ARTIFICIAL INTELLIGENCE RISKS AND LEGAL REGULATION FROM AN INTERNATIONAL LAW PERSPECTIVE

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ABSTRACT

Artificial intelligence subtly reshapes the way of social-economic activities, restructures human social institutions, promotes the diversity of international actors, and then triggers profound changes in international order. Artificial intelligence has empowered non-state actors with powers comparable to the states, reshaped the behaviors on the sea, and further promoted the reform of the marine governance system. To solve the challenges of artificial intelligence to international law, it is suggested to adhere to the principle of systematic integration, the principle of legal accountability, and the principle of rule of law spirit.

INTRODUCTION

Currently, the world is changing at a rapid pace, driven by scientific and technological revolution, particularly relevant with artificial intelligence technology. The adoption of artificial intelligence technology in our daily life, such as ChatGPT, not only promotes the reform of national governance system, but also profoundly affects the development of international order. For instance, Artificial intelligence technology has endowed non-state actors with governance power comparable to that of the state, and further changed the transformation of the international law system. To deal with the challenges posed by artificial intelligence to international law, we should adhere to the principle of systematic integration and the rule of law spirits, as well as the human ethics principle.

LEGAL CHALLENGES FROM THE INTERNET ERA TO THE ERA OF ARTIFICIAL INTELLIGENCE

Since the 21st century, with the development of disruptive industrial technologies such as information and communication technology, the new round of technological revolution is approaching. At present, technological competition, represented by 6G, cloud computing, blockchain, artificial intelligence, etc., is

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becoming increasingly fierce around the world. Although cyberspace has had a revolutionary impact on our daily life, it still has not changed the human-centered decision-making mechanism. However, the age of artificial intelligence is almost different. Artificial intelligence technology is subtly reshaping the way of social and economic activities, reconstructing the form of human social organization, promoting the internal changes of international legal actors, and in turn triggering profound changes in the international order.

According to legal literature, artificial intelligence technologies are categorized into at least three different types. The first is Artificial narrow intelligence, which is defined as the goal-oriented version of AI designed to better perform a single task, artificial narrow intelligence is often better and faster than humans in, for example, driving trucks, playing games, and medical diagnostics. The second is Artificial general intelligence, which is hypothetical ability of an intelligent agent to understand or learn any intellectual task that a human being can. The third is Artificial super intelligence that sets its own goals independent of human awareness and understanding, which means that Artificial superintelligence is more capable than a human (Osmo Kuusi & Sirkka Heinonen, 2023). In general, Artificial narrow intelligence is still human-centered, relying on human orders to engage in deep learning; while Artificial general intelligence and Artificial super intelligence no longer need human reaction. The robots with Artificial general intelligence can achieve self-learning and self-awareness, which means that the function of law will be further weakened or even disappear.

Compared with the Internet age, the artificial intelligence era will subvert the traditional international legal framework, and key concepts of the international legal system, such as the subject of international public law, will undergo drastic changes. Of course, due to technical limitations, it is still difficult for invent a robot with Artificial general intelligence, not to mention with Artificial general intelligence, in the short term. Therefore, the theoretical literature currently focuses on the embryonic stages of the artificial intelligence technology. For example, the Council of Europe defines artificial intelligence as a set of sciences, theories and techniques (including mathematical logic, statistics, probabilities, computational neurobiology, computer science) that aims to imitate the cognitive abilities of a human being (Osmo Kuusi& Sirkka Heinonen, 2023). This meaning implies that the main purpose of artificial intelligence is to serve human beings, with the imitation of human cognition.

In the further stage of artificial intelligence technology, it will change the mechanism of global governance, overcome the prejudice and limitations of human thinking, to improving the efficiency of decision-making, as well as providing a new method for solving highly complex problems such as climate change. However, artificial intelligence technology also brings many challenges, especially challenges to the human cultural tradition and its legal system based on the relationship between individuals. Artificial intelligence technology has led to personalized target and the possibility of individual application, thereby weakening the spirit of legal equality and reconstructing the concept of fairness and justice. At the level of international law, the existing artificial intelligence

technology has had a subversive impact on trade law, war law, human rights law and other fields. Based on this, the following will analyze the law of the sea, in order to explore the challenges of artificial intelligence technology to the international legal system.

THE CHALLENGE OF ARTIFICIAL INTELLIGENCE TECHNOLOGY TO INTERNATIONAL LAW

The development of artificial intelligence technology poses a serious challenge to the world order. The current practice mainly focuses on the challenges brought by artificial intelligence technology to the behavior of big powers in the process of transition from Artificial Narrow Intelligence to Artificial General Intelligence.

CHALLENGES TO INTERNATIONAL LAW

Traditionally, states have been the only subjects of international law. However, the revolutionary development of artificial intelligence technology has led to technological companies or scientists having power comparable to the state. The Royal Navy will put artificial intelligence systems on board its ships in order to better detect incoming threats and assess combat scenarios (Council of Europe, 2023). In addition, there are non-governmental organizations using the wildlife security protection assistance system to simulate, monitor and predict the activities of international poachers such as illegal fishing at high sea (Council of Europe, 2023). Technology companies and non-state actors hold a large amount of data and information, which greatly affects the future direction of scientific development, as well as weakens the feasible exercise of national sovereignty in international affairs. For example, artificial intelligence technology tends to spread to maritime criminal groups such as pirates, which brings new challenges to international maritime security governance. In practice, pirates can easily acquire camera-equipped drones and begin using them to monitor and raid state ships. Small drones are inexpensive and can be launched from decks, so there is a strong incentive for pirates or other groups to use them, which reflects a potential threat to maritime security. It can be seen that in the era of artificial intelligence, the state will no longer and should not be the monopoly of the rights and obligations in the international law.

CHALLENGES TO TRANSNATIONAL BEHAVIOR

Currently, the use of artificial intelligence tools is very extensive in marine behavior around the world. The use of unmanned ships or aircraft for transportation, research, or surveillance challenges the traditional international maritime and aviation order. Take artificial intelligence weapons for example. In peacetime law, when fully or partially autonomous machines commit wrongful acts or omissions, whether criminal or civil in nature, that violate international law, especially international humanitarian law, this may also engage the responsibility of the state owning or using them, as no provision in the Statute of the International Criminal Court ''relating to individual criminal responsibility shall affect the responsibility of states under international law (Roland Moore-Colye & Royal Navy, 2023). Victims should demonstrate that these actions or omissions

can be attributed to the State or relevant public body. In jus in bello, robots, unmanned ships, or other artificial intelligence weapons must abide by the rules of distinction, proportionality, military necessity, and humanitarianism in warfare law. However, maritime actions are divided into military actions and civil actions. There are significant differences between military actions and civil actions in terms of international humanitarian law. Arguably, these rules present highly context-dependent normative concepts such as proportionality and discrimination in the use of force, that are much more complex than Asimov's laws, because provisions in human rights law and constitutional safeguards leave much room for contradictory or vague imperatives, which may result in undesired and unexpected behavior in robots (Council of Europe, 2023). Especially in terms of the law of the sea, many unmanned ships are not only engaged in patrol and border security affairs, but also engaged in transportation and other business affairs. Arguably, the civil use of unmanned ships or aerial vehicles for purposes of transportation, research, or surveillance, for example, challenges traditional notions of public international maritime and air law.

CHALLENGES TO THE INTERNATIONAL ORDER

In addition to the traditional methods of international legislation, many states have also participated in the Geneva process to address the issue of artificial intelligence weapons. However, the United Nations has, at least so far, only played a marginal role. Instead, an amorphous and leaderless legislature is taking on standard making. It involves interested individuals, professional associations, social and natural scientists, companies, and civil society organizations (Roland Moore-Colye & Royal Navy, 2023). Non-state actors often exclude state participation on the grounds of the concept "technology neutrality". For example, Lawrence once put forward famous propositions such as "coding is law" and "coding is justice". He points out that, like other forms of regulation, computer software, as well as source code, can constrain and direct human behavior (Osmo Kuusi & Sirkka Heinonen, 2023). To some extent, artificial intelligence technology advocates the governance by coding or algorithms, and is indifferent to morality, ethics and politics in human society. Some people even bluntly point out that we shall reject Kings, presidents, and voting in the world of artificial intelligence, while believing in rough consensus and running code (Council of Europe, 2023). In other words, artificial intelligence technology may produce a world without morality, law, and ethics.

THREE PRINCIPLES TO DEAL WITH THE TECHNICAL CHALLENGES OF ARTIFICIAL INTELLIGENCE

In the current stage, artificial intelligence technology is controlled by humans, and the concepts and cognitions generated by artificial intelligence robots come from the human society. Therefore, the international community should seek solutions from the real world in response to the challenges of artificial intelligence technology.

PRINCIPLE OF SYSTEMATIC INTEGRATION

Technological breakthrough has always been accompanied by the development of human society. Information and communication technology in the 1990s had a huge impact on the stability of the world order. Some experts argued that the Internet is unique, so the doctrine of "Internet exceptionalism" should be supported. This view believes that the laws applicable to the Internet should be different from those of other media. To be exact, unlike television, radio and newspapers, which all are speech outlets for a privileged few, the Internet allows anyone to be a publisher. Unlike the private cable networks, the Internet is public and, in its totality, owned by no one. Unlike the telephone system, it carries video, graphics, the Web, and supports any idea anyone can come up with (Osmo Kuusi & Sirkka Heinonen, 2023). However, it does not change the function of law in the era of internet (Maas Matthijs, 2019). Moral discipline, legal value, and ethical rules still play a critical role in cyberspace governance (Castel, Matthew, 2016). Like physical space, virtual space is not an extraterrestrial zone (UGO, 2011).

Although international legislation on artificial intelligence technology may be a better way, (Thomas, 2017) due to the difficulties of the formulation of international treaties and the lag in the formation of international customary law, it is quite impossible for international legislation to systematically solve the challenges caused by artificial intelligence technology (Lawrence, 1999). More exactly, while customary international law can be created in as little as ten to fifteen years, the treaty process is usually faster, however, a long negotiating period in the treaty process is inevitable due to political influences in international forum, which means that the speed of treaty formulation still lags behind the development of technology. Therefore, the optimal choice for technology regulation should be to explore the applicability of existing international rules to artificial intelligence technology (Alexis, 2023).

The principle of systematic integration can balance the safeguard of national sovereignty and freedom of the seas in the era of artificial intelligence on the premise of protecting the existing international order. Of course, artificial intelligence technology will also produce a new rights system. Take access rights as an example. The traditional right of landing refers to the right of a state's warships to inspect and search foreign ships on the high seas under certain circumstances. In the era of artificial intelligence, the traditional right of boarding has evolved into the use of unmanned tools to electronically monitor, inspect and even search ships, which is the virtual right of boarding. Whether the right of virtual boarding is a legitimate right to use has caused a lot of controversy. If the issue of virtual boarding rights is scrutinized with the principle of systematic integration, the answer will be clearer. On the one hand, states can exercise jurisdiction over artificial intelligence tools. State agencies can monitor the network communications of ships in territorial waters based on the evidences they have obtained (Berinszoka & Adam, 2010). Law enforcement officers should be able to use artificial intelligence technology to stop a ship if any communications from the said agency confirm that it is illegally transporting drugs. On the other hand, artificial intelligence technology can also give the state a stronger capability.

In addition to data surveillance, the virtual boarding also includes the use of drones or robots for law enforcement purposes. Therefore, (Colin, 2001) the invocation of the principle of systematic integration in analysis will reinforce the effectiveness of the existing rules of the law of the sea, and accordingly, it also achieves an effective balance between freedom of the seas and the protection of national sovereignty.

PRINCIPLE OF LEGAL ACCOUNTABILITY

Although artificial intelligence technology has brought subversive conceptual changes in academia, the artificial narrow intelligence technology has not yet changed the relationship between individual people, as well as between the country and citizens. Especially at present, the artificial intelligence robots are not given legal qualifications, not to mention that requiring the robots to bear corresponding legal duties and responsibilities (Iria, 2019). Theories of liability, along with legal and equitable remedies, are often founded on a certain belief about human motivation, the innate desire to avoid punishment. These remedies are arguably ill-suited for artificial intelligence systems, and thus do not carry the same weight in shaping artificial intelligence's behavior. Therefore, the legal liability for artificial intelligence technology currently should belong to the individual who controls the robots (Rosemary, Roger, Eloise, & Karen, 2017).

The challenge of the attribution of the responsibility of artificial intelligence to the individuals is to evaluate the level of human control over artificial intelligence robots. According to Article 5 of the Draft articles on Responsibility of States for internationally wrongful acts, which constitutes international customary law, it states that the conduct of a person or entity which is not an organ of the State but which is empowered by the law of that State to exercise elements of the governmental authority shall be considered an act of the State under international law, provided the person or entity is acting in that capacity in the particular instance. However, in terms of artificial intelligence, the hard work is how to prove that the state has comprehensive or effective control. Human control over artificial intelligence is divided into three levels: the recognition of artificial intelligence's capability; the recognition of what artificial intelligence has done; the human supervision of artificial intelligence. From the current technology level, it shall be noted that the main body of control of artificial intelligence is developers, programmers, operators and their users. The freedom to pursue scientific knowledge is regarded by many as a fundamental right. However, at least since the Nuremberg trials, it has been widely accepted that this freedom is not completely unfettered. To some extent, the presumption in favor of a freedom of gaining knowledge over prohibiting research only operates where the research is conducted 'responsibly' and for 'legitimate scientific purposes'.

From this point, the regulation of artificial intelligence shall be penetrated and traced back to the process of research and development, as well as its operation. At the current stage of technology and the level of the rule of law, if an artificial intelligence entity can be controlled by humans, it should be regarded as a legal operation. According to the negotiation in the Geneva Process, some

states viewed that fully autonomous weapons systems, i.e. systems that select and engage targets without meaningful human control, are likely to be banned by means of a new international legal instrument, while the use of weapons systems equipped with a low level of autonomy will be lawful. Therefore, the state or individual using artificial intelligence technology should bear the responsibility of meaningful control of the artificial intelligence. Discussions in the CCW meetings as well as in academic and policy forums have recently taken up the idea of a legal requirement of 'meaningful human control' with respect to highly automated or autonomous weapon systems.

PRINCIPLE OF RULE OF LAW SPIRIT

The function of artificial intelligence technology is highly dependent on data and algorithms. Data and information have become legal property in the era of artificial intelligence, while algorithms may change the decision-making process in a near future. In the era of artificial intelligence, the role of laws, morals and even ethics, as a competitor of algorithms, supported by the culture of state, will be weaken. It is of necessity to construct a framework of co-regulation with technological governance and legal governance. In other words, the law in the era of artificial intelligence should also be technologicalized. Among the many complex, concrete, and deeply technical issues that a gradual coalescence of best practices and informal norms might address, for example, is how legal standards 'translate into terms of reliability engineering that are "testable, quantifiable, measurable, and reasonable.

In terms of algorithms, the application of artificial intelligence technology involves a large number of technical regulations and the formulation of international standards. Solving this problem is an important point for future regulation of artificial intelligence technology (Thomas, 2017). Compared with laws, the formulation of standards is more flexible and convenient, more importantly, it can be dynamically adjusted according to changes in practice. Setting standards should therefore be the feasible approach for addressing ethical and moral issues related to artificial intelligence. For example, some experts have proposed the robot guidelines, which require that a robot may not injure a human being or through inaction allow a human being to come to harm. At the procedural level, it is suggested to explore legal methods to solve technical problems, especially the rule of law spirit should be adhered to technological innovation. EU scholars pointed out that an important way to meet the challenges of artificial intelligence is to popularize the rule of law in the development, promotion and use of artificial intelligence technology.

CONCLUSION

At present, artificial intelligence technology is reshaping the international order. However, due to the lag of international legislation and the difficult formation of international customary law, research on the artificial intelligence technology from legal perspective shall be accelerated.

First, the applicability of the international law to artificial intelligence technology shall be revisited. In practice, if there is no clear and predictable

guideline, a new arms race centered on artificial intelligence technology will be inevitable, and major powers will inevitably apply the emerging technology in the military field in order to maintain their power in international order. Some small and medium-sized countries will do everything possible to grasp of artificial intelligence weapons in order to obtain national security. This will pose severe challenges to the global security and international order. Therefore, it is advised to explore the feasibility of applying the law to artificial intelligence technology as soon as possible (Kenneth, Matthew, Roger, Eloise, Karen, 2017). Second, the mechanism to combine technology and law shall be explored and constructed. States are the traditional subjects of international law. In the age of artificial intelligence, ordinary individuals or scientists can invent artificial intelligence weapons in secret and escape the scrutiny of international regulatory agencies. In order to maintain an environment of peace and development, designers and users shall bear with the responsibility to adhere with morals and ethics. In the era of artificial intelligence, it is suggested to strengthen the integration of morality, ethics and technology into the invention and development of artificial intelligence technology, which is conducive to safeguarding the common interests of mankind (Castel & Matthew, 2016).

Third, in the era of artificial intelligence, states shall endeavor to solve the challenges by artificial intelligence technology together. No single state or state actor can address all the legal, moral, and ethical issues in future. The rule of law spirit will provide us to promoting stability and achieving predictability and certainty in daily life. Therefore, the adherence to the rule of law could play a critical role in the use and invention of artificial intelligence technology. Additionally, intergovernmental consensus shall be reached in order to the formation of moral discipline on artificial intelligence technology.

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