



“Legal personality” of artificial intelligence: methodological problems of scientific reasoning by Ukrainian and EU experts

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Abstract

The article provides a comprehensive analysis of scientific approaches to the formation of legal regulation of relations arising in the development and use of artificial intelligence technologies, their socio-legal status, as well as social, ethical, methodological, and practical legal issues with an emphasis on the fundamentals of natural legal doctrine. The author’s vision of the concept of human interaction and artificial intelligence from the standpoint of legal relations is given. Emphasis is placed on the need to study the problems that arise in this area, within the framework of information law, as a complex branch of law and sociohumanitarian informology—at the level of an interdisciplinary approach. Ways to improve the mechanisms and methods of legal support in the field of artificial intelligence through the development and implementation of technological and legal methods as an innovative tools and effective tools for special technological impact.

Keywords AI technologies · Legal regulation · Natural law · Social naturalism · Sociohumanitarian informology

1 Introduction

With the emergence of the phenomenon, which today is called “artificial intelligence” (hereinafter—AI), problems of public reflection on it arise, the most significant of which is the juridization of AI, that is, the problem of determining its legal status. Technologies for creating AI systems and “Internet of Things” (hereinafter—IoT) devices, as their components (products), are gradually becoming a reality of every person’s life, even at the household level. Every year,

different models of them appear, capable of performing increasingly complex intellectual tasks, approaching human ones in terms of their ability to perceive the environment of their functioning.

Increasing autonomy, regardless of a physical form presence (device, work, any other), raises questions about the nature of AI and its place in the social system in the light of existing legal categories, and the meaning and value they have. In particular, there is a heated debate about whether AI can claim the status of a “subject of law” in the future, or whether it can only be a tool (method, instrument) for use by traditional subjects of law.

Understanding social transformations caused by the development of AI is now recognized as a joint task, the solution of which requires the consolidation of knowledge and experience of computer scientists and engineers, scientists from social sciences and humanities (including anthropologists, economists, historians, media experts, philosophers, psychologists, and sociologists), experts in law and public policy, representatives of business management, as well as private and public sectors (Marcus 2021). Currently, the results of the first attempts at the practical use of AI in solving some social tasks are rather ambiguous. The results of scientific monitoring and analysis of the functioning of artificial intelligence (AI) and automated decision-making

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systems (ADM) testify to the propensity of such technologies to violate human rights.

“Algorithms created to regulate speech on the Internet have censored speech ranging from religious content to sexual diversity. Artificial intelligence systems designed to monitor illegal activity have been used to track and target human rights defenders. And the algorithms discriminated against black people when they were used to detect cancers or assess the flight risk of people accused of crimes. The list can be continued” (The Conversation 2021).

“We are seeing the use of live facial recognition systems in public places, which equates to mass surveillance; the deployment of state-sponsored pseudoscientific “lie detector” systems along national borders; using biased, problematic ADM systems to detect welfare fraud; and even the use of relatively basic ADM systems that perpetuate and reinforce inequities in student assessment” (Hidvegi et al. 2021). It is obvious that in any case, the social integration of AI will increase, and therefore the role of AI field legal component is not formal or nominal. And although some researchers believe that traditional ideas of law are obstacles to the development and widespread implementation of AI, we should not forget about the social role of law as a safeguard, a means of achieving security and harmony in human society (Bieliakov 2020; Polishchuk et al. 2019).

Among the main sources of this problem is techno-solutionism, the view that AI can be seen as a panacea when it is only a tool. In 2020, the California-based Center for Human-Compatible Artificial Intelligence (CHAI) named techno-solutionism as one of the most pressing dangers in the field of AI (Russell 2020). In addition, the 2021 Annual Survey of Artificial Intelligence (AII100) report highlights that “as we see more and more progress in the field of AI, the temptation to apply AI solutions to all societal problems is growing. But technology often creates bigger problems while solving smaller ones” (Marcus 2021).

Awareness of potential threats and the need to avoid taking them lightly is increasingly gaining legal support at the international level. Thus, in 2021, the UNESCO General Conference adopted a Recommendation on the Ethics of AI, agreed by 193 participants, which recognizes its potential ability to “bring unprecedented challenges” and establishes ethical principles for its safe development and use (UN News 2021). The Recommendation declares respect, protection, and promotion of human rights, basic freedoms, and human dignity as values; the well-being of the environment and ecosystems; ensuring diversity and inclusiveness; living in peaceful, just, and interconnected societies (UNESCO 2021).

Manifestations of techno-solutionism and techno-romanticism are currently also felt in Ukrainian jurisprudence. We can see their influence, in combination with other reasons, that separate ideas appear regarding the perception of AI

by the subject of law. As rightly noted by Michurin (2020), rather controversial from the point of view of classical civil sciences, the application of the theory of the subject to AI is currently widespread “... among scientists who are mostly known in fields of law other than civil law, however, due to the need to be aware of legal relations in relation to AI, they deal with this topical subject”, as well as – “... individual practicing lawyers who, due to their profession, are less knowledgeable in the doctrine, which is why they make unjustified in this case bold assumptions about providing AI with the characteristics of a subject of law”. Apparently, similar trends must be avoided both in the process of forming legal practices and in the understanding of AI by legal science. Therefore, a balanced, consistent legal assessment of the possibilities of AI, its potential social role, and all risks will not hinder, but on the contrary, it will make it possible to harmoniously and gradually “incorporate” AI into legal life, without creating significant threats to a person, his rights and freedoms.

The concept of AI development in Ukraine currently does not foresee the prospects of its legal personality, and one of the main tasks of state policy in this field is “... observance of the rule of law, fundamental rights and freedoms of man and citizen, democratic values, as well as providing appropriate guarantees under time to use such technologies in compliance with ethical standards” (Cabinet of Ministers of Ukraine 2020). And here, the dilemma is quite important, whether in the future, to implement the legal personality of AI (if this happens), it is permissible to deviate to some extent from generally recognized legal principles and postulates, which today are considered fundamental and inviolable, or to go along the path of finding new formats for AI in within the limits of evolutionarily formed legal foundations and corresponding mechanisms of emerging relations legal regulation.

The purpose of this article is the analysis of scientific approaches to the legal regulation of social relations in the field of development and AI technologies use, their social and legal status, as well as the provision of proposals for the formation of the basic methodological foundations of their understanding by information and legal science.

2 Methodological framework

“The study of artificial intelligence and relations regarding the use of digital technologies should take into account the comparative novelty of such an object of research activity, and therefore use both long-known and widely used methods and new methodical tools unfamiliar to legal science” (Maydanyk et al. 2021). In general, this approach should be supported, but it needs additional emphasis. The formation of the latest legal methodology in the process of the addition

of the necessary tools from other fields of knowledge must preserve its internal logic at all levels, thanks to which law as a phenomenon, a phenomenon and the only universal means of achieving the harmony of human society will not lose its axiological and functional properties.

In the methodological aspect, it should first be noted that the very concept of “AI” is debatable today. As Professor Jean-Gabriel Ganascia points out, “... the popularity of the term “artificial intelligence” is largely due to its misinterpretation—in particular, when it refers to some artificial entity endowed with intelligence that can allegedly compete with humans. This opinion from the area of ancient legends and tales, which sounds like the myth of the Golem, has recently been revived by our contemporaries, such as the British physicist Stephen Hawking (1942–2018), the American entrepreneur Elon Musk and the American engineer Ray Kurzweil, as well as supporters creation of so-called strong or general AI. However, let’s not talk about the specified understanding of this term, because it is rather a product of a rich imagination, which arose under the influence of science fiction, and not a tangible scientific reality, confirmed by experiments and empirical observations” (Ganascia 2021).

Such a state of ideas about AI cannot fail to affect the development of its phenomenological properties. In particular, this applies to the formation of insufficient or incorrect methodological positions of scientific understanding and the construction of predictive models of legal regulation in the AI field. Ray Kurzweil, for example, predicts that in 2022 “laws will be passed in the US and Europe that will regulate the relationship between humans and robots. The activities of robots, their rights and obligations, and other restrictions will be formalized” (Blazhko 2020). And how can it be evaluated from the standpoint of modern jurisprudence? It seems that to answer this question, a basic methodological dilemma should be solved, formulated as follows: can a robot artificially created by humans (AI robots) become a subject of law? To solve it, it is proposed to apply the methodology based on social-naturalistic legal understanding (social naturalism) (Kostenko 2021a, b).

According to this methodology, law is a phenomenon of the social form of nature, different from the physical and biological forms of nature, and therefore it is a manifestation, a form of existence and action in the social life of people of the laws of social nature. That is, law is the laws of social nature, by which social beings—people—must live, discovering these laws and embodying them in the form of positive legislation. Man is a creature capable of existing according to the laws of social nature.

This ability appears in the socialization process of a person in society, as a result of which his will and consciousness are formed. It is the presence of a person’s will and consciousness that provides him with the ability to live in society according to the laws of social nature (Pérez 2022).

Hence the conclusion: only due to the presence of will and consciousness, a person is a subject of law. Therefore, from the standpoint of social naturalism, something that does not have will and consciousness cannot be a subject of law. Therefore, the consideration of AI as a subject of law is related to its alleged ability to have will and consciousness. Is it even possible? That is, is there even a theoretical possibility to create an artificial being (in particular, AI) that could be socialized in human society (as it happens with a human being) to form its will and consciousness? This is where the problems of legalization of artificially created “intelligent” robots are rooted.

It should be noted that the ability of AI to “self-learn” does not make it capable of socialization—these are different processes. What is called “self-learning” of AI is its acquisition of new properties due to its own activity within the limits outlined by the laws of physical and biological nature. And socialization (of a person) is the development of a person as a social being within the limits of social nature laws. A person’s ability to socialize is inherent in his social nature. If there was a justified possibility of socialization of AI, then it would also indicate the real probability of AI being a subject of law, in particular, granting it rights and obligations. If this is not possible, then AI will not become such a subject in any way, but can only be an “object” for people as “subjects of law” who use it to satisfy their needs.

Another issue is in what legal status AI can exist as an “object”. Obviously, under certain conditions, it will be a tool of the will and consciousness of the subject of law that uses this object, in particular, an attribute of the so-called “source of increased danger” (for example, the use of autopilot) with all legal consequences, or it may have a legal status an object of property, which as a tool (means, instrument) is used by people to satisfy their needs. This means that the legal responsibility for the consequences of the functioning (use) of AI is borne by the person who has “power” over this object, that is, thanks to his will and consciousness, controls its functioning (use).

In our opinion, the mistake of R. Kurzweil and other prognosticators regarding the possibility of “subjectivization” of AI is that they do not take into account the existence and operation of the laws of social nature in society and limit themselves to the creation of artificial objects (AI robots) that can exist only on the basis of the laws of physical or biological nature. However, existence according to the laws of physical and biological nature does not mean the ability to exist according to the laws of social nature (Horobets et al. 2021), in particular, to have rights and obligations, since the modern understanding of the law is based on the idea of free will inherent in a person in human society: law exists only where there is free will, as the basis of legal responsibility.

It should be noted separately that the very “mechanism” of human intelligence—natural intelligence—remains

unknown at the moment. If so, can humans, without knowing their own intelligence, create an AI similar to or even superior to natural intelligence? Therefore, figuratively speaking, AI can only be a certain reflection, a “shadow” cast by natural intelligence in the light of current human ideas, but at the same time, AI can have its own development paths, different from human intelligence. And here it is appropriate to note one more regularity: in the very essence of things, the difference between natural intelligence and AI cannot be erased, that is, AI can never transform into natural intelligence.

The main empirical material used in the preparation of the study was the legal provisions that define the concept, content, and relationship of the elements of legal personality of natural persons in the information law of Ukraine, their peculiarities in relation to certain categories of subjects, as well as the corresponding doctrinal and normative (national Ukrainian and international) approaches to understanding legal and natural persons and their legal personality, understanding AI systems legal status, risks and consequences of their use, means, and tools for special technological prevention and elimination of these consequences.

To solve the research question we used the following methodological approaches in the process: theoretical (analysis; synthesis; concretization; generalization; method of analogies; comparative method); empirical (study of scientific articles of famous scientists who have studied the development of vectors of legal science in the field of using AI systems).

In Ukrainian scientific opinion, this issue is the research subject of the following researchers: Aristova (2019), Aristova et al. (2019), Bieliakov (2016), Baranov (2017, 2018a, 2018b), Velykanova (2020), Karmaza and Hrabovska (2021), Karchevskyy (2017), Katkova (2020), Korzh (2021), Kostenko (2021a, b), Maydanyk et al. (2021), Martsenko (2019), Michurin (2020), Radutnyy (2017, 2019), Stefan-chuk et al. (2021), Kharytonov and Kharytonova (2018); Kharytonova (2019) and others.

3 Results and discussion

In the current legislation, AI is defined as “... an organized set of information technologies, with the use of which it is possible to perform complex tasks by using a system of scientific research methods and algorithms for processing information obtained or independently created during work, as well as to create and use own knowledge bases, decision-making models, algorithms for working with information and to determine ways to achieve the set tasks” (Cabinet of Ministers of Ukraine 2020).

But in the reflection of legal science, there are proposals regarding him that do not always coincide. Since the

discourse on scientific or normative definitions of AI is not the purpose of this publication, further considerations will be based on its abstract understanding proposed by O.A. Baranov (2021) – “... is a set of computer programs that equivalently imitate (model, reproduce) human cognitive functions, which are used in the implementation of activities without human participation to achieve set goals in accordance with defined criteria and parameters”. More precisely, for the purposes of this article, AI is understood as a technology (a set of technologies) that can to a certain extent independently “think”, make decisions to achieve a goal, take actions and in respect of which, at least theoretically, the question of granting legal personality may arise.

Of course, the emergence of AI legal personality ideas is due to the increase in the degree of its autonomy. The fact that AI will function increasingly independently and gracefully over time is beyond doubt. But this, obviously, causes the spread of techno-romanticism. The authors often cite the Resolution of the European Parliament of 2017 with the recommendations of the Commission on Civil Law Norms on Robotics (2015/2103(INL)) as the basis for the formation of proposals regarding the legal personality of AI (European Parliament 2017). This document really does not reject the possibility of legislating a “specific legal status for robots”, and for the most complex autonomous robots—the status of a so-called “electronic person” with independent responsibility for any damage caused, but, and what is extremely important, only in the long term and through the call to “research, analyze and consider the consequences of all possible legal solutions” (European Parliament 2017). At the same time, an opinion is expressed, with which it is worth agreeing, that the mentioned provisions of the Resolution are too premature (Martsenko 2019).

Among Ukrainian scientists, the idea of giving AI legal personality, or considering it as a “quasi-subject” in one or another context, is substantiated, proved or supported by the majority of the scientists mentioned above. Alternative and opposing considerations are not often expressed in scientific publications, which causes a lack of productive discussion necessary for the formation of balanced doctrinal positions on the legal status of AI. Elements of controversy on this matter arose only in 2021 with the presentation of the “digital rights” introduction ideas and “legal modus operandi of a digital (electronic) person” in the “Concept of updating the Civil Code of Ukraine” (Kovalsky 2021), which later received significant expert criticism (Ustyenko 2021). Under these conditions, proposals have proliferated that seem quite supported by leading researchers in the field of AI, but can, and should, be the subject of debate to reach their practical suitability or abandon them.

Thus, supporters of granting AI legal personality are primarily based on certain abilities and characteristics that undoubtedly distinguish AI and, in their opinion, give

grounds for comparing AI with traditional legal subjects (ability to achieve a goal, independent decision-making, evaluation of actions other subjects, self-learning, unpredictability, etc.). However, the substantiation on this basis of the options and scope of the legal personality of AI is carried out mainly in the plane of the possible. The expediency of introducing the legal personality of AI, as well as the expected positive effect in relation to the risks for human rights from such drastic changes, in addition to the far-reaching independent responsibility, remains overlooked.

At the same time, it is worth agreeing with the almost unanimous position of scientists that the ability of AI as a certain rapidly developing technology directly determines the degree and complexity of its integration into the social and legal system and the extreme importance of understanding predictive models of legal decisions regarding it. Nowadays, thanks to research around the world, the capabilities of AI are generally considered at three levels:

(1) “weak AI” (Weak Artificial Intelligence), “narrow AI” or “limited AI” (Artificial Narrow Intelligence, ANI), or “Applied Artificial Intelligence, AAI” (Urban 2015)—focused on solving one or more tasks that a person performs or can perform (language recognition, playing chess, searching and analyzing information in a certain direction, etc.);

(2) “strong AI” (Strong Artificial Intelligence, SAI) (Copeland 2022) or “general AI” (Artificial General Intelligence, AGI)—focused on solving all tasks that may arise before a person and performing all cognitive functions) is more intelligent and powerful than human intelligence in virtually every domain, including scientific creativity, general wisdom, expertise, and social skills, and may also have its own consciousness and subjective experiences;

(3) “artificial superintelligence” (ASI) (Bostrom 1998) is an intelligence that is more intelligent and powerful than human intelligence in almost every area, including scientific creativity, general wisdom, professional level, and social skills, and in addition can have its own consciousness and subjective experiences.

It is the capabilities of “strong AI” and the theoretical potential of “artificial superintelligence” that prompt scientific discussion of its role in modern and future human society. We will give some considerations regarding the most common hypotheses that are proposed today in the process of understanding the prospective place of AI in the structure of legal relations and its alleged legal personality.

3.1 Hypothesis: AI is a new potential subject of legal relations

The results of the 2017 IEEE (Institute of Electrical and Electronics Engineers) conference emphasize that the future of AI is likely to be associated with serious social problems. “... If AI is not designed and used very carefully, it

can cause irreparable damage to national security, economic stability, and other social structures. ... A framework of security, legal and ethical constraints is needed. Preparing the world for the introduction of AI in a social, ethical, and legal context is as important as the creation of the technical systems themselves” (IEEE 2017).

Similar warnings are contained in the G20 Ministerial Statement on Trade and the Digital Economy. While sharing the idea of a human-centered future society promoted in Japan as “Society 5.0” and the usefulness of AI technologies, the statement also emphasizes new societal challenges, including changes in the labor market, privacy, security, ethical issues, and the new digital divide. A “focused approach” guided by the principles of “inclusive growth, sustainable development and well-being”, “people-centered values and equity”, “transparency and comprehensibility”, “reliability, safety and security”, “accountability” (G20 2019). The fact that AI should be human-oriented—in practice be transparent, controlled, safe, promote diversity, non-discrimination and justice, social and environmental well-being, is also stated in the “White Paper on Artificial Intelligence” (European Commission 2020).

However, despite all the obvious potential risks and human-centric emphasis, the ideas of AI subjectivity still sound like quite possible prospects. Thus, O.A. Baranov (2017) hypothesizes that “robot-androids can act as a side in a relationship in which the other party is traditional legal entities and natural persons”. The scientist justifies his position by the capabilities of such robots to “independently” evaluate the actions of other subjects and, depending on the results of this evaluation, to independently form or change the purpose and content of their actions, as well as by the fact that “their actions cannot be predicted in advance, since they are carried out under the influence of unpredictable changing circumstances or under the influence of the robot's emotions and consciousness”. It should be recognized that the mentioned position is shared by many researchers, in particular, Kostenko (2021a, b) believes that due to digitalization, “new “actors” appear in the form of IoT and AI, which also demand humanity to endow them with rights, duties, responsibilities and other features inherent in a self-sufficient social system”.

The last thesis can hardly be taken literally today. Indeed, information technologies have become so “rooted” in our life that they are increasingly perceived as an integral part of it. The potential ability of AI to optimize interaction, including in some legal relationships, is undeniable. In modeling human thinking and, even, in reproducing some physiological signs of a person, for example, movements and external expression of emotions, engineers are achieving more and more success (Acero et al. 2021).

However, the participants of legal relations are not only characterized by a certain effectiveness as the ability

to determine the sequence and perform certain actions to achieve the goal, in which the relationship between them is formally expressed. The choice of options for human behavior is determined, among other things, by motivation—internal (one’s own beliefs) and external (the possibility of social influence), one’s own needs, moral values, cultural factors, legal traditions, and even, often, emotions and habits.

In this context, the conclusions of scientists regarding the possibilities of AI in jurisprudence are indicative, since it is here that the full range of capabilities for evaluating actions and correlating them with the law is revealed. “AI seems like a good tool to draw conclusions based on specific facts or simply to become a repository of legally relevant data. However, lawyers carefully accuse engineers of their attempts to create positivists who are unable to judge human values, ethics and take into account the “living” nature of law. Computers are not yet expected to displace lawyers in the reasoning process due to the “rigidity of arguments” and the fact that AI is more focused on “what to do” than “how to act” (Kerikmäe et al. 2017).

Moral and ethical problems in understanding the future of AI are not secondary, but rather a priority. And in our time, when AI is still far from practical recognition as a subject of law, the issue of ethics is the cornerstone of the development of such technologies, which is primarily manifested in the need to ensure human rights and freedoms. In the case of the hypothetical acquisition of legal personality by AI, ethical principles become extremely vital for the future of humanity.

Therefore, to claim the emergence of AI with properties that could create a real need and possibility of its socialization is at least premature. In such circumstances, to substantiate his ideas, Baranov (2018b) sees the relevance and necessity of “changing the paradigm of the formation of both individual legal norms and the legal system as a whole”, which is manifested in giving priority to “the principle of creating legal norms that shape future social relations on the basis of scientific forecasts of the development of society and legal models regulation of social relations of the future”.

Regardless of the importance and potential of prognostic methods in law, it is difficult to agree with the above, since the evolutionary multifacetedness of law lies not only in its regulatory function but also in axiological, anthropological, ontological, cultural, moral-ethical, and other dimensions. Changes in law are always preceded by social changes—this is its nature. No matter how accurate the forecasts of future legal transformations are, they are always based on certain social trends, not understanding or ignoring which leads to wrong legal decisions. Legal relations are a legal projection of the most significant social relations, and therefore any subject of law must, first of all, have its place in the social system and its interrelationships. That is, the acquisition of AI signs of legal personality must be preceded by its establishment as a kind of existing social system subject. And it

is not otherwise, since in this case, it is not about new social relations between habitual subjects of law, but about a new category of subjects of law, the analogs of which have not yet existed.

In other words, the existence and development of AI with the functionality of thinking, behavior, and even appearance similar to humans does not mean the need for its acceptance by the subject of law. And the precedent of recognizing the humanoid robot Sofia as a citizen of Saudi Arabia in 2017 (Maza 2017), which is often used by researchers (Stefanchuk et al. 2021) as an argument in favor of the legal personality of AI, is mostly a PR move, but not a manifestation of real social or legal need. Even if we ignore the above arguments and go further in support of the hypothesis regarding the possibility of AI being a subject of law in the existing system of legal coordinates, then in the future, starting from the theory, many other problematic points arise.

3.2 Hypothesis: analogies between AI and traditional subjects of legal relations

Researchers often consider the possibility of recognizing AI robots as subjects of law by analogy with traditional subjects of law—natural or legal entities. In this case, the idea of analogy regarding the legal personality of AI is also supported and substantiated. If attempts to compare AI with a legal personality, although they cause logical doubts, lie mostly in the plane of civil law, then the analogy with a natural person, i.e. a person, and his rights is a question of a fundamental level. And if it does appear, it should be considered comprehensively—not only with regard to the civil legal status but also in the context of the subject legal status formation as a whole.

Thus, Baranov (2018a) develops the idea of the equivalence of AI cognitive functions and humans into a hypothesis of equivalence of legal status. “The statement about the equivalence of the cognitive functions of a natural person and AI allows us to put forward and justify the position about the possibility of recognizing a robot with AI as the legal equivalent of a natural person”. But, at the same time, “... the legal capacity and legal capacity of an AI robot as the legal equivalent of a natural person must be proven by conducting special studies, similar to the conduct of a forensic psychiatric examination in the process of limiting the legal capacity of a natural person”.

Stefanchuk (2020), among the variations of AI place consideration in the structure of legal relations, considers the most balanced differentiated approach, according to which AI robots can be both subjects of civil legal relations and objects. The perception of a robot as a subject or as an object of civil law, according to the scientist, depends on the level of its autonomy and intelligence, as well as the possibilities of independent conscious actions. It is quite possible to

agree with this logic of assessing the technological capability of AI, but in a legal sense, a differentiated approach based on individual (artificial) recognition of civil legal capacity and AI capacity, a priori lays the foundations of subject inequality, which is not inherent in civil law in principle. And without that, the scientific community already recognizes the risks of increasing economic inequality and discrimination as a result of the functioning of AI as a problem of the near future (Marcus 2021).

Based on this, to maintain the discussion about the possible legal future of AI as a subject, it is certainly necessary to talk about the interrelationships of human rights and “robot rights”, but not only with regard to the establishment of AI legal personality, but also from the standpoint of observing the equality principle, violation of which in law can lead to unpredictable consequences. In this vein, three concepts of interaction between humans and AI as legal entities can be seen:

(1) AI is a kind of “subordinate” subject with a limited scope of rights—a person determines the scope of legal capacity and legal capacity of AI and, accordingly, dominates;

(2) Equal subjects on traditional legal grounds—a person retains his status, but does not dominate;

(3) Competing entities—a person risks losing his priority and status—the beginning of the dominance of AI.

Where is the boundary between these concepts and what are the time frames of their possible existence is not known. The first option, which today has the support of researchers, is based on the inequality of AI and man in legal relations. However, it is clear that such an option cannot be sustainable. Especially if AI will take over the human understanding of justice. Given the constant increase in autonomy, this will inevitably lead to a conflict between humans and AI.

In addition, if “highly autonomous” AI is considered by analogy with a person, there is another problem that is almost not paid attention to. These are analogies of mental disorders (states) of the AI, which can affect its legal capacity and delictual capacity as a subject. Of course, AI cannot get sick in the sense that a person is sick, but a disorder in its functioning caused by various factors of a software-technological nature is obviously possible. After all, the very proposal to consider another legal subject alongside a person in the light of the idea of a human-centered future society creates a certain dissonance.

Modern jurisprudence is based on people-centeredness and the recognition of human rights as a fundamental value, good, conditions, and not only a set of certainly recognized possibilities, which are formally called rights. This idea developed gradually, over thousands of years, along with the development of humanity itself and ideas about a decent life. Its roots are the doctrine of natural law, in which the source of law is the mind of man, and fundamental inalienable

rights belong to man by nature. The recognition by the subject of law of some other “creature” by analogy with a man will contradict the very essence of natural law ideas and will pose a threat to human rights in their modern understanding.

However, it is worth mentioning that some representatives of natural law believed that natural rights could also belong to other creatures—animals, which could be used as an argument when understanding AI (Tykhonova et al. 2019). However, in any case, the natural law doctrine considers living beings of natural origin, which naturally reproduce independently, develop, live for a certain period of time and die. This happens according to the laws of nature—under the influence of aging, diseases, climatic conditions, ecosystem changes, natural selection, etc. Today, the rights of animals make sense mainly for the purpose of their protection from humans, in the context of human responsibilities towards animals, and not from the positions of alternative or analogy to humans as a subject of law and, even more so, not in connection with the interaction of animals with each other, as followed in proposals for the legal status of AI.

It is in this context that Professor J.-H. Kim notes—“when a robot has its own internal state, motivation or is capable of emotion, we will not have the right to offend that being. We should already treat them in the same way as, for example, pets” (Cheok and Zhang 2019). And, for example, Asaro (2007) suggests that, as a prevention, it is possible “... a policy of destroying any robots that cause harm, but, as in the case of animals that harm people”. It is obvious that AI (or robots with AI) are not natural biological creatures and exist according to other laws, therefore directly transferring the concept of rights to them, in the sense that is given to the rights of a person (natural person), will be a violation of the fundamental ideas of modern jurisprudence. But the cognitive capabilities of AI, the ability to form and choose options for one's own actions, even from a certain programmatically established list, form a kind of socially important communication between them and a person who falls into the subject area of law from different positions and needs proper understanding.

If we do touch on the ideas of the AI legal personality, in particular, the so-called “electronic person”, and they are likely to develop, then it is necessary to clearly understand that such ideas in law have a revolutionary character. Therefore, the attitude towards them should be extremely balanced, the vector of such innovations will determine the harmony of further legal changes. And, this time, it is worth fully agreeing with the conclusions of O.A. Baranov (2018a) that “the possible performance by AI robots of the role of subjects of social relations will lead to the emergence of a large number of legal problems, some of which are currently even difficult to identify”, and the assessment of “the possibility and conditions of recognition of AI robots as a subject of legal relations will obviously require significant

comprehensive research, at least in psychology and psychiatry, in the field of robotics and AI, in jurisprudence”.

Currently, drawing even partial analogies between AI as a subject of law and a person at the level of practical jurisprudence seems quite dangerous, as it lays the foundations for the expansion of these analogies and, as a result, in the future, causing a completely predictable status competition, in which human rights may be irreparably harmed damage.

3.3 Hypothesis: recognition of AI as a subject of law makes it possible to solve the problems of responsibility for its actions

The European Parliament (2017), taking into account the reached stage in the development of robotics and AI, determined that it is expedient and fundamental to solve the problems of legal responsibility in the field of AI to start with issues of civil legal responsibility. Such a step is associated with the likely long-term need to improve national legislation, caused by the complication of legal identification of the entity responsible for the damage caused by the functioning of autonomous AI, which is capable of learning and making decisions independently.

At the same time, the report of the Committee on Legal Affairs, which preceded the adoption of the Resolution of the European Parliament with the recommendations of the Commission on Civil Law Norms on Robotics, emphasizes the extreme importance of establishing basic ethical principles that should be followed in the development, programming and use of robots and AI. Among the main guidelines, at the same time, is a technological revolution for the benefit of humanity and the maximum avoidance of all possible risks and harm, as well as the fact that “at least at the current stage, a person should be responsible, not a robot”.

“The guiding ethical framework should be based on the principles of charity, innocence, autonomy, and justice, on the principles and values enshrined in Art. 2 of the Treaty on European Union and in the Charter of Fundamental Rights, such as human dignity, equality, justice and fairness, non-discrimination, informed consent, private and family life and data protection, as well as other fundamental principles and values of Union law, such as non-stigmatisation, transparency, autonomy, personal responsibility and social responsibility, as well as existing ethical practices and codes”. The need to comply with ethical and legal standards is also emphasized in the requirements for developers and users of AI (Delvaux 2017).

Despite the somewhat futuristic nature of certain provisions of the mentioned Resolution, from its content, as well as discussions in the European Parliament, it is clear that adherence to the principles of people-centeredness and respect for human rights and freedoms is recognized as an undoubted priority in the field of AI. Therefore, any

scientific and legal proposals regarding the subjectivity of AI nowadays should be regarded as purely theoretical and those that require thorough and methodologically balanced justifications.

However, the prospective independent responsibility of AI, in particular within the limits of the status of “electronic person”, is often mentioned in legal scientific publications of Ukrainian researchers. For example, Karmaza and Koucherets (2021) note that “over time, an AI robot will go from being recognized as an object of legal relations to receiving the title—a subject of legal relations...”, “... it can become an electronic person and be endowed with characteristics specific to it as an AI work rights and obligations, as well as bear responsibility independently”. Kostenko and Kostenko (2020) believe that giving AI autonomy and cognitive functions inherent only to humans, such as the ability to learn from experience, and make independent decisions, will lead to the fact that “... these and other functions of a natural person can lead robots to destructive actions, which have harmful consequences and for which, by analogy with a person, legal responsibility should arise”.

Radutnyy (2017, 2019), seeing the close prospects of the “electronic person” and the “digital person”, predicts changes in the criminal law doctrine and suggests the emergence of opportunities to involve AI not only in civil law but also in criminal liability. In this regard, the position of Velikanova (2020) appears to be balanced, noting the prematurity and the possibility of only a prospective understanding of AI as a subject (quasi-subject) of legal relations, in particular as an “electronic person”. “Currently, given the state of robotics and AI development, it is not time to talk about the prevalence of intelligent autonomous robots. Therefore, it is now more appropriate to consider robots and AI as objects of legal relations. Although in this case the question of liability for damage still remains open”. Similar views are also expressed by Martsenko (2019), Michurin (2020), and Korzh (2021).

When considering the problems of the prospective independent responsibility of AI, it is important to consider that the institution of legal responsibility in law performs a set of functions that, in certain combinations, are inherent in each branch type of legal responsibility (Bieliakov 2008). They are the restoration of violated rights (compensation), prevention (general and special), education (re-education), punishment (Bieliakov 2019). Therefore, the analysis of the subject’s legal responsibility in the context of the performance of only one of its functions, for example, compensation for the damage caused, will be incomplete and fragmentary, at a minimum.

As for the independent responsibility of AI in the case of its recognition as a subject of law, the possibility of negative consequences of a personal nature for it, or educational or re-educational influence by analogy with a person, raises

serious doubts, since AI is neither a living nor biological being, nor a member society. And the performance of the rights-restoring (compensatory) function, in particular with regard to compensation for damage, will also require the endowment of AI with a set of property rights, which will also be a colossal problem. This perspective is a peculiar manifestation of information responsibility as an independent type of legal responsibility, which necessarily complements the potential of traditional means of legal responsibility of the subjects of relations related to AI—manufacturers, providers (Ivashchenko et al. 2018; Britchenko and Saienko 2017).

At the same time, in the case of recognition of AI's independent responsibility, there is a well-founded danger of substituting the delinquent and transferring responsibility to the robot. This is directly addressed in the key principles of the Code of Ethical Conduct for Robotics Engineers, proposed by the Committee on Legal Affairs and voiced in the report by M. Delvaux (2017) “Public and private funding bodies for robotics research should require that a risk assessment be carried out and presented with each by submitting a proposal for financing robotics research. Such a code should treat humans, not robots, as responsible agents”.

Therefore, EU experts consider it necessary to understand the problems of legal responsibility for actions or inactions of AI in the context of specifying a human agent, which is considered to be: (1) manufacturer, (2) operator, (3) owner, (4) user. Regarding such categories of subjects of responsibility in the field of AI, we consider it expedient to develop doctrinal provisions and practical legal mechanisms.

4 Conclusion

The proposals of a number of Ukrainian scientists regarding the hypothetical design of the AI legal personality, against the background of the technocratic approach dominance, combined with a purely instrumental understanding of law as a regulatory or security tool, cause concern, especially from the standpoint of humanistic principles in law, primarily natural human rights. On the basis of the above, in contrast to the hypotheses available in domestic scientific publications regarding the possible legal personality of AI in the near future, another is proposed—considering the modern understanding of the law, the transfer of certain elements of a person's legal status (natural person) to AI is possible only at the level of theorizing. However, this hypothesis, of course, does not solve the problem of improving the legal regulation of relations in which AI is peculiarly present.

Indeed, scientific developments are of great importance, they point to the future, but the first priority for solving are already existing problems and needs of the nearer perspective, which are not yet related to completely autonomous AI.

The development of the AI robot “industry” in the future is difficult to predict, but it is certainly limited by a “red line”—it is impossible to create an AI that would have the ability to become a subject of law. Therefore, the legalization of AI robots should not be aimed at granting them the status of a legal subject, but at the legal regulation of the procedure for the use of AI capabilities by people (legal subjects) today and in the future.

The responsibility of the so-called “electronic person” cannot be considered in the context of the traditional understanding of legal responsibility, that is, by analogy with the responsibility of a person. Both the understanding of the status of an “electronic person” and the perception of its responsibility must take place on other grounds and with the use of a methodological toolkit capable of ensuring the inviolability of fundamental legal values and ideals, respect for human rights, and, at the same time, a harmonious solution to the needs in the legal solution of AI problems.

The given analysis of views on the legal problems of the development, existence, as well as the socio-technological future of systems built using AI technologies and IoT devices shows the complexity of the issues of regulating legal relations arising in connection with their emergence and the active reflection of specialists in various fields of law. However, we are sure that the main “platform” for scientific research of the AI phenomenon in legal science is information law. It seems that the problems of legal support of AI are a separate, special institution of the doctrine of information law at the level of institutions of information security, information culture, intellectual property, etc.

The legal nature of the modern information technology space and the emergence of virtual information legal relations separates them from the existing system of legal relations into a separate group, which requires the development of specific methods and means of legal regulation of such relations. Considering the technical nature of AI as a set of information technologies and a specific field (direction) of activity in the information technologies and telecommunications field, which ensures its creation, implementation and use, it seems possible to propose the development, understanding and implementation in the legal practice of the so-called “technological-legal method—the use of a legally certified, within the limits of current legislation, a specialized software and technological product (information technology), capable of ensuring the fulfillment of social norms and legal prescriptions in the sphere of legal relations regulation that arises during the implementation of information activities, by means of special technological influence on possible illegal actions of subjects”.

It can be seen that the technological and legal method is an effective means and toolkit of special technological influence on possible illegal actions of AI. In addition, the development of the theoretical and methodological foundations of

the implementation of the technological-legal method constitutes the currently missing condition for the recognition of information law and its inclusion in the list of branches of law with extrapolation in the system of complex information legislation, in terms of the mandatory presence of a special method for this field of legal knowledge, as fundamental and identifying. Therefore, scientific debates around topical issues of AI and IoT, the determination of the legal status of robotics in general, and their scientific support should continue, in particular, using the methodology of socio-naturalistic legal understanding.

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Ethical approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

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