SILESIAN UNIVERSITY OF TECHNOLOGY PUBLISHING HOUSE

SCIENTIFIC PAPERS OF SILESIAN UNIVERSITY OF TECHNOLOGY 2022
ORGANIZATION AND MANAGEMENT SERIES NO. 165

ETHICAL PERSPECTIVE OF THE DEVELOPMENT AND USE OF MODERN MILITARY TECHNOLOGIES

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Purpose: The purpose of the article is to identify the state of knowledge and discuss the development and ethical application of modern technologies in the military space. The research question posed is: Does the military take into account the ethical perspective of the development and application of modern technologies for military purposes?
Design/methodology/approach: The article analyzed selected available literature on modern technology for military purposes, as well as texts on the ethics of war.
Findings: The analysis conducted showed that the ethical perspective of the development and use of artificial intelligence for military purposes is not an important issue for the powers that use it. Moreover, it represents a kind of research gap.
Social implications: Societies are unaware of succumbing to manipulation through the media. These manipulations are part of cognitive warfare. In turn, the lack of clear norms of norms during armed conflict in the age of the use of artificial intelligence carries disastrous psychological and health consequences for entire societies in the war zone.
Originality/value: Pointing out the research gap on the ethical perspective of the use of modern technologies, especially artificial intelligence and robotics in the systematic arming of armies around the world during existing or potential armed conflicts primarily in relation to civilians, as well as fighting soldiers.

Keywords: modern technology, artificial intelligence, cognitive warfare, weapons, ethics.

1. Introduction

The dynamics of the network of interdependence on a global scale, the rapid development of modern technologies, the economic, sociological and demographic problems that are occurring, the progressive climate change, the development of the Internet and the growing number of terrorist groups, combined with the unbridled growth of the ambitions of rival powers, are leading to an unbalanced international order and an increasing threat of the outbreak of various armed conflicts and wars. Wars have accompanied mankind since the dawn of time, but in recent times their nature has changed dramatically. The outbreak of war in Ukraine shows

how unstable international relations are and how easily a conflict can change the balance of power in the world. It can also spiral out of control and turn into a global conflict, the consequences of which are impossible to predict. The modern race to guarantee the status of a strong power is not only about the number of troops and armaments, but about the military's use of artificial intelligence. The policy and strategy of 21st century states is primarily determined by technological developments. Modern conflicts are not only about modern weaponry, such as unmanned machines or innovative missile systems, but also the Internet with all its capabilities. Modern warfare is also waged through social media, instant messaging and smart devices. The development of modern technology, especially the development of artificial intelligence and robotics, does not go hand in hand with the development of modern ethics. Ethics has not kept pace with the ethical problems and ethical dilemmas that modern technologies generate. It seems all the more difficult to maintain ethical standards during war, the ethicality of which is itself debatable.

The research problem presented here includes reflections on the nature of the problems associated with the rapid development and use for armed conflict of artificial intelligence. The research hypothesis posed in this context is: the lack of awareness of the danger posed by the lack of clear ethical regulations makes the ethical perspective not a key issue for the development and use of artificial intelligence in the military field. The dynamic development and pace of technological progress without, at least to a basic extent, ethical regulation can generate difficult to predict and irreversible legal, psychological and social consequences for citizens, as well as violations of basic human rights. Ethics education is also important (Kuzior et al., 2019).

2. Methods

The paper is theoretical in nature and is based on a critical analysis of the literature on the subject. The study of the literature, that is, the analysis and criticism of selected publications, made it possible to determine what was published in the subject of this paper. The theoretical method made it possible to conduct a multidisciplinary analysis, selected sources of law, professional literature, statements and scientific research of lawyers, ethicists and engineers, as well as military representatives were taken into account. The paper was prepared taking into account the limitations of the practice of covering strategic and groundbreaking military technologies with state secrets. Lack of access to comprehensive cognitive sources affected the scope and representativeness of the analyses conducted. Due to the lack of access to the results of research, political positions and national policies of most countries, the dissertation mainly examined documents available on the Internet. Nevertheless, the analyses carried out allowed to outline the direction of further research. The paper focused on issues of defining what

cognitive warfare is in its essence (Claveriel, du Cluzel, 2022; Underwood, 2017; Hartley, Jobson, 2021; Claveriel, 2021). Several examples of the use of modern technology in the military field were cited. Attention was paid to the dangers associated with this. Some of the negative effects on civilians in selected situations were described (Różanowski, 2007; Gontarz et al., 2013; Biedrzycki, 2019; CyberDefence24, 2020; Świątnicki, Wantoch-Rekowski, 1998). There have been analyses of texts on the issue of just war and the ethics of war (Walzer, 2010; Luban, 2009; Żuradzki, 2022).

Research shows that the pace of development of modern military technologies is far ahead of human competence in their control and use. There is also a lack of solid reflection on the ethical implications associated with handing over to robots, for example, decision-making in civilian warfare. It becomes legitimate to recall the basic principles of robot ethics (Kuzior, 2021). The presented research does not exhaust the whole issue, but it seems that it can open up new fields and directions of research exploration regarding cooperation between scientists conducting research for the military and scientists working on ethics.

3. Results

3.1. Cognitive warfare

Since the dawn of history, attempts have been made to influence the consciousness and decisions of the enemy in order to gain an advantage over him (Kuzior, Kwilinski, 2021). Current technological advances and digitalization have given this phenomenon an additional impetus and a new dimension. Modern parties to a conflict are trying to influence what individuals think, how they think and how they act, using the latest technological advances to do so. To date, NATO has recognized five areas of warfare: land, sea, air, space and cyberspace. In recent years, the US, UK, France, China, Russia, Taiwan and Canada have added a new area of warfare, namely the human mind. The concept of cognitive, or cognitive, warfare has been introduced as a convergence of information warfare, intelligence, surveillance and reconnaissance, electronic warfare, psychological operations and cyber operations, using digital and network infrastructure (Infosecurity, 2022).

In a report compiled by NATO, it can be found that in cognitive warfare, the goal is to penetrate the adversary's brain, influence his decisions, create confusion, and eventually paralyze his actions and defeat him. The idea is to take advantage of the opportunities offered by digital technologies, algorithms and social media, influencing the minds and behavior of individuals without their knowledge or awareness of being targeted. Cognitive warfare would therefore be a kind of psychological warfare using digital tools. In short, it is about the

application in military operations of the growing possibilities of influencing individual and collective human behavior through algorithms and screens (de Castex, 2022).

Cognitive warfare, also described as the "weaponization of brain science," involves "hacking the individual," where, using the Internet, for example, the enemy seeks to hack into the mind of a chosen target and take control of it. This exploits the weaknesses of the human brain in order to implement sophisticated "social engineering." Consequently, the idea is to make every human individual a weapon. The battlefield of the 21st century is thus to be the human brain (Wood, 2019).

The essential instrument of action in cognitive warfare is the so-called cognitive attack. It is based on specific social engineering, involving the transformation of the understanding and interpretation of a given situation both by the individual and in the mass consciousness. The power of a cognitive attack is not necessarily to deceive or misinform, but to stoke an important controversy established with objective facts (Infosecurity, 2022). An effectively conducted cognitive attack, shapes both individual and group beliefs and behaviors, favoring the tactical or strategic goals of the aggressor (Innovation Hub, 2021). Cognitive warfare objectives can be limited, with a short time horizon. They can also be strategic, with campaigns running for decades (Innovation Hub, 2022)

According to military experts, cognitive warfare should benefit from the achievements in new discoveries and technologies derived from neuroscience research. The military should therefore work more closely with academia to arm the social sciences and humanities and help the alliance develop its cognitive warfare capabilities (Innovation Hub, 2020). Consequently, it's no longer just about information warfare. It's about influencing not only what people think, but also how they go about their thought processes and their ways of acting (Pappalardo, 2021). Research on improving cognitive warfare is also in the area of neuronal interfaces. Brain-machine interfaces, as defined by the OECD, are technologies and procedures that study the structure of human neural systems and how they function in order to evaluate, control, model and influence them (OECD). Some sources say that the French army, for example, in cooperation with private companies, has already been working on a neural interface, based on technologies derived from Elon Musk's Neuralink program, since 2016. This type of interface would aim to improve the cognitive performance of the human brain. Individuals participating in the program would have an implant, connecting them to a system that helps them make decisions and take actions and exchange data between humans and machines. The aim would be to improve decision-making, remotely control equipment, improve performance during action, manage stress, collect and archive data and use it later. The program would allow access to a database that would provide the soldier with information about the context of the operation in which he is participating (Readteamdefense, 2021). The warfare known as cognitive warfare is not just the use of cognition alone, but the overall functioning of the human brain. It seems that the technicized brain may in fact become a new and vast area of military operations. The tools and methods briefly referred to as cognitive warfare may

constitute a new military domain alongside land, air, sea, space and cyber militaries (Castex, 2021).

In the study "Cognitive Warfare. First NATO scientific meeeting on Cognitive Warfare," dated June 21, 2021, experts stress that the war for minds should enhance the synergy between offensive cyber warfare, information warfare and psychological warfare. In their view, it's a confrontation that draws handfuls from technological advances that allow for a wider and more effective impact on the consciousness of individuals, such as through social media. It also makes it possible to integrate cognitive warfare into operations conducted in all domains of conflict, namely land, sea, air, space and cyberspace (Innovation Hub, 2022; Palczewski, 2022). As Amélie Ferey, a researcher at the Institut Français des Relations Internationales, notes, cognitive warfare understood in this way would fall into the realm of so-called soft war. He defines it as the use of coercive tactics that do not fit the traditional definition of armed attacks with bombings and many casualties. It includes all tools such as cyber, economic sanctions, information warfare, boycotts and lawfare. According to Ferey, is calling the new type of violence by the term "benign" is controversial to say the least. It leads to the legitimization of this type of action by defining its nature as not qualifying as violence. Therefore, they should be critically analyzed in light of the legal and ethical norms that traditionally frame the use of violence by states (Ferey, 2020). Conceptual work related to preparation for defense against aggression in the cognitive domain is underway in many countries. The French Defense Innovation Agency has launched the Myriade and Astrid projects to explore new technologies related to cognitive warfare. In the U.S., cognitive warfare R&D is being conducted by the Defense Advanced Research Projects Agency (DARPA) and the Intelligence Advanced Research Projects Agency (IARPA). Also, the theme of NATO's Fall 2021 Innovation Challenge, which took place in Canada, was entitled: "Invisible threats: tools for countering cognitive warfare" (Jawor, 2022).

According to many experts, cognitive warfare has been going on for some time, but societies are not aware of it. The public's competence in this area is low (Kuzior, 2020), and people are often unaware of the consequences that can result from the misuse of artificial intelligence and cognitive technologies (Kuzior, Kwilinski, 2022).

3.2. Intelligent means of physical destruction

Cognitive warfare, to ensure success in armed conflict, must be complemented by a variety of physical means of destruction. The armed forces and special services are trying to use the latest technological advances to their advantage. The priority technology that has become the focus of the new race is artificial intelligence. Artificial intelligence using networks of neurons, operate independently, based on a process of deep learning. Russia, China or the United States are constantly reporting new technologies on which they are researching and experimenting. Korea, which pretends to be a military power, is also trying to match them. There is a whole range of military activities where the technologies used have a positive side. Artificial

intelligence is being used extensively in a variety of systems, from training to command systems to combat. Artificial intelligence also perfectly solves various logistical problems. Unmanned aircraft, or drones, are sent in reconnaissance operations, avoiding the participation of soldiers in dangerous situations. Equipping drones with artificial intelligence, will allow reconnaissance operations without the need for a human operator (Techgame, 2020). Ukraine has begun using Clearview AI technology to recognize dead people. A facial recognition tool has been used. The AI has a database of more than 20 billion images from public online sources. Using this software, Ukraine has been able to attempt to recognize slain soldiers. If the personalities of the fallen can be determined, families can be notified, who are entitled to know the fate of their relative. However, human rights organizations have criticized the use of the Clearview algorithm because of the identification errors that can occur (News, 2022).

In addition to the humanitarian application of artificial intelligence, there is a long list of negative consequences for humans. Nowadays, almost all new war tasks and targets are being completely automated For example, the development of artificial intelligence within the U.S. military has mainly focused on the area of weapons systems, as well as the spheres of offensive operations or cyber security, and in the context of the war in Ukraine, the U.S. Department of Defense is looking for opportunities to realistically apply AI to combat operations (AIMarketing, 2021). The Turkish army is developing a project called Maven, which is concerned with equipping military drones with artificial intelligence capable of autonomous targeting. A report on the development of lethal autonomous weapons has already been published in 2019 by the Dutch organization PAX. Israel, for its part, has made no secret of the fact that it has sent robots equipped with machine guns into the Gaza Strip. It has also used a flock of drones controlled by artificial intelligence in warfare. On its official website, the Israeli army displays a robot named Jaguar. It is equipped with a machine gun, high-definition cameras, transmitters, searchlights and speakers. Its software allows it to find its own way to a charger, to which it can connect itself (Focus). The People's Republic of China is also developing so-called "drone swarm" technology, where a sizable number of machines make decisions on their own based on the information they gather (Cyberdefence24, 2019). It is also researching artificial intelligence that will guide missiles to a specific target and carry nuclear payloads. It already carries a number of threats to every human being (AIMarketing, 2021).

Among the most sought-after technologies designed to change the face of armed conflict are robots. One example of the application of robotics is the robot dogs that are part of the ABMS (Advanced Battle Management System) (Focus, 2022). The plan is to build an assassin robot that will take part in the most difficult military missions and that can replace soldiers. In doing so, it will be ruthless and indestructible. It will not need permission to eliminate its targets immediately, as it will be fully autonomous. According to some sources, work on and robot soldiers is already advanced (AIMarketing, 2021). The most autonomous of these are referred to as LAWS (Lethal Autonomous Weapons). These are machines capable of targeting and destroying a given target in a changing environment and without human intervention.

According to the authors of the French parliament's defense committee report, LAWS weapons are defined in two ways. On the one hand, under the acronym LAWS may be a set of automated weapons capable of inflicting death, regardless of the level of autonomy. On the other hand, in a definition narrowed to the criterion of autonomy, a LAWS is a machine capable of setting its own rules of operation independently of another external operator. This is the definition used by major military powers, including France. The French defense commission gives another definition, acceptable to the international community. According to it, LAWS are weapons systems capable of selecting and destroying targets independently, without human intervention, in a changing environment (Assemble Nationale, 2020; Chojnacki, 2015).

There is also research on superintelligence. There are at least two possible categories of superintelligent systems - biological and artificial (Bostrom, 2014). A key tool on the road to achieving superintelligence may become genetics and genetic manipulation. Experts in the field believe that countries that do not allow the use of this technology will lose out economically, scientifically and militarily (Armstrong, Bostrom, and Shulman, 2013). Superintelligence could potentially be achievable through biotechnological enhancements, which in turn could affect the speed and ability to develop superintelligent machines. However, the lack of control over superintelligence poses a threat to civilization, not least because its goals do not necessarily coincide with those of humans (Marszałek-Kotzur, 2022).

Activities of a military nature have also not been resisted by space. The U.S. and allies are developing in space such areas as satellite intelligence, communications, navigation, target detection and early warning systems. Artificial intelligence is being used here to conduct ongoing data analysis to detect and prevent threats to military personnel in space and potential attacks on US territory. China and Russia are also pursuing their military objectives in space (Space24, 2022-1). With the capabilities of these three rival countries in space, all indications are that space is broadly becoming a subject of militarization as a place to gain a significant advantage over a rival. Both Russia US and China have missiles that can destroy enemy satellites in orbit (Space24, 2022-2)

3.3. The ethics of war

Killing people is generally considered to be the morally worst act, although it seems that perhaps some types of torture rank even lower on the moral scale (Sussman, 2009). In the face of such a thesis, it is surprising the ease with which we are able to pass over contemporary armed conflicts fought at various points around the world. After all, wars by definition should be associated with paradigmatic evil, reflecting organized, mass killing. After all, one of the key goals of soldiers fighting in armed conflicts is precisely to kill enemies, that is, to kill people. However, despite its great sensitivity to human suffering and its emphasis on the value of human life, modern Western civilization also does not cut corners when its armies take part in armed actions, and the ethics of their actions leave much to be desired. The basic dilemma not only for war ethicists, but also for scholars of international relations remains the question

of whether the use of violence is acceptable at all, and if so, the question should be asked: in what situation and by what means? (Rhodes, 2009). Ethics related to armed conflict is very complex and problematic. It draws on the contributions of many disciplines, such as philosophy, political science, sociology and psychology, but still does not provide answers to the constantly emerging new ethical dilemmas. (Wolfendale, Tripodi, 2011). Traditional ethics of war, is understood as a set of beliefs established among both soldiers and civilians. It has been partially codified in the form of public international law (Falkowski, WP; Falkowski, Marcinko, 2014; Flemming, 2003; Lankosz, 2006). It permits, and sometimes even mandates, actions that are considered morally unacceptable in peacetime, or worthy of the greatest moral condemnation. The problem lies in the extraordinary leniency we show for the actions of soldiers participating in war. First of all, it is widely recognized that soldiers have a "license to kill" opponents of the conflict (Zuradzki, 2010). Of course, in theoretical considerations of the ethics of war, we can find a variety of positions. For example, proponents of realism in international relations or political realism are of the opinion that universally applicable laws, including moral laws, do not apply during war (Walzer, 2010). On the other hand, pacifists hold the view that under no circumstances should one kill or use violence against another human being (Cheyney, 2009). In the literature, one can also find many theories of just or unjust war. It is nowadays accepted that in addition to defensive wars, i.e. wars fought in defense of one's own territory, population or resources, one can conduct, for example, humanitarian interventions against some bloody regime. It is not only the state as an entity that is important to defend, but first and foremost the rights of human beings, i.e. the citizens living in the state, must be defended. There has therefore been a shift from thinking about war and the question of the justice of war in terms of states, to the category of human individuals. It is to this issue that modern philosophers and ethicists are paying attention. One element of the traditional doctrine is that soldiers can fight according to the rules and, in a sense, do not commit evil as long as they do not break those rules. Another is the principle that only combatants are acceptable targets for attack, and non-combatants are not. It is also never permissible to attack civilians (Walzer, 2010; Luban, 2009). Nevertheless, an important moral issue is also the fact that the victims of conflicts are rank-and-file soldiers, who very often are not responsible for causing the conflict, nor are they aware of its real goals, or when they fight against their will (McMahan, 2009). One of the goals of modern international law of armed conflict, also known as international humanitarian law, is to protect both belligerent soldiers and uninvolved civilians, and to limit the use of violence as much as possible. It imposes specific duties on all belligerents, which they are obliged to observe (Henckaerts, Doswald-Beck, 2005; Waltzer, 2010). If one were to adopt the modern conception, which recognizes that every human being has an ascribed human right, then no one has the authority to kill another human being, even if he or she is a soldier. Therefore, it is not the case that if Russian soldiers only kill Ukrainian soldiers, they are doing nothing wrong, because they are participating in a war. Ukrainian soldiers, on the other hand, use violence in self-defense - they are defending themselves and their fellow citizens. Under no circumstances can one fight

in an unjust cause with just methods. By assuming that soldiers fighting in an unjust cause do nothing wrong, we accept that the moral evaluation of killing depends on the situation. We apply relativism in ethics, judging the same event depending on the context. Meanwhile, when the human rights of its own citizens on its territory are violated, a country's sovereignty should lose its meaning. However, current international law is a reflection of the traditional doctrine of just war. A ranking Russian soldier fighting in Ukraine cannot be held responsible for the mere fact of killing Ukrainian soldiers. This can be done if he violates the rules, i.e. intentionally destroys civilian targets of the state, causing harm to the civilian population (McMahan, 2009).

Conducting military operations by traditional methods is very complicated from an ethical point of view. The problem is exacerbated when armies work on weapons equipped with advanced modern technology and artificial intelligence, especially autonomous action systems. The development of robotics and artificial intelligence algorithms is so rapid that some of them are beginning to behave like humans. Their increasing level of complexity makes their operation virtually impossible to comprehend by human reason. It is also becoming increasingly difficult to predict the "behavior" of a given algorithm in a particular situation (Kosinski, 2021).

A kind of peculiar categorical swap is occurring more and more clearly, namely, machines are being systematically humanized, while at the same time dehumanizing humans (Marszałek-Kotzur, 2022). Humans increasingly want to put more and more decisions in the hands of artificial intelligence. For this reason, many developed countries have begun work on regulations in this area (Karliuk, 2018; Gennuth, Weng, Matsushita, Kisiel, 2021)

The use of force through weapons equipped with artificial intelligence carries a frightening vision for humans. The report Ethics and autonomous weapon systems: An ethical basis for human control, prepared by the International Committee of the Red Cross, emphasizes the importance of preserving human agency and intent in decisions regarding the use of force. This is one of the key ethical arguments for limiting autonomy in weapons systems. Decisions to kill, injure and destroy cannot be proceded on machines. Humans must be present enough in this decision-making process to maintain a direct link between human intent and the ultimate use of the weapon. Of great importance is not only whether a person is killed or wounded, but also how he or she is killed or wounded. Concerns about the loss of human dignity as an inalienable human right are drawn in the background. If human agency is lacking to the point where machines effectively and functionally take over these decisions, this undermines the human dignity of both the combatants who are targeted and the civilians who are put at risk by attacks on military targets (Ethics and autonomous weapon systems: An ethical basis for human control, International Committee of the Red Cross, Geneva, April 3, 2018). Activists and some UN-affiliated countries are demanding the creation of a new international treaty in which the rules for the use of artificial intelligence in weapons systems would be clearly defined and prohibit autonomous decisions , regarding attacks on human targets made by algorithms. They argue that an algorithm could make a mistake and accidentally attack a civilian

population. However, Australia, Russia, the United States, the United Kingdom and Israel have been against such a ban for many years. States It has been reported that US President Joe Biden, has announced that he will not sign any binding international agreement that would ban the use of "killer robots." Instead, Biden administration officials are proposing to create a "non-binding code of conduct" when it comes to the use of such algorithms (Focus, 2021).

4. Discussion

The cognitive warfare described above is particularly controversial due to the prevailing lack of knowledge and awareness in societies. Cognitive warfare involves not only states through their own secret services, but also transnational corporations and terrorist organizations. Strategic advantage in 21st century conflicts lies in the ability to establish channels of communication, understand their motivations for people's actions and stimulate their beliefs, views and actions in the desired direction (Kuzior, Kwilinski, 2021; Ober, Kochmanska, 2022). This allows access to political, economic, cultural and social networks, both their own and those of a potential adversary. The appropriation of minds is carried out by influencing the perception of the opponent by transmitting and receiving given information, as well as by intimidating and deterring citizens. Other military operations can be carried out on a malleable society shaped by means of cognitive warfare. Defense against manipulation requires public awareness of cognitive warfare. Therefore, it seems that it is the task of the government, the military, institutions, services and citizens themselves to develop such awareness, in order to achieve social resilience to the influence and exertion of the enemy and to develop appropriate responses to suspicious campaigns, already in the process of their formation. NATO plays an important role in promoting and strengthening civilian preparedness among its member states. Article 3 of its founding treaty, establishes the principle of resilience, which requires all Alliance member states to maintain and develop their individual and collective capabilities to repel an armed attack. This includes supporting continuity of government operations and the provision of essential services, including resilient civil communications systems (NATO Review, 2021).

The level of sophistication of technologies related to combat operations in land, sea, air, space areas is also unknown to the average citizen who is not an expert in the field. The military secrecy surrounding research and work on artificial intelligence makes it difficult to reach reliable information.

Among the new military technologies there are LAWS, which fall into the category of intelligent weapons. The introduction of LAWS to battlefields not only implies legal considerations regarding the specific norms applicable to these systems, but also opens

a discussion on how to treat humans in the context of artificial intelligence operations (Chojnacki, 2015).

In addition to the moral problems associated with the proliferation of such weapons, there are other issues. One is the risk of making mistakes related to the actual ability of the algorithms to distinguish between a soldier and a soldier, and between a soldier and a civilian. With the increasing distance of the weapon operator from the point of impact, a person may simply become a target like any other object. Machines can also be vulnerable to accidental or intentional activation or deactivation. From a moral standpoint, it cannot be justified to delegate such decisions to a machine. Allowing a machine to make life-and-death decisions about people goes against the principles of human dignity. A robot, even an autonomous one, will never be able to distinguish right from wrong and make sense of its actions. Its action is limited only to what is quantifiable. Anything beyond the calculable is a limitation for a machine, incapable of solving a moral problem or making an intuitive judgment in the absence of certainty (de Castex, 2020).

This is why there are numerous protests around the world to stop the work being done by military engineering in applying artificial intelligence. This is because there is a serious risk that if countries like North Korea take over these systems, a global war could break out.

While not all of the advanced technologies being tested by the world's armies are designed to kill the enemy, there is no such thing as a humanitarian weapon. The dangers that may result from the deployment of modern technologies in the army call for the creation of new regulations governing the use of artificial intelligence. The idea is to develop an international convention, which should introduce clear rules for the use of algorithm-controlled weapons systems. However, it seems that some of the world's largest armed forces are moving toward developing such weapons with the logic of deterrence in mind. The key to solving this difficult arms race may lie not just in global treaties, but in rethinking what combat artificial intelligence can be used for (Technocracy, 2020)

The algorithmic world is demonstrating that machines are far more efficient, effective and reliable than humans, surpassing their technical and physical capabilities. Algorithms, increasingly incomprehensible, are full of soulless and technical rationality. However, they are slipping out of human control and raising more and more concerns.

5. Summary

The above analyses of the state of development and the latest technologies in the military space were intended to familiarize the reader with the existing technological capabilities of armies, the advent of which has hitherto been regarded as remote or impossible. The outline of the above issues was also intended to draw the reader's attention to the issue of new challenges

to the application of ethical norms relating to means and methods of warfare, as well as to the issue of their potential impact on the way combat operations are conducted. All these issues involve real threats to life, health, psyche, as well as the observance, or violation, of human rights. It is likely that the cognitive warfare already underway is making various changes in our minds, through a series of unethical manipulations, without the participation of our consciousness. Improved killing techniques threaten civilian populations. The lack of reliable work on the development of clear and transparent ethical standards and legal provisions on the prohibition of the development of deadly artificial intelligence, and even the reluctance of the superpowers to establish them harms basic human rights. All this should arouse our universal opposition. Meanwhile, the secrecy surrounding the strategies conducted and the development of advanced warfare technologies prevents the dissemination of knowledge and the creation of awareness among citizens about the consequences of the use of these technologies. This paper is only an outline of the issue and does not claim to be exhaustive. It can be a starting point for conducting detailed research in the above area.

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