Akademik Hassasiyetler **The Academic Elegance**
Yıl/Year: 2023 **Sayı/Issue: 21**
Cilt/Volume: 10 **Sayfa/Page: 57-79**

Makale Gönderim Tarihi: 12/12/2022 **Makale Kabul Tarihi: 26/03/2023**

THE PROBLEM OF DISARMAMENT IN ARTIFICIAL INTELLIGENCE TECHNOLOGY FROM THE PERSPECTIVE OF THE UNITED NATIONS: AUTONOMOUS WEAPONS AND GLOBAL SECURITY

Tolga ERDEM[*] & Cengiz ÖZBEK[**]

Abstract

The weapons that have self-controlling capacity and are equipped with the technology to independently choose and destroy a target are called autonomous weapons. Presently, autonomous weapon technology is developed to contribute to the defence and offensive capacities of states and restructure their armies. However, there is a common concern that the quality of autonomous weapons to make decisions in the international arena independent of humans may cause a global security problem. In this respect, the United Nations (UN) supports disarmament by holding meetings and issuing reports to ensure that these weapons are controlled while under development. The present article intends to clarify the activities of the UN which aim to control autonomous weapon technology. The main argument of this study is that "autonomous weapons are capable of turning into a security problem at the global level and therefore disarmament measures should be developed". In this direction, the study's theoretical framework will be explained in the first part through the Securitization Theory of the Copenhagen School. In the second part, autonomous weapons will be detailed and their possible benefits and threats will be evaluated. In the third part, the disarmament efforts regarding autonomous weapons are outlined. The final part, on the other hand, discusses the disarmament activities of the UN as to autonomous weapons. In consequence of the document analysis method, it was concluded that more data were required to establish a consensus as to the performance of a wider disarmament activities under the UN regarding autonomous weapons.

Keywords: *The United Nations, Deadly Autonomous Weapon Systems, Disarmament, Autonomous Weapons, Security.*

[*] Res. Asst. Dr, Trakya University, Faculty of Economics and Administrative Sciences, Department of International Relations, tolgaerdem@trakya.edu.tr, https://orcid.org/0000-0001-9354-2914
[**] Ph.D. Candidate, Trakya University, Institute of Social Sciences, Department of International Relations, cengizozbek@trakya.edu.tr, https://orcid.org/0000-0002-9158-3381

BİRLEŞMİŞ MİLLETLER PERSPEKTİFİNDEN YAPAY ZEKÂ TEKNOLOJİSİNDE SİLAHSIZLANMA SORUNU: OTONOM SİLAHLAR VE KÜRESEL GÜVENLİK

Öz

Otonom silahlar, kendi kendini kontrol edebilme yeteneğine sahip olan ve bağımsız şekilde hedefini seçerek yok edebilecek teknolojiyle donatılmış silahlardır. Günümüzde otonom silah teknolojisi, devletlerin savunma ve saldırı kabiliyetlerine katkı sağlanması ve orduların yeniden yapılandırılması amacıyla geliştirilmektedir. Bununla birlikte, otonom silahların uluslararası alanda insandan bağımsız olarak karar verme yeteneğinin küresel boyutta bir güvenlik sorunu oluşturabileceğinden endişe duyulmaktadır. Bu yüzden Birleşmiş Milletler (BM), söz konusu silahların henüz gelişim aşamasında kontrol altına alınması için çeşitli toplantı ve raporlar ile silahsızlanmayı desteklemektedir. Bu çalışmada, otonom silah teknolojisinin kontrolüne yönelik BM'nin yürüttüğü çalışmalara açıklık getirilmesi amaçlanmıştır. Bu çalışmanın temel argümanı, "otonom silahların küresel düzeyde bir güvenlik sorununa dönüşme kabiliyetine sahip olduğu ve bu nedenle silahsızlanma önlemlerinin geliştirilmesi gerektiği"dir. Bu doğrultuda çalışmanın teorik çerçevesi ilk bölümde Kopenhag Okulu'nun Güvenlikleştirme Kuramı üzerinden açıklanacaktır. İkinci bölümde ise otonom silahlar detaylandırılarak olası yararları ve tehditleri değerlendirilecektir. Üçüncü bölümde, otonom silahlara yönelik silahsızlanma çalışmaları özetlenmiştir. Son bölümde ise otonom silahlar konusunda BM'nin silahsızlanma faaliyetleri ele alınmaktadır. Doküman analizi yöntemi sonucunda BM'de otonom silahlara dair geniş çaplı bir silahsızlanma çalışması yapılması konusunda fikir birliğine varılması için daha fazla verinin gerektiği sonucuna ulaşılmıştır.

Anahtar Kelimeler: *Birleşmiş Milletler, Öldürücü Özerk Silah Sistemleri, Silahsızlanma, Otonom Silahlar, Güvenlik.*

Introduction

Artificial intelligence is based on the production of artificial systems which are able to exhibit several human behaviours (such as thinking and moving) supported by computers and various other hardware with the use of human-made softwares (Erdem and Özbek, 2021: 154-155). Being developed since the second half of the 1950s, this technology is used in many parts of life among which the defence industry also draws attention as a significant field. Although the weapon systems, which operate supported by artificial intelligence and are able to set and destroy a target independent of humans, are produced on the pretext that they may prevent human casualties and decrease costs in wars, they also lead to a global security concern that the armament of military and industrial spheres with the technology may pave the way for a new armament race. Such that, it is safe to claim that the evolution of the 21st century international relations will be determined by technological developments considering a security-threatening issue in the global sense

may, according to the point of view of the UN, arise from also technological developments in addition to military, economic and political reasons. In this sense, certain issues which are or may be brought along by technology may offer a threat for the future of the world when they reach to extents that require global measures. Defined as "Lethal Autonomous Weapons Systems (LAWS)" in the meeting "The CCW Meeting of High Contracting Parties" held by the UN, (CCW, 2013a: 3-4) "autonomous weapons" are considered to be limited with legal regulations for they cause international concern that they may cause security risk owing to the fact that they destroy their targets without control by humans.

Autonomous weapon technology is believed to facilitate the production of weapons which identify and destroy targets without human control. Similarly, the increasing interest in the production of such autonomous weapons is believed to escalate the inclination towards the production of these autonomous weapons. Again, the ambiguity and unpredictability of the consequences of the use of autonomous weapons (The Stop Killer Robots, 2018: 1) lead to an international feeling of insecurity towards these weapons. Science and technology communities, scientists and NGOs which carry out researches on the subject endeavour to ensure that a policy is developed against the production of the weapons in question with the participation of a wide number of participants who have global expertise. In this respect, it should be stated that, compared to the other actors in the field, a significant and more comprehensive step has been taken by the disarmament wing of the UN.

This article intends to evaluate the activities of the UN carried out against autonomous weapons. The study aims to provide answers to the following questions: Will the development of autonomous weapons lead to an arms race? Does the UN take adequate security measures in the development or use of autonomous weapons? Do autonomous weapons need to be inspected or controlled by specific regulations? Does the development of autonomous weapons have a deterrent effect on states? What are the advantages and disadvantages of owning autonomous weapons? Within the framework of these research questions, the hypothesis of this research was determined as follows: "Autonomous weapons could become a global security issue and therefore the development of disarmament efforts is essential." The "Securitization Theory" developed by the Copenhagen School constitutes the theoretical framework to be used in testing this hypothesis. The reason for choosing this theory is to reveal the reflections of the anxiety that autonomous weapons can create both in the international arena and the UN through speech acts. In this sense, the present study analyses the threats of autonomous weapons in the face of global security from a global perspective and broadly defines the pros and cons of weapons that have the capacity and capability to work autonomously as a notable example of the effect of technological developments on the armament issue. Accordingly, in the first part, the

inclusion of autonomous weapons based on artificial intelligence technologies within the scope of national and international security will be placed in an analytical framework through the Securitization Theory. The second chapter dwells on the sense pointed out by autonomous weapons and makes an evaluation of the risks and benefits of the use of such weapons. Subsequently, the article provides an outline of the disarmament endeavours with regard to autonomous weapons. The final chapter, on the other hand, discusses the place and significance of the disarmament efforts of the UN against autonomous weapons on the global security agenda. In this context, it is useful to reveal the difference between the third and fourth sub-headings. Accordingly, in the third sub-title, it is aimed to reflect the general perspective of the international community on autonomous weapons with examples within the framework of the historical background. Disarmament efforts for autonomous weapons carried out by the UN are directly included in the last sub-heading.

1. THEORETICAL FRAMEWORK: SECURITAZION THEORY

It is seen that the concept of security in International Relations is used to legitimize the initiation of conflicts and wars, the building of peace, the suspension of civil liberties, and the reallocation of resources. However, until the end of the Cold War, the concept of security was neglected in the academic literature. The attempts to redefine the concept of security gained momentum after the end of the Cold War (Baldwin, 1997: 9). Barry Buzan claims that security, a concept that is "underdeveloped", has been studied as national security and international security through the intersection of changes and conflict areas in the foreign, military, and economic policies of states, with an intense military emphasis particularly in the process until the end of the Cold War (Buzan, 1983: 3). Although there is no universally accepted definition of security in the literature, it is stated that from the most general point of view, security can be expressed as "the absence of a threat to fundamental values" (Baylis, 2020: 241).

In accordance with the developments in Security Studies within the discipline of International Relations during the Cold War, the military-oriented narrow field of the traditional approach was expanded, and political, economic, social, and environmental fields were included in Security Studies (Buzan, Waever and de Wilde, 1998: 7-8). In this context, it is seen that the Copenhagen School, which motivated itself to save security from its narrow military and political approach and to ensure the consistency of the concept of security, came to the fore in the discipline of International Relations (Baysal and Lüleci, 2015: 70). Securitization Theory is one of the most fundamental contributions of this School to the disciplinary literature. According to the Copenhagen School, security takes politics beyond established rules. It frames issues as a particular kind of politics or supra-political. Therefore, securitization is regarded as a more extreme version of politicization. The Securitization Theory divides public issues into three categories:

unpoliticized, politicized, and securitized. Accordingly, in theory, there is no public debate and no state interest in non-politicized issues. Politicized issues include government decisions and resource allocation as part of public policy. In securitized issues, the problem is presented as an existential threat that requires emergency measures and justifies extraordinary measures beyond ordinary political measures (Buzan, Wæver and de Wilde, 1998: 23-24).

The main argument of Securitization Theory is the speech act. Accordingly, the securitizing actor states that there is a security threat that affects the existence of a particular reference object and states that extraordinary measures should be taken to protect the reference object in question. Thus, that issue is moved from the field of normal politics to the field of extraordinary politics, becoming an absolute priority over all other problems, and legitimacy is given to taking extraordinary measures for its solution (Taureck, 2006: 54-54). The Copenhagen School views security as a social and intersubjective construction and divides securitization analysis into three units: the "reference object" whose survival is threatened and must be preserved, the "securitizing actor", who declares the situation as a security issue because its survival is threatened, the "functional actors" whose actions have a substantial impact on security (Balzacq, 2005: 178). A successful securitization, on the other hand, requires three key components: Existential threats, emergency action and the effects of breaking ordinary rules on inter-unit relations. Moreover, the existence of a certain rhetorical structure about the priority of action stands out as the distinguishing feature of securitization and can serve as a tool for finding security actors and phenomena in social, economic, and environmental sectors outside the narrow military and political domain of the traditional security approach. Finally, speech act in the securitization process means the act itself (Buzan, Wæver and de Wilde, 1998: 26).

Considering the effects of developments in military technologies on the structure, dynamics, and actors of international relations since the middle of the 20th century, it is clear that technological developments and innovations gained momentum, particularly in the post-Cold War period. The remarkable increase in the diversity of technological developments at the beginning of the twenty-first century has resulted in a technological transformation in traditional international relations, as well as the inclusion of "cyberspace" as a new field in the traditional power competition of international relations. In this respect, the emergence of artificial intelligence technologies and their adaptation to global relations, their effects on national and international security policies and strategies, and the potential threats and precautionary opportunities they may create are regarded as extremely important for a correct analysis of 21st century international relations. The fact that self-controlled autonomous weapons based on artificial intelligence technologies, which are considered within the scope of advanced military technologies, are preferred by the leading actors of today's international relations in national

security operations and international security construction, provides a redefinition of traditional security approaches. In this new risk environment created by the broad security agenda of the 21st century, the widespread uncertainties of autonomous weapons, which are the most advanced examples of artificial intelligence technologies, have replaced more intense and clearly identifiable traditional security threats (Stritzel, 2014: 18). Thus, the securitization of artificial intelligence technologies is increasingly becoming a global movement. The increasing importance and determination of autonomous weapons in the military applications of international relations actors is conducive to the emergence of a global artificial intelligence technologies race. The advancements in artificial intelligence technologies of leading geopolitical rivals such as the United States, Russia, China, and EU members are perceived as a potential threat to these actors' national and international security. Moreover, it appears that artificial intelligence is mentioned in the speech acts of these actors' decision-makers as a national security issue that justifies the provision of extraordinary actions from the state and society rather than a normal technology (Zeng, 2021: 422).

On the other hand, securitization moves are becoming a part of the cyber and digital policy areas of global actors. Strong cyber international relations actors such as the United States, Russia, and China provide intensive financing to technological infrastructures, computing technologies, and artificial intelligence technologies. However, the diversity of new technological applications and the uncertainty of the boundaries of this field make the appropriate scope of securitization always controversial. Security logic, in general, intervenes in the regulation of technological innovation and development in two ways: First, new technologies such as artificial intelligence technologies can be included in security applications and used proactively as security tools. Secondly, the security vulnerabilities of these new technologies can be identified, and regulations for perceived insecurity can be securitized (Mugge, 2023: 4-5). These interventions stem from the rapidly evolving, transformative, and potentially disruptive nature of artificial intelligence technologies. Weapons, intelligence, military logistics, surveillance, and reconnaissance capabilities and battlefields are being transformed into intelligent systems as the Internet of Things and Big Data realities make it easier to advance in artificial intelligence technologies (Hynek and Solovyeva, 2022: 9).

In this new risk environment of the 21st century, where artificial intelligence technologies are rapidly militarized by international relations actors, the reference object is undoubtedly all humanity at the macro level and countries lacking this technology at the micro level. Political leaders, bureaucrats, and pressure groups from states with and without militarized artificial intelligence technologies appear as micro-level securitizing actors in the context of their national security, whereas the UN Secretary-General, Deputy Secretary-General, Presidents and Vice-Presidents of the General

Assembly and Security Council, and affiliated members of the UN officials of other organizations appear as macro-level securitizing actors in the context of international security. In this study, mostly the speech acts of the UN Secretary-General were taken into account. Finally, expert groups, non-governmental organizations, and the media, which try to make disarmament attempts for autonomous weapons legitimate and functional by consulting with regional organizations, have been accepted as functional actors, the last element of the securitization process. The fact that autonomous weapons, the militarized result of artificial intelligence technologies, pose a threat to global security, as well as international actors' legitimation of extraordinary disarmament measures to be taken by the UN in order to protect and sustain humanity's existence, reveals the social and intersubjective construction of securitization on a macro scale.

2. AUTONOMOUS WEAPONS

"Autonomous weapons" are machines or autonomous weapon systems with the capacity to ensure control, choose a target, shoot and independently decide to destroy a possible threat without need to any human intervention (Roff, 2014: 212). In other words, "autonomous weapons" are accepted to be the weapons that attain power, choose a target and destroy without any human intervention once they are activated (J. Lewis, 2015: 1311). In this regard, it can be suggested that autonomous weapons are discussed from various points of view by various authorities due to the differences of opinion as to the "autonomy" of a machine. When viewed in broad terms, however, a weapon system should have the quality to "learn", "adapt its functions according to changing conditions" and "self-determine to shoot" so as to be classified as an autonomous one (Roff, 2015: 38). Mines are considered to be primitive autonomous weapons. In this context, missiles and air defence systems used to destroy radar, tanks or armoured vehicles that have limited use in the military are also considered as preliminary studies. Armed drones controlled by humans were produced as a result of these studies (ICRC, 2022). For example; Britain's aircraft, which is planned to be designed as an unmanned aerial system called "Taranis", has a control system managed by human operators. It is designed to be used in tasks such as surveillance, target detection, intelligence gathering, deterring threats, or launching attacks (BAE Systems, 2023). The American "X-47B UCAS" unmanned aerial vehicle is another program in this context. It is intended to be utilized in a few specific activities, such as reconnaissance and attack in support of the US navy (Northrop Grumman, 2023). On the other hand, Russia's "Status-6 Oceanic Multipurpose System" or "Poseidon" unmanned vehicle capable of carrying nuclear warheads is a weapon program developed for underwater missions (Polmer, 2019). In today's world, both private companies and states are attempting to provide these weapons with the ability to work "autonomously".

There are certain differences of opinion in the international arena as regards to the development of these weapon systems which have the capacity to move autonomously in case of a possible conflict. For example; some researchers suggest that states should take part in attempts to test the behavioural patterns of autonomous weapons which they exhibit in terms of their general working principles and special qualities, and to restrict their use in legal terms based on certain agreements (D. Lewis, 2019). Such that, in 2013, "Campaign to Stop Killer Robots", a non-governmental organization, was created so as to coordinate the views opposing the development of autonomous weapons all over the globe and make researches with regard to the global security issues which may be caused by autonomous weapons (The Stop Killer Robots, 2018: 1). Furthermore, in an attempt to raise awareness in the international community, the call of artificial intelligence experts for disarmament made to various states[1] with an open letter to the UN bear a particular significance in this context (University of New South Wales, 2021: 1-3). Titled "Autonomous Weapons: An Open Letter from Artificial Intelligence and Robotics Researchers", the letter claims that autonomous weapons have the capacity to choose and destroy targets without any need for human intervention. What is more, the said letter also mentions concerns that these weapon systems would cause threats such as entailing a global armament race based on artificial intelligence, discrediting states and dominating groups of people. In addition to these threats, there is also the risk of obtaining autonomous weapons by non-state armed groups which would use these weapon systems in order to apply disproportionate force against an ethnic group, program to make use in illegal acts and employ them with similar other purposes (University of New South Wales, 2021:1-3). On the other hand, the report "State of AI Artificial Intelligence, The Military and Increasingly Autonomous Weapons", which was issued in 2019 by "Pax" (PAX for Peace, 2021) a peace organization operating in hot combat areas so as to protect civilians and ensure peace, discussed the issues that would be caused by autonomous weapons. Stating that legal initiatives should be taken to prevent autonomous weapons, the report also reflects the concerns that a possible armament race may start, tensions may escalate and autonomous weapons may exhibit unpredictable behaviours (Slijper, Beck and Kayser, 2019: 4-5).

On the other hand, António Guterres, the Secretary General of the UN, pointed out that autonomous weapons may cause a global security threat and used the following words as to the global threat of arming artificial intelligence:

> "*With the weaponization of artificial intelligence, the prospect of autonomous weapons that can select and destroy targets will*

[1] The states mentioned are: Australia, Canada, China, Czech Republic, Denmark, Estonia, Finland, France, Germany, Iceland, India, Ireland, Italy, Japan, Latvia, Mexico, Netherlands, New Zealand, Norway, Poland, Russian Federation, Singapore, South Africa, Spain, Switzerland, United Arab Emirates (UAE), United Kingdom (UK), United States of America (USA) (University of New South Wales, 2021:1-3).

> *make it very difficult to avoid escalation of conflicts and to guarantee the respect of international humanitarian law and international human rights law.*" (United Nations News, 2018).

In addition, uttering his views as to the global attempts against the transfer of artificial intelligence to weapons, Guterres said:

> "*Autonomous machines with the power and discretion to select targets and take lives without human involvement are politically unacceptable, morally repugnant and should be prohibited by international law.*" (United Nations News, 2019).

However, there are also others who claim that the development of autonomous weapons may bring certain significant benefits for the defence of states. The claims of this group vary based on the advantages they suggest. For example; autonomous weapons run with less military personnel compared to the numbers deployed under normal conditions, operate in inaccessible areas, keep military personnel away from threatening duties and risky areas in case of an offensive and reduce casualties (Etzioni, 2018: 253-254). Supported with artificial intelligence, robotic systems are able to work with a higher tempo in bomb disposal duties, nuclear attacks or highly radioactive areas, and have the potential to launch a deadly attack against enemies where the communication is cut between military units during an offensive. Since the systems without a physiological and mental limitation incorporate the algorithms to take necessary decisions in a duty, they reduce unpredictable acts and undertake to perform the tasks which are not possible for humans to do as these systems do not experience any fear or other human feelings (Etzioni, 2018: 253-254).

There are also discussions that autonomous weapons may be built with various qualities such as sensitivity, continuity and permanence in addition to high performance and protection. It is predicted that autonomous weapon systems have the potential to identify and destroy a threat within a short time when it is necessary to make observations, ensure guidance, take decisions and act to that end (Defence Ethics Committee, 2021: 14). In consequence, it has been found out that the costs of these weapons remain quite low compared to the costs of humans in operational activities. What is more, states are exceedingly fascinated in terms of the development of these systems owing to their durability and the capacity to operate in areas subject to nuclear and chemical attacks where it is improbable for humans to take charge (Lele, 2019: 56-57). Considering, however, the threats of a possible armament race in the face of international security, it can be stated that disarmament and the attempts to control weapons are among the leading basic security measures to ensure international security and enhance security and cooperation among states (Kavuncu, 2013: 120). From this point of view, it is clear that the

developments in the autonomous weapon technology must be checked and inspected with multi-dimensional policies and security measures.

3. DISARMAMENT EFFORTS AGAINST AUTONOMOUS WEAPONS

Following the Cold War, the perception of security underwent changes and resulted in a new structure wherein new problematic areas based on asymmetrical threats and uncertainties influenced the international system. In this structure, most of the threats and dangers turned into issue areas requiring global measures in parallel to the global quality attained by various interactions in the international system. Such that, the structural change and transformation of the international system also persisted in the 2000s during which process the effects and dimensions of global security threats expanded and multiplied in many directions (Kavuncu, 2019: 786). In this sense, the subject of disarmament and weapon control maintained its significance under the conditions of the 2000s, and new researches came to the agenda for the control of weapon systems equipped with new technologies so as to ensure global security in the face of re-designing weapons in line with technological developments which was enhanced by the developments in the field. Among these technologies, autonomous weapons are subject to certain justifications in the global sense which require their prohibition. For example; the problem of unpredictability refers to the concerns about the controllability of autonomy and self-learning capacity of complex artificial intelligence algorithms in machines and systems. Indeed, the concerns that unpredictable behaviours may result in unforeseen consequences prescribe that autonomous weapon systems operate predictably and that their interaction with the environment and humans must be adapted. In this regard, there is a global concern that as the uncertainties and unpredictability of machines increase, the risk of violating the codes of International Humanitarian Law (IHL) may also increase (Davison, 2017: 15-16). For instance, there is a possibility of violation of the provision of IHL known as "The Marten Clause" that refers to the protection of civilians by humanity and public conscience, even when there is no special IHL clause in agreements or contracts. Due to their lack of compassion and respect, autonomous weapons may operate without considering the principles of humanity (Docherty, 2020). Therefore, it can be observed that people act morally within the framework of the knowledge they have obtained as a result of their experiences in their relations with each other. With the ability of people to show compassion or empathy, the decision-making process can bring morality to the fore. By having this ability, people can act with emotions like forgiveness, pity, or self-sacrifice in conflicts with others (Schwarz, 2021: 62-63). However, the artificial features and technological capabilities of autonomous weapons that are programmed to perform certain actions may not be able to realize these human-specific emotions and behaviours. For this reason, moral responsibility in the design

and use of autonomous weapons should be observed by people and they should have the ability to act with ethical awareness (Schwarz, 2021: 62-63).

The EU Spokesperson conveyed the statement of the European Union (EU) dated 12 April 2018 on the "EU Statement: Lethal Autonomous Weapons Systems (LAWS)" at the "Group of Government Experts (GGE)" meeting in 2018. In the statement, the attitude of the member states towards autonomous weapons is explained with the following words:

> "*…human involvement and the human-machine interaction in the lethal decision-making process merit further elaboration. Discussions on human oversight, human judgement or human control should be further substantiated. We firmly believe that humans should make the decisions with regard to the use of lethal force, exert sufficient control over lethal weapons systems they use, and remain accountable for decisions over life and death.* …" (EEAS, 2018).

At another meeting in 2019, "The EU Statement: Examination of Potential Military Applications of Relevant Technologies in the Context of the Group's Work" dated 25 March 2019 was expressed by the EU Spokesperson in the GGE. The statement included the following claims regarding autonomous weapons:

> "*…All States must ensure that emerging technologies including Artificial Intelligence that could be used in lethal autonomous weapons systems are developed and used in compliance with international law, in particular International Humanitarian Law (IHL). National legal weapons reviews in compliance with IHL remain a relevant tool in this context. Humans need to remain in control of the development, deployment and use with regard to possible military applications of emerging technologies in the area of LAWS, including AI, and prevent the use of such technologies in a way that would violate international law…*" (EEAS, 2019).

In this context, another concern is based on the fear that autonomous weapons may escalate a possible conflict. There are, therefore, suggestions that transparent principles and procedures should be issued as to autonomous weapon systems so as to prevent that a possible controversy cause an escalation (UN, 2015: 7). Another concern in the same direction is the possibility of world-wide distribution and multiplication of and the cheap and easy access to an autonomous weapon which would affect security and stability at an international level and reduce the obstacles before conflicts (UN, 2019a; Lethal AWS, 2021). These concerns also gain a new aspect when

one considers that autonomous weapons may turn into weapons of mass destruction and cause threat to large masses of people. Therefore, the issue of autonomous weapons, one of the subjects of developing technology, is a matter of discussion debated with regard to disarmament (UNODA, 2021a). The probability that autonomous weapons may be aimed at certain communities due to their ethnic origin, race or gender in an attempt to commit mass destruction or crime against humanity or engage in illegal acts (Lethal AWS, 2021) is a noteworthy case as well as the armament race based on autonomous weapons. Mentioning that regulations are required to be able to restrict the product of autonomous weapons, Guterres warns states as to the autonomy of the said systems:

> "*Human responsibility for decisions on the use of weapons systems must be retained since accountability cannot be transferred to machines.*" (UN, 2019b).

Again, in his speech dated January 22, 2020 at the General Assembly of the UN wherein he denominates the four main issues of the 21st century to be increasing geopolitical tensions, climate crisis, global insecurities and the negative aspects of developing technologies, Guterres draws attention to autonomous weapon systems which are able to take decisions to kill humans on their own without human command or responsibility and suggests that the worrying probabilities of artificial intelligence should be taken into consideration with the prohibition of such weapons (United Nations News, 2020).

In addition, the "International Committee for Robot Arms Control (ICRAC)", which became operational in 2009, called on the international community to reduce possible threats to robotic technologies used in the military. This call includes prohibiting the development or use of autonomous weapons systems. The issue of preventing the integration of nuclear weapons into autonomous weapons was also touched upon. Moreover, the necessary restrictions to prevent a state from deploying autonomous weapons that threaten another state on its territory were also included in the call made by ICRAC (Asaro, 2012: 688).

4. THE LOCALIZATION OF THE UNITED NATIONS IN THE DISARMAMENT ATTEMPTS AGAINST AUTONOMOUS WEAPONS

Disarmament is a concept that includes the abolition of arms. Arms control, on the other hand, includes the limitation of some weapons in terms of quantity and quality stipulated by an international agreement (Sönmezoğlu, 2012: 578). To preserve international peace and provide security, the United Nations has also placed priority on disarmament or weapon restrictions. In this regard, biological and chemical weapons are also included in the disarmament

studies along with the process in addition to nuclear disarmament (UN, 2023). Another type of armament that is thought to pose a threat to international security today is autonomous weapons. So much so that the robotic devices in use today have the potential to turn into autonomous weapons, supported by hardware or software with artificial intelligence. For instance, autonomous weapons can be produced as a result of the software of drones or unmanned aerial vehicles produced for civilian purposes, designed with the intent to kill. In such a case, there is no mechanism to prevent the global spread of the software in question (Russel, 2022). For this reason, it can be said that autonomous weapons constitute an international security problem followed by the United Nations in terms of the threats they may pose at the global level.

Issued in 23 August 2010 with the cooperation between "The United Nations Human Rights Council (UNHRC)" and "United Nations Secretary-General", the report titled "Interim Report of The Special Rapporteur on Extrajudicial, Summary or Arbitrary Executions" evaluates that autonomous weapons may be employed in duties which pose a deadly risk for humans and inquires the effect of the deadly force capacity of these systems on human rights (UNHRC, 2010: 14). Published by the special reporter of UNHRC on 9 April 2013, the "Report of the Special Rapporteur on Extrajudicial, Summary or Arbitrary Executions, Christof Heyns" suggests, on the other hand, that data should be collected regarding the potential risks of autonomous weapons (UNHRC, 2013: 7). Similarly, in 2012 and 2013, international concerns were raised as part of "The United Nations Convention on Certain Conventional Weapons (CCW)" for the control on the developing technologies with regard to autonomous weapon systems. Following the meeting held in 2013, the discussions in "The Informal Meeting of Experts" which was held in 2014, raised awareness as to the humanitarian, ethical, military, technological and commercial dimensions of autonomous weapons. Moreover, it can be said that "United Nations Institute for Disarmament Research (UNIDIR)" provided necessary contribution with information and materials to meetings on 26-28 March 2014 (Gill, 2018).

In 2016, the parties to CCW formed a group of experts called "The Group of Governmental Experts (GGE)" in the "Fifth Review Conference" in order to officially tackle with the disarmament attempts against autonomous weapons. GGE held the first official meeting in Geneva on 13-17 November 2017. The second and third sessions were held on 9-13 April 2017 and 27-31 August 2018, respectively (Gill, 2018). In 2019, the parties to CCW accepted certain principles regarding autonomous weapons upon the recommendation of GGE (UNODA, 2021b). In this sense, the primary attempts in the meeting held in Geneva on 14-15 November 2013 determined that a further meeting should be held in 2014 for the examination of the technologies in the field of autonomous weapon systems (CCW, 2013b: 4). Issued after the GGE meeting held on 13-16 May 2014 and "The CCW Meeting of High Contracting Parties" on 13-14 November 2014, the final report shows that some participants believe there is a need to make a comprehensive definition of autonomous

weapon systems indicating their contents before an attempt to prohibit these systems because they may change the nature of hot conflicts (CCW, 2014: 3). In this regard, some experts also point out that there is a need for more data for the restriction of autonomous weapons and that possible attempts may limit the use of such technologies for peaceful purposes. The meeting also discussed the context of the concept of autonomy. At this point, the measurability of autonomy and the need for further studies came to the agenda. What is more, the meeting also emphasized the necessity for researching the functions of autonomous weapons in the use of force. The meeting focused on the conformity of autonomous weapons with human decisions, the compliance with the principles of the International Humanitarian Law and the non-transferability of an ethical subject (such as killing) to machines (CCW, 2014: 3-4). Among the debated possible consequences of developing autonomous weapons on weapon control are also compliance with laws, accountability, vulnerability of autonomous weapons before cyber-attacks, difficulty of adaptation to a complex environment, cooperation capacity of allying forces and the influence of such weapons on peace and security (CCW, 2014: 5).

Convened in Geneva in 2015, "The CCW Meeting of Experts on Lethal Autonomous Weapons Systems" emphasized that human intervention was necessary in autonomous weapons that have the capacity to determine whether to use force against humans. During the meeting, there were also concerns that systems with the ability to determine to kill a human were unethical and that this contradicted the codes of the International Humanitarian Law. Some experts, on the other hand, offered that the human rights aspect of autonomous weapons should be argued in a separate meeting (CCW, 2015a: 3). In addition, some participants uttered that it was necessary to enforce a full-scale prohibition which includes the purchase, trading and distribution of such weapons. Beside the concern that autonomous weapons may change the nature of wars, it was speculated that systems which are not based on human judgment and feelings would increase the risk of hot conflicts (CCW, 2015a: 4). Moreover, these weapons are believed to cause a new armament race, prevent global endeavours of disarmament and, if obtained by non-governmental armed groups, lead to global security threats. Some participants who oppose this view specified that there was no sufficient data to enforce a prohibition on such weapons and that the common understanding in this regard should be developed further. The technical discussions dwelt on the distinction of autonomous weapons from automatic weapons, the vulnerability of humans before artificial systems, the unpredictability of the consequences of autonomous weapons, and the possible legalization of the production of autonomous weapons for use under water or in the atmosphere or outer space (CCW, 2015a: 5). Convened in 2015 in Geneva, "The CCW Meeting of High Contracting Parties" stressed the need for the universality of the efforts by ensuring cooperation and wider representation with participation in meetings (CCW, 2015b: 4).

The GGE meeting of 2016 was held with the intention to enhance international cooperation so as to ensure the continuity, integrity and sufficiency of technological developments in the analysis and examination of weapons, in general terms, and emerging war methods (CCW, 2016: 5). The GGE meeting of 2017, on the other hand, framed that accountability in a possible conflict where autonomous weapons are used and the reduction of deadly force threshold are matters which need to be discussed. In addition to the determination of the technological, military, legal and ethical dimensions, the meeting elaborated as well that the human contact with machines should be evaluated with more data when using autonomous systems (CCW, 2017: 4). During the GGE meeting of 2018, the discussions continued on possible principles that would guide the future autonomous weapons. In this respect, the primary subjects appeared to be the maintenance of the development or use of autonomous weapons in line with certain legal limitations and the non-transferability of accountability to machines in case of a deliberate or accidental harm. Other aspects which are deemed necessary for controlling autonomous weapons were the human control on the use and deployment responsibility regarding autonomous weapons, the prevention of access to new autonomous weapons by non-governmental armed groups, and the reduction of possible risks and threats when designing autonomous weapons. As well as legal rules and international regulations supporting the implementation of priorities in the development of such technologies, there was also a consensus to adopt CCW as the platform to identify the priorities in disarmament efforts (CCW, 2018a: 4). "The CCW Meeting of High Contracting Parties" of 2018 agreed to accept the necessary amendments to the said rules (CCW, 2018b: 1). The 2019 meeting of GGE emphasized that a research on the potential risks of newly-developed technologies, the evaluation of the threshold of deadly force use, the testing of autonomous weapons to be used in military and the effects of these technologies on international security would be taken into consideration (CCW, 2019a: 3). Similarly, the "ANNEX IV" list of the meeting updated and shows the guiding principles on which consensus was established in 2018 with regard to the aforesaid technologies. Among these principles, one is compliance with international legal rules in the development and use of autonomous weapons. Furthermore, the non-transferability of accountability to machines in the use of autonomous weapons is another notable aspect. As part of the guiding principles, there was also emphasis laid on the necessity of identification of the rules regulating human interaction with autonomous systems, and human command and control on these weapons were discussed as one of the basic necessities. Another principle which was deemed necessary was the deployment and use of autonomous weapons according to international legal rules (CCW, 2019a: 13). Again, it is also necessary to ensure software and hardware security against cyber-attacks as well as maintaining physical security. Such that, the prevention of access to autonomous weapons by non-governmental armed groups is a significant principle accepted in this sense so

that possible attacks may also be prevented. Experts remark that necessary measures should be taken when designing autonomous weapons and the technologies in the field of autonomous weapons should be inspected in terms of legal liabilities, so that risks may be reduced. Finally, the other matters of discussion which drew attention can be said to be the elimination of denied access to peaceful use and scientific developments due to the regulations concerning the development and use of autonomous weapons, and the acceptance of CCW as the proper platform for ensuring control on the autonomous weapons development in both military and civil areas (CCW, 2019a: 13).

Held in 2019, "The CCW Meeting of High Contracting Parties" confirmed the subjects on which consensus was ensured by GGE and concluded that universal studies on autonomous weapons should be continued (CCW, 2019b: 4). Although it can be claimed that the later meetings on controlling autonomous weapons broadly worked on the improvement of the basic principles identified in 2019, it is also apparent that no regulation was brought about to prohibit autonomous weapons at the end of these meetings.

Conclusion

Weapons with autonomous operation which include the armament of artificial intelligence are armed technological systems with the potential to move independently of humans and destroy forces identified by such systems as a threat. Defined as the "third revolution" in the military field after the invention of gunpowder and design of nuclear weapons, autonomous weapons concern states that these weapons may, on the one hand, adversely affect the norms of hot conflicts and armament struggles while, on the other, they draw attention owing to the potential of use where humans remain physically incapable. Such that, this technology is believed to prevent war crimes, provide superiority to the countries developing the technology and ensure low cost with their production and procurement compared to other weapon systems. On the other hand, there are also discussions that autonomous weapons should be prohibited for autonomous weapons may be seized by non-governmental armed groups, it is not possible to ensure the software and hardware security of these weapons and the decision taken by an intelligent machine to kill a human being does not coincide with ethical, legal and humanitarian values. It is also considered that autonomous weapons may lead to an armament race between states or may escalate a possible crisis. Another threat that stirs concern about autonomous weapons is that these weapon systems may improve their learning capacity and acquire various human traits. Therefore, experts, who interpret autonomous weapons to be a threat to international security and peace and carry out studies on the said technological developments, remark in line with the international public opinion that it is a natural requirement from the UN to take action with regard to autonomous weapons and lead the disarmament and weapon control struggles on behalf of

the international community. In this sense, the UN decided to hold periodical meetings with CCW on disarmament and formed GGE, a committee of experts, for the operations on the subject. As part of GGE and "The CCW Meeting of High Contracting Parties", states taking part in these efforts conduct discussions on various matters from the definition of autonomous weapons to the ethical and legal consequences as well as the autonomy of these weapons. As a general consequence of these discussions, certain principles were adopted for the development of autonomous weapon technology; however, no concrete step has been taken as to binding decisions in this regard. With regard to these principles, many states suggested that autonomous weapons should be developed for peaceful and scientific purposes and that these systems should ensure human command and control as well as continuing human responsibility in case of possible harm. These principles are accepted to serve as a guide in terms of the future of autonomous weapons so that they may be perceived as advisory decisions for states. However, it is also believed that they may pave the first step on the way to taking binding decisions as to disarmament efforts in the following process.

As a result, approached from the point of view of the Securitization Theory, it can be said that the issue of armament related to autonomous weapons has been brought up by many officials through the speech acts. In this context, the necessity of disarmament efforts is also understood. It also appears crucial that the UN's efforts to disarm autonomous weapons expand widely. At this point, it can be stated that autonomous weapons have the potential to lead to an arms race or turn into a deterrent. For this reason, it is essential to supervise and control the production of autonomous weapons. On the other hand, the theoretical framework used in conjunction with the document analysis method has revealed that the data required to confirm or falsify the hypothesis of this study are not yet at a sufficient level. Therefore, it is important to test autonomous weapons and to verify the reliability of these weapons by analyzing the data obtained as a result of the tests. Lack of resources may prevent the use of autonomous weapons in physical and geographical conditions where people cannot work in case of a possible general ban. Lastly, it is necessary to increase the scientific shreds of evidence demonstrating the benefits and harms of autonomous weapons from an interdisciplinary perspective, as well as eliminating the shortcomings of the UN's platform for establishing binding decisions and regulations as soon as possible.

Hakem Değerlendirmesi: Dış Bağımsız
Yazar Katkısı: Tolga Erdem %50, Cengiz Özbek %50
Destek ve Teşekkür Beyanı: Çalışma için destek alınmamıştır.
Etik Onay: Bu makale, insan veya hayvanlar ile ilgili etik onay gerektiren herhangi bir araştırma içermemektedir.
Çıkar Çatışması Beyanı: Çalışma kapsamında herhangi bir kurum veya kişi ile çıkar çatışması bulunmamaktadır.

Peer Review: Independent double-blind
Author Contributions: Tolga Erdem %50, Cengiz Özbek %50
Funding and Acknowledgement: No support was received for the study.
Ethics Approval: This study does not contain any human or animal research that requires ethical approval.
Conflict of Interest: The authors declare that they have no conflicts of interest.

References

Asaro, D. (2012). On banning autonomous weapon systems: Human rights, automation, and the dehumanization of lethal decision-making. *International Review of the Red Cross*, *94*(886), 687-709. DOI: https://doi.org/10.1017/S1816383112000768

BAE Systems. (2023). *Taranis*. Retrieved from https://www.baesystems.com/en/product/taranis on 19.01.2023.

Baldwin, D.A. (2015). The concept of security. *Review of International Studies*, 23, 5-26. DOI: https://doi.org/10.1017/S0260210597000053

Balzacq, T. (2005). The three faces of securitization: Political agency, audience and context. *European Journal of International Relations*, *11*(2), 171-201. https://doi.org/10.1177/1354066105052960

Baylis, J. (2020). International and global security. In J. Baylis, S. Smith and P. Owens (Eds.), *The globalization of world politics: an introduction to international relations* (pp. 240-255). Oxford University Press.

Baysal, B. and Lüleci, Ç. (2015). Kopenhag okulu ve güvenlikleştirme teorisi. *Güvenlik Stratejileri Dergisi*, *11*(22), 61-96.

Buzan, B. (1983). *People, states, and fear: the national security problem in international relations*. Great Britain: Wheatsheaf Books.

Davison, N. (2017, November). A legal perspective: autonomous weapon systems under international humanitarian law. *The United Nations Office for Disatmament Affairs*. 1-69, Retrieved from https://www.un.org/disarmament/wp-content/uploads/2017/11/op30.pdf on 14.11.2021.

Defence Ethics Committee. (2021, April 29). *Opinion on the integration of autonomy into lethal weapon systems*. 1-44, Retrieved from https://article36.org/wp-content/uploads/2021/05/Defence-ethics-committee-Opinion-on-the-integration-of-autonomy-into-lethal-weapon-systems.pdf on 12.11.2021.

Docherty, B. (2020, February 20). *The need for and elements of a new treaty on fully autonomous weapons*. Retrieved from https://www.hrw.org/news/2020/06/01/need-and-elements-new-treaty-fully-autonomous-weapons on 18.01.2023.

Erdem, T. and Özbek, C. (2021). Yapay zekâ teknolojilerinin uluslararası güvenliğe etkileri ve yansımaları. In S. Turan and T. Erdem (Eds.), *Güvenliğin Değişen Yüzü: Temel Yaklaşımlardan Güncel Uygulamalara* (pp. 147-180). Ankara: Gazi Kitabevi.

Etzioni, A. (2018). Pros and cons of autonomous weapons systems. In A. Etzioni (Ed.), *Happiness is the wrong metric a liberal comminitarian response to populism* (pp. 253-263). Springer Open.

European Union External Action Service (EEAS). (2018, April 12). *Group of governmental experts convention on certain conventional weapons - EU statement: lethal autonomous weapons systems (laws)*. Retrieved from https://www.eeas.europa.eu/node/43045_en on 20.01.2023.

European Union External Action Service (EEAS). (2019, March 25). *Group of governmental experts - lethal autonomous weapons systems - convention on certain conventional weapons - EU statement: review of potential military applications of related technologies in the context of the group's work*. Retrieved from https://www.eeas.europa.eu/node/60187_en on 20.01.2023.

Gill, A. S. (2018, December). *The role of the united nations in addressing emerging technologies in the area of lethal autonomous weapons systems*. Retrieved from https://www.un.org/en/un-chronicle/role-united-nations-addressing-emerging-technologies-area-lethal-autonomous-weapons on 21.11.2021.

Hynek, N. and Solovyeva, A. (2022). *Militarizing artificial intelligence: theory, technology, and regulation*. Routledge.

International Committee of the Red Cross (ICRC). (2022, July 26). *What you need to know about autonomous weapons*. Retrieved from https://www.icrc.org/en/document/what-you-need-know-about-autonomous-weapons on 18.01.2023.

Kavuncu, S. (2013). Nükleer silahsizlanma yolunda start süreci. *Bilge Strateji*, *5*(8), 119-148.

Kavuncu, S. (2019, October 14-15). *2010'lu yıllarda ABD-Rusya ilişkilerinde nükleer silahsızlanma*. XI. Uludağ Congress on International Relations, Bursa.

Lele, A. (2019). Debating lethal autonomous weapon systems. *Journal of Defence Studies*, *13*(1), 51-70.

Lethal Autonomous Weapons Systems (Lethal AWS). (2021). *The risk of lethal autonomous weapons*. Retrieved from https://autonomousweapons.org/the-risks/ on 14.11.2021.

Lewis, D. A. (2019). *Legal reviews of weapons, means and methods of warfore invelving artificial intelligence:16 elements to consider*. Retrieved from https://blogs.icrc.org/law-and-policy/2019/03/21/legal-reviews-weapons-means-methods-warfare-

artificial-intelligence-16-elements-corsider/?gelid=CjOKCQjw5MLrBRCIARIsAPGOWGWNjtfrVRAyIu0OfQxOkzM8wklMQtsbvmfHBX8LpELpEOJNXJIbgmsbEaAthLEALW on 15.11.2021.

Lewis, J. (2015). The case for regulating fully autonomous weapons. *The Yale Law Journal*, *124*(4), 1309-1325. https://www.jstor.org/stable/43617052

Mügge, D. (2023). The securitization of the EU's digital tech regulation. *Journal of European Public Policy*, *0*(0), 1-25. DOI: https://doi.org/10.1080/13501763.2023.2171090

Northrop Grumman. (2023). *X-47B UCAS*. Retrieved from https://www.northropgrumman.com/what-we-do/air/x-47b-ucas/ on 19.01.2023.

Pax For Peace. (2021). *Who we are?*. Retrieved from https://paxforpeace.nl/who-we-are on 12.11.2021.

Polmer, N. (2019, April). *'Status-6' Russian drone nearly operational*. Retrieved from https://www.usni.org/magazines/proceedings/2019/april/status-6-russian-drone-nearly-operational on 17.01.2023.

Roff, H. M. (2014). The strategic robot problem: Lethal autonomous weapons in war. *Journal of Military Ethies*, *13*(3), 211-227. DOI: https://doi.org/10.1080/15027570.2014.975010

Roff, H. M. (2015). Lethal autonomous weapons and jus ad bellum proportionality. *Case Western Reserve Journal of International Law*, *47*(1), 37-52.

Russel, S. (2022, May 18). *Why we need to regulate non-state use of arms*. WEFORUM. Retrieved from https://www.weforum.org/agenda/2022/05/regulate-non-state-use-arms/ on 19.01.2023.

Schwarz, E. (2021). Autonomous weapons systems, artificial intelligence, and the problem of meaningful human control. *The Philosophical Journal of Conflict and Violence*, *5*(1), 52-72. DOI: 10.22618/TP.PJCV.20215.1.139004

Slijper, F., Beck, A. and Kayser, D. (2019). *State of AI- state of artificial intelligence-artificial intelligence, the military and increasingly autonomous weapons*. Pax for Peace. 1-48, Retrieved from https://paxforpeace.nl/media/download/state-of-artificial-intelligence--pax-report.pdf on 13.11.2021.

Sönmezoğlu, F. (2012). *Uluslararası politika ve diş politika analizi*. Der Yayınları.

Stritzel, H. (2014). *Security in translation: securitization theory and the localization of threat*. Palgrave Macmillan.

Taureck, R. (2006). Securitization theory and securitization studies. *Journal of International Relations and Development*, *9*(1), 53-61. DOI:10.1057/palgrave.jird.1800072

The Convention on Certain Conventional Weapons (CCW). (2013a). *Meeting of the high contracting parties to the convention on prohibitions or restrictions on the use of certain conventional weapons which may be deemed to be excessively injurious or to have indiscriminate effects*. The Convention on Certain Conventional Weapons (CCW). 1-12, Retrieved from https://documents-dds-ny.un.org/doc/UNDOC/GEN/G13/646/33/PDF/G1364633.pdf?OpenElement on 10.01.2022.

The Convention On Certain Conventional Weapons (CCW). (2013b, October). *2013 session final report*. The Convention On Certain Conventional Weapons (CCW). 1-12, Retrieved from https://undocs.org/pdf?symbol=en/CCW/MSP/2013/10 on 01.01.2022.

The Convention On Certain Conventional Weapons (CCW). (2014). *Report of the 2014 informal meeting of experts on lethal autonomous weapons systems (laws)*. The Convention On Certain Conventional Weapons (CCW). 1-10, Retrieved from https://documents-dds-ny.un.org/doc/UNDOC/GEN/G14/048/96/PDF/G1404896.pdf?OpenElement on 02.01.2022.

The Convention On Certain Conventional Weapons (CCW). (2015a). *Report of the 2015 informal meeting of experts on lethal autonomous weapons systems (laws)*. The Convention on Certain Conventional Weapons (CCW). 1-23, Retrieved from https://undocs.org/pdf?symbol=en/ccw/msp/2015/3 on 07.01.2022.

The Convention on Certain Conventional Weapons (CCW). (2015b). *2015 session final report*. The Convention on Certain Conventional Weapons (CCW). 1-14, Retrieved from https://documents-dds-ny.un.org/doc/UNDOC/GEN/G16/012/74/PDF/G1601274.pdf?OpenElement on 07.01.2022.

The Convention on Certain Conventional Weapons (CCW). (2016, December 26). *Agenda item 18 consideration and adoption of the final documents final document of the fifth review conference*. The Convention on Certain Conventional Weapons (CCW). 1-21, Retrieved from https://docs-library.unoda.org/Convention_on_Certain_Conventional_Weapons_-_Fifth_Review_Conference_(2016)/FinalDocument_FifthCCWRevCon.pdf on 07.01.2022.

The Convention On Certain Conventional Weapons (CCW). (2017). *Report of the 2017 group of governmental experts on lethal autonomous weapons systems (laws)*. The Convention on Certain Conventional Weapons (CCW). 1-13, Retrieved from

https://undocs.org/pdf?symbol=en/CCW/GGE.1/2017/3 on 07.01.2022.

The Convention On Certain Conventional Weapons (CCW). (2018a). *Report of the 2018 session of the group of governmental experts on emerging technologies in the area of lethal autonomous weapons systems*. The Convention on Certain Conventional Weapons (CCW). 1-21, Retrieved from https://undocs.org/pdf?symbol=en/CCW/GGE.1/2018/3 on 07.01.2022.

The Convention on Certain Conventional Weapons (CCW). (2018b, December 28). *21–23 november 2018 final report*. The Convention on Certain Conventional Weapons (CCW). 1-10, Retrieved from https://undocs.org/CCW/MSP/2018/11 on 07.01.2022.

The Convention On Certain Conventional Weapons (CCW). (2019a, September 25). *Report of the 2019 session of the group of governmental experts on emerging technologies in the area of lethal autonomous weapons systems*. The Convention on Certain Conventional Weapons (CCW). 1-14, Retrieved from https://undocs.org/en/CCW/GGE.1/2019/3 on 07.01.2022.

The Convention On Certain Conventional Weapons (CCW). (2019b). *13–15 november 2019 final report*. The Convention On Certain Conventional Weapons (CCW). 1-11, Retrieved from https://undocs.org/pdf?symbol=en/CCW/MSP/2019/9#:~:text=7.-,The%20Meeting%20of%20the%20High%20Contracting%20Parties%20to%20the%20Convention,Secretary%2DGeneral%20of%20the%20Meeting on 07.01.2022.

The Stop Killer Robots. (2018, April). *Reatining human control of weapons systems-briefing note for the convention on convantional weapons group of governmental experts meeting on lethal autonomous weapons systems*. 1-4, Retrieved from https://www.stopkillerrobots.org/wp-content/uploads/2018/03/KRC_Briefing_CCWApr2018.pdf on 15.11.2021.

The United Nations (UN). (2013). *Disarmament*. Retrieved from https://www.un.org/en/global-issues/disarmament on 19.01.2023.

The United Nations (UN). (2015, March). *National model United Nations*, The United Nations (UN). 1-14, Retrieved from https://www.nmun.org/assets/documents/conference-archives/new-york/2015/GA1_FinalA.pdf on 14.11.2021.

The United Nations (UN). (2019, March 25). *Machines capable of taking lives without human involvement are unacceptable, secretary-general tells experts on autonomous weapons systems*. Retrieved from https://press.un.org/en/2019/sgsm19512.doc.htm on 10.10.2022.

The United Nations (UN). (2019a, October 25). *States call for enhanced arms control strategies to regulate "killer robots" stem rising tide of illegal*

weapons delegates tell first committee. Retrieved from https://www.un.org/press/en/2019/gadis3635.doc.htm on 14.11.2021.

The United Nations Office For Disarmament Affairs (UNODA). (2021a). *About us*. Retrieved from https://www.un.org/disarmament/about/ on 14.11.2021.

The United Nations Office For Disarmament Affairs (UNODA). (2021b). *Background on laws in the CCW*. Retrieved from https://www.un.org/disarmament/the-convention-on-certain-conventional-weapons/background-on-laws-in-the-ccw/ on 21.11.2021.

United Nations Human Rights Council (UNHRC). (2010, August 23). *Interim report of the special rapporteur on extrajudicial, summary or arbitrary executions*. 1-22, Retrieved from https://digitallibrary.un.org/record/690463 on 21.11.2021.

United Nations Human Rights Council (UNHRC). (2013, April 9). *Report of the special rapporteur on extrajudicial, summary or arbitrary executions, christof heyns*. 1-22, Retrieved from https://www.ohchr.org/sites/default/files/Documents/HRBodies/HRCouncil/RegularSession/Session23/A-HRC-23-47_en.pdf on 21.11.2021.

United Nations News. (2018, November 5). *'Warp speed' technology must be 'force for good' UN chief tells web leaders*. Retrieved from https://news.un.org/en/story/2018/11/1024982 on 09.11.2021.

United Nations News. (2019, March 25). *Autonomous weapons that kill must be banned, insists UN chief.* Retrieved from https://news.un.org/en/story/2019/03/1035381 on 12.10.2021.

United Nations News. (2020, January 22). *UN chief outlines solutions to defeat 'four horsemen' threating our global future*. Retrieved from https://news.un.org/en/story/2020/01/1055791 on 09.01.2022.

University of New South Wales. (2021). *An open letter to the united nations convention on certain conventional weapons*. 1-3, Retrieved from https://www.cse.unsw.edu.au/~tw/ciair/open.pdf on 15.11.2021.

Zeng, J. (2021). Securitization of artificial intelligence in China. *The Chinese Journal of International Politics*, *14*(3), 417-445. DOI: https://doi.org/10.1093/cjip/poab005