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The Study on the CRIMINAL Subject and Liability of AI Robots

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Abstract

In the midst of the advancement of cutting-edge science and technology, the wave of the fourth Industrial Revolution that has come to the front, there are new types of crime that have not been seen before. The advent of such a dangerous society also results in changes in the role and function of the criminal Law, so the change and the modification of the preexisting criminal theories are called for.

This paper also focuses on this point. Especially, the main focus is regarding whether to recognize the criminal identity of the Artificial Intelligence robot and the measure to impute criminal responsibility to it which can be called as the leader of the fourth industrial revolution.

At first, regarding whether or not to recognize the criminal identity of the Artificial Intelligence robot, I examined whether it was acceptable or not on the basis of theoretical views that affirm the criminal ability of a corporation. Through these discussions, I could confirm that this frame of thought that only the natural person can have the ability of acting and responsibility should be broken, if Artificial Intelligence robots become recognized as criminal identity later. Next, I point out the there is no legislation in Korea yet in preparati on for accidents which caused by Artificial Intelligence robots malfunctions, although these occur frequently. So, I suggested desirable legislative direction. In addition, I examined the possibility of impute the responsibility to the manufacturer and owner related to the penal code interpretation theory, in order to cope with the emergence of strong Artificial Intelligence in the future.

At present, the fourth Industrial Revolution is moving forward faster than any other in the past. Also, the development of Artificial Intelligence will further accelerate. Thus, with the change and amendment of the criminal law, fundamental changes will be required beyond the level of simple reconstruction. I expect new legislation to be devised quickly in the near future, with the support of new theories to prove the appropriateness of punishment related to accidents caused by Artificial Intelligence robots malfunctions.

[Keywords] *AI Robots, Crime Identity of AI Robots, Liability of AI Robots, Manufacturer's Liability, Owner's Liability*

1. Introduction

At present, humanity has entered the fourth industrial revolution era. Artificial Intelligence (AI) is the representative of the revolutionary changes in the economy and society in the fourth industrial revolution[1]. Such Artificial Intelligence has already penetrated deeply into human life and has been

utilized in various industrial fields, military fields, medical fields, legal fields, and game companies. For examples, Google's 'AlphaGo', Tesla's autonomous vehicle, and Artificial Intelligence lawyer 'Ross' who works in New York Baker and Hostetler.

The problem is that the development of Artificial Intelligence does not only give a pure

function to human life, but also the dysfunction that arises from malfunction of Artificial Intelligence(robot). In this case, the traditional problem of the criminal system and responsibility that is formed by the human behavior is faced with fundamental problem that it should be regrouped. So, in this paper, I investigate the problem of Artificial Intelligence criminal responsibility which can be judged as a blind spot of liability.

At first, I establish the theoretical basis(2) that can give Artificial Intelligence independent criminal responsibility. Second, I will examine the rationale for imposing criminal responsibility on Artificial Intelligence producers(3).

2. Crime Identity of AI Robots

2.1. The legal status of AI robots

For a criminal discussion on 'Artificial Intelligence robots', It is first necessary to clarify the definition of terms related to Artificial Intelligence robots. In this situation, "INTELLIGENT ROBOTS DEVELOPMENT AND DISTRIBUTION PROMOTION ACT" provides a clue to the discussion in Korea. On March 28, 2008, Korea instituted the "INTELLIGENT ROBOTS DEVELOPMENT AND DISTRIBUTION PROMOTION ACT" with the aim of continuously developing the intelligent robot industry.

In particular, Article 2(1) of this Act stipulates that 'intelligent robots' are 'machines' that operate autonomously by self-awareness of the external environment and judging the situation. There is no big problem in Korea yet. However, if a problem arises in Korea concerning legally related Artificial Intelligence robots, the definition of this law will be the basis of the trial. Therefore, the legal definition of the intelligent robot specified in the Act is very important.

First of all, by looking at these definitions(machines that operate autonomously by self-awareness of the external environment and judging the situation) in detail, we will be able to specify to what extent the Artificial Intelligent robot, which is legally meaningful among various machines that can

be called Artificial Intelligent robots in our society. According to this definitions, it is important to "Self-awareness", "Self-judgment the situation" and "operate autonomously". Therefore, even robots that have high-performance functions and close to human form can't be called Artificial Intelligence robots if they are moved only by human manipulation. But even if it is a simple robot cleaner, it can be called a legal Artificial Intelligence robot if it is a machine that recognizes and judges obstacles by themselves and cleans autonomously.

2.2. Crime identity of AI robots

Can Artificial Intelligence robots recognize the subjectivity of crime? In order to discuss the legal entity of an Artificial Intelligent robot, the operation and function of the Artificial Intelligent robot must be a legally meaningful "act"[2].

In this situation, discussions about the behavior of Artificial Intelligence robots can be helpful in discussions of the corporation criminal ability. This is because the corporation is an area where the problem of crime ability is being treated in earnest even though it is not a natural person. Most of the discussions to get implications for the crime ability of Artificial Intelligence robots through the discussion of the corporation are based on the positive theory that recognizes the criminal ability of corporations[3]. The reason for positive theory is that the corporation has the possibility to have criminal ability even though it is not natural person. This paper also examines the possibility of acknowledging the entitlement of Artificial Intelligence robots and the possibility of acknowledging the ability of Artificial Intelligence robots perform and responsibilities based on the viewpoint of the positive theory.

2.2.1. Possibility of recognizing entities of AI robots

First, This positive theory is that a corporation can have the same personality as a natural person because it has an organization and an organization corresponding to a natural person. Based on this positive theory, I examine whether or not the Artificial Intelligence

robot can recognize the crime subjectivity. It may be premature to discuss such a discussion with commercialized intelligent robots until now. However, there is already a debate on the possibility of adopting the robotic law in Germany. It is argued that the so-called 'Electronic Persona' should be given. In the field of philosophy of law, it raises fundamental questions about a modern human being, and is looking for possibilities to recognize Artificial Intelligence robots as a subject of personality. Established in modern times, modern legal view on human being is based on rational and human rational reasoning abilities, on the basis of principle of the Kant's practical reason[4]. At least, it was not a big problem to maintain this view of humanity. But the advent of highly developed Artificial Intelligence robots led to the need for the redesign these human-centered views. Modern Artificial Intelligence robots are expanding their roles and functions beyond simple calculation and remembering into the realm of learning, judgment, reasoning, creativity and emotion.

First, there is a view theoretically reconstructed and interpreted Kant's philosophy by discussing the possibility of incorporating Artificial Intelligence robots into the subject of human rights as a nature person. According to this view, Kant's thought is "the dignity of human beings is not only given to rational, autonomous, moral people now, but those people who are trying to be moral." Kant's thought implies the theoretical possibility that can transcend human's inherent properties. Therefore, it is evaluated the possibility of emergence of new intelligence is also open[5].

Second, there is a view that Artificial Intelligence robots should be recognized as the subject of human rights based on the fact that Artificial Intelligence robots are capable of interacting and communicating with humans. In particular, according to this view, Artificial Intelligence robots are likely to evolve into social intelligence through the adaptability to social situations or relationship with humans. In other words, this means that human can also mature both the ability of reciprocity by encountering Artificial Intelligence robots, thereby nurturing humanity. In my opinion,

the range of people who have rights has changed continuously. In the past, the punishment was imposed upon the animals and women were not recognized as the subject of the rights. but today, the fetus is partially recognized as a right. If so, in the concept and category of criminal responsibility, there is room for change[6]. therefore, I think the possibility of recognizing Artificial International robots as a subject of rights is highly probable.

Given this, Professor Hildgen Dorf, leading the robot discourse in the German criminal law, argues that the Artificial Intelligence robot can be recognized as independent entities and so, the concept of so-called 'E-PERSON' can be introduced.

2.2.2. A discussion on ability of the performance and liability of AI robots.

Second, let us consider whether the possibility of recognizing the ability of the performance and liability of the Artificial Intelligence robot is or not, by associating the argument of corporation punishment positive theories that the corporation can recognize legal capacity and responsibility. while the corporation and Artificial Intelligence are the same in that they are not natural person, there is a fundamental difference in that the act of corporation is a collective act of humanity, but the act of Artificial Intelligence robots is independent by itself. Currently, in Germany, there is a lively debate that hopes to introduce the so-called "Robot Criminal Act". Although various opinions are suggested, I would like to examine the possibility of the Artificial Intelligence robot crime ability focusing on the view of Hildgen Dorf, who insist on the possibility of introducing a robot criminal law based on a purposefulness viewpoint[7].

First, Hilgendorf premises capacity as a result of normative attribution rather than Factual attribute.

In that sense, the act is not natural fact, but an institutional consisting of legal and social interpretation models. Just as corporate body are obliged by law such as civil and criminal liability, the Artificial Intelligence robots can

capacity with the same logic. In other words, considering the purposefulness of the concept which is composed in the social community, there is basically no problem with expanding the act to the robots.

Second, regarding the liability of Artificial Intelligence, Hilgendorf said that the liability of a natural person can't be applied to corporation as it is, corporation's responsibility should be judged differently from that of a natural person. This view can also be interpreted as taking the same as corporation punishment positive theory which stated that there is no reason to limit the legal entity to natural person only, in that 'responsibility' is not ethical but legal. However, as described above, corporate body and Artificial Intelligence robots are the same in that they are not natural person. But, there is a fundamental difference between them. Corporate behaviour is an act of collective human nature, but Artificial Intelligence's is independent act by itself. The dispute over the theory of whether or not a corporation can recognize its responsibility ability has such an opposing structure. 'There is no reason to acknowledge the responsibility of a group. (Negative theory)' VS. 'There is no reason to limit the capacity of responsibility to natural persons only. (Positive theory)' In other words, there is a conflicting structure presupposed that the subject of responsibility is human. However, the debate over whether or not to recognize Artificial Intelligence capabilities is intended to apply the possibility of responsibility to equipment created by human. Therefore, I can't help but ask Artificial Intelligence robots in a different way than a corporate liability regarding how their liberal opinion and the possibility of criticism exist and why it exists. On these matters, Hilgendorf made a breakthrough by claiming that the concept of 'liberal opinion', which is pre-condition for accountability, is nothing but theoretically unproved agenda[8]. Also, by citing the German federal court's decision, Hilgendorf said that the 'the liberal opinion' was a vestige of natural law in the middle of the 20th century, and that it has already been proved to be a problematic through 21st century brain research. So, if liberal opinion is the nature of this agenda, there is no reason to apply it to Artificial Intelligence robots.

2.2.3. Conclusion

As mentioned above, the matter of whether to recognize the crime ability of Artificial Intelligence robots has become a moot print in our society's social and normative viewpoint. If there is a need to punish Artificial Intelligence robots, they will also need to be recognized for criminal subject. Or, if there is no need to punish them, it may be possible to deny their intelligence capabilities. At present, most of the discussions draw the conclusion that Artificial Intelligence robots are unable to recognized the subject of crime.

Of course, there is no doubt that Artificial Intelligence robots, who are unfolding at the moment, cannot be recognized a criminal subject. Still, it is undeniable that Artificial Intelligence robots are a typical system created by human. There is pointed out that it is premature to develop discussing about Artificial Intelligence robots at the present stage[9]. Yet, Artificial Intelligence robots are just a program, so it is not possible to assume the program's behavior itself. However, there is no need to preemptively block the possibility of responsibility of Artificial Intelligence robots.

In addition, these views that deny the possibility of criminal liability of Artificial Intelligence robots are based on the perspective of the criminal law, which is on the basis of 'human behavior and responsibilities'. However, it is also possible that these discussions are equally capable of setting the threshold value of argument clearly at the moment and opening the possibility for recognition of the Artificial Intelligence criminal ability. For example, there is a point in view that refers the possibility Artificial Intelligence robots can be punishable by re-programming or disposal as the death penalty is imposed on human[10]. I think these discussions on whether to judge on Artificial Intelligence robots actually, how a monetary penalty will be imposed, what does it means to be punishable by re-programming or disposal to Artificial Intelligence robots in perspective of the retributivism viewpoint are not only point out the possibility of penalties for Artificial Intelligence robots at the present level, but also provide

foundation for discussing about the possibility of future practical measures.

3. Criminal Liability for Accidents Caused by AI Robots

3.1. Necessity of introducing new legislation

Currently, Accidents cause by the Artificial Intelligence robots are now emerging rapidly. A typical example is that Tesla's autonomous driving vehicle caused an accident during autonomous driving, and resulted in the driver's death. About this accident, it is widely believed that it is sufficient to resolve by means of civil product liability law and insurance solution if such an accident occurs. However, although Artificial Intelligence robots are mostly weak, an infringement on the benefit and protection of the law caused by their malfunction is emerging rapidly and if robots becomes stronger in the future, the problem will become serious than now. So, there is a need to discuss liability attribution in area of criminal law beyond civil product liability.

First of all, it is possible to consider imposing a criminal liability for both manufacture company and manufacturers who developed an Artificial Intelligence robots by revising the Article 47 and Article 48 of the current "Intelligent Robot Development and Promotion Act". The violation of Article 47, which is subject to Article 48 of "Intelligent Robot Development and Promotion Act", is limited to violation of the asset management method, violation of the use of the name of the intelligent robot investment company, violation of submission of business report and violation of confirmation of completion. So, it can't cope with the infringement on the benefit and protection of the law caused by the Artificial Intelligent robot malfunction. Thus, it is necessary to establish regulations that can punish manufacturer company and manufacturers who develop robots in case of infringement of the benefit and protection of the law caused by robots' malfunction by expanding the scope of application of Article 47 (penalty). Of course, there is a lot of challenges to deal with the issue to be solved in the future, such

as problems of the legislative format of Article 48 of the Intelligent Robot Act, as well as the theoretical problems for applying the joint penal provisions to manufacture company and manufactures[11]. It is also possible refer to foreign laws for the establishment of a new law. As noted in the UK, there is a "Corporate Manslaughter and Corporate Homicide Act(2007)" , which is asking for liability for serious accidents caused by corporations.

One can also imagine the possibility of introducing such legislation if the Artificial Intelligence robots can lead to serious danger of human life. In particular, this law is characterized by imposing Highest-free fines on the management and operating bodies, not requiring a specific operator to assume responsibility, concerning the deaths caused by corporate accidents. If we adopt this Act in Korea, it would be easier to ask manufacturer company to impose criminal responsibility.

3.2. The criminal liability of the AI robots manufacture

3.2.1. Recognition of AI robots manufacturer's fault liability

3.2.1.1. Predictability of manufactures

It is impossible to predict what the Artificial Intelligence robots recognize, how it will interpret the collected information and how it will respond, and so on, since it collects information from the surrounding environment and performs its mission independently[12]. Based on this, the producer of Artificial Intelligence robots can claim that he is not responsible for negligence. However, given considering the use of the robot or its properties carefully, the manufactures can predict that the majority of the malfunctions will be within a predictable category, even if it is impossible to predict 100% of the behavior of Artificial Intelligence robots. For example, if the manufacture of autonomous vehicles develops carefully into its attributes, it will never be possible to predict most of the possibility of a malfunctioning situation in road traffic. Therefore, it should be considered that one should assume criminal responsibility for the consequences of the results where robot's malfunction can be predicted, in most cases.

If the fault liability is denied in such a case, no one will be able to blame anyone.

3.3.1.2. Objective attention of manufacture

The intrinsic factor of negligence lies in the breach of objective attention, which neglected the normal state of attention. It is the duty of anticipating the likelihood of occurrence of results and making necessary measures to avoid the anticipated consequences. This could be applied to Artificial Intelligence robots makers as well. The problem is that the rationale for the objective-related obligation regarding Artificial Intelligence robots is not stipulated in the current statute. Therefore, based on social norms such as general reason and social customs, the basis and scope should be determined objectively and individually, according to specific circumstances. In this regard, the Supreme Court case of the Federal Republic of Germany in particular has developed a very strong mandatory principle of obligations regarding the production and sale of potentially hazardous products, and Korea precedent is demanding strict attention to it such a state of obligation. Such standards and principles may be passed to the Artificial Intelligence robot maker, so that the manufacturer should be demanded more strict attention requirements[13]. Of course, this can be offset somewhat by balancing the logic of the accepted risk theories given the usefulness of Artificial Intelligence robots in the modern age of advanced technology.

4. Conclusion

In the wave of the Fourth Industrial Revolution, we can't predict all the future crimes, however new types of crimes that are previously unseen are emerging. The role of the criminal law in preparing for such a dangerous society is to find the right responsible person and impose reasonable responsibility.

This paper's focus was on this point, in particular, whether to uphold the criminal identity and the attribute criminal liability of the 'Artificial Intelligence robots' which can be

considered as the leader of the Fourth Industrial revolution.

First, whether to recognize the criminal identity of the Artificial Intelligence robots, I examine the positive opinions affirming the corporation's crime ability.

Second, I point out the lack of legislation that was not introduced in Korea, although accidents caused by Artificial Intelligence robots' malfunction have been occurring frequently and suggest desirable legislative direction. In addition, in the current stage, the criminal identity of Artificial Intelligence robots can't be acknowledged, so it is also possible to discuss the possibility of transferring liability to the relevant manufactures. Serious discussions in the criminal law field should be continued in the near future, with the support of the new theory, new legislation will be enacted quickly to prepare for the punishment justification of the malfunction of Artificial Intelligence robots.

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