021. September 6. URL: https://www.sobaka.ru/entertainment/music/135178 (date of access to the source: 05/31/2024).

[230] M. Tsepeleva. Yandex has launched Balaboba - the service uses a neural network to add any text [Electronic resource] // VC.RU 2021. June 17th. URL: https://vc.ru/services/260287-yandeks-zapustil-balabobu-servis-s-pomoshchyu-neyrosetey-dopisyvaet-lyuboy-tekst (date of access to the source: 05/31/2024).

[231] See, for example: Artificial intelligence is replacing the living programmer [Electronic resource] // Vedomosti 2021. July 23. URL: https://www.vedomosti.ru/technology/articles/2021/07/22/879296-zhivim-programmistam (date of access to the source: 05/31/2024).

Sberbank employees: they were the ones who «trained» the neural network to write program code.

Ryan Abbott, a law professor[232], has complained in numerous interviews that these days we usually have AI that write books and take pictures, but if you don't have a traditional author, we can't get copyright protection in the United States. K. Mulina, recalling the dispute about David Slater's «monkey selfies», which lasted from 2011 to 2017, but did not incline the court towards recognizing the authorship of the Naruto macaque, and also referring to, on the contrary, a successful court case that awarded compensation for copyright infringement to the above-mentioned Tencent, an article on whose website It was «automatically written» by the Dremwriter robot, notes that «artificial intelligence is constantly growing and developing, and this can lead, for example, to the creation of such artificial intelligence that will train other computers, create new works, and in this case, the situation with the recognition of copyrights may become more complicated»[233]. «Artificial intelligence can seriously change the copyright system», L.S. Arteniy writes[234], and suggests calling the process of creating intellectual property objects by artificial intelligence a new term – «generation of works of science, literature and art and components of computer programs», which should be fixed at the legislative level[235]. And U. Chueva speaks about the readiness of the factual and legal basis for recognizing copyrights for AI: «in the context of the modern development of world judicial practice, the most correct decision would be to recognize the existence of exclusive rights to the result of intellectual activity

[232] Ryan Benjamin Abbott – represented the side of Stephen Thaler at the trial to appeal the decision of the United States Patent and Trademark Office (PTO) to refuse to grant a patent for the "invention" of the DABUS AI system; more about this above in the footer text.
[233] Mulina K. To be or not to be the copyright of artificial intelligence? [Electronic resource] // Lexology. 2021. May 19. URL: https://www.lexology.com/library/detail.aspx?g=3867c18a-0947-4ce7-b1b0-4d39336d08b2 (date of access to the source: 05/31/2024).
[234] Arteniy L.S. Artificial intelligence in copyright // Bulletin of Science and Education. 2019. Part 1. No. 7 (61). p. 76.
[235] Arteniy L.S. Artificial intelligence in copyright // Bulletin of Science and Education. 2019. Part 1. No. 7 (61). p. 79-80.

generated using artificial intelligence for the developer of the corresponding artificial intelligence»[236].

The problems of authorship of works created using artificial intelligence are the subject of many modern scientific studies. And despite some bold judgments by scientists who «humanize» AI, endowing it with the ability to think like people[237], think rationally[238], act like people[239] and, finally, act rationally[240] (all these are historical definitions of AI, which are given in the report of the analysts of the US Congressional Research Service[241], analyzed as approaches to research in the field of AI by S. Russell[242], and further in depth, based on a number of works by other authors, are covered in D.V. Bakhteev's monograph[243]), so far most of the researchers do not see factual and even more so legal grounds for recognizing authorship for AI or neural networks. Although, admittedly, there are separate proposals for granting AI copyrights: for example, A. Alekseychuk, seeing the creative principle in the actions not of AI, but of a person who sets the parameters for creating works by this AI, concludes that in such cases it is the user of the service who must be considered the author[244]. F.V. Uzhov demands that «a list of rights be compiled, the protection of which may be required by a carrier of artificial intelligence. They will be associated, at the moment, with two factors – the factor of the carrier's existence and the factor of the results of its «intellectual» activity. 1. The right to the inviolability of the work. The modification, modification, formatting or elimination of the AI carrier must be authorized by the relevant commission and/or authority. Unauthorized influence on the state of the AI carrier

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[236] Chueva U. A new chapter in copyright protection [Electronic resource] // Zakon.ru. 2020. October 09. URL: https://zakon.ru/blog/2020/10/9/za_iskusstvennym_intellektom_priznali_avtorskie_prava (date of access to the source: 05/31/2024).
[237] Bellman R. Introduction to Artificial Intelligence: Can Computers Think? San Francisco, 1978.
[238] Winston P.H. Artificial Intelligence. Massachusetts, 1992.
[239] Kurzweil R. The Age of Intelligent Machines. Cambridge, 1990.
[240] Luger G.F., Stubblefield W.A. Artificial Intelligence: Structures and Strategies for Complex Problem Solving. San Francisco, 1993.
[241] Hoadley D.S.; Sayler K.M. Artificial Intelligence and National Security // [Electronic resource] Congressional Research Service. Updated 10/10/2020. URL: https://crsreports.congress.gov/product/pdf/R/R45178 (date of access to the source: 05/31/2024).
[242] RusseIl S., Norvig P. Artificial intelligence. A modern approach (AIMA-2). M., 2018. p. 35.
[243] Bakhteev D.V. Artificial intelligence: ethical and legal foundations: monograph. M., 2021. pp. 8-28.
[244] See: Alekseychuk A. Qualification of works created with the indirect participation of the author // Copyright and Neighboring Rights. 2020, No. 3. pp. 47-51.

should be considered as a crime against the «electronic personality». 2. The right of the carrier to authorship. Scientific work, works of art, and other results of intellectual activity created by an AI carrier without human participation belong to the AI carrier who created them. This applies both to the creation itself and to the copyright on it»[245].

M.A. Rozhkova argues that «it is clearly premature to insist on the legal personality of AI, recognizing it as a full-fledged member of society, relations with which are in urgent need of appropriate legal regulation»[246]. I. Ponkin and A. Redkina, having chosen a certain review and conciliatory strategy in her study of the problems of AI in intellectual property law, draw the following conclusion: «Legislation at the moment cannot grant artificial intelligence copyrights, including for the reason that artificial intelligence does not have legal personality and, accordingly, cannot have rights, however in the future (perhaps – quite remotely) such a situation does not seem so impossible»[247].

Thus, opinions about the «humanization» of AI are heard everywhere. However, does anyone from the supporters of endowing AI with legal personality think about how long it will take for the texts created by the machine to have a sparkling style, author's logic, while not repeating the author's reasoning loaded into it, and also reflect the mood, which by definition cannot be in AI? If this is not possible with 3 billion parameters, is it even possible?

Scientists consider the property of AI to be autonomous to be another reason for granting AI legal personality. Autonomy, the ability to become autonomous, the ability to act autonomously, and so on in various variations are the criteria that the authors traditionally give to AI. At the same time, it is difficult to find unity in what is meant by autonomy and in what context to apply this concept to AI, its systems,

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[245] Uzhov F.V. Artificial intelligence as a subject of law // Gaps in Russian legislation. Law journal. 2017. No. 3. p. 359.
[246] Rozhkova M.A. Artificial intelligence and intelligent robots – what is it or who are they? [Electronic resource] // Zakon.ru. 2019. November 23rd. URL: https://zakon.ru/blog/2019/11/23/iskusstvennyj_intellekt_i_intellektualnye_roboty__chto_eto_takoe_ili_kto_eto_takie (date of access to the source: 05/31/2024).
[247] Ponkin I., Redkina A. Artificial intelligence and intellectual property law // Copyright and Neighboring Rights. 2018, No. 2. p. 42.

smart robots, etc. So, Ya.V. Gaivoronskaya and O.I. Miroshnichenko, based, among other things, on the criteria of autonomy, actualize the issues of legal personality of AI and focus on autonomy as one of its key characteristics: previously, «machines were not able to carry out autonomous or semi-autonomous activities», but «recently, new key characteristics of AI-based electronic persons have appeared», among them which are distinguished by the following: «autonomy, self-organization, the ability to learn and self-study, the ability to «reasonable» thinking and behavior, emotional intelligence and other signs of a potentially strong AI»[248]. A.V. Stepanova writes about the «autonomous decisions» that robots will make «in the foreseeable future»[249]. These judgments, on the one hand, emphasize the speed of AI development, but on the other hand, they lead to the recognition of the possibility of endowing AI with legal personality, which will be based on autonomy. V.A. Shestak and A.G. Volevodz, talking about the prospects of «complex internal work and autonomous capabilities of machine learning algorithms», come to the conclusion that «the latter can achieve results that people are unable to explain»[250]. S.M. Solaiman uses the criterion of autonomy (along with self-awareness and self-determination) to compare an artificial intelligence unit and an animal, emphasizing, however that animals and robots lack such a critically important element of legal personality as the ability to exercise rights and obligations[251]. Arguing about the possibility of applying the concept of a collective subject of law to an electronic person, P.M. Morkhat[252] refers to legal personality, on the one hand, is invariably associated with the autonomy of the individual, but, on the other, it is not provided exclusively to a person, by law it is extended to non-human entities

[248] Gaivoronskaya Ya.V., Miroshnichenko O.I. Gordiev knot of contradictions: technology, ethics and law in the issue of legal personality of artificial intelligence // Education and law. 2020. No. 9. p. 197.
[249] Stepanova A.V. Problems of legal personality of artificial intelligence // A symbol of science. 2020. No. 2(12). p. 63.
[250] Shestak V.A., Volevodz A.G. Modern needs of legal support for artificial intelligence: a view from Russia // All-Russian Journal of Criminology. 2019. Vol. 13, No. 2. C. 203.
[251] Solaiman S.M. Legal personality of robots, corporations, idols and chimpanzees: a quest for legitimacy // Artificial Intelligence and Law. 2017. Vol. 25. № 2. P. 176.
[252] Morkhat P.M. The unit of artificial intelligence as an electronic person // Bulletin of the Moscow State Regional University. Series: Jurisprudence. 2018. No. 2. p. 65.

such as corporations[253]. If we turn to legislative initiatives, then the European Parliament is in the RAP. «f» paragraph 59 of its Resolution dated February 16, 2017 2015/2013(INL) P8_TA-PROV(2017)0051 makes a recommendation «on granting robots a special legal status in the future. Thus, at least the most advanced autonomous robots can be created as electronic persons and be responsible for the harm they cause in cases where they make decisions autonomously or otherwise interact independently with third parties»[254]. Researchers of the doctrinal approach to the development of the definition of «artificial intelligence» propose to introduce into scientific circulation the concept of AI as an autonomous intellectual system with the ability to consciously volitional behavior, self-learning and self–control, modeling the activity of neural networks and synapses of the human brain through accumulation, accumulation, study and use of information and having material expression in technical devices – AI units[255].

A number of authors use the criterion of autonomy in relation to issues of AI responsibility. Thus, N.V. Krysanova, along with gaps in legal regulation, connects the problem of imposing responsibility for the negative consequences of AI with the autonomy and opacity of AI systems, and this is indicated by the author as one of the reasons why AI systems can be recognized by persons from the point of view of law[256]. «A robot in terms of its autonomy, possession of artificial intelligence and self-learning is a unique object of legal relationship that requires a special approach – the approach of collective responsibility of the manufacturer, operator, owner and user»[257], - researchers from the Institute of Legislation and Comparative Law under

[253] The Future is here: Artificial Intelligence and Robotics [Electronic resource] // Nishith Desai Associates. 2018: May. URL: http://www.nishithdesai.com/fileadmin/user_upload/pdfs/Research_Papers/Artificial_Intelligence_and_Robotics.pdf (date of access to the source: 05/31/2024).

[254] Civil Law Rules on Robotics European Parliament resolution of 16 February 2017 with recommendations to the Commission on Civil Law Rules on Robotics 2015/2103(INL): P8_TA-PROV (2017)0051 [Electronic resource] // European Parliament: official portal. URL: https://www.europarl.europa.eu/doceo/document/TA-8-2017-0051_EN.html (date of access to the source: 05/31/2024)

[255] Begishev I.R., Latypova E.Yu., Kirpichnikov D.V. Artificial intelligence as a legal category: a doctrinal approach to the development of a definition // Actual problems of economics and law. 2020. Vol. 14. No. 1. p. 87.

[256] Krysanova N.V. On the issue of legal personality and legal development of artificial intelligence // Social and humanitarian sciences. Domestic and foreign literature. Series 4: State and Law. 2021. No. 1. p. 25.

[257] The legal concept of robotization: a monograph / ed. Yu.A. Tikhomirov, S.B. Nanba. M., 2019. p. 89.

the Government of the Russian Federation conclude. Finally, it is worth noting the very definite forecast of A.V. Popova, S.S. Gorokhova and G.M. Aznagulova on «the transformation of the fundamental foundations of the legal system, which, as already predicted in Russian and foreign scientific literature, will be replenished with new subjects of law, autonomous from people, with their own rights, duties, responsibilities, and the potential to compete with humanity, commit offenses and torts»; at the same time, in relation to people, the authors refer to autonomy with regard to the will: «... the principle of autonomy of the will should provide an opportunity for citizens to make an informed, non-coercive decision on the conditions of interaction with robots»[258].

Some authors, on the contrary, do not use terminological constructions related to autonomy/autonomy in relation to AI definitions. Thus, I.V. Ponkin and A.I. Redkina understand AI as an artificial complex cybernetic computer-software-hardware system (electronic, including virtual, electronic-mechanical, bio-electronic-mechanical or hybrid) with a cognitive-functional architecture and its own or relevant available (attached) computing capacities of the necessary capacities and performance[259]. Nevertheless, it is precisely with the ability to self-development and the prospects for the emergence of their own needs and goals that scientists associate even the criminological risks of using artificial intelligence[260].

This is just a small number of studies and a part of the legislative vision (Russian and European) related to the development of AI, and in particular, its autonomy. The latter property is mentioned in the vast majority of characteristics (and even definitions) of AI, and it is indicated as a matter of course, emphasizing the independence, «reasonableness» of AI, ASI (artificial superintelligence), «smart robots», strong intelligence, etc. But still, is it worth interpreting autonomy as a

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[258] Popova A.V., Gorokhova S.S., Aznagulova G.M. Theoretical and legal approaches to determining the system of principles of legislative regulation of artificial intelligence at the present stage of development of the rule of law // The rule of law: theory and practice. 2019. No. 3 (57). pp. 38, 41.

[259] Ponkin I.V., Redkina A.I. Artificial intelligence from the point of view of law // Bulletin of the Peoples' Friendship University of Russia (RUDN). Ser.: Legal Sciences. 2018. Vol. 22. No. 1. p. 95.

[260] See: Radutniy O. E. Criminal liability of the artificial intelligence // Problems of legality. 2017. Issue 138. p. 136; Begishev I.R., Khisamova Z.I. Criminological risks of using artificial intelligence // All-Russian Journal of Criminology. 2018. Vol. 12. No. 6. C. 771-773.

kind of natural and inherent property of AI? In the context of increasing complexity, decentralization, and autonomy of artificial intelligence technologies, it is becoming increasingly difficult to establish human control over certain results. However, is autonomy as a property of AI really similar to that possessed by a human, a carrier of natural intelligence, independently existing in the conditions of objective reality?

If we understand the autonomy of AI solely within the framework of its decisions, then comparing it with human properties, we can draw parallels except with biological processes related to thinking. The autonomous (autonomic) nervous system of a person is a complex of central and peripheral cellular (neural) structures that regulate the functional level of the body necessary for an adequate response of all its systems. If we consider autonomy in philosophical terms, it is defined as a characteristic of highly organized, primarily living and social systems, meaning that the functioning and behavior of such systems is determined by their internal foundations and does not depend on the influence of the external environment[261]. Psychologists consider this concept from the perspective of personality: «Autonomy in the scientific literature is equated with freedom, self-government, sovereignty, dignity, integrity, independence, responsibility, self-confidence, critical reflection, freedom from obligations»[262]. However, if we further expand the boundaries of understanding autonomy – in its deep representation, then it is obvious that this is an independent and independent existence of a living being in natural conditions. The results of staying in nature, in particular, of a person, depend on his ability to provide his vital needs for food, water, heat for a certain time without assistance, using only available reserves or gifts of nature. Since the time of his appearance on Earth, man has evolved, adapting to the world around him and conquering it. Actually, electricity, without which no one, even the most «powerful» AI, can exist, takes away all manifestations of autonomy from it (in a broad sense). And even if we assume the possibility of processing natural energy sources into electrical

[261] Philosophical Encyclopedia [Electronic resource] // Academician: information portal. URL: https://dic.academic.ru/dic.nsf/enc_philosophy/7811/АВТОНОМНОСТЬ (date of access to the source 05/31/2024).
[262] Yezhevskaya T.I. Autonomy as a personal resource of information and psychological security // Scientific notes of the N.G. Chernyshevsky Zabaikalsky State Humanitarian Pedagogical University. 2011. No. 5(40). p. 133.

impulses, this is also just a consequence of the natural processes of human development, but not a robot; natural, but not artificial intelligence.

Without looking at the broad understanding of autonomy – namely, as an independent survival in natural conditions, it makes no sense to talk about autonomous solutions and in general about the independence of AI. Like a telescope, a radio receiver, or a homing missile (self-guided), AI is only a derivative of the natural human mind, and flirting with the concept of «autonomy» in relation to the properties of AI seems not only unnatural, but even harmful. Because it is precisely such conclusions of the researchers, supported by further arguments about AI management and its obvious impact on the world around them, that give rise to further statements about the need for legal regulation of the AI itself[263], and not the person who programmed it (including self-learning, «decision-making» and conditional impact on the surrounding world). There are theoretical and legal constructions of units, electronic persons, and even citizenship is given to humanoid robots[264]. But what happens if you just turn off the AI's power supply? Will software codes be able to function in AI software hardware? Do we have the right to so easily ignore the concepts of autonomy in relation to individual elements of AI, but turning a blind eye to its deep understanding? And if we assume the possibility of liability for AI carriers as quasi-legal entities, will it consist solely in removing the power source from the chip?

If the electricity on planet Earth runs out, a person will still be able to get up at first light and provide his vital activity from natural sources, and reproduction – also without outside influences. He will be able, as thousands of years ago, to use embers to draw a picture on a rock, or even his palms – the first «musical instrument» – to beat the rhythm for the melody he composed. As applied to modern realities and in connection with the development of AI, creativity in creating works is increasingly fading into the background. Technical processes in their generation

[263] Berggolts V.V. Legal status and delineation of responsibility in the development and use of artificial intelligence tools // International Journal of Humanities and Natural Sciences, vol. 6-3 (45), 2020. p. 25.
[264] Gynoid Sofia is a citizen of Saudi Arabia.

are of much greater interest. At the same time, the criterion of novelty also becomes difficult to determine, since when granting AI copyrights, it is difficult to analyze whether it generated a work by compiling the information uploaded into it and applying the algorithms laid down by the developers, or, based on existing knowledge, was able to design a truly unique and new product. We believe that the complete autonomy and independence of AI, as well as the uniqueness of the works generated by it, is still unacceptable. Despite the popularity of concepts prevailing in the scientific world regarding the independence of AI, its autonomy and, as a result, its legal personality; and even looking back at the landmark decisions in international law enforcement practice that have recognized the authorship of AI, I would like to urge researchers to a deeper and, possibly, global understanding of autonomy. AI cannot exist autonomously, without technologies developed and implemented by humans. Even if we consider AI as a kind of «smart» superstructure over technological solutions - as, say, the crown of technological perfection - if it did not have man-made energy potential, it would not be able to provide itself with minimal nutrition. Then how can we talk about its autonomy?

Speaking about the meaning of autonomy in a legal context, it is unacceptable to keep in mind autonomy as a technical feature of the subject. To put it simply, this is not the autonomy that is actually required in order to make changes to law, its theory and concepts of law. Reconstructing autonomy as a meaningful legal category, replacing it with autonomy in a technical sense (which is actually a technical feature of the subject), is like imagining a delivery robot driving autonomously along the sidewalk as a subject of law (and, by the way, even, as it seems from the outside, quite «meaningfully» crossing the road to the green traffic light signal at a pedestrian crossing): from a technical point of view, it is autonomous, but it is not and never will be a living being – a subject of law.

The cat's drinking bowl is autonomous. The vending machine also has a sufficient degree of autonomy. Does this mean that for such objects of the material world (with a sign of autonomy) it is necessary to develop separate rules of law due to the presence of such a sign of «legal personality»? For the law, the autonomy of

the drinker, vending machine, postal delivery robot means only one of the technical nuances of the possibility of concluding a deal and implementing a way of expressing will. There are no special rules of law based on this legal and technical aspect, which would be the reason for granting these objects legal personality. There can't be any in relation to AI carriers.

Obviously, the question of how autonomous AI is and whether it is possible to recognize the rights of the subject of legal relations for it is as one-sided as it is unnatural for the very nature of such a subject. The theory of law speaks about such properties of subjects of legal relations as legal capacity, legal capability and delictworthiness, which together constitutes legal personality. If scientists and practitioners endow AI with legal capacity (and, as already shown above, this is done by very obvious substitution of legal concepts with technical ones), then only ethical issues of AI application are associated with legal capability and delictworthiness. Why is it that the owner receives judicial compensation for the text automatically written by the robot, and in the case of automatic errors of machine algorithms, everything is incredibly easily attributed to internal imperfections of AI? Since currently no IT company using AI technologies has agreed to reveal the algorithms of its neuromachines to the world, we do not have objective data, which means there is no real opportunity to draw conclusions about how much «imagination», which scientists say name as a creatively unpredictable process, and not the result of «training» AI, the result of mixing the data and algorithms embedded in it, a compilation of downloads that are carefully called the «experience» of AI. But even after receiving this data, we will not be able to draw a conclusion about the legal autonomy of AI, and the AI carrier will not become a self-aware subject of law.

5. On the possibility and purpose of recognizing legal personality for AI. Generalization of conclusions

MBA professors who are engaged in research in the field of AI express concern about the legal personality of AI and responsibility for its decisions[265]. So, regarding the responsibility of AI, A. Joshi, Professor of the Swiss Business School, believes that «the way AI is currently formed indicates that it has built-in problems of design, mathematics, computing, etc. Many of them are insoluble at the moment, because we cannot explain them. If we cannot understand why such a result comes to us, then we cannot justify it.… Making ethical decisions is not for AI yet»[266]. Obviously, the AI cannot be held responsible for the unreasonableness of the results it provides. There are also positions among domestic researchers (albeit isolated ones) that deny the absolute autonomy of AI: «To date, no AI system is completely autonomous and cannot do without some kind of human participation in its work», says S.A. Somenkov[267].

Periodicals systematically publish news about the blocking (by the software of social networks) of advertising campaigns of entrepreneurs, as a result of which the latter incur losses in the form of lost profits from unrealized sales, as well as – in some cases – harm due to damage to goods or uncontrolled write-off of funds from the accounts of advertising cabinets. However, the business does not receive compensation for these losses.

Thus, the owners of machine algorithms and neural networks are not responsible for the losses caused to people from the imperfections of their solutions and developments, because there are no specific offenses, as well as there is no clear

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[265] See: Joshi A. The future of artificial intelligence: new opportunities: lecture [Electronic resource] // RBC. Lectures by MBA professors. URL: https://pro.rbc.ru/lecture/60abff489a79472708e629ad (date of access to the source 05/31/2024), Meiler Ya. Artificial intelligence in logistics and production: lecture [Electronic resource] // RBC. Lectures by MBA professors. URL: https://pro.rbc.ru/lecture/60ac03879a794727cda32c57 (date of access to the source to the source 05/31/2024); Dutta S. Artificial intelligence for effective management: lecture [Electronic resource] // RBC. Lectures by MBA professors. URL: https://pro.rbc.ru/lecture/60acc1bb9a79475d4649f899 (date of access to the source to the source 05/31/2024), Abhishek V. And without HYPE: the real benefits, difficulties and limitations: lecture [Electronic resource] // RBC. Lectures by MBA professors. URL: https://pro.rbc.ru/lecture/60acbe789a79475b3e8550ae (date of access to the source 05/31/2024).

[266] Joshi A. The future of artificial intelligence: new opportunities: lecture [Electronic resource] // RBC. Lectures by MBA professors. URL: https://pro.rbc.ru/lecture/60abff489a79472708e629ad (date of access to the source 05/31/2024).

[267] Somenkov S.A. Artificial intelligence: from object to subject? // Bulletin of the O.E. Kutafin University (MSLA). 2019. No. 2. p. 84.

legal regulation of liability for harm caused as a result of decisions made by AI. There are only a few declarative statements about the ethics and responsibility of AI, and we believe they are enough. However, branch legal sciences cannot advance in the further formation of provisions on responsibility in the field of decisions made by AI, because in the theory of law there is no unified understanding of the place and role of AI in the system of legal relations. Every «quasi-legal» concept in the theory of law (with the same units, limited legal personality, rights without obligations, etc. – moreover, all this is thought of in relation not to the subject, but to part of the objective side of the legal relationship and the offense) responds in sectoral directions – by building pseudo-legal relations, even more saturated with baseless conventions and attempts to conduct them through the institution of legal fiction. At the same time, following fashionable, if you can call them that, trends and drawing analogies of the «legal personality» of AI with the legal personality of the state, Mother Earth, and young children does not entail an error in the legal and technical method (in fact, at the legislative level, anyone can be given rights), but a substitution of concepts. A tool can never act as a master. The very giving of the subject status to the tool (and in fact AI is an algorithmic tool; with very complex, high-speed and sometimes inexplicable calculations and constructions – but still a tool!) and granting him rights contradicts the essence of the legal relationship between the «true» subjects of law – those who, in addition to having rights, perform duties and bear appropriate responsibility (have legal capacity, legal capability and delictworthiness).

Implying that legal capacity, legal personality, legal capability and delictworthiness are abstract concepts that describe scientific categories, but do not represent real legal phenomena, in no case should we forget that the realization of rights, duties and responsibilities takes place in the living world, in a society where the subjects of legal relations manifest themselves, even if it is not individuals, and, for example, collective subjects of law[268]. Thus, states exercise their rights and

[268] All subjects of law form a system consisting of participants in public relations, in which, having rights and bearing responsibilities, these participants implement legal norms, becoming participants in legal relations. Such statuses and

obligations through the institutions they have created, and in case of illegal actions on the part of «representatives» of this entity, legal procedures, compensation mechanisms, etc. are provided. In the case of limitation or general exemption from liability of any subjects of law, remedial procedures and compensation mechanisms are implemented at the expense of their responsible representatives, and in extreme cases the state itself assumes the function of restoring the legal balance, even if only in the case of recognizing those whose rights have been violated as victims and preventing further harm by a person who did not realize the consequences of their actions (compulsory medical measures, insurance payments, etc.). But the main point is that initially there is a free and independent subject of law, which is full-fledged in terms of a set of legal features: he is a participant in public relations, whom the legal norm has endowed with rights and obligations; he has the ability to enter into legal relations, while showing his own will, and building – socially and socially in a natural understanding, the boundaries of legal relations – starting from everyday human, ending with international ones.

Developing (through the concept of «freedom») a value understanding of the manifestations of legal personality through legal relations, we will try to artificially «take out» duties from them, leaving only rights and freedom of their realization. Each subject of law, realizing his own right or having in the future its implementation, has certain opportunities or freedom of behavior provided to him as a subject of law – this is his right to exercise (realize). Moreover, this freedom is, in fact, unlimited, but it is the subject of law who consciously restricts himself, including through legal responsibility, and this is done in order to maintain the legal balance of social relations and preserve his own boundaries of legal relations. «The philosophy of freedom is closely dependent on the scientific potential of the integrated philosophy of responsibility»[269], – this is manifested in the fact that, realizing the need for the mentioned balance, it is responsibility that restricts

potencies are not available for AI carriers. For more information about the classification of subjects of law, see: Bakhrah D.N. Subjects of Russian law // The economy of the region. 2006. No. 2. pp. 121-132.

[269] Orekhovsky A.I. Philosophy of responsibility: a monograph. Novosibirsk: Siberian State University of Telecommunications and Informatics Publishing House, 2013. p. 6.

freedom in certain optimal social and natural frameworks of being manifested in legal relations. Despite the conditionality of the limitation of freedom, responsibility should not be opposed to it: it is as natural for an individual, society and the state as the emergence of freedom of choice of behavior or action, it is a prerequisite for the existence of a legal society, and awareness of oneself as a subject of law in it.

Is AI equally conscious? Where are the boundaries of its «personality» (subjectivity)? Does it have freedom? It is elementary (if we focus on the hackneyed example of «authorship»): does it «create» at the very time when it has the mood, inspiration, or at least motivation, or does it execute commands and implement the algorithms embedded in it? The purpose of AI «creativity» is in social approval, recognition, self-realization in the freedom of this creativity (and this is also legal freedom, consciously limited by recognized rules of behavior and responsibility), or in the fulfillment of program tasks? And even if we assume for a moment that AI really does something of its own free will (which, of course, does not correspond to reality), what is it guided by when making decisions about, say, storylines, main characters and value messages of its creativity (if, again, we take as an example such popular concepts in the style of «let's give AI copyrights»)? Such reasoning, of course, is devoid of scientific meaning, since the «solutions» (if this can be conditionally called the answers of AI to the questions posed or the results of its «quasi-creation») of artificially constructed utilitarian programs and mechanisms are weak-willed, unfree and devoid of a value guideline, which, obviously, the subjects of law have, and to which it is unacceptable to classify AI. Is it possible to integrate the instrument into public relations as a subject of law? «Public relations have been and remain a common rule. <...> The absence of public relations is also the absence of law: without the subject of regulation, there can be no regulator itself, and if there are no prerequisites for such relations in society, then the law will remain not only “paper”, but also “dead”«[270].

[270] Hvorostov A.Yu. On primacy in law // Problems of modern legal understanding. Materials of the scientific and methodological seminar on October 11-13, 2006 / Under the general editorship of T.I. Kozlova. St. Petersburg, 2007. p. 43.

Whatever approach to understanding the law the researchers adhere to, in the context of the implementation of legal policy in the direction of the development of relations related to the use of AI, it is required:

1. A unified (not one-sided, not conditionally integrative, namely a single, universal) understanding of the essence of AI: it is a tool, a mechanism, part of the objective side of a legal relationship or offense;

2. Acceptance of the impossibility of recognizing AI as a legal entity: this comes from the objective manifestation of AI, as well as from its lack of will (and its external manifestation – freedom), consciousness (and legal awareness, among others), legal independence (which is often tried to replace with technical autonomy), and most importantly – the value orientation of all operations performed by it (which are often called activities);

3. Development of a unified conceptual framework for legal liability for actions caused by AI carriers, which will be acceptable when applying any of the approaches to legal understanding, including within various branches of law.

«The specificity of legal normativity, which consists in the presence of uniform systems of rules of conduct for all, at the same time requires taking into account their subjective dimension associated with a variety of self-regulation mechanisms that complement and specify what is carried out in accordance with the norm»[271]. The very essence of law includes not only the so-called «subjective right», natural, belonging to everyone[272], but also «objective», «state» law, focused on the priority of subjective rights[273]. And even if we understand law in its normative manifestation (as a hierarchical system of norms acting as a regulator of public relations[274]), the problem of contrasting law and law «does not and should not be»; «there is and should be a problem of inconsistency of the right (law) with any values»; «it is possible and necessary to say that the right (law) does not correspond to anyone's

[271] Zazaeva N.B. Modern trends in the definition of law (conceptual analysis) // Philosophy of Law. 2005 No. 3 (15). pp. 42-43.
[272] See: Kozhevnikov S.N. Understanding law: various theoretical aspects // Jurist. 2004. No. 11. p. 20.
[273] See: Alekseev S.S. The ascent to the law. Searches and solutions. M., 2001. pp. 425-426.
[274] See: Baitin M.I. The essence of law (Modern normative legal understanding on the verge of two centuries). Saratov, 2001.

ideas of justice, morality, any actual relations, etc.»[275]. By the way, you can understand law in a «non-legal» sense, because relations in society are regulated not only by legal norms, but also by numerous other rules of conduct[276]. All this diversity of approaches, discussions, discrepancies and opinions leads either to compulsion to the need to choose and further follow any concept (which, obviously, as a consequence, generates the need for a long-term justification and proof of its truth, and in particularly serious cases – to focus efforts on developing a fundamentally new, authentic type of understanding of law[277]), or the search for so-called «integrative» concepts[278]. Unlike the integrative approach, unification involves bringing all (or at least most) well-established concepts and requiring a common understanding of phenomena or things to a common denominator in a particular field (in our case, in the field of AI application).

Both the state, which is in no hurry to improve legislative processes, and ambitious developers, who every time cannot explain and predict the consequences of downloading certain data and algorithms into machines and networks designed by them, it is also more convenient not to be responsible for the actions of AI. Having fallen into one of the traps of «digitalization», which consists in the constant pursuit of excellence in development, this trio shamelessly enjoys an indulgence in terms of responsibility, since it is very easy to shift the blame to «failure», «algorithm error», «imperfection of AI»... But it has long been known: «The longer we teach the neural network, the smaller the error»[279]. «AI is not magic. All artificial intelligence programs involve human decisions and compromises»[280].

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[275] Here and above: Tolstik A.V. From the pluralism of understanding to the struggle for the content of law // State and Law. 2004. No. 9. p. 15.

[276] See about this: Minniakhmetov R.G. The legal system as a syncretism of all social norms // Law and Politics. 2004. No. 3. pp. 9-13.

[277] See: Chestnov I.L. Modern types of legal understanding: Phenomenology, hermeneutics, anthropology and synergetics of law. St. Petersburg, 2002. p. 9.

[278] See in more detail: Grafsky I.L. Integral (synthesized) jurisprudence: an actual and still unfinished project // Law studies. 2000. No. 3. pp. 49-64; The same author: P. Sorokin's General theory of Law: on the way to integral (synthesized) legal knowledge // State and Law. 2001. No. 1. pp. 111-120.

[279] Belyaev A. How artificial intelligence, machine learning and deep learning work [Electronic resource] / / RBC In trend. September 29, 2020. URL: https://trends.rbc.ru/trends/industry/5e845cec9a794747bf03e2c9 (date of access to the source: 05/31/2024).

[280] James X. Dempsey. Artificial Intelligence: An Introduction to the Legal, Policy and Ethical Issues. Berkeley Center for Law & Technology, 2020. p. 7.

Consequently, insufficient «training» of AI, the race for primacy in discoveries in the IT field can generate errors caused by premature entry into the market, for which there is still no one to answer in the current realities, and to continue to insist that AI has or will have legal personality in the near future, is not only incorrect, but also It's dangerous. The very purpose of such manipulations seems harmful, because by giving AI legal personality, the four main current actors in the field of responsibility for harm caused as a result of AI decisions (we call this the «4**П** Concept», in which one of the following subjects is responsible: the Programmer (**П**рограммист), Manufacturer (**П**роизводитель), Copyright Holder (**П**равообладатель) or User (**П**ользователь)[281]), will be able to avoid this responsibility. The declarative proclamation of the existence of rights, without duties and without responsibility violates the principle of unity of rights and duties. Although this principle is understood differently by different scientists[282], it must be recognized that it represents «one of the fundamental regulatory requirements that ensure effective legal consolidation, interpretation and implementation of the rights and obligations of subjects of legal relations»[283]. The existence of rights and obligations (in their unity), in turn, dictates the need for responsibility for non-fulfillment of duties or for violation of the rights of other subjects. The whole essence of law (in its normative understanding) is based on this harmony: an imbalance in rights and (or) duties is balanced by responsibility. Otherwise, we could not conceive of the law itself and would not have branches of law in the form in which they exist now: together with the realization of rights, fulfillment of duties and responsibility. The purposeless exclusion of responsibility in relation to the field of AI activity is certainly a consequence of its erroneous understanding as a subject.

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[281] See about this: Analytics, Big Data & Artificial Intelligence Day: Conference on October 10, 2023 [Electronic resource] // TAdviser. URL: https://www.tadviser.ru/index.php/Конференция:Artificial%C2%A0Intelligence_Day_2023 (date of access to the source: 05/31/2024).

[282] A very thorough review of the positions on this issue was made by A.S. Klimova. See: Klimova A.S. The principle of unity of rights and duties of the individual // Legal technique. 2020. No. 14. pp. 594-596.

[283] Klimova A.S. The principle of unity of rights and duties of the individual // Legal technique. 2020. No. 14. p. 596.

Believing that everything «impossible» is relative (the author of the statement always takes the word «impossible» in quotation marks, emphasizing the conventionality of this concept), M. Kaku writes that just one hundred and fifty years ago, scientists declared much of what seems natural and even ordinary to us today to be «impossible»[284]. Nevertheless, with regard to the development of engineering and high technologies, it is difficult to agree with the possibility and suddenness of the emergence of any new and unexplored forms of public relations. Having recognized AI carriers as subjects of these relations and holders of certain rights (very ephemeral, by the way), we would have to, for example, recognize the right of authorship for a camera and a copier, give a car, an airplane and an elevator the right to move, and always indicate the calculator as the author of the calculations made by it. The above conclusions of the researchers about the existence of a completely autonomous AI that does not need human help, as a result of which it is necessary to endow AI carriers with legal personality (even if limited), cannot be considered sound. After all, we are not talking about single tasks assigned to a person: data logging, analysis of results, correction of errors, etc. Next, we will clarify why the developer, manufacturer, user (operator) or owner of the AI carrier is responsible (in one case or another) for the final consequences of the activity of this object. Investigating the problems of AI development, scientists note that even the best of neural networks are subject to «network paralysis» – a situation when the network stops learning and its neurons produce erroneous signals[285], therefore, without a person, even the so-called «self-organizing system» is incapable of self-awareness, goal-setting, or being considered a subject social (and, in particular, legal) relations.

«If we talk about the purpose of AI, many researchers see in it the creation of a machine whose actions, if they were committed by a human, would be recognized as «rational». Other researchers further expand this definition. Ant colonies and the

[284] Kaku M. Physics of the impossible. M. 2014. p. 7.
[285] Philosophical problems of the development of artificial intelligence: a monograph / edited by A.V. Volobuev, N.A. Orekhovskaya, M., 2019. p. 18.

immune system, they say, also behave intelligently, but completely un-humanly. And getting bogged down in the abyss of these disputes means falling into the same trap that AI has suffered from for decades»[286]. However, it is possible to get out of this trap quite simply: not only, and not so much by offering to grant any rights to AI carriers and looking for signs of human intelligence in it, but, above all, by asking the question: who will be responsible for the consequences of actions / decisions of this AI carrier? For example, who should be sued for the protection of infringed copyrights if the AI-generated painting is so similar to a previously painted artist's painting or a photograph created by people before the appearance of the AI «work»? In response to such a question, researchers usually retort: there can be no plagiarism, because AI is not independent in generation, it only reproduces references loaded into it in random order. Thus, they once again refute their own proposals on granting copyright to AI carriers: since there is no creative character and authorial novelty, and we are talking about, let's say, quasi-authorial generation, then what rights can we talk about? It is possible to continue the study of the alleged legal personality in the same way with respect to other AI carriers: since they act according to predetermined algorithms (even if they form a complex system), can AI carriers be considered responsible in case of harm? By determining who is responsible in case of harm caused by an AI carrier and how the damage caused will be compensated, in the end, the question of the legal personality of this carrier disappears, since it is always decided in favor of the one who will be responsible for the harm, and this someone will be an individual or legal entity, but not himself AI and not an AI carrier.

Without an understanding of legal personality in relation to AI, it would be impossible to advance towards the formation of conceptual foundations of legal responsibility for actions caused by AI carriers, therefore, a significant part of the work was devoted to the study of this issue. The key point, which is voiced by almost all authors of opinions on granting AI legal personality, is the question of

[286] Artificial intelligence. What is worth knowing about the coming era of intelligent machines / ed. by D. Haven; translated from English by O.D. Sayfutdinova. M., 2019. p. 32.

the autonomy/ autonomy of AI, which, unfortunately, is misunderstood and applied in many modern studies. This, as it seems to the author, is not a self-evident feature and has any significance for determining the legal status of an AI carrier, and even more so it is not decisive or fundamental. Based on this interpretation, which is essentially incorrect, we will get (and have already received) baseless concepts that replace legal categories with technical properties.

Such judgments reached their apogee in the works on the study of the «authorship» attributed to AI. However, both at the legislative level and in law enforcement practice, a person is still responsible for actions using AI carriers. Therefore, before asking the question «should we give AI rights», «is it possible to see signs of legal personality in AI» and similar arguments, it is advisable to ask the following logical question, which may seem less convenient for the authors: who will be responsible in case of harm caused by an AI carrier? Even in the field of generative AI models (in the arguments about which the authors, it would seem, are given the easiest way to prove the creative nature and authorial or, say, quasi-authorial manifestations of AI and, as a result, the presence of legal personality), the answer is obvious: a person (a human) will always be responsible.

One of the most striking and memorable recent precedents with the «authorship» of AI is the case of the use by American lawyers (S. Schwartz and P. LoDuka) of the generative ChatGPT model to substantiate a legal position with references to non-existent judicial precedents in cases similar to the one in which these lawyers participated (one of them used the ChatGPT chat, and the second signed the result of this chat with AI-invented precedents). Judge of the Federal District Court of Manhattan, New York, P.K. Castel collected a joint and several-fold fine of $ 5,000 from the lawyers and their law firm, and in the remaining operative part of the decision, the judge ordered the lawyers to notify their client, attaching to the notice the court's decision, a transcript of the meeting (which says exactly how they worked on the case) and their written explanations to the court on the circumstances of the incident. Moreover, the judge considered the judges to whom the chat attributed the decisions to be victims, therefore, the lawyers were

also obliged to send notices of the incident to all the authors of the alleged «decisions»[287], also with documents attached. When researching the precedent, at the beginning of his court order («order to show cause») on this issue, he indicated the following: «The court is faced with an unprecedented circumstance. The statement filed by the plaintiff's lawyer in opposition to the motion to dismiss is replete with references to non-existent cases»[288]. Further, the work will pay attention, among other things, to the theoretical constructions of responsibility models proposed by researchers with the participation of AI as a subject of legal relations, in order to generalize existing scientific approaches to issues of responsibility for actions caused by AI carriers. However, a critical analysis of the possibility of granting AI legal personality has shown the artificiality and uselessness of such initiatives, including because AI responsibility cannot arise anyway. A unified understanding of the essence of AI will help overcome the existing pluralism of approaches in legal science, some of which have neither scientific nor practical significance. Currently, scientists understand AI in different ways, because in recent years it (like many modern technologies) has been developing at a rate with which not everyone can figure out what it really is. The author hopes to debunk the mythologized «subjectivity» of AI in the near future, including through this study.

[287] See The opinion and Order on sanctions in Case 1:22-cv-01461-PKC 2023 [Electronic resource] // URL: https://www.lawnext.com/wp-content/uploads/2023/06/S.D.N.Y.-22-cv-01461-dckt-000054_000-filed-2023-06-22.pdf (date of access to the source: 05/31/2024).

[288] See order to show cause in Case 1:22-cv-01461-PKC 2023 with a description of what happened: Order to show cause for Case 1:22-cv-01461-PKC 2023 [Electronic resource]: https://www.lawnext.com/wp-content/uploads/2023/05/S.D.N.Y.-22-cv-01461-dckt-000031_000-filed-2023-05-04.pdf (date of access to the source: 05/31/2024).

CHAPTER III. Formulation of the conceptual foundations of legal responsibility for actions caused by AI carriers

1. The experience of AI carriers' harming[289]

By itself, the use of AI carries a lot of useful things and firmly surrounds us in a huge array of technical solutions. The US police uses Spot robots to detain criminals. Social networks are AI algorithms for blocking pornographic and other prohibited content (weapons, violent scenes), as well as music and videos that violate copyrights. Financial corporations are for big data analytics. Search engines are used to «add» a search query. Even the Russian Post, along with delivery services, uses Yandex delivery robots equipped with AI models to transport parcels. The examples can be continued. However, human history has accumulated enough experience, because of which the issues of responsibility of AI carriers are acute.

R.N. Williams is officially considered the first person deprived of life by a robot. The incident occurred on January 25, 1979 at a flat rock casting plant owned by Ford Motor Company in Flat Rock (Michigan, USA). The task of the Litton Industries industrial robot was to extract the castings of flat shapes and report their quantity. Williams also worked alongside this robot. To speed up the work, the man decided to get one of the parts himself, and at that moment a 1-ton robotic arm hit and crushed him to death. During the investigation of the case, the commission found Williams completely innocent. The manufacturing company of the robot paid $ 10 million to the family of the deceased[290].

In 1981, in Japan, at the Kawasaki Heavy Industries motorcycle factory (Akashi), an AI carrier robot decided to destroy a 37-year-old employee Kenji Urada working next to him, who was identified as a threat to the robot's mission. AI made it possible to eliminate this threat by pushing a person into a nearby working

[289] The section contains only cases known to the author – from open sources. There are probably many more of them. At the same time, in order to comply with the principle of reliability of information, the author verified the sources used by rechecking the facts in various periodicals and news publications, on the official resources of individuals and companies mentioned in the publications. Anyone who wishes has the opportunity to independently review and verify the sources used.

[290] $10 Million Awarded To Family Of U.S. Plant Worker Killed By Robot // Ottawa Citizen. August 11, 1983. p. 14.

mechanism: death occurred instantly, after which the robot continued to do its job[291]. Urada was the first, but far from the only victim of AI carriers in Japan. So, in 2018, at a conference on artificial intelligence in Los Angeles, American journalist Linda Molton Howe told a terrible story that 29 Japanese scientists fell victim to robots created by them. The source of classified information, according to the journalist, is a military man who left the service, but continues to work under contract for the CIA, the National Security Agency and other similar structures. According to an undercover informant, the incident occurred at a well-known robot manufacturing company in Japan. Four products intended for use in the military sphere killed 29 scientists with firearms: the staff managed to disable two robots and disable another one. However, the fourth managed to connect to a satellite in Earth orbit, download data for reprogramming and gain additional skills. Linda assured that information about the incident will not appear in the media, as the company is not going to spoil its reputation. In addition, Japan is in need of combat robots, so development will not be stopped[292].

In 1997, a mail robot ran over a woman's leg and then closed the closet door, leaving her locked inside, information about the amount of compensation remained closed[293].

In the United States, surgical robots «killed» 144 people between 2000 and 2013. The use of robots for surgical procedures has become a widespread practice in the United States, and, as with any surgical procedure, there is a risk of complications and even death. A study conducted between 2000 and 2013 for the FDA found that 144 deaths, 1,391 injuries and 8,061 robot malfunctions occurred during operations. One of these deaths and 119 injuries were caused by pieces of robots that actually fell and landed inside the patients' bodies during the procedures.

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[291] Yueh-Hsuan Weng, Chien-Hsun Chen and Chuen-Tsai Sun. Towards the Human-Robot Co-Existence Society: On Safety Intelligence for Next Generation Robots, 1 INT. J. SOC. ROBOT 267, 273 (2009).

[292] Four robots killed 29 Japanese scientists [Electronic resource] // Rambler. News. 2018. December 21st. URL: https://news.rambler.ru/world/41464160-chetyre-robota-ubili-29-yaponskih-uchenyh-zador-amerikanskoy-zhurnalistki-krepchaet/ (date of access to the source 05/31/2024).

[293] Iriskina E.N., Belyakov K.O. Legal aspects of civil liability for harm caused by the actions of a robot as a quasi-subject of civil law relations // Humanitarian Informatics. 2016. Issue 10. p. 66.

Two deaths and 52 injuries were caused by a robotic surgeon who blacked out or took the wrong steps, and a whopping 193 injuries were the result of electric sparks from robotic surgeons burning patients[294].

Incidents of varying severity with AI carriers are described by news outlets[295]. In 2006, a robot known as a «degator» pinned a man to its frame and crushed him. The man was found pressed against the degator, with his arm outstretched, reaching for the reset button. Further testing of the robot showed that there were no malfunctions in any of its movements and there was no memory in its computer.

In June 2007, an industrial robot attacked a man in Sweden and almost killed him. The worker thought he had successfully turned off the power to the robots that were used to move the giant stones, and approached the machines to perform repair work. Suddenly they spun and one put the man's head in a vice. He struggled to free himself and suffered many injuries (including four broken ribs), but fortunately survived.

In May 2007, an employee of Lenco, Inc. tried to repair a robotic arm designed to remove CDs from an injection molding machine. The robot attacked an employee, who suffered blunt trauma to his ribs and skull as a result and died in hospital two weeks later.

As a result of the failure of an air defense missile launcher at one of the bases of the North Cape province of South Africa, which occurred in 2007, 9 South African soldiers were killed and 14 more were seriously injured. The Oerlikon GDF-005 automatic computerized anti–aircraft gun was controlled by a system designed

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[294] Radford L. 13 Scary Real Life Robot Attacks [Electronic resource] // Ranker. 2019. November 5th. URL: https://www.ranker.com/list/real-life-robot-attacks/lyra-radford (date of access to the source: 05/31/2024).

[295] See: Gromov A., Todorov V. The Uprising of machines. The tragedy at the Volkswagen plant and four more cases of robots attacking people [Electronic resource] // Gazeta.ru. 2015. July 02. URL: https://www.gazeta.ru/tech/2015/07/02_a_6864185.shtml (date of access to the source: 05/31/2024), 8 incidents that occurred due to drones [Electronic resource] // Novate. 2016. URL: https://novate.ru/blogs/110516/36304/ (date of access to the source: 05/31/2024), Madrigal A.C. Drone Hits Spectators Watching the Running of the Bulls (in Virginia) [Electronic resource] // The Atlantic. 2013. August 26. URL: https://www.theatlantic.com/technology/archive/2013/08/drone-hits-spectators-watching-the-running-of-the-bulls-in-virginia/279040/ (date of access to the source 05/31/2024), Robot vacuum cleaner 'attacks' South Korea housewife's hair [Electronic resource] // Fanverse.org. 2015. February 10th. URL: https://www.fanverse.org/threads/robot-vacuum-cleaner-attacks-south-korea-housewifes-hair.1024915/ (date of access to the source: 05/31/2024), A robot at the Volkswagen plant killed a man [Electronic resource] // Habr. 2015. July 02. URL: https://habr.com/ru/post/381305/ (date of access to the source: 05/31/2024), etc.

to automatically search, capture and attack the enemy without human intervention. The gun even had a self-reloading system, which in our case could make it even more deadly. It opened uncontrolled fire in all directions, firing two hundred and fifty 35-mm high-explosive shells from its two barrels at people nearby.

In 2009, 40-year-old Ana Maria Vital was killed by a Golden State Foods robot at a factory in an industrial area of Los Angeles. The machine was used in the process of installing boxes on pallets. At some point, one of the boxes got stuck inside the robot, and Maria entered its cage in order to restore the course of the packaging, which ended in death for her.

In 2013, visitors to the annual bull run in Virginia were attacked by a flying drone. He injured five spectators. The photographer who was most affected was trying to capture a drone attack on people. And in June 2015, another drone attacked singer Enrique Iglesias: During a concert in Tijuana, the performer tried to catch a drone to take pictures of the audience, as he had done many times before. However, the device suddenly broke free and seriously cut the singer's fingers, simultaneously damaging one of the bones of his hand.

In June 2015, an accident occurred in California between two self-driving cars. The Delphi drone based on the Audi Q5 crossover was moving along the San Antonio highway and was about to change lanes. At this time, he was clipped by a Lexus RX450h with autopilot from Google.

In July 2015, an out-of-control robot killed a man at the German Volkswagen plant near the city of Kassel. During the installation work, an automatic robot arm grabbed a 21-year-old employee and practically flattened him against a sheet of metal. It was not possible to save the man. And in April 2016, a drone smashed the window of the office of racer David Perel, located on the fifth floor in Cape Town, South Africa, and hit an unsuspecting person in the head: he escaped with minor injuries, and his office equipment was also damaged.

In 2016, Uber began testing self-driving cars in Pittsburgh, and soon expanded to Arizona, after its self-driving cars were banned from the streets of San Francisco

by the California Department of Motor Vehicles in December 2016[296]. The focus on driverless cars was intended to showcase Uber's progress in nascent technology, and in the same year it began attracting customers to Tempe after Arizona Governor Doug Ducey, a proponent of driverless cars, took the first ride in a drone. Testing has spread to complex urban areas, as states such as Arizona and Texas take a fairly lenient approach to legislative regulation, and companies seek to be the first to commercialize the technology. This helped improve the systems, but also increased the likelihood of pedestrian death.

In June 2016, 20-year-old Regina Elsa died at the Ajin USA factory, which manufactures parts for Hyundai and Kia cars, from the «hand» of a robot. She and her colleagues were trying to fix a failed robot. He suddenly rebooted and pushed Elsa very hard into another car, causing serious damage. The next morning, the girl died.

In 2016, a robot security guard of the Knightscope corporation knocked down a small child, and in 2017, a similar device «drowned» in the fountain of a shopping center in Washington, USA[297]. This robot shoots video with a 360° camera, it has a built-in thermal imager, and it also reads up to 300 license plates per minute. What happens inside his AI when such incidents occur?

In March 2017, at the Ventra Ionia Main spare parts factory (Detroit, Michigan, USA), during her shift, employee Wanda Holbrook decided to check the industrial robot for malfunctions (fault monitoring on the lines was Holbrook's work function). By a mysterious coincidence, a robot from another section abruptly hit her on the head, and her jaw instantly broke. How the robot ended up next to her is still unknown to anyone. This is probably the most mysterious case of all. As stated in the report of the commission investigating this tragedy, «the robot's hand suddenly grabbed Wanda, reaching out to the section where she worked. After that,

[296] Hagan Sh. Uber Launches Self-Driving Cars in Arizona After California Ban [Electronic resource] // Bloomberg. 2017. February 22nd. URL: https://www.bloomberg.com/news/articles/2017-02-21/uber-launches-self-driving-cars-in-arizona-after-california-ban (date of access to the source: 05/31/2024).

[297] Luchkov I. Robot policeman in Washington: knocked down a child, survived an attack, drowned himself in a fountain [Electronic resource] // Wylsa.com . 2017. July 18th. URL: https://wylsa.com/robocop-dying/ (date of access to the source 05/31/2024).

hitting and crushing Wanda's head between the assembly couplings, I tried to place her head in a special device-a clamp». The husband of the deceased filed lawsuits against five companies involved in the production of this robot: Prodomax, Flex-N-Gate, FANUC, Nachi, and Lincoln Electric[298].

On May 7, 2017, an accident occurred in Florida, during which a driver who was driving a Tesla Model S (an Uber driver) was killed. The incident occurred on a dry highway in clear weather. Most likely, 40-year-old Joshua Brown crashed into a van when it was making a left turn at an intersection. As Tesla wrote on its blog, «neither the autopilot nor the driver noticed the white truck body in the bright sunlight, so they did not apply the brake». The company highlighted the unusual nature of the accident and said it was the first fatal accident in more than 130 million miles of testing. Moreover, when activating the autopilot system, drivers are warned, among other things, that this is an auxiliary function, and they need to constantly keep their hands on the steering wheel, maintain control of the situation and take responsibility for using the vehicle[299].

The day of March 18, 2018 went down in history as another recorded case of injury by an autonomous (unmanned) taxi. This time, a pedestrian was fatally injured. In Tempe (Arizona, USA), 49-year-old Elaine Herzberg was crossing the road outside a pedestrian crossing, holding onto the handlebars of her bike, when she was hit by an Uber-owned Volvo XC90 autonomous car operating in autonomous mode under the supervision of a driver responsible for human safety. The woman died in hospital from her injuries[300]. After this incident, Uber Technologies Inc. suspended testing of autonomous vehicles for a while. The public argued for a long time about who should be responsible for the damage caused: the

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[298] Agerholm H. Robot 'goes rogue and kills woman on Michigan car parts production line' [Electronic resource] Independent. 2017. March 15th. URL: https://www.independent.co.uk/news/world/americas/robot-killed-woman-wanda-holbrook-car-parts-factory-michigan-ventra-ionia-mains-federal-lawsuit-100-cell-a7630591.html (date of access to the source: 05/31/2024).

[299] The first fatal accident of the Tesla autopilot occurred [Electronic resource] // Hi-tech. 2016. July 01. URL: https://hightech.fm/2016/07/01/tesla-crash (date of access to the source 05/31/2024).

[300] Bergen M., Newcomer E. Uber Halts Autonomous Car Tests After Fatal Crash in Arizona [Electronic resource] // Bloomberg. 2018. March 19th. URL: https://www.bloomberg.com/news/articles/2018-03-19/uber-autonomous-car-involved-in-fatal-crash-in-arizona (date of access to the source: 05/31/2024).

operator who was driving, but entrusted control to a robot; the city authorities who released drones into the streets; developers who did not train AI well enough; or no one: in the end, the victim crossed the road in the wrong place, and if it wasn't her guilty behavior, then such consequences might not have occurred.

At the end of 2018, at an Amazon warehouse in Robbinsville, one of the robots pierced a can of bear repellent, which caused the spraying of capsaicin, a burning substance found in chili peppers and traditionally used in pepper spray for self-defense. As a result of the incident, 24 people ended up in hospitals in the city. Amazon initially tried to hide the details of what happened and covered the event as sparingly as possible, saying that a can of capsaicin had fallen off the shelf. Later, the company nevertheless admitted that the cause of the incident was the actions of the robot, noting, however, that all the injured employees were insured, and the incident would be investigated as soon as possible[301].

On January 8, 2019, the Russian robot Promobot, which arrived in Las Vegas to participate in the international electronics show CES-2019, was hit by a Tesla car controlled by artificial intelligence[302].

In early 2021, a case of a robot attacking a human was recorded in China. The incident occurred in the city of Shenzhen (Guangdong Province) at the China Hi-Tech Fair, a robot named Little Chubby (little fat man), resembling in its design and size the hero of «Star Wars» R2-D2, was presented by the owner of one of the stands. The robot was created to teach children aged 4-12 and entertain visitors. The robot was left unattended for a while, which it «unexpectedly took advantage of»: he began to destroy the stand of the developer company. When one of the employees tried to stop him, Little Chubby ran over his leg. The robot's mass was sufficient to cause serious injuries. After the attack, the victim was unable to move on his own,

[301] 24 Amazon workers sent to hospital after robot accidentally unleashes bear spray [Electronic resource] // ABC news. 2018. December, 06th. URL: https://abcnews.go.com/US/24-amazon-workers-hospital-bear-repellent-accident/story?id=59625712 (date of access to the source: 05/31/2024).

[302] A robot car in Las Vegas hit a robot pedestrian [Electronic resource] // IA Krasnaya Vesna. 2019. January 08. URL: https://rossaprimavera.ru/news/23f8d9b6 (date of access to the source 05/31/2024).

and he was hospitalized on a stretcher[303]. In November 2023, in South Gyeongsang Province in South Korea, another robot carrying out technical work at the enterprise inflicted fatal injuries on an employee. As it turned out, while performing the task assigned to her, the car confused the man with a cardboard box and, according to the specified algorithm, pinned the man to the conveyor belt. The 40-year-old employee died from his injuries in the hospital, where he was taken after the incident[304].

On July 19, 2022, a chess robot broke a boy's finger during a chess tournament in Moscow. Chessrobot was created specifically for the game of chess. According to the creators, it is equipped with artificial intelligence and can play three games at once. On July 19, he played three matches, including with 7-year-old Christopher, who was one of the 30 strongest chess players in the capital under the age of 9. The robot «ate» the boy's figure and put his own in its place, but Christopher was a little hasty and was already making a retaliatory move. The robot did not like such a rush: he grabbed the boy's index finger and squeezed it hard. The surrounding people rushed to help and pulled out the finger of the young player, but the fracture could not be avoided. The vice-president of the Moscow Chess Federation said that the child was not seriously injured and went to the award ceremony after the incident. However, the creators of the robot are sure that the boy is to blame himself, because he violated safety regulations: without waiting for the opponent's move, he tried to move the piece and at that moment was caught by the finger[305].

However, it is not only the physical injuries and deaths caused by AI carriers that are of interest. In modern literature, the use of the COMPAS (Corrective Offender Management Profiling for Alternative Sanctions) relapse forecasting system in the United States has been criticized, which gave ambiguous (and often

[303] The prologue to the rise of the machines. In China, a robot attacked a human [Electronic resource] // The Epoch Times. 2021. May 07. URL: https://www.epochtimes.ru/prolog-vosstaniya-mashin-v-kitae-robot-napal-na-cheloveka-99033104/ (date of access to the source 05/31/2024).
[304] Makarenko V. The robot killed an employee of the plant, confusing him with a box [Electronic resource] // 4PDA. 2023. 09 November. URL: https://4pda.to/2023/11/09/420518/robot_ubil_sotrudnika_zavoda_sputav_ego_s_korobkoj/ (date of access to the source 05/31/2024).
[305] News material with video from the scene: In Moscow, a chess robot broke a boy's finger during a chess tournament [Electronic resource] // Baza. 2022. July 21. URL: https://t.me/bazabazon/12441 (date of access to the source 05/31/2024).

erroneous) forecasts that tended towards the racial affiliation of the subjects. In the 90s of the 20th century, Northpointe created risk scales for general and violent recidivism, as well as for pre-trial violations. These scales were developed using behavioral and psychological constructs «of great importance for recidivism and criminal career»[306]. The automatic profiling system has been used in the USA since 1998. The program predicts a prisoner's risk of committing a criminal offense within two years of release. In the calculation, COMPAS takes into account 137 parameters, such as the severity of past crimes and the characteristics of the prisoner's behavior. Over 20 years, the behavior of more than a million offenders has been monitored using COMPAS, but in 2016, a large–scale study on a sample of 7,000 prisoners revealed a much greater error in the prediction of recidivism among black criminals (44.9%), and for «white» convicts - 23.5%, which is almost 2 times less[307]. In 2018, researchers from Dartmouth College (USA) showed that computer programs for predicting the recurrence of crimes in convicts are no more effective than the predictions of non-specialists[308].

The topics of gender discrimination by AI, which are unusual for Russian researchers, are raised in the research of Western colleagues. Thus, M.L. Belosso describes the problems of the influence of gender biases that are common in the use of AI. These biases are usually the result of: (i) lack of differentiation in the subject; (ii) poor quality and lack of representativeness of the data used in the algorithms; and (iii) discrimination created and exacerbated by the algorithms themselves

[306] See more details: Practitioner's Guide to COMPAS Core. March 13, 2015. [Electronic resource] // URL: https://archive.epic.org/algorithmic-transparency/crim-justice/EPIC-16-06-23-WI-FOIA-201600805-COMPASPractionerGuide.pdf (date of access to the source: 05/31/2024).

[307] See: How We Analyzed the COMPAS Recidivism Algorithm / by Jeff Larson, Surya Mattu, Lauren Kirchner and Julia Angwin. 2016, May 23 [Electronic resource] // Pro Publica. 2016. May, 23rd. URL: https://www.propublica.org/article/how-we-analyzed-the-compas-recidivism-algorithm (date of access to the source: 05/31/2024). A specific case of erroneous conclusions of the algorithm is described by the same researchers in the article: Machine Bias. There's software used across the country to predict future criminals. And it's biased against blacks by Julia Angwin, Jeff Larson, Surya Mattu and Lauren Kirchner [Electronic resource] // Pro Publica. 2016. May 23. URL: https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing (date of access to the source 05/31/2024). So, as one example, the situation of petty theft committed by "white" and black accomplices is given, a few years after which the "white" committed a second theft – a much larger one, and the black man no longer committed crimes, although COMPAS calculated in a different way.

[308] Dressel J., Farid H. The accuracy, fairness, and limits of predicting recidivism // SCIENCE ADVANCES. 2018. VOL. 4, Issue. 1. doi:10.1126/sciadv.aao5580

against vulnerable groups. In order to eliminate the negative effects that these biases can have on specific groups, gender mainstreaming is becoming increasingly important on the international agenda and is gradually being integrated into policy and regulatory processes, which should contribute to the protection of women and other vulnerable groups. According to Belosso, the inclusion of feminist and intersectoral approaches can effectively protect these groups from the risks of exposing prejudice and have transformative potential to protect their human rights[309].

Massive cases of gender discrimination in the credit rating generated by AI have become widely known in the last few years. In the fall of 2019, software developer David Heinemeier Hansson and his wife applied for the release of a new Apple Inc. product from Goldman Sachs – the Apple Card credit card. Much to their surprise, when their cards were issued, they found that Mr. Hansson's credit limit was 20 times his wife's credit limit. Some factual circumstances made this difference particularly troubling for the couple: the couple had been married for a long time in a joint ownership regime, filed joint tax returns, and Mr. Hansson even had a lower credit rating than his wife. Thus, it was concluded that the algorithm has learned to discriminate against women. The Hanssons contacted Apple support, who redirected them to Goldman Sachs. The latter confirmed that they were confident that there was no discrimination against Ms. Hansson and that some other factors probably influenced the decision. What factors, however, they could not say, because neither they nor Apple knew exactly how the complex algorithm tasked with checking customers came to its decision. The couple tweeted about their suspicions, and discovered that they were not alone: several other cases surfaced, including the case of Steve Wozniak, the co-founder of Apple, whose wife was also

[309] María López Belloso. Women's Rights Under AI Regulation: Fighting AI Gender Bias Through a Feminist and Intersectional Approach // Law and Artificial Intelligence: Regulating AI and Applying AI in Legal Practice. Ed. Bart Custers, Eduard Fosch-Villaronga. Information Technology and Law Series. Vol. 35. T.M.C. Asser Press, The Hague, The Netherlands, 2022. p. 87-107.

discriminated against with an Apple Card[310]. As a result, the activities of the Apple Card service were investigated by the New York State Department of Finance[311].

According to S. de Conca, the case of involuntary algorithmic discrimination of Apple Card women is a kind of paradigm: it shows that when an AI system harms a person, there are uncertainties about which entity should be responsible for the harm and its compensation. These uncertainties, according to de Conca, stem from technological and organizational factors that call into question the traditional balance and solutions provided by private law in relation to harm and liability. As a result, gaps arise in existing legal regimes that jeopardize the ability of injured parties to receive compensation[312].

Racial discrimination embedded in AI, which predicts the amount of necessary medical care and uses, according to the developers, a single calculation method for all patients, also caused a wave of indignation in the United States. An algorithmic audit showed that the system considered a black patient to be less in need of medical care than a «white» one, even if the former had more objective reasons to receive medical care. The advantage of white patients was not included in the code, and the algorithm worked correctly. However, the original idea of the developers was erroneous, that equal expenses for medical care indicate the same need for it, although in fact they are based on income and social status. But the algorithm calculated recommendations based on patients' medical expenses in the past, thus reinforcing pre-existing discrimination and continuing to choose those who needed medical services more than those who really needed it, but those who spent more money on it[313].

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[310] Vincent J. Apple's credit card is being investigated for discriminating against women [Electronic resource] // The Verge. 2019. November, 11th. URL: https://www.theverge.com/2019/11/11/20958953/apple-credit-card-gender-discrimination-algorithmsblack-box-investigation (date of access to the source: 05/31/2024).

[311] Vigdor N. Apple Card Investigated After Gender Discrimination Complaints [Electronic resource] // The New York Times. 2019. November, 10th. URL: https://www.nytimes.com/2019/11/10/business/Apple-credit-card-investigation.html (date of access to the source: 05/31/2024).

[312] De Conca S. Bridging the Liability Gaps: Why AI Challenges the Existing Rules on Liability and How to Design Human-empowering Solutions // Law and Artificial Intelligence: Regulating AI and Applying AI in Legal Practice. Ed. Bart Custers, Eduard Fosch-Villaronga. – Information Technology and Law Series. Vol. 35. T.M.C. Asser Press, The Hague, The Netherlands, 2022. p. 240-241.

[313] Obermeyer Z., Powerschristine B., Vogeli C., Mullainathan S. Dissecting racial bias in an algorithm used to manage the health of populations // Science. 25 Oct 2019. Vol 366, Issue 6464. p. 447-453. DOI: 10.1126/science.aax2342

Speaking about the current situation with the danger posed by AI carriers (and here drones are carriers of military projectiles, and fake videos that manipulate consciousness and which can rightly be called catalysts of information wars, and the unpredictability of errors that can cause devastating harm), the question «Who is to blame?» – for the harm caused by carriers AI - the more researchers are concerned about the larger the consequences of such harm and the more facts are known. Despite the opinion of some authors that «so far there have been few events of such offenses, including the infliction of artificial intelligent systems»[314], it seems that the above examples are more than enough to adopt adequate legislation regulating the liability of AI carriers, while researchers are still much more interested in granting AI carriers rights (in particular, copyrights[315]), but not by developing mechanisms for compensation for the harm caused by them. However, every year the issues of responsibility for decisions made by artificial intelligence (AI) become more and more relevant.

2. Solutions for the application of legal liability in the case of offenses using AI carriers

If earlier, almost every accident that occurred as a result of exposure from AI carriers caused a huge resonance and heated discussions, becoming, as a result, another mistake, a clause, an accumulation of experience, for which the status of a systemic violation was not recognized, - today, taking into account the array of accumulated facts of harm and human rights violations by AI, it is impossible to ignore the existing gaps in legislation and continue to give decisions on who is responsible for these actions to law enforcement officers (judges) or expect awareness from the owners of developments. By the way, some of them have begun

[314] Kamalova G.G. Legal responsibility and ethics in the field of application of certain types of artificial intelligence and robotics systems // Legal and ethical aspects related to the development and application of artificial intelligence and robotics systems: history, current state and development prospects: monograph / under the general editorship of V.B. Naumov. St. Petersburg., 2020. p. 85.

[315] See the corresponding analysis of the author about this: Fedoruk E.O. On granting artificial intelligence copyrights: opinions, criteria, trends in science and international law enforcement practice // Legal protection of intellectual property: problems of theory and practice: collection of materials of the X International Legal Forum (IP Forum): in 2 vols. Vol. 2. Moscow: Publishing Center of the O.E. Kutafin University (MSLA), 2022. pp. 352-358.

to realize their responsibility and act independently. For example, in 2022, the global giant Microsoft for the first time limited access to its AI technologies, namely image recognition and synthesizing voice fakes (deepfakes). This was due to the adoption of a new standard of ethics in relation to AI, according to which the interests of the individual should be above technology[316]. The European Commission made proposals to limit AI with «high risks» to society in its report in April 2021[317]. At that time, AI technologies were divided by degrees of risk:

- Unacceptably high risk: algorithms that manipulate behavior and influence choices in a particular area. For example, the social scoring system in China. It was proposed to ban such technologies in the EU;
- High risk. AI systems of online biometrics; scoring when hiring employees, evaluating exam results and in banks (for example, when issuing a loan), this also includes AI developments for determining the likelihood of relapse and evaluating testimony in court, robotic surgery and drones. Strict control and, if necessary, restriction were assumed;
- Moderate risk. Voice robots and chatbots. It is allowed to use it provided that users know for sure that they are communicating with an AI, and not a human;
- Minimal risk. Spam filters and gaming services that should not have been affected by regulation.

The European Commission also proposed to introduce a mechanism that would allow blocking those technologies that are already in use, but have become dangerous during operation. For example, facial recognition systems, which were originally created to ensure security, and are now being used for political persecution. It was proposed to make an exception from the list for AI solutions that are used in the armed forces to ensure security, prevent terrorist attacks, as well as search for missing children and criminals.

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[316] "There was an illusion that if we had enough data, we could solve any problem". Rector of «Sirius» Maxim Fedorov on ethics and artificial intelligence [Electronic resource] // Kommersant. 2022. July 24th. URL: https://www.kommersant.ru/doc/5479249 (date of access to the source 05/31/2024).

[317] See: Europe fit for the Digital Age: Commission proposes new rules and actions for excellence and trust in Artificial Intelligence [Electronic resource] // European Commission. 2021. April, 21st. URL: https://ec.europa.eu/commission/presscorner/detail/en/ip_21_1682 (date of access to the source: 05/31/2024).

Ethical standards are also a certain deterrent to the development of AI, which can lead to an increase in offenses. Despite the fact that in practice the implementation of these norms sometimes looks doubtful (it is even noted that the declarative adoption of ethical codes by companies does not improve the situation in the field of risk management related to AI systems at all[318]), social values and rules of conduct formed on their basis and responsibility for violation of these rules are not taken into account (actually ethical norms) would be a big mistake at the level of forming the conceptual foundations of responsibility in the area under consideration. In addition, it allows us to get closer to understanding legal responsibility based on decisions that go beyond algorithmic ones: currently they are possible only for a person who is the subject of legal responsibility. Illustrative examples are associated with «beyond the ordinary» cases (the so-called «edge cases»). One of these is an accident involving injury to a pedestrian by an autonomous (unmanned) GM Cruise car, which occurred in California in October 2023. The woman, being hit by an ordinary car, then also got under the wheels of a drone. He «tried to pull over and park so as not to block the passage, as a result of which he dragged the pedestrian a few more meters and eventually stopped with the rear wheel on the victim's leg»[319]. Surely, a human driver in such a situation would have applied emergency braking to avoid even greater injury to a pedestrian. But, since the drone is not «trained» to act in emergency situations, it is impossible to lay down ethical rules in it - situations with edge cases are always (or at least in the foreseeable future) AI will decide not in favor of a person and his life as the highest value, not guided by ethical rules of behavior, but only in the development of typical situations proposed as training cases. People handle emergency situations much

[318] See: Dotan R., Rosenthal G., Buckley T., Scarpino J., Patterson L., Bristow T. Evaluating AI Governance: Insights from Public Disclosures. TechBetter, Ethic Grade, 2023 [Electronic resource] // Evaluating AI Governance. Executive Summary. URL: https://www.ravitdotan.com/_files/ugd/f83391_80c3f0b6df304e269be67dcd91f01a25.pdf (date of access to the source: 05/31/2024).

[319] Templeton B. California DMV Shuts Down Cruise Robotaxis Due To Dragging Of Pedestrian [Electronic resource] // Forbes. 2023. October, 24th. URL: https://www.forbes.com/sites/bradtempleton/2023/10/24/california-dmv-shuts-down-cruise-robotaxis-due-to-dragging-of-pedestrian/ (date of access to the source: 05/31/2024).

better than AI systems[320]. We believe this is due, among other things, to the ethical principles that they (people) are guided by when making decisions, unlike AI.

In Russia, based on the «National AI Development Strategy for the period up to 2030», the Code of Ethics in the field of AI was developed and signed in 2021[321]. Its most important feature is a human-oriented and risk-oriented approaches to understanding the prospects for the development of artificial intelligence, a purely human responsibility for the moral risks of developing and implementing artificial intelligence is outlined and the need to take into account the humanistic orientation of these developments is fixed: they should not hinder, but are designed to contribute to the improvement of human personality, his cognitive abilities and the preservation of human civilization and culture[322].

Nevertheless, realizing the need for technology development, including the use of artificial intelligence, states are introducing special legal regimes for digital innovations (most often in certain territories), which consist in flexible regulation and the abolition of some traditional legislative provisions in order to test the viability of innovations. Such experimental legal regimes have received the household name «regulatory sandboxes». The first one was organized in the UK in 2016, and later they were successfully implemented in the USA, Australia, Singapore, UAE, Malaysia, Thailand, Indonesia, Bahrain, Switzerland, the Netherlands, Latvia, Denmark, Poland and Canada[323]. There are also experimental legal regimes in Russia: in Moscow and St. Petersburg, in individual organizations (for example, the Bank of Russia) and in certain territories (Innopolis, Skolkovo).

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[320] See about this: Geirhos R., Medina C.R., Rauber J., Schütt H.H., Bethge M., Wichmann F.A. Generalisation in humans and deep neural networks // 32nd Conference on Neural Information Processing Systems (NeurIPS 2018), Montréal, Canada [Electronic resource] // arXiv. 2020. October, 23rd. URL: https://arxiv.org/pdf/1808.08750v3.pdf (date of access to the source 05/31/2024).

[321] The Code of ethics in the field of AI [Electronic resource] // Alliance in the field of artificial intelligence. 2021. URL: https://a-ai.ru/ethics/index.html (date of access to the source 05/31/2024).

[322] The registry of actors and those who have joined the code of ethics in the field of AI is open, and many large high-tech companies have joined it. The first were Yandex LLC, Innopolis University, Moscow State Institute of International Relations (University), Mail.Ru LLC, Gazprom Neft, MTS, Rostelecom, Sberbank, Rosatom State Corporation, SkolTech, Skolkovo Foundation, ITMO University, CIAN, InfoWatch Management Company.

[323] See more details with comments on the then draft law: Gromova, E.A. On the issue of experimental legal regimes for creating digital innovations (regulatory sandboxes) // Bulletin of South Ural State University. The series "Law". 2019. Vol. 19, No. 3. pp. 36-40.

This situation reflects the inability to proactively develop mechanisms for legal regulation of relations related to the use of artificial intelligence and other high technologies. The law is forced to submissively bow its head to the economy and recognize the only possible way of its development – post-experimental patchwork regulation of those sociotechnical systems that arise around relations with AI carriers as an experiment. Regulatory sandboxes with their exceptions become an example of blind «test» legal regulation and complete disconnection of norms from liability – due to the exceptions existing in experimental legal regimes. Norms on responsibility for AI carriers are not being developed, since testing and technology development, according to practitioners, would be impossible[324]: «Within the framework of sandboxes, there will be special regulation that excludes the application of a number of business requirements. Such experimental sites will help reduce business costs and accelerate innovation»[325]. Therefore, for example, the statement of the Vice-governor of St. Petersburg S. Kazarin on territories with a special regime: «Their launch is a chance to move forward and test experimental digital technologies without violating the rights of citizens»[326], – can be called not quite correct and disagree with him[327]. The rights of citizens cannot but be violated in this case. Issues of legal responsibility for AI carriers are omitted, such exemptions are deliberately fixed at the legislative level, thereby formally resolving the issue of adapting legal regulation to the emerging relations in the field of

[324] Thus, roadmaps for creating legal conditions for the introduction of services are created only after their successful piloting. See: Regulatory Sandbox of the Bank of Russia [Electronic resource] // Bank of Russia. 2021. URL: https://cbr.ru/fintech/regulatory_sandbox/ (date of access to the source 05/31/2024).

[325] "Regulatory sandboxes" will be created in 180 days [Electronic resource] // TASS 2019. 05 September. URL: https://tass.ru/ekonomika/6846474 (date of access to the source 05/31/2024).

[326] A special regime for digital innovation is being introduced. The country's first regulatory sandbox program was created in St. Petersburg-St. Petersburg [Electronic resource] // Administration of St. Petersburg: official website. 2021. 06 October. URL: https://www.gov.spb.ru/gov/admin/kazarin-sv/news/223487/ (date of access to the source 05/31/2024).

[327] The only point of responsibility within the framework of the Russian regulatory sandbox is clause 6 of art. 4 of Federal Law of April 24, 2020 No. 123-FZ On Conducting an Experiment to Establish Special Regulation in order to Create the Necessary Conditions for the Development and Implementation of Artificial Intelligence Technologies in the Subject of the Russian Federation - the Federal City of Moscow and Amending Articles 6 and 10 of the Federal Law "On Personal Data", establishing that: "participants in the experimental legal regime are responsible for observance of the rights of personal data subjects in accordance with the Federal Law of July 27, 2006. No. 152-FZ "On Personal data" during the entire duration of the experiment and after the termination of their participation in the experiment. The authorized body and the coordinating council of the experimental legal regime carry out measures to monitor compliance with the obligation to destroy personal data obtained as a result of depersonalization in accordance with the procedure established by the supreme executive body of state power of the subject of the Russian Federation – the city of federal significance of Moscow in coordination with the Government of the Russian Federation".

technology development and innovations integration[328]. Thus, states at the legislative level see the only way to develop technologies: to abolish responsibility (at least for the time of testing developments). In this regard, the only way left for researchers today is to develop the most relevant mechanisms for the application of responsibility, which requires a theoretical study of these issues. Nevertheless, one should not go to other extremes, in particular, a total ban on the development of new technologies. Comparing the current situation with the «Red Flag Law»[329], we understand that today experimental regimes in limited territories and in specific areas are one of the full-fledged and acceptable options for the development of research in the field of AI and the soft adaptation of their results.

As indicated in the Concept for the Development of Regulation of Relations in the field of artificial intelligence and robotics technologies until 2024 (approved by Decree of the Government of the Russian Federation No. 2129-r dated August 19, 2020), «it is necessary to create opportunities for using a special testing mechanism (trial operation) and subsequent implementation of solutions in the field of artificial intelligence and robotics. Such a mechanism, in turn, should allow for timely and effective implementation of developments without excessive administrative procedures that do not take into account their specifics, without adjusting all applicable legislation and ensuring the necessary level of security and control by government agencies». Nevertheless, how is it planned to ensure safety and control at the proper level – The concept is silent, while declaring the following principles (section 3): «ensuring a balance of interests of developers, consumers and other persons in the field of artificial intelligence and robotics, as well as defining the boundaries of their responsibility for possible negative consequences of using

[328] What are "regulatory sandboxes" and how they will help business [Electronic resource] // State Duma: official website. 2020. August 06. URL: http://duma.gov.ru/news/49285/ (date of access to the source 05/31/2024).

[329] On July 5, 1865, The Locomotive Act (popularly called the "Red Flag Law") was adopted in England, which for the first time in history limited the speed of cars within the city limits to 2 mph and required at least three people in the crew: a driver, a stoker and a signalman. The latter was obliged to walk in front of the car at a distance of 55 meters, waving a red flag, which notified passers-by of the approaching danger. As the parliamentarians who initiated the adoption of this law said, cars smash roads, scare citizens and horses. However, the "Red Flag Law" actually destroyed the nascent automotive industry in the UK: designers from France and Germany took the lead. Only 30 years later (in 1896) this law was repealed. See about this: The law of the red flag for business [Electronic resource] // Behind the wheel. 2013. July 05. URL: https://www.zr.ru/content/news/554986-zakon_krasnogo_flaga/ (date of access to the source 05/31/2024).

artificial intelligence and robotics technologies» and «the obligation of a reasonable assessment of the risks of causing when using artificial intelligence and robotics harm to human life and health, the realization of threats to the defense of the country and the security of the state and the adoption of measures, aimed at minimizing such risks and threats». The concept designates as conceptual problematic areas of regulation of artificial intelligence and robotics technologies (and this is due to the presence of a number of problems that do not have an unambiguous solution) - legal liability for causing harm using artificial intelligence and robotics systems. This responsibility is defined in the Concept in a number of industry-wide tasks of regulating the use of artificial intelligence and robotics technologies, which implies further elaboration of mechanisms of civil, criminal and administrative liability in case of harm caused by artificial intelligence and robotics systems with a high degree of autonomy in their decision-making, including from the point of view of determining persons who They will be responsible for their actions; refinement, if necessary, of mechanisms of innocent civil liability, as well as the possibility of using methods to compensate for the damage caused by the actions of artificial intelligence and robotics systems (for example, liability insurance, creation of compensation funds, etc.).

But let's return to the basic theoretical questions. Despite the fact that «technologies in the field of artificial intelligence appear faster than we have time to comprehend them»[330], today we can already talk about the presence of several established areas of legal thought that claim to become concepts of legal responsibility in the field of activity of AI carriers. Their fundamental differences are in the subject and its attitude to compensation. At the same time, it seems that any subject can be responsible in the public sense (suffering negative consequences is a responsibility to the state: disassemble the robot, reprogram it to perform

[330] "There was an illusion that if we had enough data, we could solve any problem". Rector of «Sirius» Maxim Fedorov on ethics and artificial intelligence [Electronic resource] // Kommersant. 2022. July 24th. URL: https://www.kommersant.ru/doc/5479249 (date of access to the source 05/31/2024).

socially useful work, etc.[331]), however, not everyone is capable of compensating harm in a private legal manner (payment of compensation, compensation in kind, compensation for harm, etc.).

The definition of the responsible person (the subject of the offense) is a decisive criterion in distinguishing approaches to the legal personality of AI carriers. They were voiced and supplemented above: analogy with individuals; equating robots with animals, tools, a quasi-subjective approach; using a concept close to legal entities; the status of an instrument of labor and (or) intellectual property – a product and result of human activity and, as a result, assigning responsibility to its owner – akin to the responsibility of the owner of the source increased danger.

Let's turn to the second criterion: the assignment of compensation. There is an opinion: «People's fear of AI entities in most cases is based on the fact that AI objects are not considered subjects of the law, in relation to criminal law»[332]. I would like to argue that people (potential victims of AI carriers), by and large, do not care whether AI is endowed with a special subject status or whether it will remain an object of legal relations, because it is more important: who and how will compensate for the harm caused by AI carriers. When applying which approach of the variants of the first criterion is it even possible?

The following approaches are found in the literature on the theory of law:

1) The need to impose responsibility for the «autonomous» actions of AI, committed without the participation of any of the people, on the AI carrier itself. At the same time, the authors state the impossibility (to date) such responsibility, but they do not deny the possibility of bringing AI itself to justice in the future (Matilda Claussén-Karlsson)[333]. So far this has not happened, and there

[331] R.V. Yampolsky speaks about the need to introduce procedures providing for "punishment" by reprogramming the robot or, in extreme cases, destroying it // Yampolskiy R.V. Human indignity: From Legal AI Personhood to Selfish Memes // Machine Law, ethics, and morality in the age of Artificial intelligence / ed. By S.J. Thompson. Hershey, 2021. p. 6.
[332] Hallevy G. When Robots Kill: Artificial Intelligence under Criminal Law. University Press of New England, 2013. p. 71.
[333] Claussén-Karlsson M. Artificial Intelligence and the External Element of the Crime: An Analysis of the Liability Problem. Örebro University. 2017. p. 45-47.

are still «possibly accused people who were obliged to take action», as a solution, the above-mentioned author suggests imposing a «supervisory duty» on the owner controlling the AI, even if the actions of the AI itself were not predictable for the operator.

This approach traces the application of the concept of legal personality of AI, which draws its analogy with individuals, and also sees a reference to the understanding of AI as a quasi-legal entity (since responsibility cannot currently be applied to AI carriers). Researchers are even trying to differentiate the AI carriers themselves to implement this approach. Thus, it is proposed to use the criterion «the degree of autonomy of artificial intelligent systems from humans» to address the issue of accountability in connection with the development, production, and operation of these systems (G.G. Kamalova)[334]. However, the criterion of «degree of autonomy» itself is not sufficiently defined. What exactly should this degree be? Is it possible to give examples of perfect autonomy of an AI carrier from its developer or owner[335]? Such a vague criterion seems not only difficult to apply, but also erroneous, akin, for example, to the «standard of beauty», which was revised in different historical periods, or «degrees of attachment», «degrees of freedom», etc. We believe that expert judgments will also not be able to make specifics (in the case of the provision of this criterion as the basis for differentiation of responsibility human and AI carrier), because in any case, the opinion will be just an opinion not based on objective evidence. Such signs cannot be formulated in principle, due to the ongoing development of AI technologies: yesterday's «autonomous» «intelligent» systems will be replaced tomorrow with more «autonomous» and «reasonable» ones, and the criterion of «degree of autonomy» will need to be

[334] Kamalova G.G. Legal responsibility and ethics in the field of application of certain types of artificial intelligence and robotics systems // Legal and ethical aspects related to the development and application of artificial intelligence and robotics systems: history, current state and development prospects: monograph / under the general editorship of V.B. Naumov. St. Petersburg., 2020. p. 90.

[335] The issues of AI autonomy are considered in more detail: Fedoruk E.O. Autonomy as a criterion of legal personality of artificial intelligence and its application in the field of intellectual rights // Proceedings on intellectual property: Scientific Journal of the UNESCO Department of the HSE on Copyright, related, cultural and information rights. Volume 41. 2022. No. 2. pp. 90-97.

revised: this will require constant changes to legislation, which even today does not keep pace with the active development of the field under consideration.

Also problematic with this approach is the payment of compensation in case the AI is found guilty of its illegal «autonomous» actions. In the case of a fractured finger of a 7-year-old boy at a chess tournament[336], the owners promised to disassemble the Chessrobot. However, the robot will not be able to reimburse the cost of treatment and compensate for moral damage. It's the same with compensation for harm. It is possible in kind or as compensation, but not on the part of the «harmer», even if he is formally endowed with any rights and obligations. In case of recognition of personal responsibility for AI, will such compensation need to be forgotten?

Nevertheless, we recall that the issue of introducing AI carriers into the circle of subjects of legal relations was raised by the European Parliament before the Council of Europe Commission on Civil Law in the field of robotics in a Resolution dated February 16, 2017. A recommendation was made «on granting robots a special legal status in the future. Thus, at least the most advanced autonomous robots can be created as electronic persons and be responsible for the harm they cause in cases where they make decisions autonomously or otherwise interact independently with third parties»[337]. It is unclear exactly how responsibility can be applied in this approach. As a result, if the recognition of AI as a subject of responsibility is theoretically possible according to a subjective criterion, then the imposition of compensation in this case is technically impracticable. In this regard, the attitude even to the most «highly autonomous» AI carriers, similar to the understanding of individuals, is unable to resolve the issue of responsibility for their actions.

An electronic person, a unit, a quasi–entity and any other construction close to how the legal personality of a person – an individual is described - are one-sided

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[336] In Moscow, a chess robot broke a boy's finger during a chess tournament [Electronic resource] // Baza. 2022. July 21. URL: https://t.me/bazabazon/12441 (date of access to the source 05/31/2024).

[337] Civil Law Rules on Robotics European Parliament resolution of 16 February 2017 with recommendations to the Commission on Civil Law Rules on Robotics 2015/2103(INL): P8_TA-PROV (2017)0051 [Electronic resource] // European Parliament: официальный портал. URL: https://www.europarl.europa.eu/doceo/document/TA-8-2017-0051_EN.html (date of access to the source 05/31/2024)

and meaningless, without making a decision about the second, very significant half of it: duties and responsibilities. The race to endow AI with rights, status, subjectivity, limited or full legal personality is nothing more than an attempt to distort legal relations that have existed for centuries, which have not disappeared, have not been transformed, have not been supplemented: it is people who communicate with people and improve the economic, information, and social systems created by them, including using high technologies by applying AI algorithms and giving their carriers a certain degree of autonomy – not in the human understanding of this autonomy, but in the fact that the AI carrier performs certain mechanical actions independently, guided by the sequence system embedded in its machine memory for the implementation of these actions. A frivolous attitude to the issue of responsibility of AI carriers endowed with certain rights (even formally) can lead exclusively to one result: evasion of responsibility. Is it possible to say that a robot artist or a robot composer who generated works with signs of plagiarism are subjects of law (in this case, copyright), but they cannot bear responsibility for plagiarism, because they only have copyrights, but no obligations? How viable is this design? Without a definition of delicacy, it is still meaningless.

Here we are faced with the problem of determining the causal relationship between the actions of the subject of law (and legal liability) and the consequences that were caused as a result of committing an offense using AI. Despite the formulation (and with the claim of insolubility) by researchers of the «black box» problem in establishing the sequence of formation of the «solution» by AI algorithms[338], and realizing that the world has not yet revealed the open results of investigations of incidents using AI that led to harm (at least, the author is not aware of such results), it is groundless to assert that it is impossible to establish a causal relationship when identifying the composition of a specific offense. So, for example, M.Yu. Georgi not only describes the procedure for extracting causality from AI data, but also postulates the importance of extracting causal relationships

[338] Kuteynikov D.L., Izhaev O.A., Zenin S.S., Lebedev V.A. Algorithmic transparency and accountability: legal approaches to solving the problem of the "black box" // Lex Russica (Russian Law). 2020. Volume 73. No. 6 (163). p. 147.

in machine learning for decision-making and assessing the impact on the real world[339]. However, in the theory of legal responsibility, we are talking not only (and not so much) about the causal relationship as a component of the objective side of the offense, but also about its awareness, understanding, generation due to the adoption of a volitional decision by a person (subject of law). Let's compare the creation of a work by a person (a creative act) and the «creation» of, say, a text by a generative model: yes, the words in the case of AI will be logically arranged, and even, perhaps, the text will be stylized. But the selection and arrangement of words based on a query, especially one consisting of known, previously uploaded data, cannot be considered an act of creation, self-expression, semantic content, contextual reflection of the will, intention and intent of the human creator. «Understanding cause-and–effect relationships is an important aspect of what humanity calls common sense, and this is an area in which artificial intelligence systems are «ignorant» today»[340], emphatically preventing the animation of AI, says E. Bareinboim, director of the Causal Artificial Intelligence Laboratory Columbia University. Thus, AI (even the most highly developed) «acts» indirectly and without generating cause-and-effect relationships in their understanding as a «volitional decision – implementation». The development of «causal AI» («casual AI»), «focused» on «understanding» cause-and-effect relationships, rather than recognizing patterns of data, is an important task of the near future. And this is essential for understanding the objective side of the offense and the component of its causal relationship when using AI as a tool, but not in the context of the outward embodiment of intent, the realization of intention, volitional act.

To date, enough opinions have been expressed that humanity is less able to explain the «actions» of AI carriers. So, A. Winfield drew attention to one of the main problems of artificial intelligence, which is the lack of the ability to identify an algorithm for making a specific decision. The well-known technology of «deep

[339] See also: Georgy M.Yu. Methods of extracting benefits from observational data in the practice of artificial intelligence // Proceedings of the Southern Federal University of Technical Sciences. 2023. No. 3 (233). pp. 125-134.
[340] Cit. by: Bergstein B. What AI Still Can't Do [Electronic resource] // MIT Technology Review. February 19, 2020. URL: https://www.technologyreview.com/s/615189/what-ai-still-cant-do/ (date of access to the source: 05/31/2024).

learning» is based on the fact that the robot tries to complete the task by selecting a suitable algorithm, and the number of attempts can exceed hundreds of thousands. However, his chosen strategy often cannot be explained even by the developers of the machine, because in the end it is not based on human logic[341]. Nevertheless, it is unacceptable to base these problems on the concept of independent legal responsibility of AI and justify the theory of legal personality of AI with them (this issue has been discussed in detail above). There are several unsolved fundamental problems in this area. The most serious, according to experts, is the instability of solutions to complex neural network algorithms. The same experts explain the reasons for its occurrence in this way: «the quality of neural network solutions strongly depends on the quality of data. In fact, the machine learns from data that is limited by something. If you recognize cats among animals, everything will be fine until you have a manul or a lynx, which were not in the original sample. Accordingly, the system does not recognize them… If you studied flu patients, and then a covid patient appeared, AI-based diagnostic systems will initially give errors simply because they do not initially contain the relevant data. This problem cannot be completely eliminated simply because that's how nature works: there is always something new in it. And this is one of the global limitations for the use of such technologies»[342].

Also, the implementation of the considered approach in practice is impossible due to gaps in the cybersecurity of AI. Given the fact that scientists recognize the helplessness in determining the reasons for a particular decision made by AI (this is justified by the fact that after training AI, we are dealing with trillions of algorithm parameters, and it is almost impossible to understand how they work in a ready-made form), at the stage of AI training, it is possible to put certain algorithms

[341] Nilov S. The uprising of machines: what the authors of the Ethical Code of the robot Builder warn about [Electronic resource] // FURFUR. 2016. September 19. URL: http://www.furfur.me/furfur/changes/changes/218939-robots-at-work (date of access to the source: 05/31/2024). Cit. by: Yastrebov O.A. Artificial intelligence in the legal space // Bulletin of the Peoples' Friendship University of Russia (RUDN). Series: Legal Sciences. 2018. Vol. 22. No. 3. p. 323.

[342] "There was an illusion that if we had enough data, we could solve any problem". Rector of «Sirius» Maxim Fedorov on ethics and artificial intelligence [Electronic resource] // Kommersant. 2022. July 24th. URL: https://www.kommersant.ru/doc/5479249 (date of access to the source 05/31/2024).

into its algorithms data, so that the formed AI makes the decisions necessary for the bookmark: moreover, this can be done not in the code (it is open, and such bookmarks can be tracked), but at a deeper level – in the data on which the AI is trained. External cyberattacks are also possible, as a result of which AI can cause harm. The results of investigations into the causes of the incidents described above are not presented to the general public. Moreover, scientists state that it is not difficult to penetrate the codes of almost all modern AI systems (including those related to the use of weapons and military equipment) and smoke there, and they are relieved to report that so far this has not happened on the part of hackers[343]. «For all the interest and potential discussion of this topic, it should be recognized that at present it is more a scientific abstraction than a justification for the urgent need to adopt appropriate legislation, because, as mentioned earlier, the results of the development of artificial intelligence are still very far from reaching the level of recognition as an independently thinking unit worthy of granting the status of a person and, as a result, a separate legal mode»[344].

So, to date, there are no guarantees that the decision made by the AI is really an independent «reasonable» conclusion of the system. Since any, even the most highly developed AI systems are a product of human activity, the issues of responsibility of the AI carriers themselves are nothing more than theoretical constructions at the level of assumptions. It is clear that in the foreseeable future, the issues of subjectivization of AI will remain controversial. On the one hand, the international community is considering the creation of a special legal status for robots in the long term: an electronic person / electronic personality. However, this status will not and cannot be compared with the status of a human individual. And it is impractical to call AI carriers subjects of relations (both legal and social), as well as to give them any rights, not to mention responsibility. This does not correspond to the nature of human relations, for the regulation of which law was

[343] Joshi A. The future of artificial intelligence: new opportunities: lecture [Electronic resource] // RBC. Lectures by MBA professors. URL: https://pro.rbc.ru/lecture/60abff489a79472708e629ad (date of access to the source 05/31/2024)
[344] Kapitonova E.A. Artificial intelligence as a potential carrier of the legal mode of personality: problems and prospects // Electronic scientific journal "The science. Society. The State" 2019. Vol. 7, No. 4 (28). p. 94.

created, as a guarantor of the existence of a certain minimum set of moral principles raised into law[345], which AI carriers cannot exist in principle, since they cannot be digitized.

2) The responsibility of the AI carrier with the condition of giving it a status similar to that of a legal entity. A legal entity is an organization that has separate property and is responsible for its obligations, can acquire and exercise civil rights and bear civil duties on its own behalf, be a plaintiff and a defendant in court (Article 48 of the Civil Code of the Russian Federation). Unlike an individual who is endowed with a certain legal status and can bear responsibilities and exercise rights by virtue of birth, a legal entity is endowed with them by the state. A de facto legal entity may no longer exist, but it may not lose its status until de jure liquidation (a person loses rights and obligations at the time of death). Researchers from different times emphasized the doctrinal attitude to the identification of legal entities as subjects of legal relations, the artificiality of this legal structure, which is essentially a fiction. Thus, F.K. von Savigny also stated that the only subject of law can be a person[346]. However, with the development of legal thought, legal theorists came to the need to determine the status of various collective subjects of law: the people, the corporation, the public association, etc. «If we turn to the theory of fiction, a legal entity of civil relations is, in fact, property that has been granted legal personality»[347]. Recognizing the AI carrier as a subject of law by analogy with a legal entity, firstly, we will simply invent another form of legal entity (this action may be redundant a priori), and secondly, this kind of action will facilitate the departure of the real subject of responsibility.

N.V. Krysanova calls legal entities artificial entities and refers to them corporations and other forms of business associations, religious, governmental and

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[345] Fuller Lon L. The Morality of Law; translated from English M., 2007. pp. 117-173, 227-263.

[346] Considering persons as subjects of legal relations, F.K. von Savigny wrote as follows: "... the original concept of a person or a subject of law must coincide with the concept of a person, and this initial identity of both concepts can be expressed by the following formula: every individual, and only an individual, is legally capable", – Savigny F.K. von. The system of modern Roman law: In 8 vols. Vol. II / Translated from German by G. Zhigulin; Edited by O. Kutateladze, V. Zubar. M.: Statute; Odessa: Law Research Center. Savigny, 2012. p. 6.

[347] Melnichuk M.A., Chentsova D.V. Civil liability of artificial intelligence // Justice and law. 2020. No. 6. p. 66.

intergovernmental organizations, and also cites temples in India, a river in New Zealand and the entire ecosystem of Ecuador (Pachamama – «Mother Earth») as examples of such artificial objects (entities), emphasizing that «the state can endow a new education with some kind of personality, for example, AI systems»[348]. It is noteworthy that for legal entities, the legislation provides for a certain set of conditions for the emergence and existence: registration, documentation, financial support, actual availability and conduct of activities. For certain categories of legal entities, there are increased requirements due to risks in the activities of these persons and serving the purpose of satisfying compensation to individuals and other participants in legal relations, in case of possible violations by these legal entities: for example, to the citizenship of the founders, the amount of authorized capital, liability insurance, etc. For example: banks are required to be participants in the deposit insurance system[349]; legal entities performing authentication must have a minimum amount of equity of at least 50 million rubles, as well as financial support for liability for losses caused to third parties due to their trust in the result of authentication using biometric personal data - also in the amount of 50 million rubles; and legal entities performing authentication and (or) identification – respectively, 100 million and 500 million rubles[350]. In addition to special requirements that ensure compensation for harm in the case of illegal activities of legal entities, a mechanism of subsidiary liability is provided, which in the last decade has proven its effectiveness and, in most cases, justified the procedure for compensatory compensation for harm through the property of the founders. Thus, when granting AI a status similar to that of legal entities, it is also necessary to provide for similar compensation mechanisms. In this case, the issue of legal competence will not be resolved as one-sidedly as in the first approach (solving the

[348] Krysanova N.V. The legal personality of artificial intelligence: discussions in domestic and foreign studies // Law, digital technologies and artificial intelligence: collection of articles / ed. by E.V. Alferova. M.: INION RAS, 2021

[349] Federal Law No. 177-FZ dated December 23, 2003 "On Deposit Insurance in Banks of the Russian Federation".

[350] The rules of accreditation of organizations that own information systems that provide identification and (or) authentication using biometric personal data of individuals, and (or) provide services for identification and (or) authentication using biometric personal data of individuals, approved. By Decree of the Government of the Russian Federation No. 1799 dated October 20, 2021.

issue by analogy with individuals), since AI carriers will receive not only rights, but will also be able to fulfill their duties and bear responsibility – at the expense of a subsidiary mechanism. It would be advisable not only to create, as proposed by a number of authors[351], an accounting and state-controlled register of AI carriers (by analogy with registers of legal entities), but also to oblige registrants – individuals and (or) legal entities establishing an electronic digital entity (digital person / unit / electronic person / digital entity) - to ensure the availability of he has a separate constituent capital, financial insurance to cover the damage caused, and also provide for the obligation to make payments for registration and accounting actions in relation to these objects. It is necessary to provide rules for the application of subsidiary liability (although this question is usually not even raised by researchers).

The issue of exercising the legal capacity of an electronic digital entity remains controversial. M.G. Shcherbakov suggests that «the legal personality of a digital person is carried out through a permanent governing body – artificial intelligence», while «the owner (founder) of a digital person exercises only general control over the activities of a digital person»[352]. Perhaps such a scenario is not easy to imagine, but, agreeing with P.M. Morkhat, who proposes to introduce the concept of legal personality for an «electronic person» for a very limited number of complex robotic AI systems[353], cannot exclude the possibility of its development. Let's assume that a fully automated bank will be established that provides services to individuals without operators, earns on credit and salary products, and carries out cash flows exclusively in electronic and digital format. Can it be controlled by AI? – Yes, decisions can be made based on algorithms uploaded by developers. Will income be generated from its activities? – Undoubtedly. Will he be able to bear the burden of responsibility? – Of course. And, probably, through representatives of

[351] Popova A.V. New subjects of the information society and the knowledge society: on the issue of normative legal regulation // Journal of Russian Law. 2018. No. 11. p. 19.
[352] Shcherbakov M.G. Problems of legal regulation of the transformation of the legal status of artificial intelligence: statement of the problem // Scientific notes of the V.I. Vernadsky Crimean Federal University. Legal sciences. 2019. Vol. 5 (71). No. 3. pp. 76-77.
[353] Morkhat P.M. On the question of the legal personality of an "electronic person" // Legal research. 2018. No. 4. p. 6.

individuals, even participate in litigation in order to appeal against court decisions on bringing him to justice or, say, act as a plaintiff in disputes with malicious loan defaulters. And he will be able to pay taxes. «At the same time, there are no external obstacles in extending the qualities of a legal entity to an autonomous robot through fiction as a method of legal technique. It is customary to artificially recognize the existence of an organization, although there may not be a real person or organization of people behind it»[354].

So, if AI is recognized as a new «independent legal entity with a legal status ... that may have rights and obligations and be able to be responsible for its actions or decisions»[355], the issue of its legal responsibility is resolved in the traditional way, by already available legal and economic means.

3) Responsibility of the owner, developer, manufacturer, operator. Despite the fact that «one of the fundamental concepts is becoming less and less unambiguous, according to which the final subject of making any decision is a person»[356], the vast majority of researchers adhere to traditional views: human participation in the management of society should be dominant; only a synthesized approach to the status of AI is possible along with those who manage or create it[357]. And to the question whether AI can be an independent subject of responsibility, basically, the authors answer confidently: «No», – since AI activity is related to humans and indirectly or directly subordinates to humans[358]. P.M. Morhat, referring to John Byers, notes: «Until relatively recently, the problem of determining responsibility for the actions of a machine was resolved unambiguously and

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[354] Vasiliev A.A., Shpoper Dariush, Yanaki Stoilov. Law and smart robots in Russia, the USA and the European Union // Transformation of law in the digital age: monograph / Ministry of Science and Higher Education of the Russian Federation, Altai State University; edited by A.A. Vasilyev. Barnaul: Publishing House of the Alt. un., 2020. p. 140.

[355] Shevtsova S.R. Artificial intelligence as a legal entity // Annual All-Russian scientific and practical conference "Modern approaches to ensuring and realizing human rights: theoretical and sectoral aspects" (Moscow, December 08, 2021) Moscow: "Russian New University", 2021. p. 389.

[356] Morkhat P.M. The legal personality of artificial intelligence in the field of intellectual property law: civil law problems: Dissertation for the applicant. ... Doctor of Law, M., 2018. p. 247.

[357] See: Aleshkova I.A. The digital status of personality and the legal status of artificial intelligence: new in legal constructions // Law, digital technologies and artificial intelligence: collection of articles / ed. by E.V. Alferova. M.: INION RAS, 2021. pp. 196-197.

[358] Kibalnik A.G., Volosyuk P.V. Artificial intelligence: questions of criminal law doctrine awaiting answers // Bulletin of the Nizhny Novgorod Academy of Ministry of Internal Affairs of Russia. 2018. No. 4 (44). p. 177.

traditionally: such a machine should have been considered solely as an instrument of the person who owns or controls it. There was no question of the personal responsibility of such a machine or its legal personality, since the machines were not capable of carrying out autonomous or semi-autonomous activities»[359]. However, even today, relying on the classical understanding of law as a regulator of precisely social (between man and man) relations, researchers reject the need for «humanizing» AI views. Susan Hassler, in her highly emotional article «Should we design robots that need rights?» asks the question: «... instead of assuming that an ethically complex future saturated with intelligent machines is inevitable, we could maintain freedom of action over the machines we create and challenge the technological imperative. Can we do this? Or are we so passionate about the idea of creating artificial life, monsters and golems that it's impossible to resist it?»[360] Responsibility for the actions of AI was assigned to the developer, manufacturer and/or operator before. This is still happening today and will be the case in the foreseeable future. Because this is the most familiar and understandable experience for mankind. Therefore, answering S. Hassler's question, we can say with confidence: «Not only we can, but we must, – until an understanding of the legal personality of AI acceptable to most people is in the mind, and the mechanisms of responsibility are not described in detail in regulatory regulation».

Various authors propose to assign responsibility for the actions of AI to diverse subjects of human legal relations. S.A. Sinitsyn writes: «It seems that the corresponding responsibility should be assigned to software developers and its operators in the amounts determined by law»[361]; L.S. Arteniy: «It seems that civil liability in this case will be borne by the owner or proprietor of the robot»[362]. M.A. Melnichuk and D.V. Chentsova, objecting to the application of norms on

[359] Morkhat P.M. The legal personality of artificial intelligence in the field of intellectual property law: civil law problems: Dissertation for the applicant. ... Doctor of Law, M., 2018. p. 243.
[360] Hassler S. Do we have to build robots that need rights? [Electronic resource] // IEEE Spectrum (Volume: 54, Issue: 3, March 2017). URL: https://ieeexplore.ieee.org/document/7864739 (date of access to the source: 05/31/2024).
[361] Sinitsyn S.A. Russian and foreign civil law in the context of robotization and digitalization. The experience of interdisciplinary and sectoral research: monograph. M., 2021. p. 66.
[362] Arteniy L.S. Artificial intelligence in copyright // Bulletin of Science and Education. 2019. Part 1. No. 7 (61). p. 77.

compensation for harm caused by a source of increased danger to compensate for damage caused by a robot, since the presence of AI and the ability to make independent decisions require special legal regulation of these relations and note: «Thus, measures of civil liability can be applied to a person who provided the robot with the opportunity to perform certain actions or allowing artificial intelligence to act on its own conviction. <...> in the near future, the responsibility for the actions of artificial intelligence will be borne by individuals involved in their creation»[363]. P.M. Morhat: «Owners, operators, designers and programmers can be attributed to this circle»[364].

The responsibility of property owners – whether it is an animal, a source of increased danger, or a product of human activity (a thing created by him or the result of intellectual activity) - is based on the doctrine of property law. At the same time, the responsibility of the owner of the thing is obvious. A thing «created» by another thing belongs to the owner of the thing-the «creator» (art. 136 of the Civil Code of the Russian Federation: fruits, products, income received as a result of the use of a thing, regardless of who uses the thing, belong to the owner of the thing, unless otherwise provided by law, other legal acts, contract or does not follow from the essence of the relationship). It would be most logical to extend this rule to situations related to the results of the activities of AI carriers. Objections to such a scenario are based on the fact that the independence of intellectual rights from property rights is legally established[365], and on the subjectivization of AI carriers based on its key characteristics: autonomy and self-organization; the ability to learn and self-study; the ability to reasonable thinking and behavior. P.M. Morhat insists that «the combination of these parameters leads to the probability of committing actions that were not originally envisaged by the manufacturer or the programmer»[366]. However, animals (which we cannot fully control), as well as out-of-order sources of increased

[363] Melnichuk M.A., Chentsova D.V. Civil liability of artificial intelligence // Justice and Law. 2020. No. 6. p. 67.
[364] Morkhat P.M. The legal personality of artificial intelligence in the field of intellectual property law: civil law problems: Dissertation for the applicant. ... Doctor of Law, M., 2018. p. 249.
[365] Arteniy L.S. Artificial intelligence in copyright // Bulletin of Science and Education. 2019. Part 1. No. 7 (61). p. 78.
[366] Morkhat P.M. The legal personality of artificial intelligence in the field of intellectual property law: civil law problems: Dissertation for the applicant. ... Doctor of Law, M., 2018. p. 248.

danger, whose actions or activities cause harm, also do not lend themselves to detailed forecasting – behavioral or mechanical. Despite this, it is their owners who compensate for harm in case of its occurrence from the actions of animals or the work of sources of increased danger. After all, legal representatives are responsible for their young and (or) minor children, although the latter are generally separate individuals, and their parents (or other representatives) not only cannot predict the likelihood of their actions, but also do not influence these actions in any way. The principle of the inevitability of responsibility, however, is not abolished in this case.

«It is obvious that despite certain difficulties in regulating tort relations involving artificial intelligence, it is already necessary to supplement the current Civil Code of the Russian Federation with a norm that would establish rules for compensation for damage caused by artificial intelligence. In other words, it is necessary to provide a norm that would contain rules for the application of civil liability for a new type of special tort, namely, compensation for damage caused by artificial intelligence»[367]. Researchers have repeatedly insisted that the current stage of development of legal doctrine and legislation does not require the endowment of AI carriers with legal personality or its individual elements[368]. I believe that this approach will be fundamental for regulating relations in the field of legal responsibility within the next decade.

Thus, based on the solutions currently available in the theory of law for the application of legal liability in relation to AI carriers, it is practically possible to apply in the foreseeable future only the responsibility of the owner of the AI carrier, the AI developer, the manufacturer or the operator of the AI carrier. Due to the lack of understanding of the criterion of «degree of autonomy» and the fundamental inexpediency of its applicability due to plasticity and rapid variability, the

[367] Chentsova D.V. Civil liability of artificial intelligence // Justice and Law. 2020. No. 6. p. 67.

[368] See: Barakina E.Yu. On the issue of the formation of promising terminology in the field of legal regulation of the use of artificial intelligence // Lawyer. 2020. No. 9. pp. 56-65; Gorokhova S.S. On some legal approaches to determining the legal personality of artificial intellectual systems // The Rule of law: theory and practice. 2020. No. 4-1 (62). pp. 31-42; Popova A.V. Ethical principles of interaction with artificial intelligence as the basis of legal regulation // The rule of law: theory and practice. 2020. No. 3 (61). pp. 34-43; Apostolova N.N. Responsibility for the harm caused by artificial intelligence // North Caucasian Legal Bulletin. 2021. No. 1. pp. 114 and many others.

implementation of the first option (imposing responsibility for «autonomous» AI actions committed without the participation of any of the people on the AI carrier itself) does not stand up to criticism. The second option, liability of a legal entity, seems quite convenient in terms of resolving the issue of compensation for harm: in this case, it is logical to implement compensation mechanisms through civil liability insurance systems for developers and owners of AI carriers[369]. However, this option is also possible with the third option (which is voiced above as the most acceptable).

If scientists are asking questions about whether to assign responsibility to the developer of an AI program or the manufacturer of a product operating on the basis of AI; under what conditions responsibility can be assigned to the user of the AI system; is it necessary to fix in legislation immunities for the user of the program when the user is not responsible for the harm caused due to the fact that he relied on the actions of the AI program (for example, the user of an autonomous (unmanned) vehicle relying on the autopilot operation should not be responsible for the harm caused by an autonomous (unmanned) vehicle); how adequately is the modern legal system able to respond to offenses resulting from the operation of AI systems[370]? Unfortunately, these issues do not find solutions within the framework of the announced studies. Therefore, it is essential for the theory of law to form the conceptual foundations of the legal responsibility of AI carriers, which are based on the most acceptable solutions for its application.

Actually, one of the main goals of this study is to form and propose these foundations so that industry researchers have a more solid base (constructive principles) for further building their own ideas and interpretations, cleared of illusory perceptions of AI, which, unfortunately, are widespread among representatives of the humanitarian environment. And this is presented further in the dissertation. The above options in the framework of the current work are

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[369] See: Naumov V.B., Chekhovskaya S.A., Braginets A.Yu., Mayorov A.V. and others. Legal aspects of the use of artificial intelligence: current problems and possible solutions: Report of the Higher School of Economics, Moscow, 2021. pp. 12, 20-22; Apostolova N.N. Responsibility for harm caused by artificial intelligence // North Caucasian Legal Bulletin. 2021. No. 1. p. 118, etc.

[370] Voynikanis E.A., Semenova E.V., Tyulyaev G.S. Artificial intelligence and law: challenges and opportunities of self-learning algorithms // Vestnik VSU. Series: Law. 2018. No. 4. p. 144.

considered as already fairly well-established opinions in science. Nevertheless, the viability of the first two has been reasonably questioned.

3. A dichotomous study of responsibility for actions involving AI carriers (in the theory of law)

The concept of legal liability cannot be one-dimensional due to its nature. Possessing both a retrospective and a prospective property[371], characterized by a dual character (on the one hand, the violator suffers negative consequences, on the other hand, the positive prevention of new violations as a conscientious and proper performance by the subject of law of the legal duties assigned to him, conscious fulfillment of his duty to citizens, society and the state), legal responsibility exists as a multidimensional phenomenon. In its positive part, it is constantly present[372], consisting in a certain obligation voluntarily embodied in one's own lawful behavior[373] in the name of observing public interests[374], and in terms of coercion (retrospective component), it realizes punitive potential in case of non–fulfillment of legal obligations, as a result of which subjects of law undergo «deprivation of a personal or non-property nature provided for by law»[375], as well as «condemnation»[376], and in this sense acting as a measure of legal coercion[377]. This is expressed, in some cases, in the form of the application of state coercion measures provided for by the sanction of the violated norm to the person who committed the offense, in accordance with the procedural procedure established for this[378], in others – in the application of non-state coercion measures (disciplinary punishment,

[371] See in more detail: Bortnikov S.P. Prospective and retrospective responsibility // Questions of economics and law. 2012. No. 12. pp. 47-50.
[372] «Positive responsibility, unlike negative, is not temporary or compulsory, but permanent (permanent), voluntary and deeply realized responsibility of an individual for his behavior in the present and future, for the proper performance of his legal duties and civic duty», – Matuzov N.I. Legal system and personality. Saratov: Publishing house of Saratov. University, 1987. p. 208.
[373] See: Bondarev A.S. Legal responsibility and irresponsibility – the sides of legal culture and anti-culture of subjects of law. St. Petersburg: Legal Center "Press", 2008. p. 15.
[374] See: Lipinsky D.A. Positive responsibility: for and against (part 1) // Law and politics. 2005. No. 11. pp. 19-22.
[375] Khachaturov R.L., Yagutyan Z.G. Legal responsibility. Tolyatti, 1995. p. 52.
[376] Lipinsky D.A. General theory of legal responsibility: Abstract. diss. ... Dr. of Law. Samara, 2004. p. 9.
[377] Nersesyants V.S. General theory of law and the state: Studies for lawyers. universities and faculty. M., 1999. p. 524.
[378] See: General Theory of State and Law: Academic. course: In 3 volumes / Ed. M.N. Marchenko. T. 3. M., 2002. p. 468; Lyubashits V.Ya. Theory of state and law / V.Ya. Lyubashits, M.B. Smolensky, V.I. Shepelev. M., 2006. p. 462; and others.

as an option) or even on a voluntary basis (for example, voluntary compensation for harm, payment fines, etc.)[379], which does not exclude the use or possibility of using state coercion subsequently. Traditionally, it is precisely this application (or possibility) that is a mandatory sign of legal responsibility, since responsibility deprived of it cannot be recognized as legal[380].

The dualistic concept of legal responsibility reconciles and logically builds different approaches to its understanding, although the understanding of ambiguity due to the construction of a dichotomy differs from one author to another. Thus, A.P. Chirkov considers retrospective responsibility as a continuation and analogue of positive responsibility, but only under duress (that is, the same performance of duty, but in a state of compulsion)[381]. Ya.V. Bakardzhiev, highlighting the objective and subjective content of legal responsibility, presents it simultaneously in such manifestations as obligation and as adverse consequences[382]. In addition, the specified author, based on the elements of the mechanism and content of legal responsibility (subjective – the obligation of a particular subject, and objective – the real occurrence of adverse consequences for him), also considers it in time dynamics, highlighting three stages of legal responsibility and concludes the following: «It is possible to propose other paired designations for the dual essence of legal responsibility, but whatever it is, the essence does not change from this – legal responsibility is dual both in nature and as a legal category. The dispute between proponents of responsibility as a legal relationship (obligation) and as a specific measure of coercion (or its application) loses its meaning, since the positions of proponents of a particular concept are about two manifestations of the same thing»[383]. V.A. Khokhlov, based on V.A. Tarkhov's views on the possibility of extending the general definition of positive responsibility to responsibility as an obligation to give an account of one's actions, considers it acceptable to cover both

[379] Zakharov D.E. About positive legal responsibility // Russian law: education, practice, science. 2018. No. 4. p. 47.
[380] Alekseev S.S. General theory of law: in 2 volumes. Moscow: Yurid. lit., 1981. Vol. 1. p. 269.
[381] See: Chirkov A.P. Responsibility in the legal system: studies. stipend. Kaliningrad: Publishing House of Kaliningrad University, 1996. p. 20.
[382] Bakardzhiev Ya.V. On dualism and dynamism of legal responsibility // Modern law. 2011. No. 6. p. 33.
[383] The same source. p. 34.

aspects of responsibility (the obligation to report and the report itself) as a general concept[384].

However, there are also many critical positions in the scientific community regarding dual representations. Basically, they boil down to the inadmissibility of an expansive interpretation of legal responsibility and criticism of positivism. D.E. Zakharov writes: «... attempts to tie negative and positive responsibility into one «tangle» of legal responsibility are untenable. The inclusion of a positive element in the content of legal liability distorts its entire essence and blurs its content, simply devaluing it»[385]. A.V. Milkov, recalling the legal postulate of the onset of legal responsibility for the committed offense and after its commission, accepts the only possible idea of responsibility in its external manifestation: «retaliation for prohibited behavior», regulated by various social norms (including legal ones) and implemented «either in the application of public condemnation or in the application of measures legal responsibility», – while «responsibility, which consists in awareness of duty, conviction, and the fair use of rights from a philosophical point of view, is an internal responsibility, an internal moral authority of the individual. Such internal responsibility has no legal features, is not regulated by legal norms and, therefore, cannot be recognized as a party (aspect) of legal responsibility. It follows from this that the concept of positive legal responsibility introduces into legal scientific circulation the philosophical concept of «internal responsibility», renamed the concept of «positive legal responsibility»«[386]. A.F. Vishnevsky criticizes the approach taken by D.A. Lipinsky[387], A.A. Ivanov[388] and other authors for the «philosophical, unjustifiably broad understanding» of legal responsibility[389].

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[384] Khokhlov V.A. Responsibility for violation of the contract under civil law. Tolyatti, 1997 pp. 44-45.
[385] Zakharov D.E. About positive legal responsibility // Russian law: education, practice, science. 2018. No. 4. p. 52.
[386] Milkov A.V. On the insolvency of the concept of two-dimensional legal responsibility // Law. 2016. No. 6. pp. 152-164.
[387] Lipinsky D.A. Problems of legal responsibility / edited by R.L. Khachaturov. 2nd ed., reprint. and additional St. Petersburg, 2004.
[388] Ivanov A.A. Offense and legal responsibility. Theory and legislative practice: textbook for universities. M., 2004.
[389] Vishnevsky A.F. Legal responsibility: some aspects of theoretical understanding in legal science // Bulletin of the Perm University. Legal sciences. 2013. Issue 4 (22). pp. 18-27.

As discussed above, the problem of legal liability is wide, and approaches to its understanding in the theory of law are diverse. However, following Y.V. Bakardzhiev, it would be appropriate to insist on the need to develop universal, unified concepts, to identify the nature of interaction between related concepts in a number of basic methodological meanings of the theory of the state[390], since this is the most significant step for the development of branch legal sciences. Considering the issues of legal responsibility in the context of the development of ideas about AI, it is impossible not to rely on its understanding exclusively in retrospect. It is important to identify the basic starting points for the formation of a theoretical concept of responsibility for actions using AI carriers. And if we start solely from a retrospective understanding of it, then even the concept of such responsibility will be impossible to work out, since the key understanding depends on which variant of the subject composition and the objective side to take as a basis. In turn, what is the basis should be understood and investigated from the position of awareness of its inner essence. And in all aspects of understanding the legal responsibility for actions using AI carriers, you will have to face its duality.

If, in the context of a theoretical analysis of legal liability for harm caused by AI carriers, we examine a single (unified) concept of legal liability (which is a social phenomenon, objectively expressed in state-legal coercion and possible negative consequences by the violator, and as a subjective content manifests itself as a duty of conscious fulfillment by the subject of law of his duty to by citizens, society and the state), then using the method of dichotomous division (or dichotomy), which is a sequential division of the volume of the analyzed concept into two parts, more connected internally than among themselves (which is why researchers often present them as contradictory concepts), we can conclude that in fact we are dealing with two completely different concepts: negative (retrospective) responsibility and positive (prospective) responsibility In this case, they will be presented as independent, separate legal concepts that are not subject to unification (unification).

[390] Bakardzhiev Ya.V. On dualism and dynamism of legal responsibility // Modern law. 2011. No. 6. p. 30.

However, legal responsibility cannot be one or the other, and the contradictions between «negativists» and «positivists» are seen only as artificially created, since legal responsibility is a holistic concept, although it is twofold. It is holistic due to its social nature, multidimensional nature and the presence of a value basis (more on this in the research will be a little later).

It is logical to carry out the dichotomy of responsibility of AI carriers, focusing on the essence of legal responsibility and taking into account its signs and functions. So, if the essential component of legal responsibility consists in «undergoing consequences in a state of coercion»[391] within the framework of law enforcement activities, then, given the possibility of embedding data and algorithms in AI that regulate its activities in the event of an offense (for example, manifestations of a restorative function – compensation for harm caused, if possible; self-destruction, etc.), it is possible to achieve recognition of the possibility of suffering property consequences on the part of AI. It is worth considering that this option is possible only if the manifestations of the subjective side of responsibility are rejected: the AI carrier cannot have a mental state, and the possibility of a volitional choice by the subject of an option of misconduct also cannot and should not be replaced by algorithmic chains or hidden under a «sudden» error. The release of the AI carrier from responsibility or its mitigation on the grounds of the subjective side is impossible, since the AI decision-making mechanism is pre-designed by man. One can try to deny this reality, relying on the «self-learning» of the AI carrier, as a result of which, allegedly, hitherto unknown data or decision-making mechanisms may appear. However, the principles of learning are just as accurately embedded in AI at the algorithmic level, and the complication of the order of making these decisions, the complication of this algorithmization is not by innovation, but by expanding the algorithmic design by analogy of development from the initial to the subsequent algorithm – just as it was embedded in the algorithmic principles of self–learning. And only the speed of computing, the repeated complication of the

[391] Bratus S.N. Legal responsibility and legality (an essay on theory). M., 2001. p. 98.

algorithm (once again: not its innovation, but its expansion) in short periods of time stop people from investigating deviations in AI systems that have led to negative consequences.

Unfortunately, to this date, the world community has not been honored with any report on the results of the investigation of cases of harm caused by AI carriers. The position of the «black box» is convenient not only for avoiding legal responsibility by imposing it on a subject with obviously missing signs of the subjective side, but also for hiding the real subject of this responsibility and its true subjective side. Meanwhile, the scientists conclude: «... currently, there is virtually no legislation to solve the problem of the black box»[392]. Thus, if the first approach to understanding the legal responsibility of AI carriers is taken as the basis (the need to impose responsibility for «autonomous» AI actions committed without the participation of any of the people on the AI carrier itself), it will require either the rejection of one of the signs of legal responsibility (the subjective side), or the formulation of its content in relation to the designated subject.

The exclusion of legal liability from the subjective side (presumption of liability for damage/harm caused, regardless of the mental state of the subject: it cannot objectively exist) will also be required with the second approach – the responsibility of a legal entity. And you also do not need to resort to building any fictitious legal structures when following the concept: responsibility for the actions of an AI carrier is the responsibility of its owner, developer, manufacturer or operator. In this case, it is sufficient to supplement the existing legal norms on the liability of AI owners (by analogy with the owners of high-risk sources), as well as their manufacturers. In the first case, the responsible persons will be the owner or operator (in each case), in the second – the manufacturer or (involved in a recourse claim) the developer.

If we turn to the object of responsibility and the legal essence of legal relations, then the concept of constructs-fictions with AI carriers will not stand up to the

[392] Kuteynikov D.L., Izhaev O.A., Zenin S.S., Lebedev V.A. Algorithmic transparency and accountability: legal approaches to solving the problem of the "black box" // Lex Russica (Russian Law). 2020. Volume 73. No. 6 (163). p. 147.

following criticism: since «all legal relations, regardless of their specific content, are intellectual and volitional and ensure the establishment of certain connections between people as participants in legal relations»[393], and AI carriers are not the same as people (with will and mental attitude to acts), – they cannot be put on a par with people expressing their will and acting directly or through certain institutions (private property, legal entities, local government, etc.). Postulating such an assumption, the theory will have to agree with the authorship of the camera and the responsibility of the car, which, tens and hundreds of years after their inventions seem to be an absolute absurdity. However, a number of researchers insist on the need to develop legal norms (and, consequently, norms within the framework of legal responsibility) governing relations «between individuals and electronic persons»[394], although the possibility of such legal relations is thought of only as a kind of potency. Since «the new digital reality has created a new type of public relations – relations complicated by a virtual digital element»[395], adequate regulation is already required not only of these relations themselves, but also of responsibility for encroachments on them. «At the current stage of historical development, we cannot and must not repeat the mistakes made by mankind in a less enlightened era, therefore, already at the early stages of the widespread introduction of new technologies into our lives, it is necessary to lay down appropriate norms in the legal field, providing not only the possibility of imposing retrospective responsibility on the perpetrators, but also to consider the prospects of establishing a historical (perspective) responsibility for those who are engaged in the development and implementation of potentially dangerous fundamentally new technologies that are doing the same today, which was simply impossible before.

[393] Rzhevsky V.A. The realization of law and legality // Fundamentals of state and law: A textbook. Rostov-on-Don. 1996. p. 173.
[394] Mazurov V.A., Starodubtseva M.A. Artificial intelligence as a subject of law // Transformation of law in the digital age: monograph / Ministry of Science and Higher Education of the Russian Federation, Altai State University; edited by A.A. Vasilyev. Barnaul: Publishing House of the Altai University, 2020. p. 128.
[395] Anisimova I.A., Kulikov E.A. The object of criminal law protection (crimes) and the subject of crime in the digital age: general, special and singular // Transformation of law in the digital age: monograph / Ministry of Science and Higher Education of the Russian Federation, Altai State University; edited by A.A. Vasilyev. Barnaul: Publishing House of the Altai University, 2020. p. 223.

This long-term responsibility can first of all be expressed in the inclusion in the relevant regulatory legal acts of rules, duties and prohibitions related to the general prevention of possible harm that in the future may be caused to citizens in the process of interaction with the introduced new technologies equipped with AI»[396].

Assessing the place of AI in the system of legal relations, J. Zacharia describes its technology as a «prediction machine», and how useful and effective this machine will be depends mainly on two things: the biases of the developer of the specific AI technology being evaluated and the quality of the data entering this predictive machine (the better the data– the better forecasts). «Once a certain form of AI technology has been evaluated and activated by the data that the AI technology receives, it becomes available for use. At the moment, it all depends on the user (or, in this metaphor, the «wielder of the sword») how this AI technology will be used. Hence the double-edged sword metaphor: AI can be developed by criminals and used as a weapon to facilitate intellectual property rights violations, but it can also be developed and used by law enforcement agencies and intellectual property owners to detect and prevent intellectual property rights violations»[397]. According to the above presentation, it is possible to deduce an understanding of the objective signs of responsibility for the «actions» of AI carriers, which, as a rule, coincide with those in the offense. Due to the chosen point of view, objective signs can also be presented ambiguously. In the first case (if we adhere to the concept of «AI carrier – the subject of responsibility»), the objective side will be expressed in the actions of the AI carrier, in the second, the AI carrier will take the place of an instrument or method of committing an offense. «The specifics of the area under study simply predetermines the most balanced approach to these issues, and requires the state to make every effort to ensure the legitimate rights and interests of its citizens, preventing the uncontrolled emergence and use of technologies in civil

[396] Gorokhova S.S. Technologies based on artificial intelligence: prospects and responsibility in the legal field // Lawyer. 2021. No. 6. p.63.

[397] Understanding Artificial Intelligence and Enforcement of Rights With John Zacharia [Electronic resource] // THE BRAND PROTECTION PROFESSIONAL. MICHIGAN STATE UNIVERSITY. JUNE 2022. VOLUME 7. NUMBER 2. URL: https://bpp.msu.edu/magazine/unstanding-ai-and-enforcement-with-john-zacharia-june2022/ (date of access to the source: 31.05.2024).

circulation, not only potentially dangerous, opaque, little-tested, but also not burdened with any public legal responsibility for developers, manufacturers, sellers and operators of AI technologies»[398].

Thus, the duality of legal responsibility for actions using AI carriers (at the level of theoretical views) is expressed:

1) in retrospective and prospective manifestation: in the first case, it is theoretically possible to assume the imposition of responsibility on the AI carrier itself, but in fact this does not stand up to criticism on subjective grounds and is impractical due to the possibility of hiding the true composition of subjective signs of responsibility; in the second case, at present, this party no longer remains at the level of theoretical assumptions, being a reflection of real-life relations regarding both the suffering of consequences and the prevention of offenses in the future – in relation to developers, manufacturers, sellers and (or) operators of AI technologies;
2) in the formation of the subject and the subjective side of responsibility: on the one hand, the theoretically possible recognition of the AI carrier as a subject and the artificial elimination of the subjective side of the offense and, as a result, a change in the subject of legal responsibility in its traditional sense; on the other, the denial of such a possibility and the natural withdrawal of the AI carrier from the circle of subjects of legal responsibility;
3) in the understanding of the objective side (the actual and legal basis) of legal liability – depending on how the subject of responsibility is formed, and how the subjective side of the offense manifests itself, acting as an element of the composition of legal responsibility, responsibility can be realized within the framework of legal relations arising between the AI carrier as a violator of legal norms (mandatory requirements) established in normative legal acts, and the state, represented by the appropriate

[398] Gorokhova S.S. Technologies based on artificial intelligence: prospects and responsibility in the legal field // Lawyer. 2021. No. 6. p.63.

authorized to apply sanctions bodies and officials (for the direct execution of the act), - or objectify in relation to the owner (operator) or manufacturer (developer) of the AI carrier, and in this case AI will act as an instrument, method or means of offense as grounds for legal liability.

European researchers divide the responsibility of AI into contractual and non-contractual, and the possibility of its regulation by available legal means is not denied. Thus, S. de Conca confidently justifies the use of the main existing legal instruments to eliminate gaps in liability for harm caused by AI systems, which she illustrated using hypothetical scenarios showing the vulnerability of decisions made by AI and the impossibility of justifying them due to the absence of any manifested intention. In all European legal systems, civil liability (as opposed to criminal liability) arises as a result of a breach of an obligation. The source of the obligation determines the type of liability, and the two main sources are contracts and torts. However, as de Conca points out, «currently, the application of either of these two types of responsibility to AI systems can lead to unsatisfactory results»[399], and this is demonstrated by the researcher on the example of Alice's relationship with a Bank, with an autonomous (unmanned) vehicle, with a Smart Home. For example, a bank rejected a loan application: «The reason for the rejection can be traced to bias accidentally incorporated by software into models created from training datasets. However, the bank claims that it does not know the reasons for the software's decision, denies the existence of bias and confirms that it cannot be responsible for the algorithmic result. From the point of view of liability, it can be difficult to determine the obligations of the Bank and, therefore, whether there is a violation in the actions of the Bank: The Bank is not obliged to provide Alice with a loan. Due to the opacity of the AI technology involved, it is also not easy to determine possible unintended discrimination or whether the Bank intentionally

[399] Silvia De Conca. Bridging the Liability Gaps: Why AI Challenges the Existing Rules on Liability and How to Design Human-empowering Solutions // Law and Artificial Intelligence: Regulating AI and Applying AI in Legal Practice. Ed. Bart Custers, Eduard Fosch-Villaronga. – Information Technology and Law Series. Vol. 35. T.M.C. Asser Press, The Hague, The Netherlands, 2022. p. 246.

instructed the algorithm to produce exactly this result»[400]. Assuming the possibility of creating a special responsibility for AI, or rather, a responsibility designed to eliminate the gaps created by it, and even calling this idea tempting, de Conca emphasizes: «most likely, it will be impracticable: AI represents a wide range of applications and ways of use, in almost all industries and spheres. A single regime applicable to all of this is likely to be impossible. For this reason, the idea of creating special liability regimes for certain high-risk AI applications has been put forward <...> However, when determining which applications are high-risk, legislators should take into account that, in addition to the most striking examples (such as autonomous weapons and autonomous vehicles, due to their ability to injure or kill people), trivial and everyday products - AI can still harm the fundamental rights of individuals (as the case of the Apple Card shows). The more people spend their lives immersed in a digital and «smart» environment, the higher the risk that even minor AI applications will have serious negative consequences, since not only life-threatening applications are listed among high-risk AI systems, but also systems used to determine access to education, social security and benefits, or AI software for hiring»[401].

4. Conceptual foundations of legal responsibility in the field of AI application

«Like most new technologies, AI technology itself is neutral in the sense that AI is inherently neither a threat nor an opportunity to protect intellectual property rights. The impact of a particular form of AI technology is determined by how it is developed and how it is used»[402]. This realization leads to the unequivocal conclusion that the theory of law should not seek out options for ineffective legal structures in order to regulate phenomena and relations that seem new, and look for

[400] Silvia De Conca. Bridging the Liability Gaps: Why AI Challenges the Existing Rules on Liability and How to Design Human-empowering Solutions // Law and Artificial Intelligence: Regulating AI and Applying AI in Legal Practice. Ed. Bart Custers, Eduard Fosch-Villaronga. – Information Technology and Law Series. Vol. 35. T.M.C. Asser Press, The Hague, The Netherlands, 2022. p. 246-247.
[401] The same source. p. 249.
[402] Understanding Artificial Intelligence and Enforcement of Rights With John Zacharia [Electronic resource] // THE BRAND PROTECTION PROFESSIONAL. MICHIGAN STATE UNIVERSITY. JUNE 2022. VOLUME 7. NUMBER 2. URL: https://bpp.msu.edu/magazine/unstanding-ai-and-enforcement-with-john-zacharia-june2022/ (date of access to the source: 05/31/2024)

loopholes to avoid answering extremely relevant questions today: who should be responsible for the actions of AI, in which variants it is possible to apply the existing rules on liability today, and how legal liability should be transformed in the near future. The available legal mechanisms are sufficient today; their adaptation to the realities is already possible today, especially since «... the dynamic development and spread of digital technologies forces the scientific community to rapidly fill the legal vacuum in which artificial intelligence was developing until recently»[403]. Moreover, the authors should beware of an unjustified increase in the number of theories and opinions regarding the legal personality of AI, solely for the sake of creative self-realization and innovation in the field under study, and the construction, in fact, of a stillborn conceptual apparatus that does not go beyond scientific discourses.

What really is a problem that requires timely regulation within the framework of sectoral legal responsibility is the definition of the subject composition of persons (people) who are inevitably obliged to bear legal responsibility for harm (damage) caused by the actions of AI carriers. Given that AI systems are particularly complex, since they consist of several hardware and software parts and are often developed at the junction of various industries, in addition to computer science (such as robotics, healthcare, automotive, cloud computing, the Internet of Things or IoT, telecommunications, etc.), – two significant factors follow from this complexity: the presence of several actors potentially responsible for various components, programming, and data sets on the basis of which the algorithm develops its models; and there is an additional level of unpredictability that arises from how an AI element can interact with various components, with interconnected technologies (for example, IoT, where several «smart» devices interact with each other) or even with people around them. This is what foreign researchers are concerned about[404].

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[403] Vasiliev A.A., Pechatnova Yu.V. Problems of the impact of artificial intelligence on the legal sphere // Transformation of law in the digital age: monograph / Ministry of Science and Higher Education of the Russian Federation, Altai State University; edited by A.A. Vasiliev. Barnaul: Publishing House of the Altai University, 2020. p. 189.

[404] Leenes R., Palmerini E., Koops B.J., Bertolini A., Salvini P., Lucivero F. Regulatory challenges of robotics: some guidelines for addressing legal and ethical issues [Electronic resource] // Law, Innovation and Technology. 2017. p. 9. URL: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=294197 (date of access to the source: 05/31/2024).

The authors working in the field of mathematics, robotics and AI do not share the position of placing responsibility on the AI carriers themselves. «The uprising of machines, which was predicted by the science fiction writers of the XX century, will not happen, writes A.V. Volkov. – We will finally tame them. Our bodies will absorb them. Machines will become our new body organs and make us omnipotent»[405]. E.V. Borovskaya and N.A. Davydova, the authors of the textbook on the basics of AI development, place the responsibility for ensuring finality on the programmer[406]. R.V. Dushkin, predicting a high degree of autonomy of AI decision-making, emphasizes: «there remain issues of an ethical plan and responsibility for decisions, it is expected that these issues will be removed, and the level of decisions will be so high-quality that there will be no need to talk about the responsibility of an intelligent system»[407]. And talking about the applicability of a mental ethical experiment – the «trolley problem» – to decisions made by AI, the author is extremely skeptical, arguing that these are fictional conditions that will never happen in reality; moreover, AI will not be able to find itself in a situation of making such decisions, since it is not trained to make a choice between harming one or another person: it is not trained at all to cause harm, but to train safe movement on the roads[408]. D.E. Namiot, E.A. Ilyushin and O.G. Pilipenko do not allow the possibility of operating AI systems without appropriate monitoring mechanisms to ensure the responsibility and accountability of AI systems and their results. The researchers insist that the operation of such systems should be able to audit, which allows you to evaluate algorithms, data and design processes. According to scientists, it is necessary to design a bookmark-free AI that can be fully controlled, therefore auditing plays a key role here, especially in key important applications[409].

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[405] Volkov A.V. Artificial intelligence. From computers to cyborgs. M., 2020. p. 214.
[406] Fundamentals of artificial intelligence: a textbook / E.V. Borovskaya, N.A. Davydova. 4th ed., electron. M., 2020. p. 74.
[407] Dushkin R. Artificial intelligence. M. 2019. p. 141.
[408] See: Ibid., pp. 186-187. The same postulate (about the contrivance of the "trolley problem" in relation to AI and the impossibility of a situation arising from this ethical experiment in real conditions) is voiced by R.V. Dushkin in his interviews.
[409] Namiot D.E., Ilyushin E.A., Pilipenko O.G. Trusted artificial intelligence platforms // International Journal of Open Information Technologies. 2002. Vol. 10. № 7. p. 123.

Voicing as the goal of research in the field of AI the creation of not unmanageable, but useful intelligence, AI developers and researchers in January 2017 prepared the Azilomar Principles of Artificial Intelligence (California, USA)[410], which shed light on many «dark spots» in the issues of responsibility of AI carriers. It is surprising that such a conscious attitude of people directly involved in the creation of intelligent systems is not linked (in a good way) with the existing and described above problems of the «black box», the «inability» to identify the responsible person, the assumption of an independent will of the AI carrier to cause harm, etc. Thus, not from the theoretical side, but from the position of practical understanding of the essence of AI, the confirmation of the concept of personal responsibility of a person for actions using AI carriers formulated and justified in this study is clearly expressed (in this regard, I ask you to pay special attention to the 7th, 9th and 21st principles). Most of the Azilomar principles are reflected in the section «Ethics and Values», where the following is stated regarding the responsibility and safety of AI:

«6. Security. AI systems must be safe and reliable throughout their entire life, as well as be controlled as far as possible and applicable.

7. Transparency of failure. If an AI system causes harm, it should always be possible to understand the reason for it.

8. Transparency of justice. Any participation of the autonomous system in the judicial decision-making process must be accompanied by the provision of convincing explanations that can be verified by people from the competent authorities.

9. Responsibility. Developers of advanced AI systems play a key role in shaping the moral consequences of the use of AI, the misuse of AI, and the actions of AI; they have the ability and responsibility to influence such consequences. 16.

[410] The Azilomar principles of artificial intelligence. Translated from English. The Research Center for the Problems of Regulation of Robotics and AI robopravo.ru [Electronic resource] // RoboTrends. 2017. September 13. URL: https://robotrends.ru/pub/1737/azilomarskie-principy-iskusstvennogo-intellekta (date of access to the source: 05/31/2024).

Human control. People should choose for themselves how to use AI systems to achieve their goals, and whether to use them at all.

<…>

21. Risks. The risks posed by AI systems, especially catastrophic or existential risks, should be anticipated and their occurrence minimized through efforts comparable to the expected consequence of the realization of these risks».

An equally important source of a practically applicable concept of AI responsibility is the Montreal Declaration on Responsible AI Development dated November 03, 2017. Each of its principles contains several provisions, and all of them, to one degree or another, carry out the idea of responsible AI development: for example, the principle of respect for independence limits the development of AI systems to mandatory consideration of the human need to maintain their independence, the principle of equality carries out the idea that the development and implementation of AI systems should contribute to building a society of justice and equality, and the principle of privacy implies its protection and complete protection from potential interference by AI systems and data collection and archiving systems. The most important principle in the analyzed area is the 9th principle of the Montreal Declaration – the Principle of Responsibility: The development and use of AI systems should not detract from human responsibility in the decision-making process. This principle contains the following components:

«1. Only humans can be responsible for decisions made based on the recommendations of AI systems and for actions resulting from such decisions.

2. In the process of making any decisions affecting a person's life, quality of life, or reputation, the final decision can only be made by a person, consciously and without coercion.

3. Only people can make decisions about ending a person's life. Under no circumstances can responsibility for such a decision be shifted to AI systems.

4. A person who, by his action or inaction, allows AI systems to commit a crime or offense is considered personally guilty of committing this crime or offense.

5. If an AI system used according to the instructions and operating without errors causes harm to people or damage to property, its developers and users are not responsible for what happened»[411].

Based on many stable international principles (the most important of which should be considered the principle of responsibility of current generations to future ones), as well as the above and other public and state documents in the field of cooperation and development of AI, established in March 2020 in accordance with the decision of the 40th session of the UNESCO General Conference (resolution 40 C/37) in March 2020 The Director-General of UNESCO, a special group of experts to prepare a draft recommendation on the ethical aspects of artificial intelligence, formulated Recommendations on the ethical aspects of artificial intelligence adopted on May 7, 2020 in Paris, approved and distributed among UNESCO member countries, despite the fact that these Recommendations do not reflect the views of all countries[412]. The first group of principles reflecting the distinctive features of the human-machine interface, i.e. human interaction with AI systems, two points are included, combined in the principle of «Control and subordination to man»:

«27. In all cases, it should be possible to impose both legal and ethical responsibility related to the research, design, creation, deployment and application of artificial intelligence systems on a specific physical or existing legal entity the face. In this sense, the term «human control» means not only control by a particular individual, but also public control.

28. There may be situations when, for reasons of efficiency, a person can exercise control in conjunction with AI systems. Nevertheless, such a decision to delegate part of the control functions in a limited number of cases is still made by a person, since the purpose of research, design, creation, deployment and application

[411] Montréal Declaration: Responsible AI [Electronic resource] // Université de Montréal. URL: https://ethics.cdto.center/3_8#link210 (date of access to the source: 05/31/2024).

[412] The initial version of the draft UNESCO Recommendations on the Ethical Aspects of Artificial Intelligence SHS/BIO/AHEG-AI/2020/4 [Electronic resource] // United Nations Educational, Scientific and Cultural Organization. 2020. May 07. URL: https://ircai.org/wp-content/uploads/2020/07/Recommendation_first_draft_RUS.pdf (date of access to the source: 05/31/2024).

of AI systems is to help people make decisions and perform certain functions, but not to replace a person who will always have the ultimate responsibility»[413].

The second group of principles outlined in the Recommendations consists of parameters related to the distinctive features of the AI systems themselves. As emphasized in the Recommendations, these principles are important in terms of ensuring that the methods of research, design, creation, deployment and application of intelligent systems are consistent with an internationally agreed vision for ethical behavior. The following are particularly important for understanding the conceptual features of responsibility in the field of AI application:

Transparency and explainability

36. Despite the need, in principle, to make every possible effort to increase the transparency and explainability of artificial intelligence systems in the interests of ensuring human trust, the degree of such transparency and explainability should always take into account the context of AI application in order to balance the principle of transparency and explainability with other principles, in particular, with the principles of security and data protection.

37. Taking into account the context of the application and the degree of confidentiality of the data used, transparency of the AI system means that information related to the research, design, creation, deployment and application of the system is open to the public. Such information may also contain an analysis of the factors influencing a specific forecast or decision, however, as a rule, it does not involve the disclosure of specific algorithms or data sets. In this sense, transparency is a socio-technological aspect and aims to gain people's trust in AI systems.

38. The term «explainability» refers to providing an understanding and a common understanding of the results of AI systems. The explainability of AI models also refers to the accessibility to understand the source data, the immediate results and behavior of each algorithmic structure and how all this affects the simulation

[413] The initial version of the draft UNESCO Recommendations on the Ethical Aspects of Artificial Intelligence SHS/BIO/AHEG-AI/2020/4 [Electronic resource] // United Nations Educational, Scientific and Cultural Organization. 2020. May 07. URL: https://ircai.org/wp-content/uploads/2020/07/Recommendation_first_draft_RUS.pdf (date of access to the source: 05/31/2024).

results. As a result, «explainability» is closely related to «transparency», since the results and the subprocesses leading to them must be understandable and traceable, taking into account the context of the application.

Safety and security

39. In activities related to the research, design, creation, deployment and application of artificial intelligent systems, one should beware of unintentional harm (potential security threat) and vulnerability to attacks (protection tasks), which will ensure the safety and security of a specific AI system at all stages of its life cycle.

40. Public authorities have a primary role to play in ensuring the safety and security of AI systems, including through the development of standards and norms at the national and international levels consistent with international norms, standards and principles in the field of human rights. In order to prevent large-scale harm, it is necessary to consistently support systematic research on potential threats to security and security associated with differences in approaches to the implementation of long-term AI projects.

Responsibility and accountability

41. In accordance with current international human rights legislation and ethical guidelines, the parties involved in the creation of AI must bear moral and legal responsibility at all stages of the life cycle of AI systems. In all cases, responsibility for decisions and measures taken with the use of an artificial intelligence system to one degree or another should ultimately be assigned to the parties involved in AI systems.

42. Appropriate mechanisms need to be developed to ensure accountability for AI-related activities and results. To ensure that AI systems can be checked and monitored (operability), attention must be paid to both technical and organizational aspects[414].

[414] The initial version of the draft UNESCO Recommendations on the Ethical Aspects of Artificial Intelligence SHS/BIO/AHEG-AI/2020/4 [Electronic resource] // United Nations Educational, Scientific and Cultural Organization. 2020. May 07. URL: https://ircai.org/wp-content/uploads/2020/07/Recommendation_first_draft_RUS.pdf (date of access to the source: 05/31/2024).

The Recommendations relate to the above principles the strategic tasks facing the UNESCO member States. In particular, Strategic Objective 11 «Ensuring responsibility, accountability and protection of personal information» consists of a number of subtasks, among which the following should be mentioned:

94. Member States should review and, where appropriate, adapt the regulatory framework in order to ensure accountability and responsibility for the content and results of AI systems at various stages of their life cycle. Governments should adopt a framework of principles of responsibility or clarify the interpretation of existing frameworks, which will allow identifying those responsible for decisions made by AI systems and their behavior. When developing a regulatory framework, Governments should, in particular, take into account that functions related to responsibility and accountability should in all cases be assigned to an individual or a legal entity: powers cannot be delegated to an artificial intelligence system; similarly, an AI system cannot be endowed with the status of a legal entity.

95. Member States are invited to introduce an impact assessment mechanism for AI systems to identify and analyze the benefits and risks associated with their use, as well as to take measures to prevent, mitigate and monitor risks. In accordance with the principles set out in this Recommendation, the risk assessment should identify consequences for human rights and the environment, as well as ethical and social consequences. Governments should approve a regulatory framework that establishes the procedure for public authorities to conduct impact assessments on AI systems acquired, developed and/or implemented by these bodies in order to predict the consequences, reduce risks, prevent harmful effects, facilitate citizen participation and solve problems facing society. As part of the impact assessment, government agencies should be required to conduct a self-assessment of existing and proposed artificial intelligence systems, during which, among other things, the feasibility of using AI systems in a specific area of the public sector should be determined, as well as the most appropriate method for this. In addition, appropriate control mechanisms should be established as part of the assessment, including the ability to conduct inspections and tracking and explanation functions that allow the

evaluation of algorithms, data and design methods. The assessment should also include an external audit of the AI systems. At the same time, the assessment should be multidisciplinary, multilateral, multicultural, pluralistic and inclusive[415].

Thus, focusing not on pseudovariative speculations of a presumptive kind about the legal personality of AI and (or) its bearers (in the author's opinion, all attempts to grant AI rights are not based on objectively existing reality and what AI actually represents), but on the essential nature of AI, the principles of its responsible design and We consider it necessary to formulate the following conceptual foundations of legal responsibility in the field of AI application:

1. Since AI (AI carrier) cannot act as a subject of legal liability, in case of harm caused as a result of AI «decisions», in each case it is necessary to identify an individual or legal entity – a developer, manufacturer, seller and (or) user (operator) of AI technologies or directly AI carriers – possessing the following characteristics the subject of legal responsibility in its traditional sense.

2. The impossibility of special exemption from legal liability for harm caused by the AI carrier due to the failure to identify the subject of such responsibility or shifting this responsibility to the AI carrier itself. In accordance with paragraph 1, such a subject should be determined depending on the composition of specific offenses related to harm caused by AI carriers – at the industry level.

3. A high degree of conditional autonomy of AI cannot offset the responsibility of the developer, manufacturer, seller and (or) user (operator), however, provided that there are no bookmarks and errors in the program code that can lead to harm by the AI carrier, it can mitigate the punishment.

4. In the context of legal liability, AI can be considered solely as a component of the objective side of the offense (an instrument, means or method of committing an offense). At the same time, the causal relationship between the acts of the subject of responsibility and the consequences that have occurred (which, obviously, should

[415] The initial version of the draft UNESCO Recommendations on the Ethical Aspects of Artificial Intelligence SHS/BIO/AHEG-AI/2020/4 [Electronic resource] // United Nations Educational, Scientific and Cultural Organization. 2020. May 07. URL: https://ircai.org/wp-content/uploads/2020/07/Recommendation_first_draft_RUS.pdf (date of access to the source: 05/31/2024).

be investigated at the sectoral level in relation to certain types of offenses) cannot replace the indirect communication of legal entities implementing their own will with the help of AI carriers, including «self-learners».

5. Intentional admission of AI errors in legal regulation within the framework of experimental legal regimes cannot be a basis for exemption from compensation for harm to persons responsible for the development, commissioning or direct operation of AI carriers.

In addition, focusing on value priorities in the development of theoretical ideas about responsibility for actions involving AI carriers, we come to the conclusion that it is impossible for the legal personality of AI to exist (and then its personal responsibility – as an AI or on the part of an AI carrier) not only formally (due to the fact that AI carriers do not have legal autonomy, and the technical aspect cannot be put at the forefront when constructing the legal personality of any legal entity), but also in the context of understanding basic legal and social categories such as life, dignity, humanism, mercy, etc. If we turn to the origins of law, then the first Book of the Digest of Justinian begins with Title I «On Justice and Law» (De iustitia et iure), at the very beginning of which it is indicated: «Ulpian in the 1st book of the Institutions. The student of law should first of all find out where the word «law» (ius) came from. Law got its name from (the word) «justice» (iustitia), because according to Celsus' excellent definition, law is the art of the good and just»[416]. That is, the value content of law has largely determined the very emergence of law as the highest tool for the protection of socially significant goods. The centuries-old development of legal thought and the doctrinal justification of state legal institutions has led to the presence of traditional spiritual and moral values enshrined in legislation[417]. They serve as guidelines in the development of the state and society, they determine what is really important for all subjects of law. And, having passed through the centuries, these values have been preserved, thanks to

[416] Digests of Justinian. Volume I. Books I-IV / Translated from Latin; Ed. by L.L. Kofanov. M., 2002. p. 88.
[417] In Russia, this is done in the Fundamentals of state Policy for the Preservation and strengthening of traditional Russian spiritual and Moral Values, approved by the By Decree of the President of the Russian Federation No. 809 dated 11/19/2022.

their fundamentalism and immutable significance. As N.M. Kropachev and V.V. Arkhipov rightly remind, «at the center of the legal picture of the world is a subject endowed with free will (even if it is a fiction or an irrefutable presumption), dignity and responsibility»[418], and «the very fact of the presence of certain traditional values as a legal concept in the current act of positive law means that in the so-called complex cases of interpretation of law and for the development of a model of legal argumentation legitimately refers to the values reflected in the Foundations of Public Policy»[419].

The freedom of the subject's will (as a basic legal value) cannot be determined by natural scientific things. Human behavior as a subject of law does not imply articulation or execution of decisions made by the brain based on cause-and-effect relationships that have developed in objective reality. On the contrary, it is a person, as a result of complex processes in whose brain a volitional message was formed, which was then approved as a personal decision (which may not be related to reality at all, but dictated solely by internal potentials – spiritual, intangible, and possibly even intuitive, and irrational), is realized in time and space and changes this reality. And the presence of value orientations (both internal moral principles and value attitudes fixed at the state level and elevated to the rank of specially protected values due to established traditions of historical experience) allows the subject of law to navigate among his own kind, realizing his freedom of will, without crossing, however, the line beyond which is the freedom of another subject and his volitional potency manifests itself within certain legal limits within the framework of existing values. A different understanding of the manifestations of freedom and will of the subject generally overthrows the essence of legal personality and his responsibility for his actions, including the legal community. The conditional «freedom» of the AI carrier ends where a person (as a true subject of law) determines the limits of this «freedom». Question: by clicking «Delete» or «Off», we will completely «kill»

[418] Kropachev N.M. Arkhipov V.V. Traditional spiritual and moral values in the context of digital transformation of society: theoretical and legal aspects // Bulletin of St. Petersburg University. Law. 2023. Vol. 14. Issue. 2. p. 300.
[419] The same source. pp. 301-302.

this «quasi-object» (or «subject», or «object with signs of a subject», etc.)? And another one: is the AI carrier capable of making moral judgments in a value sense? The obvious answers to these questions bring us back to a true understanding of law and legal responsibility, based on an alternative value model that underlies the universal approach in the social sciences and humanities, and in particular in the theory of law.

Returning to the problem of the emergence of cause-and–effect relationships between decisions made by the subject of law (and legal responsibility) and the consequences – results of actions, we once again emphasize the indirect nature of processes accompanied by the use of AI technologies, the use of AI carriers. As part of legal responsibility, the AI carrier will always remain part of the objective side, and the causal relationship depends on the will of the person.

Without justice and free will of the subject, law will be meaningless. The AI carrier does not have free will, and has no relation to the category of justice, since it does not make human decisions. By the impossibility of formulating decisions based on moral categories, scientists justify the lack of subjectivity in AI, which cannot have a subjective point of view and judgment, and also does not have its own (subjective) experience[420]. From a theoretical, philosophical and legal point of view, the intellectual dimension in which a person finds himself as a free subject of law and in which he can learn the meanings of what is happening is not in the world of cause-and-effect relationships. All the «decisions» that the AI carrier «makes» and implements within the framework of the objective side of legal relations, on the contrary, are located and implemented in the world of cause-and-effect relationships, together with the AI itself. The intellectual world of man is in a certain kind of contradiction with the world of cause-and-effect relationships, where AI exists in reality. At the same time, the law itself exists due to the fact that a person does not exist only in the world of cause-and-effect relationships, but can independently construct this objective world (in which AI always lives), thanks to

[420] See: Searle John R. Mind: A Brief Introduction. Oxford. 2004. P. 94-95; Davis Joshua P. Artificial Wisdom? A Potential Limit on AI in Law (and Elsewhere) // Oklahoma Law Review. 2019. Volume 72. Number 1. p. 66-67.

his own free will. AI is always subject to human decisions. In this regard, it is appropriate to cite another important value principle formulated by prof. A.V. Polyakov. Based on the teachings of V.S. Solovyov and I.A. Ilyin, who revealed the basic principles of morality, law and mutual spiritual recognition, he argues in detail the value content of that most important legal principle, which he calls the principle of mutual legal recognition (the principle of mutual recognition of legal personality)[421]. It will be impossible to implement this principle in relation to AI carriers, even realizing the hypothetical assumption that they have subjectivity: reciprocity of this recognition cannot arise. Even assuming that the subjects of law will communicate indirectly with each other – each using an AI carrier - the latter will not be able to become subjects of law under any circumstances. Actually, as well as freedom in its legal sense (which A.V. Polyakov calls «equal legal personality», considering it in three aspects: as an opportunity to choose (a variant of one's own behavior), as a condition for the existence of a subject of law and as a means of developing and improving personality and society[422]) – it will also not appear, since AI has neither true autonomy, nor value self-perception, nor recognition by other subjects of law as equal, or at least claiming to be equal. Since even living intelligent beings (animals) act as things in the legal sense, it is untenable and groundless to argue that, roughly speaking, an instrument (actually, AI) will be endowed with rights and responsibilities on an equal basis with classical subjects of law.

The internal value content of legal responsibility is an unshakable ontological firmament, which must go before the formation of the conceptual foundations of this responsibility, and after their formulation – serve as a certain measure, a kind of reference indicator of how acceptable these formulations are. Also, realizing a value-oriented approach to legal responsibility, and implementing the above

[421] Polyakov A.V. The principle of mutual legal recognition: Russian philosophical and legal tradition and a communicative approach to law // Proceedings of the Institute of State and Law of the Russian Academy of Sciences. 2021. Volume 16. No. 6. pp. 39-101.
[422] Polyakov A.V. The deficit of freedom as a political and legal problem // Proceedings of the Institute of State and Law of the Russian Academy of Sciences. 2018. Volume 13. No. 4. p. 37.

conceptual foundations in relation to legal responsibility in the field of AI application, one cannot fail to come to the realization of a very obvious conclusion, which seems important for further industry research: no matter how difficult it is to determine who exactly is responsible (subjects of legal responsibility) by his actions or omissions, he caused harm, the technical expression of which was the «actions» of the AI carrier, but it is still necessary to structure legal relations, in which AI can act as an element of the objective side of the offense, and isolate cause-and-effect relationships in these legal relations in relation to legal entities that determine the processes taking place in objective reality and control them, which AI is not given.

CONCLUSION

Modern researchers often call the problem of responsibility the most important problem of regulating AI and robotics[423]. However, to date, other closely related issues still remain unresolved. As D.V. Volkov and A.M. Ignatov very accurately point out, «the integration of AI into any legal system is accompanied not only by a number of technical problems and limitations, but also by a set of ethical and humanitarian problems»[424].

Taking into account the rapid development of technology and the almost daily updating and improvement of the physical and digital space containing AI carriers, the author does not share the need to formulate (even for research purposes) exclusively theoretical constructions and artificially created and practically non-applicable concepts (units, quasi-objects, digital personalities, etc.). It is essential for the theory of law to form the conceptual foundations of the legal responsibility of AI carriers, which the author formulated and proposed to consolidate at the level of an element of theoretical legal doctrine.

The AI carrier itself cannot be the subject of legal liability, therefore, until appropriate regulation is adopted, in each specific case, the one who will be responsible in case of harm caused by the AI carrier must be identified: the developer, manufacturer, seller and (or) user (operator).

In general, in this topic, there will always be temptations to endow AI carriers with signs of a subject of legal relations: recognition of authorship[425], challenging competence – as in the lawsuit of one of the Chicago law firms against the robot-

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[423] See: Denisov N.L. Conceptual foundations of the formation of an international standard in establishing criminal liability for acts related to artificial intelligence // International criminal law and international justice. 2019. No. 4. pp. 18-20, Izotova V.F. Problems of legal regulation of artificial intelligence of cyberphysical systems and robotics // Problems and challenges of the digital society: trends in the development of legal regulation of digital transformations: collection of scientific works on mater. I International Scientific and Practical Conference. (Saratov, October 17-18, 2019) / edited by N.N. Kovaleva; Saratov State Law Academy. Saratov, 2019. p. 127, etc.

[424] Volkov D.V., Ignatov A.M. On the issue of the ontological problems of integrating artificial intelligence into modern jurisprudence // State and law in the digital age: materials of the international scientific and practical conference (St. Petersburg, April 27, 2022) / All-Russian State University of Justice (Russian Law Academy of the Ministry of Justice of Russia). St. Petersburg, 2022. p. 42.

[425] This is not only about the proposals of researchers, but also coming from the authors themselves of applications for registration of intellectual property objects with AI as the author (the most striking examples – Thaler and Kashtanova – are highlighted in the study).

lawyer DoNotPay[426], etc. However, at present, such activities cannot have any theoretical or practical basis, therefore, in global terms, the institution of legal responsibility is not being transformed in connection with the development of AI, and we are just witnesses of theoretical reasoning about hypothetical potentials. The author will consider the global goal of his work achieved when the theory of law and industry legal research related to the actions of AI and their consequences will not trace the fantasy endowment of AI with certain rights or legal personality (however limited), but reflect the real objectively existing relations between legal entities using AI as a tool, but not Moreover,; and also – when these studies will be focused on the conceptual foundations of the legal responsibility of AI carriers, which the author formulated and proposed to consolidate at the level of an element of theoretical legal doctrine.

[426] The lawyers' lawsuit against the robot lawyer is publicly available: Class action complaint and demand for Violation of Cal. Bus. & Prof. Code § 17200 CGC-23-604987 [Electronic resource] // Superior Court of California, County of San Francisco. 2023. March, 03. URL: https://fingfx.thomsonreuters.com/gfx/legaldocs/dwvkdzbjxpm/Faridian%20v.%20DoNotPay%20Complaint.pdf (date of access to the source: 05/31/2024)

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