

Analysis of the Legal Attributes of Artificial Intelligence

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Abstract: *Artificial intelligence includes three main evolutionary processes: weak artificial intelligence stage, strong artificial intelligence stage, and super artificial intelligence stage. As a crystallization of human wisdom, whether AI can become a legally qualified subject, and how to define the legal attributes of AI under the three different development stages, the author analyzes and discusses whether it has an independent will, whether it can independently assume legal responsibility, and whether it has an independent legal personality. Since AI technology has unprecedented autonomy, intelligent objects, and intelligent robots are closer to human intelligence than ever before, the risk of its loss of control, the degree of alienation it fosters, and the threat and impact on human subjectivity will likely be unprecedentedly strong. Is it possible to consider a new system of unified regulation for AI and its alienation? Is it possible to "humanize" AI, to classify and regulate AI according to its different stages of self-evolution by analogy with the trichotomy or tetrad of responsibility? This paper will analyze and elaborate on the above.*

Keywords: *artificial intelligence, weak artificial intelligence, strong artificial intelligence, legal properties*

1. Introduction

The concept of the subject of jurisprudence is established with the freedom of will as the core. "Free will is fundamental to what makes a human being human and is the dividing line between humans and animals." [1] The subjective function of law is to regulate human behavior by confirming the norms of attribution of rights, duties, and responsibilities, and human behavior is the carrier and basis for the regulation of social relations by law. If this premise is missing, the attribution of rights, obligations, and responsibilities will not have legitimacy and cannot be effectively adjusted and regulated. For example, wild animals cannot be the proper authors of their "self-portraits" [2], and the performances made by domesticated animals cannot be considered works [3]. Therefore, if there is no "human" subject, the copyright-related issues arising from the behavior of animals alone cannot be protected by law.

The concept of the new generation of artificial intelligence (AI) was first formally introduced in the United States in 1956. On October 25, 2018, Portrait of Edmond Belamy, the world's first painting created by AI technology, fetched \$43.5 million at Christie's, the world's leading art auction house. At Christie's, the world's first artificial intelligence painting, Portrait of Edmond Belamy, fetched a price of 432,500 yuan (about three million yuan) and was successfully sold. It is no coincidence that the painting "The Butcher's Son", which was ridiculed by many art critics as an "AI version of Bacon" and criticized for its dullness and lack of beauty, won the Lumen Prize for contemporary art dedicated to technological innovation and creation. The question arises, when humans create works, they pour their passion, heart, and soul into them, but if the works come from the hands of artificial intelligence algorithms, can we still experience the emotional resonance brought to us by the artwork? Artificial intelligence after large-scale data input and storage, through repeated data practice to optimize and upgrade the algorithm and then have the "self-learning ability", becomes an extension of human intelligence, and can be a legally qualified subject. The author believes that it depends on whether the artificial intelligence has its own will, whether it has independent personality attributes, and whether it can independently assume the corresponding legal responsibilities after leaving the established procedures preset by the natural person. The emergence of a series of artificial intelligence creations makes us think about the legal attributes of artificial intelligence. This paper will focus on the above three issues and analyze the legal attributes of AI under different stages of AI.

2. Stages of artificial intelligence

Before defining the stages of AI development and analyzing the legal attributes of AI under each stage of AI, I think it is necessary to make a simple definition of AI. The definition of artificial intelligence should focus on how to understand "intelligence". In this regard, the famous scientist Alan Turing graphically and straightforwardly analogizes it with the pattern of human behavior: "If a machine behaves like a human being, it has the same intelligence as a human being." [4] And other researchers have defined it from a variety of perspectives, and in the definitive book on AI, *Artificial Intelligence: a Modern Approach*, AI is defined in four dimensions: acting like a human (Turing test), thinking like a human (cognitive modeling, cognitive science), thinking rationally (laws of thought, logic), and acting rationally (rational agent). In summary, AI is a machine that can autonomously think about problems and propose solutions, and perform actions independently of humans.

The industry usually divides AI into three main stages of development: the weak AI stage, the strong AI stage, and the super AI stage. First of all, the weak AI stage of AI can replace humans to deal with a certain field of work, but the next generation computer in this period does not have self-awareness, but only the intelligence of the machine, still as a tool for humans production and creation. The current stage of artificial intelligence, whether it is a machine "literati" that can write poetry, can write a financial press release in a minute, or chess games beyond the level of human Go Alpha dog, or independent driving sports players, although they have surpassed the highest level of human in some areas, in other areas is still far from They are still only weak AI. Second, the AI in the strong AI stage has a similar level of intelligence as humans, with full autonomy of action, self-awareness, the ability to think independently and propose the best way to solve problems, its own values and worldview system, and various abilities similar to those of living things, including life and safety needs. At this time, artificial intelligence can replace ordinary people to complete many tasks in daily life, at this time, artificial intelligence is not only bound by human instructions and manipulation of tools, such as bringing an artificial intelligence into any ordinary home, without deliberate settings will know how to make a good cup of coffee. It can automatically recognize the coffee machine, distinguish between coffee and water, find the right cup and set it up, and then press the right button to brew the coffee. That's what all AI companies are trying to achieve right now. But at this point, AI does not mean that it can exist independently from humans but still needs to rely on human design and creation to emerge. Finally, the super artificial intelligence stage, as the name suggests, is far more than human artificial intelligence. As a superintelligence, first of all, it can program and improve itself, just as human intelligence can achieve biological evolution, that is, "recursive self-improvement function"; secondly, at this time, the speed of thinking and self-improvement of artificial intelligence will far exceed that of humans, and as the biological physiological limitations, humans will not be able to surpass Artificial intelligence.

3. Artificial intelligence under the stage of weak artificial intelligence

3.1. Does AI have an independent will

First of all, what is volition? The Dictionary of Psychology explains volition as "the mental process by which an individual consciously determines a purpose and mediates and governs his or her actions in accordance with the purpose to overcome difficulties and achieve a predetermined goal", and this definition emphasizes the consciousness, purpose, planning, and motivation of the actor [5]. Therefore, when artificial intelligence does not have free will, lacks self-cognition, does not have the motivation and purpose of the behavior, and only acts as a tool for human domination and use, then no matter how powerful the ability of artificial intelligence is, it has no way to establish the connection between rights, obligations, and responsibilities, and it cannot be recognized as an eligible legal subject.

Furthermore, some scholars argue that "for at least the next 20 years, AI cannot independently perform common-sense reasoning, creation, and planning, and cannot possess self-awareness, emotions, and desires as natural humans do" [6]. Other scholars believe that "with the rapid development of AI technology, AI is capable of autonomous thinking and spontaneous action, and can even transcend human design and programming to produce independent consciousness and will" [7]. The simple game of recognizing logical errors, as well as interfering with random demolition and puzzle games can reveal that AI is unable to use basic logic and a large amount of knowledge stored to make effective judgments on simple problems [8]. Although current computers can already respond to certain special situations, their functions are only capable of performing data optimization and learning tasks with specific restricted information in a limited time region based on the information they provide, without subjective initiative

and randomization, such as the artificial intelligence developed by the Tsinghua Tiangong Institute of Intelligence. Thus, it is not difficult to find that the current AI does not yet have an independent conscious will.

3.2. Whether AI has independent personality attributes

The independent personality property is the property of personality interest that is inherent in an individual and can be legally protected without the help of other media^[9]. Personality interests aim to protect the equality, dignity, freedom, and security of the human personality, except for the specific personality rights whose contents are determined, other personality interests belong to the category of general personality rights^[10]. As a matter of fact, things that leave human traces in general can be used as carriers of personality interest information, such as fingerprints and footprints^[11]. However, neither artificial intelligence systems nor artificial intelligence machines are loaded with personality interests.

The intellectual property law of the civil law system is influenced by Hegel's "theory of personality", and Hegel believes that "things" must obtain their prescriptive nature and soul from my will, and only "man can put his will or soul through Only "man can give his will or soul a human purpose through the domination of things"^[12]. According to Hegel's theory, in the process of creation, the author's will and soul have penetrated the work, and the work has thus become an integral part of the author's personality, so that the author can claim that the work is mine, and the concept of "copyright", which protects the author, has been introduced in the law^[13]. However, the creation of artificial intelligence is through the screening, analysis, and calculation of a large amount of data and then using its "self-learning ability" to create, and the style and content of its creation express the personality information that still belongs to the AI designer itself, once the loss of the support of a large database, it is difficult for AI to carry out innovative originality Therefore, AI does not have independent personality attributes.

3.3. Whether AI can bear legal responsibility independently

As an ancient saying goes, "If the punishment is not hit, the people will have nothing to do."^[14] In "Introduction to the Principles of Morality and Legislation" Bianchin likewise points out that "punishment should be regulated in such a way that it is appropriate to each specific crime, i.e., corresponding to each part of the damage, there can be a motive that constrains the offender to cause this damage^[15]." The positive effect of legal responsibility is achieved by punishing the offender, the violator, or other persons under the law, teaching the offender, the violator, and other members of society that they must bear a certain price, fulfill the corresponding legal responsibility and comply with the principle of self-liability in the matter of attribution of responsibility.

Regardless of the independent will factor controversy, the analysis shows that the current punishment, compensation, and mandatory liability mechanisms do not apply to artificial intelligence^[16]. First of all, the punishment system does not allow AI to experience the deterrence of life, wealth, and spirit being punished; furthermore, computers are not users of money and cannot recognize its value, so the effectiveness of the compensation system cannot be fully realized; finally, the application of AI is derived from code and information rather than its subjective ability, so there is no point in enforcing the obligations undertaken by computers. Therefore, from the current legal regulation, artificial intelligence cannot independently assume legal responsibility.

In summary, the current artificial intelligence in the weak artificial intelligence stage does not yet have an independent will, cannot independently assume legal responsibility, and does not have independent personality attributes, the gulf of the eligible subject is difficult to overcome, so we need to seek other breakthroughs to fill the defects of the eligible subject cannot.

4. Artificial intelligence under the stage of strong artificial intelligence

Since humans have mastered weak AI, every step of it will lead to strong AI. Kuzwell proposed the famous "Singularity Theory". What is the Singularity Theory? In short, he believes that technology develops in accordance with a power-law distribution. Kuzwell believes that with a power-law acceleration, strong artificial intelligence will finally emerge in 2045, after decades of development, when artificial intelligence can reach the intelligence level of a child. Because AI technology has unprecedented autonomy, intelligent objects, and intelligent robots are closer to human intelligence than ever before, the risk of loss of control, the degree of alienation it fosters, and the threat and impact on human subjectivity will also likely be unprecedentedly powerful.

4.1. Whether AI has an independent will

From the perspective of legal mimesis, we should compare and analyze the independence of legal persons as a criterion for judging the independence of strong artificial intelligence. The legal person exists independently of the person since its establishment, while the strong AI exists independently of the person since its creation. In comparison, the strong AI has the advantage of being able to complete independent re-creation once it appears, which is also closer to the independence of the natural person.

In addition, strong AI, as an intelligent being with the ability to think for itself, which is not defined by the use of tools, can realize the value of its behavior without relying on anyone else. A strong AI with self-thinking can choose whether to perform a behavior based on its knowledge and experience, and it can choose which behavior to perform based on its preference, and it can also perform a certain behavior purposefully, which means that a strong AI can make a choice based on its own will. At the same time, after making a choice, the strong AI puts it into practice and has an impact on the objective world, which also shows that the strong AI can carry out activities under its own will. Therefore, in summary, strong AI has independent will.

4.2. Whether AI has independent personality properties

Even though the AI in the strong AI stage has an independent will and is not restricted by human instructions and operations, the author believes that the AI at this time does not mean that it can exist independently from humans and does not have the characteristics of "life". However, the author believes that AI at this time does not mean that it can exist independently from human beings and does not have the characteristics of "life", but still needs to rely on human design and creation in to appear.

4.3. Whether AI can independently assume legal responsibility

Because the AI in the strong AI stage has the independent will, independent personality, and the same level of intelligence as human beings, the unpredictable behavior of AI relying on independent and autonomous consciousness will become more dangerous with the continuous development of AI. From the "Singularity Theory" proposed by Kuzwell, the intelligence level of AI at this time is equivalent to the intelligence level of a child. If a minor commits an act that harms others and society, the guardian is also liable for the negligence. In the face of AI that is equivalent to a minor, should the creator bear the same joint and several liabilities as the guardian? Is it possible to consider generating a new system for unified regulation? Is it possible to "humanize" artificial intelligence, analogous to the trichotomy or quadratic approach to liability, and to classify and regulate artificial intelligence according to its different stages of self-evolution? The author believes that the creators of strong AI should be held legally responsible together with the AI.

It is worth mentioning that although the law in this field is still in a state of absence cases of AI infringement have existed for a long time. As early as 1978, a robot in a motorcycle factory in Hiroshima, Japan, suddenly turned around and caught and cut the worker behind it; in 1989, the All-Soviet chess champion defeated an AI robot, but the champion was killed due to the robot's autonomous release of strong electric current, and so on. Therefore, I deduce that, with the intelligent upgrade of artificial intelligence and most likely to cause artificial intelligence alienation, the face of artificial intelligence alienation, I believe that the legal responsibility for its behavior can be considered for the destruction of it. Human beings are still subject to the consequences of personal behavior to pay the price, artificial intelligence is also, not because artificial intelligence is not human can escape the sanctions of the law, there are always subjects for its behavior to take responsibility.

In summary, the AI in the strong AI stage has an independent will, has independent personality attributes, and should bear the corresponding legal responsibility.

5. Artificial Intelligence in the Super AI Stage

In the "Singularity Theory" proposed by Kuzwell, one hour after the AI reaches the intelligence level of a child, the AI immediately deduces Einstein's theory of relativity and various other theories that are the basis of human cognition; after one and a half hours, this strong AI becomes a super AI, and its intelligence rises to 170,000 times that of an ordinary human in an instant. This is the "singularity" that changes the human race. The AI at this stage can think independently, has an independent will, and is beyond human existence in almost every field, and its existence is beyond the scope of human cognition, even triggering philosophical thinking about human "immortality" or "extinction". It has even led to

philosophical thinking about the "immortality" or "extinction" of human beings. No matter how long the road is and no matter what people's will is, it is undeniable that this revolution has been flourishing in an irreversible trend.

6. Conclusion

Artificial intelligence has brought great opportunities and unprecedented challenges to humanity. Since the fourth industrial revolution, the all-around innovation of artificial intelligence, robotics, virtual reality, and biotechnology has brought the world a technological change and an explosion of intelligent technology. Bostom used the term "superintelligence" to describe the situation after the explosion of intelligence.^[17] Ray Kurzweil also used the "singularity theory" in his book "The Singularity is Near" to describe the intelligent society.^[18] "Intelligence is a necessity for the products of the future, the fulcrum of the smart revolution in the industry. But smart products are not a simple combination, but the fusion of intelligence and everything, and the creation of something new through the fusion."^[19] In the face of the current rapid development of artificial intelligence, while facing the challenges squarely, every effort should be made to avoid the disorderly state of the absence of relevant laws and to respond to the impact of artificial intelligence on the current system in a timely manner. The development of an intelligent society is full of unknowns and uncertainties. Is mankind ready to deal with crises and risks in the future era of strong artificial intelligence that will come? And will the era of super-artificial intelligence come? Regardless of whether all the assumptions will come into our lives and become reality, we should look at the development of science and technology with awe and positivity, the pace of science will not stop, and in the flood of the development of the times, human beings cannot be alone, we should always be ready to meet the future opportunities and challenges.

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