



REPERCUSSIONS OF THE DEMOCRATIZATION OF ARTIFICIAL INTELLIGENCE ON PERSONALITY RIGHTS

REPERCUSSÃO DA DEMOCRATIZAÇÃO DA INTELIGÊNCIA ARTIFICIAL NOS DIREITOS DA PERSONALIDADE

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ABSTRACT

The present article deals with the interface between the current dissemination of artificial intelligence and personality rights. The choice of topic is justified by the uncertainties caused by the use of such technology in various sectors. The aim is to provide a legal framework for the use of AI, guaranteeing respect for the human person and personality rights. In order to do this, the paper discusses AI as a vector for global development in the 21st century, the dangers that AI can represent in the medical-scientific field, the repercussions of AI on educational law and the impact of AI on intellectual property. The approach used was Miguel Reale's dialectical method, combined with bibliographic and documentary research procedures.

Keywords: Personality rights; Educational law; Artificial intelligence; Medical-scientific advances; Intellectual property.

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RESUMO

O presente artigo trata da interface entre a atual disseminação da inteligência artificial e os direitos da personalidade. A escolha do tema se justifica diante das incertezas causadas pelo uso de tal tecnologia em diversos segmentos. O objetivo é balizar juridicamente a utilização da IA garantindo o respeito à pessoa humana e aos direitos da personalidade. Para tanto, aborda-se, sequencialmente, a IA como vetor do desenvolvimento global no Século XXI, os perigos que a IA pode representar para a área médico-científica, a repercussão da IA no direito educacional e o impacto da IA na propriedade intelectual. O método de abordagem utilizado foi o lógico dialético de Miguel Reale, combinado com os procedimentos de pesquisa bibliográfico e documental.

Palavras-chave: Direitos da personalidade; Direito educacional; Inteligência Artificial; Avanços médico-científicos; Propriedade intelectual.

INTRODUCTION: AI AS A VECTOR FOR GLOBAL DEVELOPMENT IN THE 21ST CENTURY AND THE NEED TO RESPECT PERSONALITY RIGHTS AND HUMAN DIGNITY

The Artificial Intelligence landscape has evolved significantly since 1950, when Alan Turing first posed the question of whether machines could think. For thousands of years, homo sapiens (wise man) has sought to understand how the brain thinks and acts. For Russel, “the field of artificial intelligence, or AI, goes even further: it tries not only to understand, but also to build intelligent entities - machines that can compute how to act effectively and safely in a wide variety of new situations”. In the current context, AI is transforming societies and, as it is used with the promise of greater productive gain, to improve people's well-being and to help tackle global challenges, including climate change, other questions have arisen, related to the risks it poses to human rights, equity, privacy, security, reliability etc.

Artificial Intelligence was a term coined by John McCarthy in 1955 and he defined it as “the science and engineering of making intelligent machines”.⁴ However, the concept is

⁴ Artificial Intelligence (AI), a term coined by emeritus Stanford Professor John McCarthy in 1955, was defined by him as “the science and engineering of making intelligent machines”. In <https://hai.stanford.edu/sites/default/files/2020-09/AI-Definitions-HAI.pdf>



not univocal, since there are other definitions, reflecting the specificities of each field and subfield of knowledge (learning, reasoning, perception etc.). Dora Kaufman brings up the concept of Russell and Norvig, for whom AI is “the study and design of intelligent agents, where an intelligent agent is a system that perceives its environment and performs actions that maximize its chances of success”.⁵

Artificial intelligence brings together many technologies (such as machine learning and Natural Language Processing (NLP)), which together lead machines to detect, act and learn with levels of intelligence that resemble those of humans, the application of which, together with other factors (data, analysis and automation), bring about an improvement in various social relationships.⁶

“Artificial Intelligence, along with genetic engineering and the advance of the internet (of things and of senses), is the beginning of a fourth industrial revolution”⁷, with innumerable potentialities and, consequently, innumerable risks. The negative impacts of AI can be felt socially, requiring proper regulation.

Given the current direction of scientific technology, it's easy to see that AI is being democratized through: its integration into cell phones, giving the population access to certain educational benefits without having to use third-party services; its use in medical advances, by developing medicines, new vaccines (against melanoma, HIV, baldness, cholesterol etc.) and therapies, methods of early diagnosis and treatment for paraplegics; the creation of an algorithm that predicts climate change in coastal areas; the detection of animals on roads, avoiding accidents etc.

The use of AI, however, must be guided by respect for human dignity, an axiological vector of the law and a principle enshrined in the Federal Constitution, in its Article 1, III,

⁵ Os meandros da Inteligência Artificial: conceitos-chave para leigos - *Estado da Arte.Revista de cultura, artes e ideias*. Published on 01/02/2018 Available at <https://estadodaarte.estadao.com.br/os-meandros-da-inteligencia-artificial-conceitos-chave-para-leigos/> Accessed on 18/08/2024.

⁶ MIRANDA, Márcia Lúcia Lopes de *Inteligência Artificial no Direito Brasileiro: o projeto ALEI do Tribunal Regional Federal da 1ª Região e a otimização do sistema de justiça*. Master's thesis presented to the Postgraduate Program in Law and Institutions of the Justice System of the Federal University of Maranhão. Approved on: 07/03/2022.

⁷ BARROSO, Luis Roberto *inteligência artificial, plataformas digitais e democracia* Direito e tecnologia no mundo atual Belo Horizonte: Fórum, 2024. p. 13 [electronic book].



which grants citizens dignity, thus ensuring a minimum of rights that must be respected by society and by the Government, in order to preserve the value of the human being.

As defined by Ingo Sarlet⁸, the dignity of the human person is

qualidade intrínseca e distintiva de cada ser humano que o faz merecedor do mesmo respeito e consideração por parte do Estado e da comunidade, implicando, neste sentido, um complexo de direitos e deveres fundamentais que assegurem a pessoa tanto contra todo e qualquer ato de cunho degradante e desumano, como venham a lhe garantir as condições existenciais mínimas para uma vida saudável, além de propiciar e promover sua participação ativa e corresponsável nos destinos da própria existência e da vida em comunhão com os demais seres humanos⁹.

In this way, it is up to the principle of the dignity of the human person to give unity and coherence to the set of fundamental rights, supporting the emergence of rights not yet expressed in the Constitution and appearing as an interpretative criterion to illuminate the other principles and norms within the constitutional system.

In the private sphere, it is also necessary to guarantee the protection of personality rights in the face of advances in AI. Expert on the subject, Carlos Alberto Bittar¹⁰ defines personality rights as “the rights recognized to the human person taken in itself and its projections in society, provided for in the legal system precisely for the defense of innate values in man, such as life, physical health, intimacy, honor, intellectuality and many others”.

⁸ SARLET, Ingo. *Dignidade da pessoa humana e direitos fundamentais na Constituição Federal de 1988*. 2. ed. Porto Alegre: Livraria do Advogado, 2002. p. 62.

⁹ “an intrinsic and distinctive quality of each human being that makes them deserving of the same respect and consideration by the State and the community, implying, in this sense, a complex of fundamental rights and duties that ensure the person both against any act of a degrading and inhuman nature, as well as guaranteeing the minimum existential conditions for a healthy life, in addition to providing and promoting their active and co-responsible participation in the destinies of their own existence and life in communion with other human beings” (Free translation).

¹⁰ BITTAR, Carlos Alberto. *Os direitos da personalidade*. 5 ed., rev., atual. e aum.. Rio de Janeiro: Forense Universitária, 2001. p. 1.



On the subject, Maria Helena Diniz¹¹ teaches that the right of personality is the right of the person to defend what is his or her own, such as life, identity, freedom, image, privacy, honor etc. It is the subjective right to demand negative behavior from everyone, protecting one's own property, using legal action.

Faced with the advancement of technology, which can bring risks (high, minimal or unacceptable) through the use of AI systems, the European Union's AI Act (2024) seeks to ensure citizens' rights, pointing out ways to regulate them by prohibiting, for example, the manipulation of human behavior, requiring monitoring of these systems, creating information security parameters, protecting data and privacy, setting limits and requirements for their use, despite the fact that it can put the brakes on technological development.

The text of Bill 2.338/2023, which aims to regulate the use of AI in Brazil, seeks to follow this global trend of the European Union's AI Act. The European Parliament's legislative resolution of March 13, 2024, *Artificial Intelligence Act - Regulation* (EU) 2024/1689¹², proposes to establish harmonized rules on the development, placing on the market and use of Artificial Intelligence systems and amends certain European Union legislative acts (COM(2021)0206 -C9-0146/2021 - 2021/0106(COD)), setting clear requirements and obligations for the developers and deployers of AI for its use.

Together, these measures aim to address the risks of AI models and guarantee the safety and fundamental rights of people and companies in relation to the innovations that emerge. The standards are proportional to the risks offered: systems subject to unacceptable risks (implementation is prohibited), high-risk systems (implementation is permitted with the obligation to comply with certain standards) and systems that do not offer high risk, where self-regulation is envisaged and encouraged.¹³

¹¹ DINIZ, Maria Helena. *Curso de direito civil brasileiro: teoria geral do direito civil*. 22 ed., rev. e atual.. São Paulo: Saraiva, 1º vol., 2005. p. 123.

¹² EUROPEAN UNION. European Regulation 1689 of July 13, 2024. Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 creating harmonized rules on artificial intelligence. Available at https://eur-lex.europa.eu/legal-content/PT/TXT/?uri=OJ:L_202401689 Accessed on 01/08/2024.

¹³ BARROSO, Luis Roberto *inteligência artificial, plataformas digitais e democracia* Direito e tecnologia no mundo atual Belo Horizonte: Fórum, 2024. p. 40 [electronic book].



There are rules prohibiting, for example, certain applications of AI such as biometric categorization systems based on sensitive characteristics and obtaining facial images from the internet or CCTV footage to create databases for facial recognition. The use of AI that manipulates human behavior or exploits people's vulnerability, such as emotion recognition in the workplace and schools, is also prohibited.

The use of biometric identification systems by police authorities is, in principle, prohibited, except in the situations restrictively listed in the AIACT. "Real-time" biometric identification systems can only be deployed if strict safeguards are met, for example, its use is limited in time and geographical scope and subject to specific prior judicial or administrative authorization. Bill 2.338/2023 aims to establish general rules, at a national level, for the development, implementation and responsible use of artificial intelligence (AI) systems. Its aim is to protect fundamental rights and guarantee the implementation of safe and reliable systems, giving prestige to the human person, the democratic regime and Brazil's scientific and technological development (art. 1).

The foundations of Bill 2.338/2023 include: the centrality of the human person; respect for human rights and democratic values; the free development of the personality; environmental protection and sustainable development; equality, non-discrimination, plurality and respect for labor rights; technological development and innovation; free enterprise, free competition and consumer protection; privacy, data protection and informational self-determination; the promotion of research and development; and access to information and education (art. 2). According to Bill 2.338/2023, the development, implementation and use of artificial intelligence systems must observe, in addition to good faith, the following principles: inclusive growth, sustainable development and well-being; self-determination and freedom of decision and choice; effective human participation and supervision in the artificial intelligence cycle; non-discrimination; justice, equity and inclusion; transparency, explainability, intelligibility and auditability; reliability and robustness of artificial intelligence systems and information security; due process of law, contestability and adversarial proceedings; traceability of decisions during the life cycle of artificial intelligence systems;



accountability, responsibility and full reparation of damages; risk prevention, precaution and mitigation; and non-maleficence and proportionality between the methods employed and the specific and legitimate purposes of artificial intelligence systems (art. 3).

The text is also concerned, in Article 4, to define fundamental technical concepts, such as artificial intelligence system, artificial intelligence system provider, artificial intelligence system operator, artificial intelligence agents, competent authority, discrimination, indirect discrimination and text and data mining.

For people affected by artificial intelligence systems, Bill 2.338/2023 guarantees the right to prior information; the right to an explanation of the decision, recommendation or prediction made by artificial intelligence systems; the right to challenge decisions or predictions made by artificial intelligence systems; the right to human determination and participation in decisions made by artificial intelligence systems; the right to non-discrimination and the right to correct discriminatory biases; and the right to privacy and the protection of personal data, making reference to the relevant legislation (arts. 5, 7-12). It should be noted that these rights can be defended administratively or judicially, individually or collectively (art. 6).

Articles 13-18 of Bill 2. 338/2023 are dedicated to regulating the risks arising from the use of artificial intelligence systems, with emphasis on the categories of excessive risk and high risk, prohibiting the implementation and use of artificial intelligence systems that: employ subliminal techniques that have the purpose or effect of inducing the natural person to behave in a way that is harmful or dangerous to their health or safety; exploit any vulnerabilities of specific groups of natural persons; or, by the public authorities, assess, classify or rank natural persons, based on their social behavior or attributes of their personality, by means of universal scoring, for access to goods and services and public policies, in an illegitimate or disproportionate manner.

The prevention of risks arising from the use of artificial intelligence systems is provided for in Bill 2.338/2023, in its articles 19-26, 30-35, including the regulation of governance structures and internal processes capable of guaranteeing the security of such



systems, as well as supervision and inspection by the competent authority defined by the Government.

As for civil liability, Bill 2.338/2023 establishes that the supplier or operator of artificial intelligence systems is fully liable for property, moral, individual or collective damages, regardless of the degree of autonomy of the system (art. 27, caput). In cases of high-risk or excessive-risk artificial intelligence, the supplier or operator is objectively liable for the damage caused, with presumption of guilt and reversal of the burden of proof in favor of the victim, in cases of high-risk artificial intelligence systems (art. 27, §§ 1 and 2). Administrative sanctions are also provided for in articles 36 and 37.

The exclusions of liability for artificial intelligence agents are set out in art. 28 of Bill 2.338/2023, which are: a) proof that they did not put into circulation, employ or take advantage of the artificial intelligence system; or b) exclusive fact of the victim or a third party, as well as external fortuitous events. Article 29 of the aforementioned Bill reserves the applicability of the Consumer Protection Code to liability for damage caused by artificial intelligence systems in the context of consumer relations.

Finally, the regulation of AI is also projected in the Draft Law for the Revision and Updating of the Civil Code of 2002, inserted in Chapter VII of the book dedicated to the so-called “digital civil law”, with express provision for the need to respect personality rights¹⁴.

¹⁴ “Art. The development of artificial intelligence systems must respect the personality rights provided for in this Code, guaranteeing the implementation of safe and reliable systems, for the benefit of the natural or legal person and scientific and technological development, and must guarantee:

I - non-discrimination in relation to decisions, the use of data and processes based on artificial intelligence;
II - conditions of transparency, auditability, explainability, traceability, human supervision and governance;
III - accessibility, usability and reliability;
IV - the attribution of civil liability, by the principle of full reparation of damages, to a natural or legal person in a digital environment.

Sole paragraph. The development and use of artificial intelligence and robotics in areas relevant to personality rights must be monitored by society and regulated by specific legislation.” (Free translation).

“Art. Natural persons who interact, through interfaces, with artificial intelligence systems, whether or not incorporated into equipment, or who suffer damage resulting from the operation of such systems or equipment, have the right to information about their interactions with such systems, as well as about the general operating model and criteria for automated decision-making, when this directly influences their access to or exercise of rights, or significantly affects their economic interests.” (Free translation).

“Art. The creation of images of living or deceased persons by means of artificial intelligence for use in lawful activities is permitted, provided that the following conditions are met:



The regulation of AI is complex, but as Luís Roberto Barroso warns, it is essential and challenging. The challenges, for Barroso, are that (i) regulation needs to be done while the train is moving (there has been a request to suspend research into the development of more advanced AI systems in order to introduce “a set of shared safety protocols” to minimize potential inherent risks, which has not been complied with); (ii) the speed of transformation is dizzying; (iii) the risks of excessive regulation could create a “market reserve”; (iv) asymmetry of information and power between companies and regulators, since the so-called big techs are among the most valuable companies in the world and economic power, says Barroso, is easily transformed into political power; (v) the need for global harmonization of regulation, since companies operate globally and, because they are often not based in the centers of their business, their way of operating puts essential elements of the Law in check, making it difficult to practice and apply them.¹⁵

I - prior and express informed consent is obtained from the person or the legal heirs or representatives of the deceased;

II - respect for the dignity, reputation, presence and legacy of the natural person, living or deceased, whose image is digitally represented, avoiding uses that could be considered defamatory, disrespectful or contrary to their way of being or thinking, as expressed in life, by their writings or behavior or by any other ways in which the person manifested or manifests themselves, of a cultural, religious or political nature;

III - in order to enable the commercial use of a creation about a deceased person, prior and express authorization from spouses, heirs or their representatives or by testamentary disposition;

IV - absolute respect for cogent rules or public order, especially those laid down in this Code and in the Federal Constitution.

§ Paragraph 1 - The creation of images of living or deceased persons for the purposes of commercial exploitation without the express consent of the living natural person or, if deceased, of the heirs or legal representatives is prohibited, except in the cases provided for by law.

§ Paragraph 2 The images created are subject to copyright laws and image protection, with the legal heirs or representatives of the deceased being the holders of these rights.

§ Paragraph 3 In all images created by artificial intelligence, it is mandatory to mention this fact in their publication, in a clear, express and precise manner.

§ Paragraph 4. The rights established herein shall apply, where applicable, to avatars and other digital display mechanisms of legal entities”. (Free translation).

¹⁵ BARROSO, Luis Roberto *inteligência artificial, plataformas digitais e democracia* Direito e tecnologia no mundo atual Belo Horizonte: Fórum, 2024. p. 50 [electronic book].



1. DANGER OF TECHNOCRATIC HEGEMONY WITH AI AS THE DRIVING FORCE BEHIND MEDICAL-SCIENTIFIC ADVANCES

In the 21st century, a new era of biotechnology is emerging that could change the course of humanity¹⁶ because it allows microchips to be implanted in the human body in just a few minutes, containing electronic circuits and a part that makes it possible to communicate via radio waves with other devices and which, according to researchers at the University of Washington and the University of Illinois, can dissolve in the body after monitoring the human brain, without leaving any traces, because the base of the device is PLGA (a type of bioabsorbable polymer). Consequently, it does not require a procedure to remove it, which, according to neurosurgeon Murphy, reduces the risk of infection and injury¹⁷.

The *Biohacking*¹⁸, in other words, the practice of intervening in the human body, by means of technology (e.g. implanting microchips), in order to improve human capacity for

¹⁶ MATHIAS, Viny. Ex-engenheiro da Google diz ter previsto data em que humanidade alcançará a imortalidade; e ele já acertou previsões passadas. *IGN Brasil*, 26.04.2024. Available at: <https://br.ign.com/tech/122904/news/ex-engenheiro-da-google-diz-ter-previsto-data-em-que-humanidade-alcançara-a-imortalidade-e-ele-já-acertou-previsões-passadas>. Accessed on: 09.07.2024. According to Ray Kurzweil, with the pace at which technology is evolving, humanity could achieve immortality by 2030 and artificial intelligence, by 2045, will reach a point (singularity) where it will surpass human intelligence. Once the singularity is reached, the fields of genetics, nanotechnology and robotics will have evolved through the use of nanobots that will repair cells that deteriorate, causing a delay in ageing, and improve the immune system, offering resistance to diseases such as cancer. Cybernetic implants or those with AI-based technology will be able to improve the human being, as there will be a synthesis between humans and machines. See: DEVIANTE. *O desenvolvendo do neurochip e os avanços para futuras pesquisas sobre o cérebro*. Available at: <https://www.deviante.com.br/noticias/o-desenvolvimento-do-neurochip-e-os-avanços-ara-futuras-pesquisas-sobre-o-cérebro>. Accessed on: 09.07.2024.

¹⁷ ALECRIM, Emerson. Parece mágica: criaram um chip que se dissolve no corpo depois de monitorar o cérebro. *Tecnoblog*. Available at: <https://tecnoblog.net/arquivo/190654/implante-cerebral-absorvel/>. Accessed on: 09.07.2024.

¹⁸ On the subject: BETINE, Cássio. Primeiro chip cerebral é implantado com sucesso em um paciente humano. *Hoje Mais*. Available at: <https://www.hojemais.com.br/aracatuba/noticia/opinião/primeiro-chip-cerebral-e-implantando-com-sucesso-em-um-paciente-humano>. Accessed on: 09.07.2024; JORNAL O SUL. *Como e por que seres humanos estão implantando chips no próprio corpo*. Available at: <https://www.osul.com.br/como-e-por-que-seres-humanos-estao-implantando-chips-no-proprio-corpo/>. Published: 30/01/2024; CAVALCANTE, Cesar. Implantação de chips no corpo segue se popularizando pelo mundo. *Bora Brasil*, 14/06/2024. Available at: <https://www.band.uol.com.br/noticias/bora-brasil/ultimas/implantacao-de-chips-no-corpo-segue-se-popularizando-pelo-mundo-16609626>; OTAVIO, Murillo. Biohacking: como e por que seres humanos estão implantando chips no próprio corpo. *G1*, 31/01/2024. Available at: <https://g1.globo.com/inovacao/noticia/2024/01/30/biohacking-como-e-por-que-seres-humanos-estao-implantando-chips-no-proprio-corpo.ghtml>.



a certain activity (learning, productivity etc.); store medical data; diagnose and control neurological diseases; increase the sensitivity of some part of the body; diagnose and control neurological diseases; cure patients with Alzheimer's, epilepsy, Parkinson's, arrhythmia, depression and people with motor problems; help, e.g. with smart glasses, a visually impaired person; restore vision; make it possible to contact computers, cell phones and prostheses with thought, by means of telepathy devices (microchips). e.g. with smart glasses, a visually impaired person; restoring sight; making it possible to contact computers, cell phones and prostheses with thought, through a telepathic device (microchips), which decodes neural signals, translating them into digital commands and sending electrical stimuli to the brain, creating artificial sensations.

Legislation is needed on biohacking that imposes limits on the safety of the implanted person, even though the microchip, which is the size of a grain of rice, is biocompatible, does not cause allergies and does not even require batteries, because the neurochip has life support for the brain cells, which when inserted into the chip multiply and are kept alive¹⁹.

In Brazil, there are no specific rules on such implants made in a piercing studio and the chips are imported. Could Law 14.874/2024 restrict this practice in our country?²⁰

It should be noted that Law No. 14.874/2024 establishes good practices and disciplines responsibility within the scope of research on human beings, focusing on

¹⁹ INOVAÇÃO TECNOLÓGICA. *Neurochip tem suporte de vida para células do cérebro*. Available at: <https://www.inovacaotecnologica.com.br/noticias/noticia.php?artigo=neurochip-suporte-vida-celulas-do-cerebro&id=010110100811#:~:text=O%20neurochip%20cont%C3%A9m%20um%2022suporte,multiplicam%20e%20s%C3%A3o%20mantidas%20vivas.&text=Cientistas%20da%20Universidade%20de%20Calgary.uma%20resolu%C3%A7%C3%A3o%20nunca%20alcan%C3%A7ada%20antes>. Accessed on: 09.07.2024.

²⁰ In our country, there are plans to regulate the use of AI: Bill 2.338/2023 - AI Bill and Bill 2024 to update the 2002 Civil Code. In 2017, there was a bill to prohibit the implantation of chips, which is yet to be analyzed by the Constitution and Justice and Citizenship Committee, despite having been approved by the public security committee, because it facilitates the tracking of citizens. (AGÊNCIA CÂMARA DE NOTÍCIAS. *Comissão proíbe implante de chips de identificação em humanos sem autorização*. Available at: <https://www.camara.leg.br/noticias/520768-comissao-proibe-implante-de-chips-de-identificacao-em-humanos-sem-autorizacao>. Accessed on: 09.07.2024). In Sweden, around 4,000 people use this technology to implant chips in the brain, while its implantation in the skin using a syringe has not become popular, but could happen in the future. Neuraltree can detect and cure symptoms of neurological diseases by reading brain waves and extracting neural biomarkers from them.



protecting the dignity, safety, privacy and well-being of those taking part in scientific studies, guaranteeing the quality and credibility of the results.

However, it has already happened that 85% of the wires came loose from the brain of the first human patient (quadriplegic) to receive a brain chip, losing the connection and, as a result, despite initial progress, the ability to move a computer cursor from the chip failed. The chip's system was retooled so that the cursor's progress could be recovered²¹. And if there were no such recovery, what would the patient's situation be?

Would such experiments be beneficial to human health? Will neural chip implants be stable in the long term? Could artificial neurochips effectively replace damaged neurons or parts of the brain, despite promising research results?

To what degree of certainty would an artificial neuron have electrical oscillations identical to those of the brain?

Could we talk about creating human organ tissues on a chip, which would avoid the use of animal tests and make it possible to mimic the organ's physiological patterns? Wouldn't this make it possible for each person to have their own chip in the future, which would predict personalized drug tests, as Geraldine Hamilton teaches?²²

According to researchers, ChatGPT could even achieve the impossible, super-technological dream of predicting, on a micro-scale, how healthy a person will be in 30 years' time and even predict their death, depending on their lifestyle habits. Could this be possible? Will AI be able to make an exact prediction of health or just come up with a

²¹ DIÁRIO DO NORDESTE. *85% de fios se soltam do cérebro de primeiro paciente a receber o chip da Neuralink, de Elon Musk*. Available at: <https://diariodonordeste.verdesmares.com.br/ultima-hora/mundo/85-de-fios-se-soltam-do-cerebro-de-primeiro-paciente-a-receber-o-chip-da-neuralink-de-elon-musk-1.3516448>. Accessed on: 09.07.2024. Consulte: DIÁRIO DA SAÚDE. *Neurochip detecta e trata desordens cerebrais*. Available at: <https://www.diariodasaude.com.br/news.php?article=neurochip-detecta-trata-desordens-cerebrais&id=15781#:~:text=Chip%20detecta%20e%20trata%20os%20sinais%20neurais&text=Al%C3%A9m%20de%20um%20maior%20grau,resolu%C3%A7%C3%A3o%20sejam%20processados%20no%20implante>. Accessed on: 09.07.2024.

²² CARBONIERI, Fernando. *Órgãos humanos em um chip*. Academia Médica, 26.03.2024. Available at: <https://academiamedica.com.br/blog/orgaos-humanos-em-um-chip>; CRFRJ. *Chip pode acabar de vez com os testes em animais*. Available at: <https://crf-rj.org.br/noticias/532-chip-pode-acabar-de-vez-com-os-testes-em-animais.html#:~:text=H%C3%A1%20tempos%20os%20cientistas%20v%C3%AAm,comunidade%20cient%C3%ADfica%20reconhece%20sua%20inef%C3%ADcia>. Accessed on: 09.07.2024.



rough estimate? For the time being, would predictive AI be good enough to accurately diagnose a physical or mental illness? For Alexandre Chialekatto Filho, the technology is useful for medical brainstorming, but not for a detailed predictive analysis of any disease²³.

In the words of Cesar Cavalcante: are we cyborgs or human beings becoming more efficient every day? We need to think and rethink ethical, legal and safety issues, as Juliano Sanches ponders, especially around medical experiments using AI.

It is worth remembering Edgar Morin's ideas²⁴, for whom current bioethical problems, unknown in the past, expose the contradiction between the Hippocratic imperative to preserve life at any price and the imperative of humanity to spare the sick from atrocious suffering. In the use of AI in medicine, as in other subjects such as procreation, birth, contraceptives, abortion, anonymous sperm donations, surrogate mothers, homosexual fathers and mothers, the laudable progress of medicine also presents logically insoluble ethical problems, which result in uncertain and provisional compromises.

2. ROLE OF AI IN EDUCATIONAL LAW

AI has been a useful tool (ChatGPT, Metas's, LaMA, Mid journey, Sable Diffusion, Chatpdf, Bard, Gemini or Googtape) for education., since there are those who believe that it can complement learning, encouraging the use of commands to help prepare for exams or competitive examinations, pointing out topics and possible questions, indicating books, handouts, summaries etc., researching complex subjects, translating foreign texts, teaching yoga to disabled people or people with Parkinson's disease, managing public schools to allocate their budget to improve student performance in the Enem.

²³ VINENZO, Giacomo. ChatGPT pode dizer quais doenças teremos daqui 30 anos? Nossa equipe testou. *Viva Bem*, 17.01.2024. Available at: <https://www.uol.com.br/vivabem/noticias/redacao/2024/01/17/chatgpt-pode-prever-doencas-que-teremos-testamos-com-nossa-equipe.htm>.

²⁴ MORIN, Edgar. *A via para o futuro da humanidade*. Tradução Edgard de Assis Carvalho e Mariza Perassi Bosco. Rio de Janeiro: Bertrand Brasil, 2013. p. 223.



However, the information obtained cannot be fully trusted, as many of them may, for example, ignore sources, use inappropriate sources, create false or fake case law. Despite this, AI is widely used in education, as it enables transcriptions and the production of texts in a fraction of the time; it speeds up problem-solving and the production of articles, theses, dissertations, projects etc.²⁵

ChatGPT can assist teachers in drawing up and adapting lesson plans, outlining learning objectives, procedures to be followed and pointing out assessment methods and materials needed for an effective distribution of class time; improving teaching texts with immediate feedback on common errors and suggestions for correction; adapting vocabulary to the level of understanding of the student body; creating a personalized approach; managing student behavior; memory functionality, remembering information; providing scripts for effective mediation, resolving conflicts between students by highlighting the importance of dialogue²⁶. With this, AI challenges the teaching staff to rethink the pedagogy they use.

Since ChatGPT absorbs the information that it receives and returns it without citing the sources, wouldn't it be equipped to plagiarize, leading its users to plagiarize? How can plagiarism be identified by students using AI? You can discover 96% of copies written by human beings, but only 74% of those created by AI. Wouldn't this trivialize plagiarism and affront copyright?²⁷

²⁵ See: FERNANDES, Miguel. Usei IA para escrever mais rápido, mas me custou a imaginação. *Exame*, 09.04.2024. Available at: <https://exame.com/inteligencia-artificial/usei-ia-para-escrever-mais-rapido-mas-me-custou-a-imaginacao/>; MEIRELLES, Alexa. Estudantes usam IA para ajudar a resolver problemas, do clima à educação. *Uol*, São Paulo, 5/4/2024; LISBOA, Eduarda. Concursos: como usar inteligência artificial para estudar. *Home>concursos*. Pub. 23/4/2004.

²⁶ LUZ, Rachel da. 6 ótimos *prompts* do ChatGPT para ajudar professores. *Mundo em Revista*, 25-3-2024. Available at: <https://mundoemrevista.com.br/otimos-prompts-do-chatgpt-para-ajudar-professores/>. See: LUZ, Leandra da. Chat GPT introduz nova funcionalidade de memória; veja como ele pode armazenar suas informações. *ND+*, 16.02.2024. Available at: <https://ndmais.com.br/tecnologia/chat-gpt-introduz-nova-funcionalidade-de-memoria/>.

²⁷ ANHESINI, Victória. Inteligência artificial, plágio e educação: os desafios do mundo acadêmico na era digital. *BYTE*, 23.04.2024. Available at: <https://www.terra.com.br/byte/inteligencia-artificial-plagio-e-educacao-os-desafios-do-mundo-academico-na-eradigital.3e546978527d5d667fb20da6d0a66d0cg5n4hu.html>. BRASIL 247. Prêmio Jubuti veta livros feitos com apoio de IA. Available at: <https://www.brasil247.com/cultura/premio-jabuti-veta-livros-feitos-com-apoio-de-inteligencia-artificial>. Accessed on: 09.07.2024.



Since AI can clone voices from 15-second samples, Open AI wants to safely and responsibly control the voice engine to prevent misleading falsification and misinformation²⁸. Will it be able to achieve this goal completely effectively?

The misuse or overuse of generative AI is becoming commonplace and can lead to many problems due to the lack of substantiation or justification of the data provided by the fact that GPT 3.5 and GPT4 are only able to recognize their own errors in 67% and 87% of cases²⁹. The question is: is it completely safe to use AI?

It has already been reported that the more stressed a student is, the more they will resort to AI. This excessive dependence on ChatGPT, devoid of reflection and understanding, has been linked to procrastination, memory loss, a drop in academic performance and a lack of imagination³⁰.

Lenio Luiz Streck³¹ even said: “se tanta gente possui acesso amplo a todo tipo de informação, por qual razão aumenta o número de ignorantes e alienados? A resposta está na SFI. E em T.S. Eliot: informação não é conhecimento (...). Nosso desafio: desabituar desse mundo de ficções, transformando informação em conhecimento (...)” I'm worried about the exaggeration and the race for the “new gold” - AI. The student “ao se tornar referem das ferramentas que deveriam auxiliá-lo, corre o risco de ser desumanizado pelo próprio mecanismo que visa a servir sua prática”³².

²⁸ BRASIL 247. *Ferramenta de inteligência artificial pode clonar vozes a partir de amostras de 15 segundos*. Available at: <https://www.brasil247.com/média/ferramenta-de-inteligencia-artificial-pode-clonar-vozes-a-partir-de-amostras-de-15-segundos>. Accessed on: 09.07.2024.

²⁹ OLIVEIRA, Cristina G. B de e LIMA, Tiago Augustini de. O uso do ChatGPT e do Gemini no fazer jurídico. *Migalhas*, 22/3/2024. Available at: <https://www.migalhas.com.br/coluna/migalhas-de-protecao-de-dados/403944/o-uso-do-chatgpt-e-do-gemini-no-fazer-juridico>.

³⁰ International Journal of Educational Technology in Higher Education. Vide Home>Inteligência Artificial. <https://exame.com/inteligencia/usei-ia-para-escrever-mais-rápido-mas-custou-a-imaginação>.

³¹ STRECK, Lenio Luiz. E já tem empresa que anuncia a venda de petição feita por ChatGPT. *Consultor Jurídico*, 4/4/2024. Available at: <https://www.conjur.com.br/2024-abr-04/e-ja-tem-empresa-que-anuncia-a-venda-de-peticao-feita-por-chatgpt/>. See: UNZELTE, Carolina. Uso do ChatGPT pode levar à queda no desempenho acadêmico e perda de memória, diz estudo. *Exame*, 26.03.2024. Available at: <https://exame.com/inteligencia-artificial/uso-do-chatgpt-pode-levar-a-queda-no-desempenho-academico-e-perda-de-memoria-diz-estudo/>.

³² “If so many people have wide access to all kinds of information, why is the number of ignorant and alienated people increasing? The answer lies in SFI and T.S. Eliot: information is not knowledge (...). Our challenge: to wean ourselves off this world of fictions, transforming information into knowledge (...) by



Along the same lines, when analyzing what he called the crisis of knowledge, Edgar Morin³³ teaches:

Nosso modo de conhecimento subdesenvolveu a aptidão de contextualizar a informação e integrá-la em um conjunto que lhe dê sentido. Submersos na superabundância de informações, para nós, fica cada vez mais difícil contextualizá-las, organizá-las, compreendê-las.

A fragmentação e a compartimentalização do conhecimento em disciplinas não comunicantes tornam inapta a capacidade de perceber e conceber os problemas fundamentais e globais. A hiperespecialização rompe o tecido complexo do real, o primado do quantificável oculta a realidade afetiva dos seres humanos.

Nosso modo de conhecimento fragmentado produz ignorâncias globais. Nosso modo de pensamento mutilado conduz a ações mutilantes.³⁴

In this context, one cannot forget that reading books should be encouraged. In fact, reading printed books helps with memorization, reasoning, imagination, and creativity

However, as Ezequiel Teodoro da Silva warns³⁵, “a leitura não pode ser confundida com decodificação de sinais, com reprodução mecânica de informações ou com respostas convergentes a estímulos escritos pré-elaborados”. Reading should be reflective, that is, as Maria Manuela do Carmo de Sabino teaches³⁶:

becoming a referent of the tools that should help him, runs the risk of being dehumanized by the very mechanism that aims to serve his practice” (Free translation).

³³ MORIN, Edgar. *A via para o futuro da humanidade*. Tradução Edgard de Assis Carvalho e Mariza Perassi Bosco. Rio de Janeiro: Bertrand Brasil, 2013. p. 183.

³⁴ “Our way of knowing has underdeveloped the ability to contextualize information and integrate it into a whole that gives it meaning. Submerged in an overabundance of information, we find it increasingly difficult to contextualize, organize and understand it.

The fragmentation and compartmentalization of knowledge into non-communicating disciplines makes us unable to perceive and conceive fundamental and global problems. Hyper-specialization breaks down the complex fabric of reality, and the primacy of the quantifiable hides the affective reality of human beings. Our fragmented way of knowing produces global ignorance. Our mutilated way of thinking leads to mutilating actions” (Free translation).

³⁵ SILVA, Ezequiel Teodoro da. *O ato de ler: fundamentos psicológicos para uma nova pedagogia da leitura*. 4. ed. São Paulo: Cortez Autores Associados, 1987. p. 96.

³⁶ SABINO, Maria Manuela do Carmo de. Importância educacional da leitura e estratégias para a sua promoção. *Revista Iberoamericana de Educación*, n.º 45/5, 25 de marzo de 2008. Available at: <https://rieoei.org/historico/jano/2398Sabino.pdf>. Accessed on: 02.08.2024. p. 1.



Ler um texto não acompanhado de reflexão não constitui caminho para o entendimento da realidade. (...). Assim, não basta tirar informação de um texto. Além do entendimento do texto, a passagem a um outro estado de leitura é requerido: a crítica ao mesmo, com base em pressupostos diferentes, buscando novas inferências e novas implicações. É preciso proceder à sua análise crítica, o que requer operações mentais mais complexas do que a simples recepção de informação. Ler e refletir sobre o que se lê à medida que se lê é essencial para a produção de conhecimento³⁷.

On reflective reading, Edgar Morin teaches³⁸: “o conhecimento do conhecimento exige que se pratique sem cessar a reflexividade, ou seja, o autoexame, que eventualmente, inclui a autocrítica, um modo de pensar o pensamento que implica, igualmente, pensar nas condições históricas, culturais e sociais da própria existência”³⁹.

The aforementioned author⁴⁰ also believes that knowledge should be stimulated through philosophy and literature, as well as technical scientific books:

A filosofia deve contribuir eminentemente para o desenvolvimento do espírito problematizador. A filosofia é, acima de tudo, uma força de interrogação e de reflexão, dirigida para os grandes problemas do conhecimento e da condição humana. (...)

Também o professor de filosofia, na condução de seu ensino, deveria estender seu poder de reflexão aos conhecimentos científicos, bem como à literatura e à poesia, alimentando-se ao mesmo tempo de ciência e de literatura. (...)

No século XIX, enquanto o individual, o singular, o concreto e o histórico eram ignorados pela ciência, a literatura e, particularmente, o romance — de Balzac a Dostoiévski e a Proust -

³⁷ “Reading a text without reflection is not a path to understanding reality. (...). Therefore, it is not enough to take information from a text. In addition to understanding the text, moving to another state of reading is required: criticism of it, based on different assumptions, seeking new inferences and new implications. It is necessary to carry out its critical analysis, which requires more complex mental operations than the simple reception of information. Reading and reflecting on what you read as you read is essential for the production of knowledge” (free translation).

³⁸ MORIN, Edgar. *A via para o futuro da humanidade*. Tradução Edgard de Assis Carvalho e Mariza Perassi Bosco. Rio de Janeiro: Bertrand Brasil, 2013. p. 198-199.

³⁹ “knowledge of knowledge requires the constant practice of reflexivity, that is, self-examination, which eventually includes self-criticism, a way of thinking about thought that also implies thinking about the historical, cultural and social conditions of one's own existence” (Free translation).

⁴⁰ MORIN, Edgar. *A cabeça bem feita*. Tradução Eloá Jacobina. 22. ed. Rio de Janeiro: Bertrand Brasil, 2015. p. 23 e 91.



restituíram e revelaram a complexidade humana. As ciências realizavam o que acreditavam ser sua missão: dissolver a complexidade das aparências para revelar a simplicidade oculta da realidade; de fato, a literatura assumia por missão revelar a complexidade humana que se esconde sob as aparências de simplicidade. Revelava os indivíduos, sujeitos de desejos, paixões, sonhos, delírios; envolvidos em relacionamentos de amor, de rivalidade, de ódio; inseridos em seu meio social ou profissional; submetidos a acontecimentos e acasos, vivendo seu destino incerto.

Todas as obras-primas da literatura foram obras-primas de complexidade: a revelação da condição humana na singularidade do indivíduo (Montaigne), a contaminação do real pelo imaginário (o Dom Quixote, de Cervantes), o jogo das paixões humanas (Shakespeare)⁴¹.

Teachers from the São Paulo state public school system have mobilized against the use of digital platforms, for abandoning the search for books, taking away the autonomy of the teacher to choose between the book and the platform, since both can improve learning⁴².

⁴¹ "Philosophy must eminently contribute to the development of a problem-solving spirit. Philosophy is, above all, a force for questioning and reflection, directed towards the great problems of knowledge and the human condition. (...)

When teaching philosophy, teachers should also extend their powers of reflection to scientific knowledge, as well as to literature and poetry, feeding on science and literature at the same time. (...)

In the 19th century, while the individual, the singular, the concrete and the historical were ignored by science, literature and particularly the novel - from Balzac to Dostoyevsky and Proust - restored and revealed human complexity. The sciences carried out what they believed to be their mission: to dissolve the complexity of appearances in order to reveal the hidden simplicity of reality; in fact, literature took on the mission of revealing the human complexity that is hidden under the appearances of simplicity. It revealed individuals, subjects of desires, passions, dreams, delusions; involved in relationships of love, rivalry, hatred; inserted in their social or professional environment; subject to events and chance, living their uncertain destiny.

All the masterpieces of literature have been masterpieces of complexity: the revelation of the human condition in the singularity of the individual (Montaigne), the contamination of the real by the imaginary (Cervantes' Don Quixote), the play of human passions (Shakespeare)" (Free translation).

⁴² AGÊNCIA BRASIL. Professores fazem mobilização contra uso de plataformas digitais em SP. Available at: <https://agenciabrasil.ebc.com.br/educacao/noticia/2024-05/professores-fazem-mobilizacao-contra-uso-de-plataformas-digitais-em-sp#:~:text=O%20Sindicato%20dos%20Professores%20do,n%C3%A3o%20em%20sala%20de%20aula..> Accessed on: 15.07.2024.



The questions are: wouldn't the use of AI take away the pleasure of writing after long reflections on read texts? Wouldn't AI have a negative influence on the scholar's cognition and imagination in this fruitful search for texts that lead to the construction of an idea or a thought? Wouldn't the ease, efficiency and speed of AI lead human beings to mental laziness, loss of memory, loss of style or atrophy of their ability to imagine or make the necessary connections in the cognitive effort to develop their own ideas?

There is an urgent need to strike a balance, to use AI ethically and reflexively only as an auxiliary tool, reserving space for human creativity, critical thinking and the originality of ideas. This, we believe, would prevent not only the excessive use of ChatGPT and its negative effects (e.g. a drop in academic performance and in cognitive effort to create ideas of our own), but also dependence on AI for tasks, mental laziness and the stunting of imagination. Digital culture brings new learning models that cannot be ignored when it comes to sharing information, solving problems etc. Teachers and students must use all the resources in a balanced way, as they are integrated and compatible, without losing the essence of the educational process.

Wouldn't a well-structured didactic approach aimed at AI's critical and analytical thinking, reinforced by good pedagogy that goes beyond the lesson plan by immersing students in virtual space, without forgetting printed books, be ideal for the full development of students?⁴³

In fact, the abundance of information and the technological facilities applied to teaching do not in themselves produce knowledge, intellectual depth or critical capacity, which means that, without stimulating reflective and qualified reading, there is a risk to learning and, consequently, to the construction of citizenship itself.

⁴³ ALLAN, Luciana. Inteligência Artificial desafia docentes a repensar o fazer pedagógico. *Exame*, 07.03.2024. Available at: <https://exame.com/colunistas/crescer-em-rede/inteligencia-artificial-desafia-docentes-a-repensar-o-fazer-pedagogico/>. For Bill Gates, AI will be able to do what computers couldn't and will be able to be as effective as teachers in teaching math, reading and writing. Read more: PITÃO, Maria Eduarda. Bill Gates acredita que uma revolução das IAS está chegando e garante que em 6 meses elas farão o que computadores nunca conseguiram. *IGN BRASIL*, 08.05.2024. Available at: <https://br.ign.com/bill-gates/123605/news/bill-gates-acredita-que-uma-revolucao-das-ias-esta-chegando-e-garante-que-em-6-meses-elas-farao-o-qu>.



3. AI AND INTELLECTUAL PROPERTY RIGHTS

Following the lead of international law, Brazil has legislated on intellectual property (Law n. 9.609/98), copyright (Law n. 9.610/98) and industrial property (Law n. 9.279/96), and it is worth remembering that these are rights of the magnitude of fundamental rights, according to the Federal Constitution, art. 5, XXVII, XXVIII and XXIX⁴⁴. It also has the protection of art. 20 of the Civil Code⁴⁵. These laws, however, are not equipped to deal with the profound issues arising from the emergence and spread of AI.

AI puts copyright at risk, not only because ChatGPT transcribes texts, clones photos, videos and voices in speech, without indicating the author, but also because it conceals who is the owner of something created by AI, because only a human being could create a work protected by copyright. Could a software be the owner of copyright? Would the work belong to everyone because it was born without copyright protection? Would the companies developing the AI tools have intellectual property in the works created by these mechanisms?⁴⁶

⁴⁴ "Article 5. All people are equal before the law, without any distinction whatsoever. Brazilians and foreigners residing in the country are ensured the inviolability of their right to life, liberty, equality, security, and property, under the following terms:

XXVII – authors own the exclusive rights to use, publish or reproduce their works; such rights are transmissible only to the heirs for as long as the law establishes;

XXVIII – under the terms of law, the following are ensured: a) the protection of rights of individuals who participate in collective works and of the human image and voice reproduction, including in sports activities; b) the right of authors, interpreters, and their respective unions and associations to monitor the economic exploitation of the works which they create or participate in;

XXIX – the law shall ensure the inventors of industrial inventions a temporary privilege for their use, in addition to protection of industrial creations, ownership of trademarks, company names and other distinctive signs, taking into account the interest of society and the technological and economic development of the country" (https://www.stf.jus.br/arquivo/cms/legislacaoConstituicao/anexo/brazil_federal_constitution.pdf).

⁴⁵ Art. 20: "Unless authorized, or unless necessary for the administration of justice or the maintenance of public order, the dissemination of writings, the transmission of speech, or the publication, display or use of a person's image may be prohibited, at the person's request and without prejudice to any compensation that may be due, if it affects the person's honor, good reputation or respectability, or if it is intended for commercial purposes". (Free translation).

⁴⁶ MORATTELI Valmir. Como a IA está colocando direito autoral à prova, segundo especialistas. *Veja Gente*, 27 de março de 2024. According to statement 670 of the IX Civil Law Conference: "art. 11 of Law n. 9.610/1998: Regardless of the degree of autonomy of an AI system, the status of author is restricted to human beings".



If the human author is the beneficiary of copyright law, what role would the copyright system play in encouraging human creation in generative AI systems using human creations? Would AI systems be able to compete with human works for the volume of products developed by these systems? Would a law prescribing a way and means of remunerating creators for the use of their works by the owners of generative AI systems solve the problem?⁴⁷

It is important to distinguish, as Luca Schirru emphasizes, between the use of protected works for training a generative AI system and the use of works for text and data mining, as they relate to their results. The results of text and data mining activities are elements that are not protected by copyright, while the operation of a generative AI system (image, text, video) competes with works created by human beings, which are protected by copyright, given the need to encourage the author to continue creating, including through mechanisms (e.g. exclusive rights) that may guarantee remuneration for the use of their works⁴⁸.

In addition, there are generative AI products (data for research, doctrinal texts of protected works, projects, images and videos) created by humans, which are protected by copyright (e.g. ChatGPT, Adobe, Firefly and Github Copilot), considering the impact on the creative labor market by the way in which human intellectual creations are made available and accessible to all interested parties.

It is necessary to regulate not only the use of works in the context of text and data mining for research purposes or activities in the public interest (e.g. journalism), but also the limitation of doctrinal rights to encourage research⁴⁹.

⁴⁷ SCHIRRU, Luca. O criador humano em tempos de IA generativa: qual é o papel do sistema de direitos autorais? *Migalhas de Peso* n. 5824, 3-4-3034. Vide SENFTLEBEN, Martin. Generative AI and Author Remuneration (June 14, 2023). *International Review of Intellectual Property and Competition Law* 54 (2023), p. 1535-1560. Available at: <https://papers.ssrn.com/sol3/papers.cfm?abstractid=4478370>; <https://www.techollama.co.uk/french.lawmakers-propose-new-copyright-law-about-generative-ia>; <https://www.camaraleg.br/proposicoesweb/fichadetramitacao?idproposicao=2380982>.

⁴⁸ SCHIRRU, Luca. O criador humano em tempos de IA generativa: qual é o papel do sistema de direitos autorais? *Migalhas de Peso* n. 5824, 3-4-3034.

⁴⁹ SCHIRRU, Luca. O criador humano em tempos de IA generativa: qual é o papel do sistema de direitos autorais? *Migalhas de Peso* n. 5824, 3-4-3034. See: <https://academia.oup.com/grurint/artide/73/3/217/7517003>.



CONCLUSION

Technological creativity must be exercised ethically and responsibly, without forgetting the dignity of the human being, respect for fundamental rights and personality rights when venturing down unknown paths.

It is necessary to issue a specific standard that establishes: the limits of AI; the right to freedom of cognition; the guarantee of human rights; the full protection of minors and the vulnerable; the punishment for alterations to personal identity; the protection of copyright in AI systems; mental privacy; educational rights in the digital age; neuro-rights; respect for the right to image, controlling the generation of images that simulate deceased or living people or photos that are transformed into videos etc.

There is an urgent need for a law that, based on the Constitution, guarantees the well-being of citizens in the digital world and prioritizes security.

There is a need to protect not only the rights of the human being, especially cognitive and mental integrity, but also neuro-rights (the right to mental privacy, personal identity, free will without neurotechnological manipulation etc.).

AI is a powerful tool not only because it opens up new perspectives on, for example, brain mapping, the development of imaging and stimulation techniques, but also because

See Bill 2.338/23, art. 42: Art. 42: "The automated use of works, such as extraction, reproduction, storage and transformation, in data and text mining related processes in artificial intelligence systems, in activities carried out by research organizations and institutions, press and museums, archives and libraries, does not constitute copyright infringement, provided that: I - does not have as its purpose the mere reproduction, exhibition or dissemination of the original work itself; II - the use occurs in the necessary measure for the objective to be reached; III - does not unreasonably prejudices the economic interests of the rightholders; and IV - does not compete with the normal exploitation of the works. §1 - Eventual reproductions of works for data mining activities will be kept under strict security conditions, and only for the time required to carry out the activity or for the specific purpose of verifying scientific research results. § 2 - The provisions of the caption sentence of this Article apply to data and text mining activities for other analytical activities in artificial intelligence systems, provided that the conditions of the caption sentence and §1 are met and that the activities do not communicate the work to the public, and that access to the works has been legitimately obtained. §3 - Text and data mining activities involving personal data will be subject to the provisions of Law No. 13,709, of August 14, 2018 (General Law of Personal Data Protection Act - LGPD)" (https://mcusercontent.com/af97527c75cf28e5d17467eaa/files/248d109f-eeef-7496-4df1-12d29affb522/PL_23382023_Senado_ENG_VF.pdf).

GARATTONI, Bruno. Algoritmo de IA do Google vira vídeo de qualquer pessoa a partir de uma foto dela. *Super Interessante*, 23.03.2024. Available at: <https://super.abril.com.br/columa/bruno-garattoni/algoritmo-de-ia-do-google-cria-video-de-qualquer-pessoa-a-partir-de-uma-foto-dela>.



it poses many risks to humanity regarding, for example, freedom of thought, individual autonomy, the privacy and security of neural data, due to the misuse of neurotechnologies of brain information, and the social and economic inequality of access. A new paradigm is emerging: protecting human rights in the digital age.

The principle of respect for the dignity of the human person must be invoked to protect not only the person, in the digital age, from the abusive use of technology, but also their personality and fundamental rights guaranteed by the Federal Constitution.

What is needed is a regulation such as the bill to update the 2002 Civil Code, which protects neuro-rights as part of human rights⁵⁰.

The draft bill provides for the creation of a Book VI dedicated to regulating what has been called “digital civil law”. Within this book, Chapter II refers to the person in the digital environment, specifically dealing with neuro-rights, as an inseparable part of the personality⁵¹.

⁵⁰ In Chile in 2021, with the approval of Law N. 21.383, there is legal protection for neuro-rights. In 2021, Spain, with the Carta de Derecho Digitales and France with the French Charter for the responsible development of neurotechnologies. The UN, in 2022, addressed the issue with the Ethical Issues of neurotechnology; Report and the OAS, in 2023, published the Inter-American Declaration of Principles on neuroscience, neurotechnologies and human rights. See: PORTE, Laura. *Neurodireitos: um olhar para o futuro. Migalhas notariais e registrais* (2024). Available at: <https://www.migalhas.com.br/coluna/migalhas-notariais-e-registrais/404071/neurodireitos-um-olhar-para-o-futuro-presente-na-era-digital>.

⁵¹ “Art. Neuro-rights are an inseparable part of the personality and receive the same protection as it, and cannot be transmitted, renounced or limited.

§ 1. Neuro-rights are those protections aimed at preserving mental privacy, personal identity, free will, fair access to brain augmentation or improvement, mental integrity and protection against bias, of natural persons, based on the use of neuro-technologies.

§ 2 The following neuro-rights are guaranteed to every natural person:

I - the right to cognitive freedom, the use of neurotechnologies being prohibited in a coercive manner or without consent;

II - the right to mental privacy, conceived as the right to protection against unauthorized or unwanted access to brain data, prohibited from sale or commercial transfer;

III - the right to mental integrity, understood as the right not to have one's mental activity manipulated by neurotechnologies, prohibiting the alteration or elimination of control over one's own behavior without consent;

IV - the right to continuity of personal identity and mental life, with protection against alterations to personal identity or consistency of behavior, with no unauthorized alterations to the brain or brain activities;

V - the right to equitable access to technologies for improving or extending cognitive capacities, in accordance with the principles of justice and equity;

VI - the right to protection against discriminatory practices based on brain data.



The challenge of the 21st century is to guarantee values, human dignity, respect for fundamental rights and personality rights in the face of technological innovations, making them serve to build a fairer world⁵².

AI, with its innovations, is undoubtedly ingrained in our daily lives. It is advantageous for improving health, optimizing tasks, clearing up doubts, obtaining information on certain subjects etc. But caution is needed when interacting with an AI so that the risks are minimized for the defense of human rights, despite its potential to bring benefits to humanity.

It's not a question of being for or against the use of AI tools, but rather a deep reflection that avoids technocratic hegemony, that reproduces the human being, so that the dignity of the person is respected⁵³.

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§ 3 Neuro-rights and the use of or access to brain data may be regulated by specific rules, provided that the protections and guarantees afforded to personality rights are preserved". (Free translation).

⁵² Vide: PIRRÓ, Vanessa. Regulamentação de IA na União Europeia e o Marco Legal no Brasil. *Consultor Jurídico*, 08.04.2024. Available at: <https://www.conjur.com.br/2024-abr-08/regulamentacao-de-ia-na-uniao-europeia-e-o-marco-legal-no-brasil/>.

⁵³ JAGURABA, Mariangela. Francisco: que a tecnologia não desfigure a essência profunda do ser humano. *Vatican News*. Available at: <https://www.vaticannews.va/pt/papa/news/2024-02/papa-francisco-pontificia-academia-vida-tecnologia-alteridade.html>. Accessed on: 15.07.2024.



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