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Research on moral issues related to the use of artificial intelligence in modern society

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Abstract: The purpose of the article was to highlight the philosophical and axiological guidelines in the moral and ethical dimension of artificial intelligence. The **task of the article was to** analyse the ideas and beliefs in the contemporary scientific discourse on the positioning of artificial intelligence in the mental and worldview paradigm of the modern world. Based on the analysed scientific works (a total of 55 studies covering the issues of correlation between morality and artificial intelligence published over the past 5 years), an attempt was made in order to determine the relationship between morality and technicality. **Methodology.** The methodological arsenal was provided by general scientific methods, primarily of the analytical cluster. At the same time, purely philosophical methodological approaches were used: dialectical and synergistic methods, which determined the level of coexistence and interaction between artificial intelligence and moral norms. The **results of the study** indicated the inter-integration of technology and morality in modern society. This trend is expressed in several key dimensions: artificial intelligence as the basis for a new moral paradigm, the transformation of morality under the influence of artificial intelligence, balance, and autonomy of innovative technologicality and traditional morality. **Prospects for** further research include the development of unified guidelines that will determine the moral norms of artificial intelligence and the potential level of technological impact on the transformation of morality. **Conclusion.** Thus, artificial intelligence has de facto integrated into socio-cultural use at the global level,

which has actualised the need for its assessment and understanding in terms of morality and ethical principles.

Keywords: artificial intelligence, morality, technology, axiology, moral and ethical norms, human intelligence, superintelligence.

Introduction

From a cultural and historical perspective, the situation where the moral and ethical cluster is left to the discretion of not only the individual and society but also the socio-cultural superstructure is not new. The medieval tradition delegated morality to religion, taking away much of the human dimension of morality in favour of its theological interpretation. In the situation of modern scientific and technological progress and the development of ICT, there is a similar attempt to give to morality new axiological guidelines. The problem is that religion considered morality as an existential concept with a human-dimensional status (Chen & He, 2022) In the modern world, morality cannot be limited to humans and their problems. The model of the civilisation focuses on the development of all elements, which lead to the moral support of a much wider range of problems than purely human or social issues. Scale and dynamism are characteristic features of the modern world. Morality is positioned in these dimensions, and it is clear that traditional axiological principles that are characteristic for the society (even at the turn of the twentieth and twenty-first centuries) are not enough.

A relevant question arises: what principles of morality will civilisation follow on the path of its further development? What tools will ensure the moral transformations and compliance with axiological norms (the primacy and priority which will remain the key to the stability and viability of civilisation)? It is obvious that technological advancements (and AI), which literally permeate all spheres of social life, will be involved in new moral and value guidelines and principles.

Human intelligence has historically attempted to achieve symbiosis with other forms of intelligence (Pereira & Lopes, 2020) on the planet, or even idealised unproven higher forms of intelligence (God, alien entities) in the hope of interaction. Having failed to achieve the level of desired interaction, human intelligence created the artificial intelligence as a partner in thought activity and began the process of correlation and synchronisation of capabilities. Of course, morality has become one of the fundamental issues of the new interaction between the human mind and another analogue.

Research Problem

The research problem of the article is focused on clarifying the potential impact of artificial intelligence on traditional socio-cultural worldview and mental characteristics. The current vision of the role and place of the artificial intelligence in the moral paradigm is mainly based on the positions of digital optimism. The functionality and effectiveness of artificial intelligence shapes its popularity among the scientific community. However, some ideas are pessimistic about the prospects for total technologisation and point to the threats and risks associated with these processes. If focussing on a purely philosophical understanding of the prospects of artificial intelligence in the moral civilisation paradigm, a tendency towards a synergistic approachcan be observed, according to which technologicality and morality are common agreed socio-cultural constants.

Research Focus

The focus of the study was to actualise the elements of morality in the use of artificial intelligence. At the same time, contemporary scientific discourse attempts to give artificial intelligence the qualities of morality, which fundamentally changes the human dimension of technology. Moral and ethical norms as an element of artificial intelligence functionality have long been discussed in both the scientific and

technological aspects, as well as in the philosophical and ideological dimensions. Such activity changes the existential basis for understanding morality: from the morality of a human who controls AI to AI as a carrier of morality.

Research Aim and Research Questions

The purpose of the article is to highlight the philosophical and axiological guidelines that are becoming a priority for the moral segment of the artificial intelligence. AI is rapidly developing not only in terms of technology but also in terms of the scope of its coverage of the socio-cultural space. Therefore, the issue of the correlation between morality and technology is becoming a requirement of the times and the realities associated with the use of AI. The level of AI status in socio-cultural development requires new principles for regulating its functioning not only at the technological level but also in the context of compliance with moral and ethical principles. The article focuses on the analysis of ideas and beliefs in the modern scientific discourse on the introduction of artificial intelligence as a full-fledged self-sufficient unit in the mental and worldview paradigm of the modern world.

Literature Review

The contemporary scientific discourse on the issue of the coexistence of technologicality and morality can be divided into three ideological and conceptual clusters:

- technology-digital optimists;
- technology-digital-pessimists;
- supporters of a balance between AI and moral and ethical standards.

The first category includes works that define the potential of AI at a level that allows correlating morality with the functionality of technology. Patowary (2023) positions AI as a revolutionary force that has transformed all aspects of social activity, including moral dimensions. Ahmadi & Karimkhani (2022) point out that "morality is not only about avoiding bad things but also about doing the right thing and being determined not to cause intentional harm". This is how the guidelines for AI are formed, which are presented by humans and social norms. When these guidelines are positive, they are axiologically justified. Livingston, & Risse (2019) note that humanity is currently evaluating the results of general artificial intelligence, but they can be significantly improved with the development of so-called super-intelligence.

Another category of research is dominated by pessimism about the correlation between AI and moral and ethical norms. Rios-Campos et al. (2023) highlight the risks associated with process automation. AI is capable of processing and manipulating large-scale data, but questions arise about the ability to filter information depending on the requirements of confidentiality, appropriateness, privacy, and ethics. Szymon & Manescu, G. (2023), using the example of AI in the army, point out its imperfection in the context of moral and volitional indicators (lack of spirit, initiative, leadership, respect, etc.). Farina (2022) excludes the ability of AI to be morally responsible altogether, as the technology does not have the ability to be subjectively self-aware. Kerkeling (2022) insists on the uncertainty of the moral dimensions of AI.

The last cluster of studies suggests achieving a balance and autonomy between morality and technologicality. In fact, it is proposed to separate the concepts of technologicality and morality and consider them separately. The artificial intelligence in this context is interpreted as a tool that has the potential to influence moral and ethical norms. At the same time, morality is given flexible characteristics, depending on the dynamics of technology influence. Particularly, Maruyama (2020)

notes that the impact of AI on the moral component of social life depends on the conditions of its functioning (from weakly expressed to excessive). Since AI (namely, data and algorithm input) is controlled by humans, subjectivity will always be expressed in terms of accountability, systematicity, and responsibility (Kanade et al., 2023), which will affect the moral dimensions of technologicality. Golovko & Bodnar (2022) point out the problems associated with the distinction and autonomy of technologicality and morality and suggest that social experience should guide the correlation and synchronisation of these elements. The synergy of morality and technologicality is confirmed by the manifestation of contextual morality for artificial intelligence (van Berkel et al., 2020). AI simultaneously ensures human autonomy and takes away some of their freedom (Kärki, 2022). The priority direction for the development of the AI concept will be to increase the level of imitation of physiological human intelligence, which will lead to a new understanding of morality (Lin & ZongYing, 2022). The artificial intelligence is an optimal tool for achieving a compromise between "human autonomy" and "system autonomy."

Analysing the three vectors of the positioning of technology and morality in the modern scientific picture of the world, it should be noted that they all have their positive and negative characteristics. To date, the issue of the morality of using AI has not reached the red line, as there have been no examples of violations of fundamental moral norms. Nevertheless, the dynamics of the coverage of the socio-cultural space by innovative technologies indicates that this problem is a matter of time. With the first serious confrontation between technology and morality, all the contradictions between human and artificial intelligence will be revealed and become an obvious problem.

Among the violations of moral principles by artificial intelligence today are the facts of functional negative impact, namely: bias, opacity, loss of confidentiality, alienation, fakes (Meyers et al., 2023). These facts are of a practical nature, so they do not currently pose existential threats to the moral order of society. In fact, humans retain many more practical opportunities for immoral behaviour and threats to morality. As AI has only just begun to gain ground in the minds of people and society, first impressions of the effectiveness of this tool are bordering on enthusiasm. The public opinion is mostly optimistic, as it is based on the results of using AI elements, which are impressive and positive (Pauketat, Ladak & Anthis, 2023). Therefore, the critical analysis today is carried out mainly by the scientific community, which weighs the pros and cons of AI and its correlation with moral norms.

Research Methodology

General Background

The methodological basis of the study was based on the analysis of scientific ideas on the development of artificial intelligence over the past 5 years. The analytical method was used in the segments of comparison, criticality, systematicity, and structuredness. Other general scientific methods (inductive, deductive, cultural, and historical) were used in order to assess the status and role of artificial intelligence in the modern socio-cultural environment.

Philosophical and methodological approaches were actively used in this scientific research. The traditional dichotomous dilemma: technologicality-morality was analysed through dialectical opposition and synergistic interaction. The idea of self-organisation was actualised in the correlation of moral norms in the dimension of human intelligence and its artificial analogue.

The study highlighted interdisciplinary connections and the idea of multiculturalism. The scientific and pluralistic approach ensured that artificial intelligence was considered in the context of dynamic changes inherent in the modern scientific picture of the world. The methodological arsenal used to study AI is constantly changing, as the use of the traditional set of research methods is not

effective due to the transformational processes associated with the nature and characteristics of innovative technologies.

Research Results

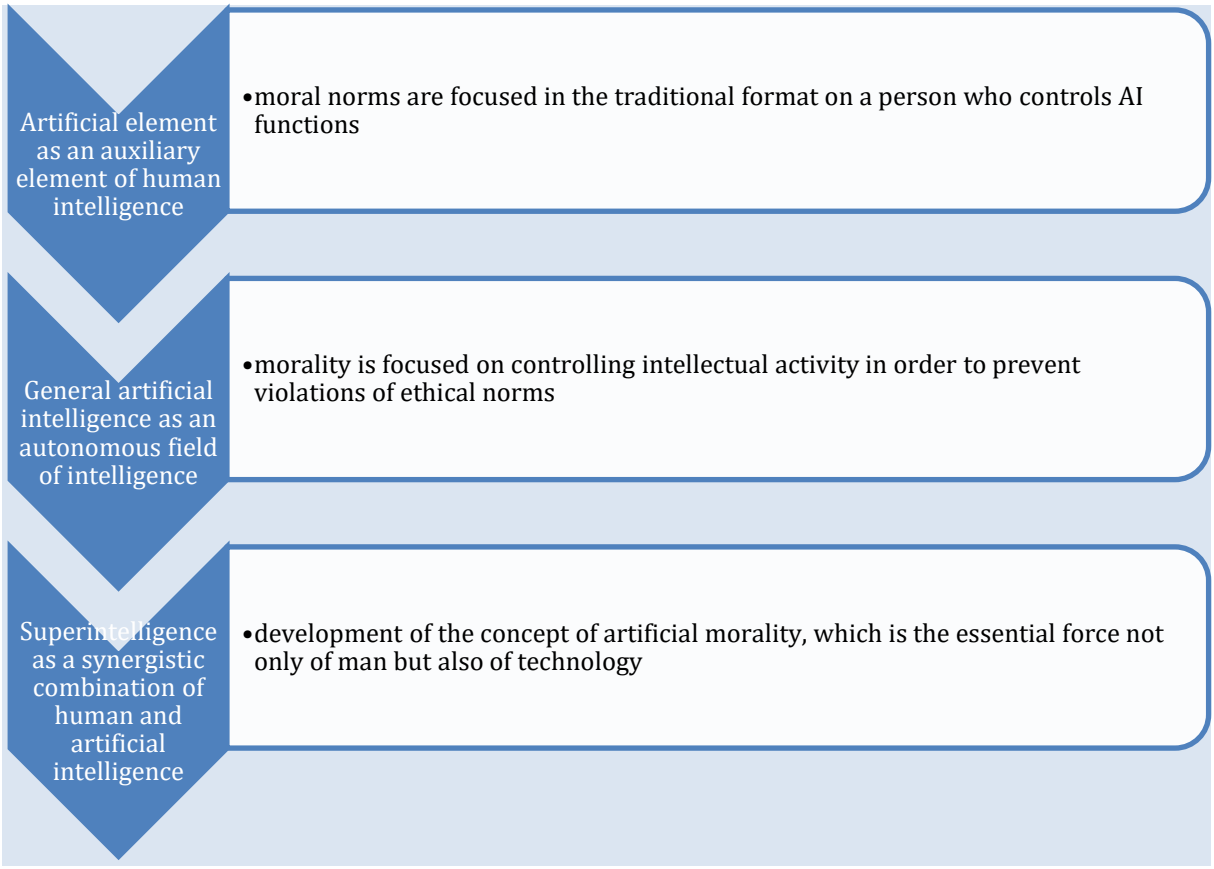
Technology and the digital world seem to be only at the beginning of realising their potential, so Häggström (2022) suggests that the potential of AI should not be limited to the segment of artificial general intelligence (AGI). Gradually, new irrational components will be added to the rational component of AI (first, experience, later, sensory elements). This state of affairs will fundamentally change the approach to the morality of this problem. The time when AI will become a full-fledged subject of morality can be considered a revolution in the scientific and humanitarian discourse.

Famous contemporary philosophers Dennett & Chalmers (2019) focus on the future of super-intelligence. In other words, the problem of artificial intelligence is considered to be exhausted for scientific and philosophical discourse. At the same time, thinkers are developing strategies for the further development of technological progress, realising that this process will continue.

Among the positioning vectors of analogues of human intelligence, the general artificial intelligence occupies the niche of an active real alternative, and super-intelligence is a potential forecast of the development of thinking activity at the civilisation level. All these elements integrate morality in their own way (see Figure 1).

Figure 1

AI models in the moral and ethical sense



Source: author(s) own development

In the modern axiological system of coordinates, morality, and technology are tools that provide their own niches for the social development. These elements intersect at the moments when a human dimensional characterisation of technological functions is required. The prospect of these components coexistence of the world picture of modern civilisation is the mutual integration of the functionality (form) and the vector of thought activity (content) of the intellectual dimension.

So far, the problem of the morality of scientific and technological innovations has been human-centered. At the same time, the latest technologies, thanks to their interdisciplinarity (Şenocak, Kocdar & Bozkurt, 2023), have significantly expanded the potential of morality, giving this concept more meaning and increasing the possibilities for controlling and evaluating moral principles. There is a proposal to introduce the concept of "artificial morality" (Misselhorn, 2018), but this idea does not fully understand the subject-object relationship between humans, machines, and technology. Pana (2006) emphasises the need to identify "a concrete form of human and artificial intelligence, not just the abstract intelligence". Under any circumstances, the path from human morality to artificial morality is uncertain and complex (Fisher et al., 2016).

The difficulty of framing morality in certain frameworks or algorithms is a kind of relativity of this concept in the worldview and mental context. Of course, moral and ethical norms prescribed in various legislative systems can be easily integrated into the AI system. However, the question of the essential human powers, their emotional and volitional characteristics, and their implementation in a holistic structured (and most importantly, understandable for technology) AI system remains unclear.

The problem of justice and morality is an existential axiological issue of civilisational development. Integrating these highly complex concepts into the artificial intelligence paradigm is a rather difficult process. However, the difficulties are accompanied by new opportunities in the technological and digital world - healthcare ecosystems (Pillay, 2023), cognitive science (Cortiz, 2022), neuroscience (Xiong et al., 2023), computer modelling (Diallo, Shults & Wildman, 2021). The more science reveals the human potential, the more opportunities for the development of artificial forms of intelligence the intellectual segment gets.

In general, the potential of AI has a "black box" effect (Bickley & Torgler, 2023). The task of the modern scientific and philosophical community is to prevent the transformation of AI into a Pandora's Box with uncontrolled further processes of its functioning. The moral aspect becomes a regulator that allows maintaining prudence in the development of the technological nature of the modern socio-cultural space.

Morality has always acted as a kind of safeguard for individuals and society in matters of self-preservation. Scientific and technological progress is guided by the principles of efficiency and expediency. However, such guidelines can often be inhumane (even on a massive scale). For example, the problem of global overpopulation in a purely scientific and mathematical sense has a fairly simple solution - a rapid reduction in population. Let hypothetically imagine a situation where AI introduces an algorithm of actions to solve the problem of global overpopulation. Two questions arise: will the AI's steps to resolve this situation (and this is the main constant of its functioning) be humane and will they comply with the norms of humanity?

At the same time, Pereira & Lopes (2020) note that machines cannot be emotionally motivated because they lack systems that would endow them with emotions (using the example of the human endocrine system). Therefore, the potential immorality of artificial intelligence agents can only be identified through the use of human behavioural analysis (Köbis, Bonnefon & Rahwan, 2021). In other words, predicting threats to moral norms from AI is possible only in a human context.

The scientific community understands that over time, the problem of integrating the moral and emotional component into AI functionality will be solved. However, the question arises whether it will be of a formal (executive) nature or whether the machine will acquire an initiative dimension of its moral character.

It is proposed to actualise the morality of artificial intelligence not in the context of content, but in the aspect of format. Casas-Roma, Conesa, & Caballé (2021) to introduce the concept of ethical design, which involves the introduction of large-scale algorithmic data for AI's ability to assess situations related to moral factors, behavioural activity, and legal characteristics.

Currently, humans are the key players in the activation of AI. All data (or at least the initial or fundamental data) is entered into the AI programme by humans. Subsequently, the artificial intelligence operates according to technological and digital algorithms. This raises the urgent question of whether the potential violation of morality is characteristic of the human or artificial dimension of activity (Kornai, 2022). The complexity of this dilemma is compounded by the impossibility of establishing a relationship between humans and AI (Weijers & Munn, 2022).

The lack of familiar relationships on the mental level is fully compensated by the growing level of interaction between humans and technology. Magrani (2019) even points out that the level of interaction between human and artificial intelligence threatens the fundamental principles of civilisation, namely the rule of law, which may be violated or not taken into account in the context of this interaction. The distribution of responsibility may level out the control over a person and his or her share of responsibility, which will be transferred to the machine (which is essentially uncontrollable and insane). In any case, society is opening up a large field for legal manipulation, which is an undeniable manifestation of moral problems.

At the technological level, the interaction between humans and technology is expressed by the deepening of the level of technology itself. Today, AI has reached a generative level of development (Rios-Campos et al., 2023), which allows it to be improved taking into account the specifics of its direct functioning. Moral and ethical norms are introduced virtually online, depending on the conditions of AI use: place and region, professional sphere (Baker-Brunnbauer, 2021), control systems (Herzog & Hoffmann, 2020), daily activities (Ouchchy, Coin & Dubljević, 2020), etc. Finocchiaro (2023), analysing the scale of use and potential of artificial intelligence, proposes to regulate its functioning at the global level with a single agreed understanding of its use. Given Hawking's (2017) warning that AI is destructive on a global scale, the issue of controlling its use should indeed be a priority in the planetary dimension.

Civilisation has always been proactive in such matters, forming a system of balances and counterbalances, prohibitions, and controls for elements that can pose a threat to its existence. In this context, it is important to understand the level of risks posed by technology. If the issue of AI use is reduced to a moral and functional aspect, then there are no existential threats, and control over this process is of a traditional regulatory nature. However, with the awareness of the real potential danger (use of weapons of mass destruction, global shutdown of the ICT sector) that AI can bring, the problem of morality becomes ordinary alongside the threat to humanity's existence.

The artificial intelligence is currently positioned as an imitation or an effective analogue of human intelligence (Salvi & Singh, 2023). That is, AI does not have a unique status in the existential dimension, remaining a functional tool. Under such circumstances, it is worth focusing on mechanisms to prevent negative manifestations of AI use in the moral domain. Moser, den Hond & Lindebaum, (2022) propose a primitive concept of adapting existing moral norms to the system of functioning of technology and the

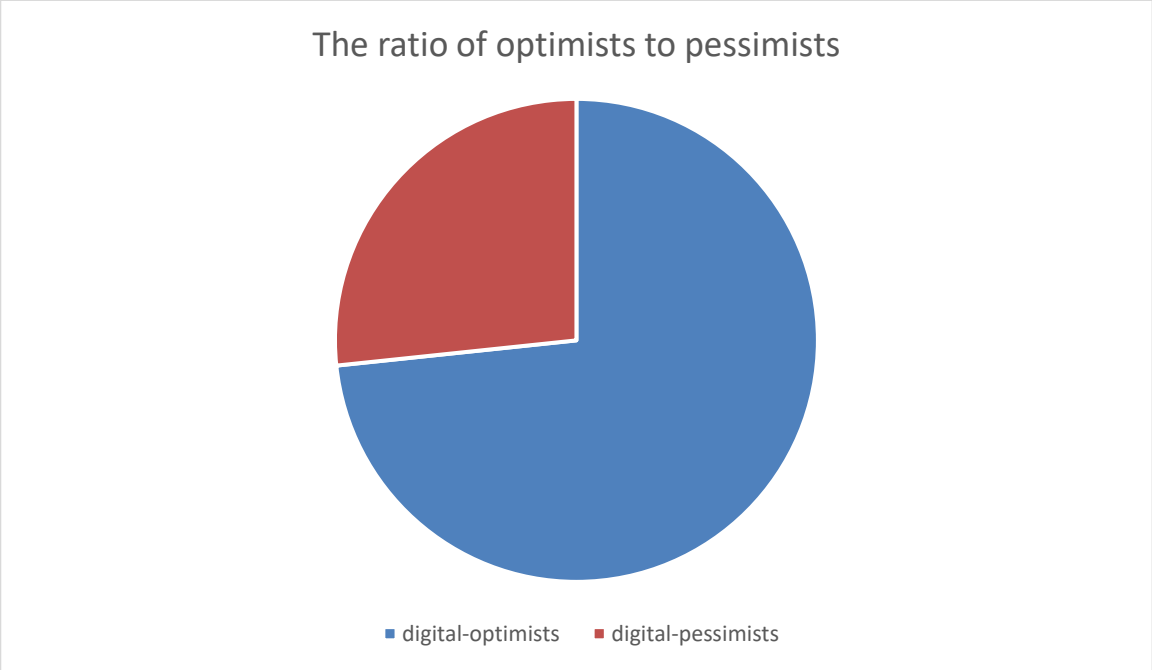
digital world. Since the threats associated with AI have not reached the global level, it is obvious that at this stage, the scale of control over this tool should be appropriate.

In the scientific world, many assumptions are made about the destructive potential of AI. Without denying the destructive capabilities of technology, the question arises: is a machine capable of autonomously and independently leading to such activity? If this is confirmed, it is about the formation of a new morality - an artificial one that will define and identify the positive and negative, implementing both options for development.

As for the prospects for further research, it is worth presenting the ratio of optimists and pessimists (see Figure 2) in the scientific community regarding the potential of AI and its ability to adhere to fundamental human norms (primarily moral ones).

Figure 2

Positioning of AI in the scientific picture of the world (based on the analysis of 45 scientific publications in 2019-2023)



Source: authors own development

According to the results, the overwhelming majority (over 70%) still see the potential for further progress in AI. The issue of morality is not rejected or ignored for this niche but is proposed to be integrated into the principles of human work with AI technologies or directly included in its functionality. However, the warning, which is also highlighted in the results of the current study, by such luminaries of scientific thought as Stephen Hawking (2017), makes us think about the importance of the process of correlation between morality and technologicality.

Discussion

From a philosophical and axiological point of view, an ethical behaviour is not always good or positive (von Struensee, 2021), as moral values are not always humanistically oriented and may be driven by economic, political, or social benefits. Under such conditions, AI a priori becomes hostage to the tasks it is given, and in this case, AI's compliance with moral norms should be reconciled with the

differentiation of moral elements. If the fundamental principles of humanity prevail in the matter of preserving human life and health, then AI must comply with all requirements and rules without alternative. When the issue of human development and its potential is relevant, AI faces an axiological dilemma, since such an element as competition does not always comply with the norms of morality and justice in the traditional sense.

In general, the problem of double standards, which has been so carefully concealed in the moral and ethical dimensions of civilisation, can have the effect of a real explosion in the public consciousness when it appears in the working moments of AI. Humans are characterised by such concepts as hypocrisy, while AI is not characterised by such a dichotomy and cannot be used in its algorithms and settings.

On the other hand, there are also positive moral constants that are difficult to identify in the technological space. The notion of dignity is one of the fundamental foundations of humanity (Becker, 2022). It is also worth noting the processes of decline of morality in the human understanding due to the use of machines and technologies. "The non-human nature of interaction causes a decrease in guilt and ultimately reduces moral behaviour" (Giroux et al., 2022).

The ability of AI to satisfy the highest moral needs of humans, which are of an essential nature, also raises many doubts in the scientific community. Namely, Musslifah & Khilmiyah (2023), analysing the concept of happiness, note that the sense of comfort and security that a person receives through AI provides a sense of "pseudo-happiness". Artificial intelligence actually provides services with a limited lifespan. It is enough to change the settings or specify the time of activity completion, and the service stops or becomes ineffective. This creates not a sense of security that is inherent in human nature (for example, a child's sense of security in the presence of parents), but a temporary shelter from adversity that can be turned off at any time.

Sullivan & Wamba (2022) even differentiate the potential moral harm caused by AI into intentional and situational. When the situational nature of moral harm is actualised, the principle of imperfection (of the technology itself or its human adjustment) is traced here. At the same time, it is the intentional harm that will potentially be caused by artificial intelligence based on its functional activity that poses the real threat. While in the physical dimension, the damage caused by AI is quite easy to determine, in the moral dimension, such damage (or rather the initiator of this damage) is quite difficult to identify.

Conclusions and Implications

Thus, the scale of the artificial intelligence, with which this tool covers the socio-cultural space, dictates the need to expand its influence, which is no longer limited to practical and functional, but acquires moral and volitional characteristics:

- Morality and technology should be correlated and synchronised in the context of generally accepted fundamental humanistic principles;
- artificial intelligence does not use moral and ethical principles for its functioning, as they are oriented towards a human who controls the AI functionality;
- Today, AI is human-centric, as all the norms of emotional and volitional support are not typical for technology;
- technological optimists are convinced of AI's capabilities and believe that the current control and regulatory format for its operation is sufficient to comply with all moral and ethical standards;

- Doubts about the ability of AI to operate on moral principles arise from the semantic uncertainty of such concepts as happiness, justice, loyalty, courage, and other essential human forces and the inability to introduce them as algorithms into an AI system;
- general artificial intelligence takes into account the possible consequences of the activity in its algorithms, so the introduction of moral elements is theoretically possible, but unclear in terms of consequences (conclusions about the feasibility of integrating the emotional and volitional component may be relevant only after experimental confirmation of the effectiveness of this step);
- The prospects of super-intelligence involve the complete blurring of the boundaries between human intelligence and its artificial analogue, with the full introduction of moral meanings into the functioning of super-intelligence.

Suggestions for Future Research

1. In order to determine the real impact of AI on the worldview and mental paradigm, it is worth continuing to analyse the scientific discourse on the positioning at the level of digital-optimist and digital-pessimist, gradually expanding the database to include data from official and mass media.

2. The study of the content and format of the moral paradigm will depend on the scale and intensity of artificial intelligence's coverage of the spheres of social activity. Given the sustainable and gradual spread of AI, it is possible to transform moral and ethical norms in an evolutionary way, changing elements of their structural and functional character. If the intensity of AI implementation exceeds the ability of existing morality to regulate issues of worldview and mental content, then it is quite possible that the meaning and purpose of morality will be transformed.

3. At the strategic level of civilisation development, it is important preserving the human-centric model of the worldview, within which the artificial intelligence will remain a mechanism or tool. AI, like any other tool in the arsenal of human activity, poses threats, but these threats are consequential (i.e., only humans can actualise these threats), and technology is a mechanism for their implementation. Such a human-dimensional axiological orientation keeps the traditional existential and value-based civilisation system relevant, where the individual, society and humanity remain responsible for self-preservation. Until now, such a moral and value-based global orientation has protected civilisation from large-scale human threats and self-destruction.

4. The philosophical-axiological and philosophical-ethical discourse of the future should raise as a key issue the problem of reconciling the potential of civilisation and the fate (course of development) of civilisation (similarly to the idea of the potential and fate (the person's role and status).

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