

Criminal Liability for Crimes Committed by Artificial Intelligence Devices (Robots)

Raghdaa Raed Abdul Razzaq Al-Haddad¹, Jamal Jalal Mustafa², Mohammed Faris Ali³

¹University of Nahrain - College of Medicine, ²Soran University, Faculty of Law, political Science and Management, Law Department, ³Kurdistan Bar Association, Lawyer

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Abstract

With the rapid development of artificial intelligence and robotics technology, robots have become integral to our daily lives, serving both practical and ideological purposes. Individuals and institutions utilize them to achieve various objectives, and their growing presence across multiple sectors underscores their importance in delivering essential services to humanity. However, alongside these benefits, robots also pose significant risks due to their extensive applications in areas such as the military, education, humanitarian aid, security, and law enforcement. In these contexts, robots may make mistakes that harm those interacting with them, necessitating a legal framework that aligns with these new realities and reexamines the criminal liability of robots in light of technological advancements. The nature of crimes committed by robots varies according to their technical capabilities, encompassing offenses against individuals: property, and more. Accordingly, our research will explore the extent to which robots can be held accountable for crimes they commit autonomously, without human intervention.

Keyword: Artificial intelligence, robotics, artificial perception, criminal liability of robots, electronic personality.

Criminal Liability for Crimes Committed by Artificial Intelligence Devices (Robots)

Assistant lecturer. Raghdaa Raed Abdul Razzaq Al-Haddad¹, Assistant lecturer. Jamal Jalal Mustafa², Mohammed Faris Ali³

¹ University of Nahrain - College of Medicine,
Email: rar91195@gmail.com,

² Soran University, Faculty of Law, political Science and Management, Law Department,
Email: jamal.mustafa@soran.edu.iq,

³ Kurdistan Bar Association, Lawyer,
Email: farshama98@gmail.com

1. INTRODUCTION

Robots are one of the fruits of the digital revolution at the present time: as dealing with these devices has spread in all areas of daily and professional life, they are the technology of the present and the future, and these robots have become somewhat independent by simulating human intelligence, as they have their own creative abilities that are comparable to human abilities and sometimes surpass them, and the widespread use of robots has created many legal problems, especially when searching for criminal responsibility for crimes committed by the latter and revealing the risks of adapting current criminal texts when approving this responsibility for robot devices, as they are nothing more than one of the things, even if they are described as intelligent, hence the need to search for the criminal responsibility of robots has emerged, as it is one of the most important topics that affect criminal law at the present time.

1.1. IMPORTANCE OF THE STUDY:

The importance of the subject of the study appears from two aspects:

First / Practical aspect: The practical importance of the subject of our study appears in the expansion of its areas of use, as it is considered one of the most important topics of information and communications technology that has a great impact on society for the coming years, which shows the importance of researching criminal responsibility arising from the use of robots and

determining the real person responsible for crimes committed by the latter so that punishment is imposed on him according to the principle of personality punishment.

1.2. SCIENTIFIC ASPECT:

The scientific importance of the subject of our study appears in the necessity of the legislator's intervention in issuing a law regulating the work of the robot and clarifying the forms of criminal protection from its mistakes and determining criminal responsibility for its actions.

1.3. PROBLEM OF THE STUDY:

The problem of our study can be identified in the following main question:

Is it possible to punish an entity that does not have awareness?

From this main problem, many sub-questions will branch out:

- (1) Are robots considered among money, things, or people?
- (2) Does the robot have freedom of choice or is it legally restricted by what the artificial intelligence systems equipped with it allow it to do?
- (3) What is the legal nature of robots and can they be included among legal persons so that we can know whether they bear full or partial responsibility?
- (4) Has legal personality been granted to robots based on the concept of humanity, i.e. as a human being or as a person capable of rights and obligations?
- (5) Is it possible to impose the forms of punishment stipulated by legislation in its current state directly on robots in the event that criminal liability is established for them?
- (6) To what extent is it permissible to achieve the purposes intended by criminal punishment if the latter is a robot?
- (7) Is the robot considered a party to criminal liability in the event that it actually commits an act that would harm natural and legal persons?

1.4. STUDY OBJECTIVES:

One of the most important objectives that we seek to achieve in our research is:

- (1) Determine the role of each of the parties involved in the innovation, manufacture and programming of robots.

(2) Research into the extent to which robots enjoy legal personality, as the latter has several legal implications.

(3) Explain the implications of granting robots legal personality.

4) Finding a new legal system to apply to robots in order to determine the extent to which they can be held criminally accountable or not.

1.5. STUDY METHODOLOGY:

Scientific research requires a method, so in our study we need to follow a specific method, and thus we will adopt the descriptive analytical method. The reason we adopted this method is to describe the errors of robots and describe ideas and possibilities, and also to analyze the legal texts that are related to the subject of our study in order to reach the legal adaptation closest to reality in light of legislative developments, in order to answer the problems of the study and also in order to.

2. THE NATURE OF THE ROBOT AND THE REQUIREMENTS FOR ESTABLISHING CRIMINAL LIABILITY FOR ROBOTS

No one can deny the scientific revolution in the field of artificial intelligence and the resulting technologies, the most important of which is the robot. The latter has created a scientific breakthrough in all fields, but these technologies have resulted in a number of problems due to the uses of the robot, and the most important of these problems is who is responsible for the crimes committed by the latter, as the general rule in criminal law is that the issuance of a ruling on a person must have a legal personality and be recognized as a natural or legal person who has knowledge and will when committing criminal acts. Opinions differed about whether the robot has legal personality or not, i.e. whether it has awareness or not when it commits acts that harm others. Accordingly, before addressing the subject of the requirements for establishing criminal liability for the robot, we must clarify what is meant by artificial intelligence and robots. Accordingly, we will divide this chapter into two sections. In the first section, we will discuss the concept of artificial intelligence and robots, and in the second section, we will discuss the requirements for establishing criminal liability for robots.

2.1. THE CONCEPT OF ROBOT

One of the most important and advanced applications of artificial intelligence is (robotics), as most of these applications are used in the manufacture of robots, and some of the applications of artificial intelligence were born out of the need for them in the development of robots before

the latter became an independent branch of artificial intelligence devices ⁽¹⁾ (Abdel Nour ,2005: 69) , and therefore we seek behind this title, to explain what is the meaning of robots linguistically and technically, and accordingly we will divide this section into two sub-sections, in the first sub-section we will discuss the definition of the robot, and in the second subsection we will discuss the description of the legal personality of the robot.

2.1.1. DEFINITION OF THE ROBOT

A robot is a mechanical device programmed to perform certain tasks independently or semi-independently, and in order to know the exact meaning of the term robot, this sub-section is divided into two points; In the first point we will discuss the definition of the robot linguistically, and in the second point we will discuss the definition of the robot technically.

First / Definition of the robot linguistically:

- The robot is a term used in the Arabic language to refer to a robot, and the latest contemporary Arabic dictionary defined it as "a device moved by an internal machine and imitating the movements of a human or living being" ⁽²⁾ (Omar ,2008:130) .

The dictionary of computer and Internet terms defined a robot as “a program that performs a task on the network, especially a repetitive or time-consuming task” ⁽³⁾ (C. RIGDON :1084)

From a deeper look at the above, it becomes clear to us that the dictionary definition is the most correct definition of a robot; since a robot has an existence in the real world, i.e. it has a physical body known as a "machine", while the definition of computer and Internet terms can be adopted as a definition of artificial intelligence and not a robot, as we see that the first phrase mentioned in the definition is a program, i.e. it has no physical existence in the real world, and this is what distinguishes artificial intelligence from a robot.

Second / Definition of a robot technically:

- Many definitions of robots have been mentioned:-

- The robot trend was defined as "a device that operates thanks to an automatic control system based on a microprocessor, and has independence and the ability to learn and make decisions, and therefore it can replace the human factor in many fields" ⁽⁴⁾ (Madbouly ,2023:33) , we agree with this definition as it includes all the basic elements that distinguish a robot, which are its ability to perform multiple tasks, move, and make decisions.

- Another trend defined the robot as "the embodiment of motor, cognitive, communicative and cognitive abilities in an artificial body, which may or may not be in human form, and can be used usefully as a tool for making things in different environments" (Xie :8) .

What is criticized about this definition is that it did not mention the mechanism of robots.

- The American Institute defined the robot as "a reprogrammable, multi-functional manual manipulator designed to move materials:arts, tools or special devices through various programmed movements in order to perform various tasks" (Bouchareb, Kalou,2022:489).

- Another trend defined the robot as "a relatively independent machine, consisting of special parts and tools that are programmed to perform flexible movements that allow it to perform certain tasks, based on human commands" (Khalifi ,2023/2024: 9) .

The two definitions mentioned above agree that the robot is a moving manual device or manipulator; and that the function of the robot is to perform various functions and that it performs its various movements automatically (self-moving) through the sensors equipped with it.

Without underestimating all the efforts made to define a robot, we can define a robot as (an active artificial structure with different shapes that performs tasks or makes independent decisions about what it should do in different environments and independently of humans through the sensors it is equipped with), as this definition included all the basic elements that distinguish robots from other artificial intelligence devices, which are their performance of multiple tasks, movement, and the ability to make decisions.

2.1.2. DESCRIPTION OF THE LEGAL PERSONALITY OF ROBOTS

Granting legal personality to any entity requires a specific criterion, which is (the ability to acquire rights and bear obligations). The legal personality of the robot is mainly due to the ability of these devices to act with a degree of awareness and independence and to the principle of legal necessity and suitability, which indicates the possibility of these devices committing acts that are harmful to others. Most countries in the world, including Iraq, treat the robot as a thing ⁽⁸⁾ (the Iraqi Civil Law No. 40 of 1951) .

Therefore, the European Parliament proposed the theory of the human representative ⁽⁹⁾ (European Parliament resolution on civil law rules relating to robotics of 16 February 2017), i.e. the responsibility of humans (the programmer, the hacker, the manufacturer) for the harmful

acts of the robot. However, there is another trend that believes that robots have a legal personality independent of their programmer. Accordingly, we will explain in this section both trends and state the prevailing opinion between them. We will divide this section into two sub-sections. In the first subsection, we will discuss the recognition of the legal personality of robots, and in the second sub-section, we will discuss the non-recognition of the legal personality of robots.

2.1.2.1. RECOGNIZING THE LEGAL PERSONALITY OF ROBOTS:

Recognizing the legal personality of robots is of great importance in order to determine the liability system that will be applied in the event of material damage caused by the robot, as all people enjoy legal personality since birth, as the criterion of the human race appears, which is considered the dividing line between humans and things. However, the difference will remain due to the difficulty that will appear in determining the essence of the human being himself, as an opinion of jurisprudence has emerged that sees the necessity of expanding the concept of legal personality to include animals and robots as one of the fields of artificial intelligence⁽¹⁰⁾ (Al-Zanka , 2023 :17-18 , Al-Khatib ,2018:105) , and some jurists have adopted the idea of granting legal personality to the robot; as recognizing the legal personality of the latter will be the way to bear responsibility for the actions it performs and the damage it causes, although this idea has not been applied practically.

What reinforces this jurisprudential opinion is the issuance of the European legislator of the Civil Code on Robots, as this law called for the establishment of a funding fund to compensate for the damages caused by robots as a result of their work; This fund is financed by several categories, including robot manufacturers, similar to legal entities that have been recognized as financially and administratively independent from the personality of their representatives (Janahi ,2024: 426) .

The proponents of this trend have stipulated several conditions for granting legal personality to the robot; namely:

- 1- To ensure safety when using robots and avoid the negligence of the designer and operator of these devices; and all technical and technological guarantees must be available.
- 2- The robot's independence from the product, manufacturer and operator.

3- The independent robots possess artificial intelligence that enables them to adapt to their environment and interact with others; and the ability of these devices to correct themselves or learn on their own (Ragab , 2023: 1010-1011) .

The robot has been subject to registration in a special registry, and this procedure is considered important to recognize the legal existence of the robot; since physical existence alone is not sufficient to grant legal personality to the latter, and it is very important that the robot be recognized as legal personality by the state, and this matter requires that it be registered in a special registry, and this is what actually happened in the US state of Nevada; Whereas the existence of the robot ends with the end of the function for which it was created or with the end of its physical existence (Ragab , 2023: 1011) .

It is clear to us from the above; that the proponents of this trend seek to recognize the legal personality of the robot in order to prove the latter's responsibility for the damages it causes to others; and we see that this step will be a pretext for the robot's manufacturer, designer and programmer to evade responsibility for the damages caused by the robot.

2.1.2.2. NOT RECOGNIZING THE LEGAL PERSONALITY OF THE ROBOT:

Some jurisprudence did not recognize the legal personality of the robot, based on two arguments: -

The first argument / the absence of legal necessity: The proponents of this trend believe that there is no benefit in granting the robot a legal personality; because the latter has not reached the level of human intelligence, it is nothing more than something that does not possess awareness and perception, and it works according to what it was programmed to; that is, the robot is linked to its maker, owner, or programmer (Khalifi , Manal ,2023/2024: 20) .

The French legislator believes that granting the robot a legal personality will lead to the exclusion of the responsibility of the maker:rogrammer, and user, and thus robots become more dangerous; because excluding the aforementioned from responsibility for any error committed by the robot will make them not committed to accuracy in manufacturing the robot^(15) (<http://master-ip-it-leblog.fr/faut-il-une-personnalite-juridique-propre-au-robot/>).

Jurists believe that recognizing the legal personality of the robot is likely to pose a threat to human existence and sovereignty; as it makes the robot on the same level as the human, and this is illogical, as the human is lost from the creation of the Great Creator and there can be no

one like him, and the robot remains just a lifeless machine ⁽¹⁶⁾ (Farida ,2020:161) . The proponents of this trend believe that the current legal systems are sufficient and effective and that there is no legislative vacuum that calls on legislators to seek to establish a new legal personality; as robots are considered as things, they are subject to the general rules related to movables and the manufacturer and producer bear responsibility for the damages caused by the case ⁽¹⁷⁾ (Laqrab ,2023:878) . Second / The lack of financial liability for the robot: The basis for acquiring legal personality is financial liability, as the proponents of the trend that rejects granting the robot legal personality believe that the robot does not have financial liability and even if the latter is recognized as a legal personality, there is no source of financial liability, unlike the legal person whose capital is the source of his financial liability, as the main goal of the financial liability is to compensate for the damages inflicted on others. Some believe that it is possible to open a bank account for the robot and this account is considered the source of the robot's financial liability ⁽¹⁸⁾ (Khalifi , Ashi ,2023/2024: 22) .

The question that arises here is: - Who is responsible for financing this bank account? We note that the person responsible for financing this bank account is the manufacturer and user of the robot; We note that this proposal does not address the problem, as the people responsible for funding the bank account are the same ones who bear responsibility for all the errors committed by the robot, which was supported by the French Court of Appeal in Paris ⁽¹⁹⁾ (Sayed ,2023:448-449).

From a deep look at the above, we see that in the absence of industrial awareness at the present time, talking about the private legal responsibility of the robot for the errors it commits is currently excluded. This does not mean the absence of responsibility, whether criminal or civil, for the errors it commits; and considering that the robot has been classified among the advanced smart machines with multiple skills, that is, it is considered one of the things, and accordingly, the general rules will apply to it, i.e. the responsibility of the maker of the thing, its owner or its user for the errors committed by the latter, and this is what the second trend went to, i.e. not recognizing the legal personality of the robot, and this is what we also support based on the reasons mentioned above.

2.2. REQUIREMENTS FOR DETERMINING THE CRIMINAL LIABILITY OF ROBOTS

The requirements for recognizing the criminal liability of the robot are the conditions and circumstances that must be met to determine the person responsible for crimes committed by

the robot alone without human intervention. Accordingly, we will explain in this requirement the conditions that must be met in the robot to recognize its criminal liability for the crimes it commits. To clarify this, we will divide this section into two sub-sections. In the first sub-section, we will discuss the conditions for determining the criminal liability of robots, and in the second sub-section, we will discuss the basis of the criminal liability report for robots.

2.2.1. CONDITIONS FOR DETERMINING THE CRIMINAL LIABILITY OF ROBOTS

Recognizing the criminal liability of the robot for its criminal acts requires the availability of a set of conditions, some of which relate to the robot itself, and some of which relate to the criminal liability of the robot.

First / Conditions related to the robot: To describe the robot as intelligent, a set of conditions must be met:

1- The intelligent robot must be able to work in its environment without the need for human supervision ⁽²⁰⁾ (Al-Haddad, 2024 :1170) .

2- The robot should have the ability to communicate its voluntary decisions to the humans who deal with it, for example, the ability of a vehicle equipped with a self-driving system before losing control to choose to hit a tree instead of a child, i.e. it has the ability to distinguish that human life is more valuable than the value of a tree, so it decided to hit the tree and not the child ⁽²¹⁾ (El-Mawla ,2021:543) .

3- The robot devices should be equipped with algorithms and software that enable them to make decisions voluntarily without human intervention ⁽²²⁾ (Gerdes , Coeckelbergh , Gunkel ,2022 :148) ,for example, a self-driving car may have to collide with a car or a tree to avoid hitting one of the people who appear in front of it, and here the car is the one who made the decision.

Second / Conditions related to the criminal liability of the robot:

Criminal liability is not achieved unless the material and moral elements of the crime are present, and it is necessary to verify the availability of criminal capacity in the perpetrator of the crime, i.e. the necessary capacity to bear the punishment stipulated in the criminal rule must be present, and we mean by this awareness and freedom of choice, which are among the reasons that prevent the establishment of criminal liability ⁽²³⁾ (Sorour ,2015:863).

The question that arises here: Does the ability of robots to simulate some patterns of human behavior make them acquire this personality and thus qualify them to be subject to criminal prosecution? We find that the robot is the result of the technological combination between the appearance of the human and the simulation of his actions on the one hand, and the machine's extraordinary ability to work on the other hand, but through defining the robot and determining its characteristics, we find that the metal, structural and even technical component makes the machine more controlling than it is in relation to the human, and accordingly, it is not possible in any way to apply the description of the robot to the human because the latter is a creation of God while the former is a creation of man, and there is a big difference between the two, and perhaps the industrial component of the robot indicates without a doubt its legal nature, which is closer to things than to humans ⁽²⁴⁾ (Al-Sharif ,2021:144), on this one hand.

On the other hand, the capacity in the precise sense is only available in the normal person who enjoys awareness and freedom of choice; because capacity is a state or description that exists in the perpetrator when it becomes clear that his mental faculties were normal at the time of committing the crime, and therefore jurisprudence has tended to divide the attribution into two interrelated sections: the first / the capacity of perception and choice, which is related to the static state (mental and psychological state) of the perpetrator's personality at the time of committing the criminal activity, the second / sin and error, which is related to the kinetic state of the perpetrator's personality towards his action ⁽²⁵⁾ (Saqr ,2024/2025:4-5).

The robot may be equipped with sensors, and therefore the ability of these devices to perceive the surrounding environment and their accuracy in transmitting the image may prompt some to say that what these sensors do is similar to the sensors found in humans, and through these devices, awareness or perception will be created in the robot that can make the robot subject to criminal liability, and others see the inadequacy of the role of these sensors and that they cannot reach the level of perception that humans have, as they are considered merely a means of transmitting perceptions only; Since the robot cannot understand the nature of the things going on around it as humans understand them, but only perceives the existence of things around it, especially since the perception, awareness and intelligence of the robot must be linked to many criteria, which include the ability to determine the dimensions of the surrounding objects, thinking, building behavioral models and the necessity of the nature of the things surrounding it ⁽²⁶⁾ (Al-Zanka , 2023 :68-69).

, the question that arises here is, is the perception that the sensors can generate in the robot a real and subjective perception like the perception of humans or an artificial perception? The perception of the robot is an artificial perception that cannot be equivalent to human perception, as the robot cannot translate all the meanings that the human mind can translate and understand. Therefore, we find that it is logical that the absence of perception means the absence of freedom of choice, as there is a logical connection between them. We have previously shown that the robot has not reached the stage of artificial perception at the present time and does not have the ability to make decisions on its own without human intervention, as it cannot deduce an action on its own except according to the information it has been fed. Based on the above, it becomes clear to us that criminal law revolves around human action, in existence and non-existence, and since the ability to attribute cannot be enjoyed by a robot because it lacks the elements of mental capacity and the ability to comply with the law.

2.2.2. THE BASIS OF THE CRIMINAL LIABILITY REPORT FOR ROBOTS

The main objective of the criminal liability report according to the perspective of contemporary philosophy of criminal legislation is to combat the crime that has been committed and prevent the commission of other crimes. This is done by following an objective criminal policy whose main objective is to protect society so that every individual in society finds security and tranquility ⁽²⁷⁾ (Al-Adwan ,2021:133).

. The question that arises here is: Can robots be held responsible in themselves when they cause any crime punishable by law, and are there incidents that have actually occurred in practical life that support this? Yes, robots can be held criminally responsible for their misconduct: provided that they are able to form their moral decisions, act on them, and interpret them. There is a trend that questions the possibility of the existence of moral competence in robots, although they are in fact equipped with the data that enables them to act morally, which leads to the claim that free will is achieved in their right if they acquire knowledge about the world around them that serves them in directing their capabilities in accordance with their goals) (as they will have the ability to choose the method and then act in the work effectively and successfully. There is another trend that went to say that robots are able to make independent and moral decisions without human intervention ⁽²⁸⁾ (F. Malle ,2016 :249).

The question that arises when raising the issue of robot ethics: What does the ethics of the intelligent robot concern itself with from the theoretical and practical aspects? Robot ethics is

concerned theoretically with giving robots moral principles or procedures to know how to solve the moral dilemmas that they may face and enable them to act in a morally responsible manner by making their own moral decisions. As for the practical aspect, the development of machine ethics will enable them to work independently without human intervention after Its behavior was designed ⁽²⁹⁾, (Gaballah , 2023:686).

, and we see that at the present time robots cannot be given moral agency because they do not have the property of independence or free will, as they cannot make any decision or do anything unless they are programmed by humans to do these things. Among the incidents that actually occurred in practical life in which the robot committed a crime on its own without any intervention from any party, whether the factory, the owner, or an external party, the facts of the incident are summarized in 1981, a robot working in a motorcycle factory killed a 37-year-old worker who was working near it, as the robot found that the worker was a threat to the task he was performing, and the robot found that the effective way to get rid of the source of this threat was to eliminate him, as it pushed the worker into a nearby operating machine using its very strong hydraulic arm, which led to the worker's immediate death, and then the robot resumed its work without anyone intervening ⁽³⁰⁾ (Murad ,2022:200).

. From this incident, many questions will be raised in order to determine who is responsible for killing the Japanese worker, and did the robot commit the crime on its own without any intervention from the programmer, the owner, or any external party, based on a self-decision by the robot? Either he committed the crime based on a mistake or negligence of the aforementioned? In the event that the robot is self-liability recognized without human intervention, what are the penalties that will be applied to the robot? What type of penalty will be appropriate to the nature of these devices, since traditional penalties do not suit their nature?

3. OBJECTIVE CRIMINAL PROVISIONS FOR ROBOT CRIMES

The technological revolution at the present time poses unprecedented legal challenges, especially when robots participate in actions that can be classified as a crime punishable by law. In this section, a very important question will be raised: How can current legal systems designed primarily for the human issue deal with the issue of holding robots accountable for their crimes and imposing penalties on them? This requires the development of an effective legal statement for crimes committed by robots in order to establish an effective and accurate balance between legal flexibility and technical accuracy. To clarify these matters, this chapter

will be divided into two sections. In the first section, we will discuss the legal statement for robot crimes, and in the second section, we will discuss the requirements for imposing punishment on robots.

3.1. LEGAL STATEMENT OF ROBOT CRIMES

The crime requires the availability of certain conditions for its occurrence. These conditions are called (the elements of the crime). If they are not met, the crime will be denied. These elements are represented by the crime under study, which are the material and moral elements, in addition to a third element, which is the assumed element, which is represented by (the computer program equipped with robot intelligence). Accordingly, to explain these elements in detail, this section will be divided into two sub-sections. In the first sub-section, we will discuss the material element of robot crimes, and in the second sub-section, we will discuss the moral element of robot crimes.

3.1.1. THE MATERIAL ELEMENT OF ROBOT CRIMES

The material element of the crime is represented by its materiality, i.e. everything that enters into its entity and has a material nature that the senses can touch, and this element has clear importance, as the law does not recognize a crime without a material element, as without this element, society does not suffer from chaos and the rights worthy of protection are not affected by aggression; In addition, the fact that the crime is based on a material element makes the process of proving it easier, as it provides protection for individuals from the possibility of being punished by public authorities without issuing material behavior that would affect their freedoms and security (³¹) (Hosni , 2020:303), and then for the material element to be established in robot crimes, criminal behavior must be issued by programs equipped with smart technologies and achieve a specific criminal result and then provide a causal link between the behavior and the result. First / Criminal behavior: Criminal behavior is one of the most important elements of the material element of the crime because it combines all intentional and unintentional, complete and incomplete crimes. There is no crime or material element if this element is missing. The criminal rule stipulates that there is no crime without material behavior. The criminal behavior of robots may be positive behavior resulting from a wrong decision due to programming, i.e. the data on which the robot was programmed, where the latter commits a behavior that is a crime against the law, for example, a surgeon committing a mistake during a surgical operation, which results in the death of the patient. Criminal behavior may be negative

behavior, i.e. the robot taking a decision other than the decision on which it was programmed, such as the medical robot refraining from performing its duties towards the patient responsible for it, which led to the latter's death ⁽³²⁾ (Sami , Salma , 2023/2024:38).

We see, from our point of view; That robots cannot commit negative behavior represented by refraining from performing a certain behavior required of them except with human intervention represented by the intervention of the robot manufacturer: rogrammer, hacker, owner or user, because these devices operate according to algorithms predetermined by the programmers, they do not have awareness or independent will and therefore are unable to understand the laws.

Second / The result: It is the effect generated by the behavior, and causes a tangible change in the outside world that the law takes into account, achieving aggression against the interest or right protected by the law ⁽³³⁾ (Mustafa ,1960-1961:204-205), and the criminal result in robot crimes is every effect caused by an action resulting from these robots enjoying autonomy in decision-making or going beyond the scope of programming resulting from a human error, such as a child's finger being broken by the robot during a chess match between them.

Third: The causal relationship: It is the link that links the criminal behavior of the robot with the criminal result that resulted from its behavior. This relationship does not raise any difficulty if the robot's error was the result of a human error. For example, a surgical robot performed a heart surgery, but after the operation was completed, it turned out that it had removed the patient's liver. Here, in this example, we will have three hypotheses: The first hypothesis: If the robot's error was due to a programming error, then the causal relationship is clear and the programmer will bear responsibility. The second hypothesis: If the surgical error was due to a partial error by the robot, here we will have an ambiguous causal relationship, and its solution will be by referring to the general rules related to the causal relationship in the Penal Code. These rules are represented by two theories ⁽³⁴⁾ (Abdel Sattar, 1987:256-258).

: The first theory: The theory of equivalence of causes: According to this theory, all factors that led to the occurrence of the criminal result are equal. According to the example above, here the programmer is criminally responsible for the crime that occurred as long as his behavior was a contributing factor in its occurrence. The second theory: The theory of adequate sufficient cause: Here, a distinction is made between two types of factors that The first abnormal factor interfered with the robot's behavior in causing the result. If it is found that the perpetrator's action was associated with it, the programmer is not questioned according to the example above.

However, if the factors are familiar, where the perpetrator's action becomes a suitable reason for the occurrence of the criminal result, the programmer is criminally responsible for his action when it is proven that it was sufficient to cause the result according to the normal course of events. The third assumption: If it is found that the crime that occurred was due to the robot itself without any negligence or intervention by the programmer, user, or external party, then here the robot alone will be criminally responsible. This matter is likely to raise a problem about the fact that the robot does not possess awareness or independent will when committing the crime, especially since it has not reached the stage of artificial awareness.

3.1.2. THE MORAL ELEMENT OF ROBOT CRIMES

The material elements of the crime are not sufficient alone for the crime to occur, but in addition to these materials, there must be a criminal will that brings these materials into existence and is expressed by the moral element, and the will alone is not sufficient for the perpetrator to be criminally responsible unless he has criminal capacity, which is represented by freedom of choice ⁽³⁵⁾ (Sorour, 2015:641) .

, as the material element in robot crimes does not raise any legal controversy, but the moral element is what raises controversy as the basis for the establishment of criminal responsibility, and accordingly we will examine the moral element in robot crimes according to the following:

First / Criminal intent: Article 33 of the Iraqi Penal Code No. 111 of 1969, as amended ⁽³⁶⁾ (Iraqi Penal Code No. 111 of 1969 as amended) ,defined criminal intent as (the perpetrator directing his will to commit the act constituting the crime aiming at the criminal result that occurred or any other criminal result), and according to the definition mentioned above, there are two basic elements on which criminal intent is based, namely knowledge, which is represented by the necessary elements from the point of view of the legislator in order to give the legal description For criminal facts and their distinction from legitimate facts, as for the will, it is defined as a psychological activity that results from awareness and perception, and it assumes knowledge of the goal that it seeks and the means used to achieve this goal ⁽³⁷⁾(Hosni ,2006:47 and 200) .

And we see, according to our point of view, that the criminal intent of the robot is not available due to its lack of possession of the components of criminal intent of knowledge and will, and it has not reached at the present time the stage of possessing artificial perception equivalent to human perception, and since the intelligence of these devices has not reached the stage of

complete familiarity with the rules of the penal code and distinguishing between what is permissible and what is prohibited.

Second: Unintentional error in robot crimes: Dr. Mahmoud Najib Hassani defined unintentional error as “the perpetrator’s failure to act in accordance with the duties of caution and care imposed by law, which resulted in the occurrence of the result and his failure to prevent it from occurring, while he could and should have anticipated it and prevented it from occurring” ⁽³⁸⁾ (Hosni, 1960-1961 :171), The Iraqi legislator stipulated in Article 35 of the Iraqi Penal Code No. 111 of 1969, as amended, the forms of unintentional error (the crime is unintentional if the criminal result occurs due to the perpetrator’s error, whether this error is negligence, recklessness, inattention, lack of caution, or failure to observe laws, regulations, and orders). Examples of unintentional error in robot crimes include the robot cutting the patient’s arteries during a heart operation. The doctor is obligated to obtain the patient’s permission before performing the surgical operation on the patient, after informing him of the truth of his health condition and according to what his condition requires and what the nature of the surgery requires. This same applies to the surgical robot, as the doctor is obligated before allowing the robot to perform any operation to verify From the extent to which the use of the robot is appropriate for the patient's health condition and its use with caution and accuracy, taking into account the rules and conditions for using the robot. In the event of the death of the patient due to an error made by the robot, the person criminally responsible for the death of the patient is the human being who takes the description of the user (the doctor) as in the example above or the programmer or manufacturer ⁽³⁹⁾ (Al-Maghribi, 2023:618-619).

3.2. REQUIREMENTS FOR IMPOSING PUNISHMENT ON ROBOTS

The issue of imposing punishment on the robot poses many legal challenges, because the robot is not a human being and has not been recognized by the majority of countries as a legal personality. Accordingly, most traditional penalties are not consistent with the special non-material nature of the robot, which requires imposing penalties that are consistent with this special nature of these devices. To explain these problems and penalties, we will divide this section into two sub-sections. In the first sub-section, we will address the problem of applying traditional penalties to robots, and in the second sub-section, we will address the penalties that are consistent with the special nature of robots.

3.2.1. THE PROBLEM OF APPLYING TRADITIONAL PENALTIES TO ROBOTS

Most of the penalties stipulated by the criminal legislator cannot be imposed on a robot, for example: penalties that deprive freedom or the death penalty, these penalties are only suitable for natural persons, and the question that arises here: Does the criminal liability of a robot conflict with the philosophy of criminal punishment? The criminal penalty was established in order to achieve the interest of society and its purposes represented by general and specific deterrence, and that any deviation from the latter will lead to harm to society, and that this penalty was established in order to achieve a certain philosophy, and the latter differed from one school to another, as the supporters of these schools did not take into account that the machine might be the subject of criminal punishment ⁽⁴⁰⁾ (Mustafa ,1960-1961:419-423), The supporters of the traditional school believe that the purpose of punishment is to achieve general and specific deterrence regardless of the aspects to which the offender's personality has developed, and according to the supporters of this school, they find that man has a choice and is not controlled, meaning that he is able to choose between an act that violates the law and an act that does not violate the law, while the supporters of the positivist school proceeded from accepting the principle of the inevitability of crime, as man loses the freedom of choice in all his actions, so he is controlled and not controlled ⁽⁴¹⁾ (Al-Sharif ,2021:147-148).

It is clear to us from the above that the philosophy of the traditional school is not compatible with the special nature of the robot, as the basis for attributing criminal responsibility according to the supporters of this school is freedom of choice. We have previously shown that the robot does not have freedom of choice and has not reached the stage of artificial awareness equivalent to human awareness. As for the philosophy of the positivist school, which sees man as being driven to commit a crime, this does not mean that he has completely lost awareness and discrimination. Man still possesses a certain degree of freedom of choice that enables him to avoid crime, unlike the robot, which is devoid of freedom and awareness to begin with. Punishment is essentially intentional pain for the crime in proportion to it. Pain means the suffering felt by the criminal and the resulting deprivation of his rights ⁽⁴²⁾ (Bahnam :1997 :1086-1088).

According to this concept: pain cannot bear fruit with a robot, as the idea of pain is related to the emotional and sensory side of a human being on the one hand, which is represented by the death penalty, and the deprivation of one of the rights inherent in his personality, whether it is a financial or non-financial right, on the other hand, which is represented by the penalty of

imprisonment, confiscation, or a fine. We see that both aspects are missing from the robot, and that when the judge issues a punishment against the perpetrator of the crime, he takes into account the circumstances and conditions of each crime and the personal circumstances of each criminal individually. At the present time:ain has become unintentional in itself, but rather the purpose of punishment is to reform the convict and return him as a useful member of society ⁽⁴³⁾ (Al-Sharif , 2021:148-149).The question that arises is how will the robot be reformed and what methods will be used to reform it? Determining these methods is not that easy due to the special nature of the robot, and we will explain in detail the process of qualifying the robot in the second sub-section of this section.

3.2.2. PENALTIES THAT ARE CONSISTENT WITH THE SPECIAL NATURE OF ROBOTS

Robots are equipped with the feature of self-learning because they are equipped with modern software that allows them to make their own decisions without human intervention, and if we assume that the legislator has adopted a new legislation and recognized the robot as a legal personality, it is important to set penalties that are consistent with the special nature of these devices, from this standpoint, if the robot commits a crime without human intervention, the penalty must be imposed on it and not on its programmer, manufacturer, owner or user. We have previously shown that the traditional penalties found in the Penal Code are mostly not consistent with the special nature of the robot ⁽⁴⁴⁾ (Al-Zubaidi ,2024:34):erhaps the most prominent proposed penalties to be applied to the robot will be as follows:

First / Removing the robot's intelligent system: This penalty, if approved by criminal legislation, is equivalent to the death penalty, which deprives a person of his right to life. The scientific procedure that may achieve the same results as the robot's penalty is deleting the program that controls its operation. Once the deletion ruling is implemented, the violating robot becomes unable to commit any other crimes. In other words, deleting the program completely cancels the robot's independent existence, which is equivalent to the death penalty ⁽⁴⁵⁾ (Al-Lami , 2021 :870) .

Second / Financial penalties (fine): A fine is a type of financial penalty that requires the convicted person to pay the state treasury the amount estimated in the ruling, and this penalty is imposed on the natural and legal person ⁽⁴⁶⁾ (Al-Asadi , 2024 ,199),The question that arises here is: Can a fine be imposed on a robot? And where can the latter pay it? We have already shown in the first section that the robot has no financial liability, and some have seen

that it is possible to open a bank account for the robot and this account is considered the source of the robot's financial liability, and we see that the person responsible for financing this bank account is the robot's maker and user; and we see that this proposal does not address the problem, as the people responsible for financing the bank account are the same ones who bear responsibility for all the mistakes made by the robot, and this is in light of the current situation, but in the event of recognizing the legal personality of the robot in the future, where it becomes financially and administratively independent from humans, this matter will allow for the imposition of fines or taxes on it directly and it pays them from the salaries it receives as a result of the work it does.

Third / Removing the robot from use for a specific period: This penalty is considered a penalty that deprives people of their freedom and aims to restrict human freedom. This practical procedure achieves the same effects of imprisonment when imposed on the robot, which is to remove it from use for a specific period. Some believe that this penalty is consistent with the special nature of the robot and prevents it from committing criminal behavior again. For example, if the robot works in a hospital and performs surgeries, it will be deprived of participating in performing surgeries for a specific period in the event that it makes mistakes during the latter procedure, which leads to the death of the patient⁽⁴⁷⁾ (Al-Zanka, 2023 :138) .

These aforementioned penalties can be applied to the robot in the future if the robot reaches the stage of artificial awareness, especially if the user, manufacturer, or any other person did not have a hand in the crime committed by the robot according to the principle of the personality of punishment.

6. CONCLUSION

This study addressed a very important topic, as this topic is considered one of the most important results of technological and technical development at the present time, which is represented in the criminal liability of robots, and we have shown in our study the most prominent difficulties that may face the establishment of criminal liability of robots for the crimes they commit, because the latter do not enjoy awareness and freedom of choice, which are the two most important elements that form the general intent of the crime, on the basis of which criminal liability is attributed to the robot, and at the end of our research we reached a set of conclusions and proposals.

6.1. FINDINGS:

1. Technical and technological developments have led to the invention of smart machines equipped with artificial intelligence, expanding their use across various fields, including law, medical diagnosis, self-driving cars, drones, and other applications.
2. Given the current absence of industrial awareness in robots (i.e., the necessary awareness and independence in decision-making separate from their creators), discussing the private legal liability of robots for the errors they commit remains unlikely at present.
3. The modern perspective holds that the primary objective of imposing punishment on a criminal is to rehabilitate and reform them into a productive member of society. However, this objective cannot be achieved with robots, as they lack awareness and perception, making the imposition of punishment on them ineffective. Consequently, criminal responsibility for crimes committed by robots falls on their owners, manufacturers, users, or programmers.
4. If, in the future, a robot's criminal responsibility is recognized due to the acquisition of artificial awareness:enalties must be designed to align with the nature of robots, as traditional penalties imposed on natural or legal persons would not be suitable. Proposed penalties for robots may include fines, the removal of their intelligent system, or temporary deactivation.
5. There are differing opinions regarding the granting of legal personality to robots:rimarily due to the absence of legal provisions regulating this matter.
6. Psychological connection is exclusive to natural persons, making it impossible to attribute crimes to robots. Criminal responsibility requires the presence of mental capacities, which robots do not possess. Thus:sychological and mental composition is essential for attribution and, subsequently, for criminal responsibility.
7. If, in the future, robots acquire awareness or consciousness, this would be classified as artificial awareness rather than real, subjective awareness like that of humans.

6.2. RECOMMENDATIONS

A robot can develop and make decisions independently, raising significant legal issues regarding who bears responsibility for the crimes it commits. Therefore, it is essential to expedite the enactment of legislation that regulates the manufacturing and production of

robots, establishing legal boundaries and frameworks to determine the provisions of criminal responsibility applicable to them.

Draft Law on Crimes Committed by Robots

Chapter One / Objectives and Applicability:

Article 1- This law aims to regulate the use of advanced technology (robots) in a way that ensures achieving a balance between benefiting from these devices and protecting the rights of individuals and society and determining legal responsibility in the event of errors or damages resulting from the actions of robots.

Article 2- The provisions of this law apply to the robot devices themselves that are used in all fields (health, transportation, military, industrial, legal, security, administrative, educational, the robot can be used in household and entertainment matters), and the manufacturer, user, owner:rogrammer and hacker of these devices.

Chapter Two / Legal Liability:

Article 3-

First / The robot that has artificial awareness: The robot bears legal responsibility for all damages it causes to others that occur without human intervention.

Second / The factory: The manufacturer of robot devices bears legal responsibility for all robot errors that it commits if they are due to a manufacturing defect or negligence in maintaining the robot devices.

Thirdly / User or owner responsibility: He bears the criminal responsibility committed by the robot for all robot errors that it commits and were the result of guidance from the user.

Fourthly / Hacker responsibility: He bears the criminal responsibility committed by the robot for all robot errors that it commits and were the result of a user hacking a loophole in these devices.

Chapter Three / Robot production standards:

Article -4- The factory or producer must adhere to the following standards in the production of robot devices:

Firstly / Availability of safety and security: The product must be free of defects that affect the safety that the user relies on when dealing with the robot, and these standards are:

1 / Physical safety: Protection from collisions between robots and people and objects in the environment surrounding the robots and is done by providing the latter with sensors such as those collisions, and robots must not include mechanical forces that may pose a danger during interaction with humans such as excessive speed, and it is important that robot devices include safety systems such as emergency breakers to control the robot in the event of a malfunction in the robot.

2/ Software security: Robots must be equipped with electronic systems to prevent hacking into robot systems and to conduct continuous updates to update these systems.

3/ Privacy and data protection: Robots must comply with data protection laws such as the regulation of personal data and users must have the right to consent to the collection and processing of their data by the robot.

4/ The robot must be designed in a way that ensures safe interaction with humans.

Second/ The product's compliance with the values and traditions of society.

Third/ Quality standards: The product's conformity to the specifications that protect the user from commercial fraud.

Chapter Four/ Transparency and monitoring:

Article 5: Manufacturers must provide transparent data on how robots work properly, including how decisions are made by them, and there must be a mechanism for independent monitoring of the work of robots in order to periodically evaluate their work and their compliance with applicable laws.

Chapter Five / Training and Education:

Article 6- All individuals who work with, use or operate the robot must be trained on how to operate it safely in accordance with the applicable laws and regulations, and educational programs and brochures must be provided on how to use these devices safely.

Chapter Five / Penalties:

Article 7- The court may rule one of the following measures on the factory that did not provide safety and security standards for the robot (financial fine, suspension of the legal entity's license to practice the activity for a specified period, cancellation of the license or dissolution of the legal entity, and publication of the ruling at the expense of the legal entity).

Article 8- The owner, user and programmer shall be punished with the penalties indicated for each crime as follows:

1- The death penalty or life imprisonment shall be imposed on anyone who intentionally kills a person using a robot, in order to reinforce the aggravating circumstances mentioned in Article (406 / First / Second) of the Iraqi Penal Code No. 111 of 1969 as amended.

2- Whoever kills a person by mistake or causes his death unintentionally by using a robot, if this is due to negligence, recklessness, inattention, or failure to comply with laws, regulations, and orders, shall be punished by imprisonment and a fine. 3- Whoever intentionally assaults another person by beating him using a robot with the intention of causing a permanent disability shall be punished by imprisonment for a period not exceeding fifteen years; and he shall be punished by imprisonment for a period not less than seven years and not more than ten years ‘ A fine if he did not intend to cause physical disability.

4- Anyone who accidentally causes harm to another by using a robot, and this was due to negligence, recklessness, inattention, lack of caution, or failure to observe laws, regulations, and orders, shall be punished by imprisonment and a fine.

Article 9- Anyone who hacks into robot systems with the intention of committing a specific crime and without being permitted to do so shall be punished by imprisonment and a fine; and anyone who enters the robot systems by mistake and continues to use the device after knowing that shall be punished by imprisonment for a period of not less than 6 months and not more than one year and a fine.

Article 10- Anyone who hacks into the robot systems by mistake and continues to use the device after knowing that shall be punished by imprisonment for a period of not less than 6 months and a fine, or one of these two penalties, shall be punished by imprisonment for a period of not less than 6 months and a fine, or one of these two penalties, if the hacking results in causing damage, destruction, stopping work, disabling the robot systems, or canceling, damaging, changing:ublishing, obtaining any data or information or losing its confidentiality.

Article 11: A robot with artificial awareness shall be punished with one of the following penalties, depending on the type of crime committed, and this shall be left to the discretion of the judge:

(Fine, removal of the robot's intelligent system (equivalent to the death penalty), removal of the robot from use for a specified period (equivalent to custodial sentences).

Preamble

This law aims to establish an ethical and regulatory framework to ensure that the robot operates in a safe and responsible manner for the benefit of humans, in addition to protecting human rights and avoiding potential harm that may occur as a result of the use of robots. This law was enacted.

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- (⁷) Rashid Al-Khalifi, The Legal Personality of Robots, Master's Thesis, Faculty of Law and Political Science - Department of Law or Political Science / University of Batna Hadj Lakhdar, 2023/2024: 9.
- (⁸) Whereas the Iraqi legislator views the robot as a traditional, deaf thing, i.e. an inanimate object, as Article 231 of the Iraqi Civil Law No. 40 of 1951, as amended, states: (Anyone who has at his disposal mechanical machines or other objects that require special care to prevent their damage shall be liable for any damage they cause unless he proves that he took sufficient

precautions to prevent this damage from occurring, without prejudice to the special provisions contained therein).

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The basis for determining the acquisition of legal personality for robots is according to the ability of these devices to acquire rights and bear obligations, not on the basis of humanization itself. Since it is obvious that it can be said that legal personality is a legal recognition of a reality and not a legal innovation of an assumption, what supports this statement is that during the stage of slavery, man did not have a legal personality and was considered by virtue of things, and despite the availability of the characteristic of humanity in him, but when he became free, he was granted this personality and became eligible to acquire rights and bear obligations. For more details, see: Prof. Dr. Muhammad Irfan Al-Khatib, The Legal Status of Robots Personality and Liability (A Comparative Original Study) A Reading of the European Rules of Civil Law for Humanity for the year 2017, a research published in the Journal of the Kuwait International Law School, the sixth year, issue 4, serial issue 24, 2018: 105.

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