

The research project concerns the problem of the right of authorship in the context of the development of Artificial Intelligence (AI) and various forms of Human Enhancement. Recent years have AI been written in either a futurological or even sensational perspective. Meanwhile, we are witnessing a new industrial revolution (Industry 4.0) and a rapid, difficult to predict the development of AI, which is increasingly boldly entering the areas of activity previously reserved exclusively for the human race. Intelligent systems not only beat people in games such as poker or go (this game is considered the most difficult logical game in the world), but thanks to the new version of reinforcement learning in a few days, the AlphaGo Zero program alone achieved a level that exceeds masters playing it for years. AI also enters creative activity. It is enough to mention that in 2016, the TAIDA autonomous robot took first place in the RobotArt painting competition and received an award for the portrait of Albert Einstein. The painting "Edmond de Belamy" - created by algorithms - at the auction in Paris was sold for 432 thousand dollars. In turn, scientists from Germany have developed a mathematical code that allows systems of AI based on about 60 minutes of computation to convert any picture so it looks like it was painted by one or another painter based on the implemented specific work. In addition, for the first time in history, man extends his dominion not to the outside world, but to his body and mind. Currently, human corporeality and cognitive abilities are constantly being expanded thanks to convergent technologies. As an example, it can be pointed out that the Neuralink company founded by Elon Musk developing neural lace technology to allow human thoughts to be changed into commands understandable to a computer. It is anticipated that Neuralink will improve the human intellectual performance and enable intuitive management of machines that will be found in its environment, which will enable *homo sapiens* to compete with dynamically developing of AI. Computer scientists and neuroscientists also expect that in the future computing power of computers will enable simulation of human brain activity in the computer memory, which should result in the simulation of a mind analogous to human. In the face of such revolutionary technological progress, modern societies face great ethical and legal challenges. And the further development of AI and the fate of mankind will be largely shaped by the influence of legal regulations.

R. Kurzweil claims that every form of human knowledge and artistic expression - scientific projects, engineering, literature, music, photos, films - can be expressed by means of digital information, because the brain also works digitally by discreet stimulation of neurons. Thus, the problem of ethical consequences of technological improvement of the human person, the problem of guaranteeing equal access to the use of new technologies, the legally permissible limits of interference in the human body is clearly visible. And in the background there is the problem of human redefinition. Undoubtedly, the development of AI and the phenomenon of Human Enhancement is also a challenge for traditionally understood notions in copyright law. The European tradition of copyright strongly emphasizes the need to protect the creator's relationship with the work as well as the personal (human) character of creativity. Therefore, in the face of the reality of Industry 4.0, copyright is faced with completely new questions about the limits of artistic creation.

It is necessary not only to resolve the copyright status of modern Art (such as bioart, transgenic art, technoscience art), but also to reformulate the right to authorship. The status of works created by intelligent systems, as well as by people improved as a result of various kinds of technological interactions on the cognitive and physical abilities of a human become the most problematic. The adoption of such and not other legislative solutions in this area will give rise to specific social consequences that go beyond the traditional impact of copyright law. It is possible that the norms of copyright will define the limits of legally permissible interference in the techno world and in cyberspace. Therefore, **in-depth research into possible directions of copyright evolution on technological progress based on falsification of competing research hypotheses aimed at determining the best possible legislative solutions of issues such as: the right of authorship in the case of modern art created with the use of machines, the right to authorship of works created by AI, and finally the problem of authorship in the case of people with enhanced physical and cognitive parameters.**

The research is pioneering due to the adopted research method integrating the science of law with other sciences (such as philosophy, psychology, economics, cognitive science, cultural anthropology), as well as due to the fact that the directions of technological progress are difficult to predict. Therefore, the project assumes active monitoring of the AI development directions and legislative solutions in this area. In addition, the research proposed here coincides with the recommendations of the European Commission and Assumptions for the AI Strategy in Poland (document from 9/11/2018 published by the Ministry of Digitization), which emphasize the need for an interdisciplinary approach to solving legal problems related to the development of AI.