

THE EFFECT OF ARTIFICIAL INTELLIGENCE TECHNOLOGY ON POLITICS AND INTERNATIONAL RELATIONS

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ABSTRACT

We are now in a period called digital society, and each device has started to be referred to as "smart". "Thinking and self-learning" machine feature has been introduced into the smart machine concept and the digital society continues to raise with the "artificial intelligence" technology. States are trying to rebuild their societies based on new technologies. What is artificial intelligence technology, which is considered an existential threat to humanity by its development? Why is it feared? Although there is not a single definition that is accepted globally, artificial intelligence is defined as a part of computer engineering as a set of software and hardware systems that have many capabilities such as digital reasoning, movement, speech and sound perception, which allow people to think like computers. Computer science defines AI research as the study of "intelligent agents". Artificial intelligence technology continues to shape the future as a deep-learning computer engineering project. This article will show how artificial intelligence technology will shape the field of politics and international relations.

Key Words: Artificial Intelligence, Robots, Politics, International Security, Weaponization of AI.

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INTRODUCTION

Today, information technology is seen as the revolutionary technology in economic, political, military and social fields. It has become a technology that could transform the whole society and bring about new threats after the industrial revolution. We are now in a period called digital society, and each device has started to be referred to as "smart". "Thinking and self-learning" machine feature has been introduced into the smart machine concept and the digital society continues to raise with the "artificial intelligence" technology. States are trying to rebuild their societies based on new technologies.

Every technology is widely used in both civil and military fields. While technological innovation is taking place in areas such as poverty, hunger, transportation, law, energy provision, health and environmental protection necessary for a sustainable world in the civilian field, new weapon technologies that can increase the defence and military capabilities of a state in the military field come into play. While technological superiority and leadership have gained importance within the definition of the power of the state, security policies are shaped according to new technologies. The technology used in the military field also increases the fears and worries. The American government attaches great importance to its technology companies

to maintain its world leadership. The executives of these companies inspire people of other countries as genius investors who direct humanity through global media. Bill Gates, who is the founder of Microsoft, deceased Steve Job, who was the owner of Apple Computer and Elon Musk, who is the founding partner of Space X-Tesla Motors-Pay Pal can be given as examples in this regard. While China is planning technological development as part of the strategic future goals as a state, it also wants to be the sole leader country in this area. Other countries, on the other hand, are rapidly involved in projects depending on these technologies and thus, a world that is built with new technologies are emerging globally. The world-wide network "www" was eventually realized at the end of such a process.

Artificial intelligence technology continues to shape the future as a deep-learning computer engineering project. This article will show how artificial intelligence technology will shape the field of politics and international relations.

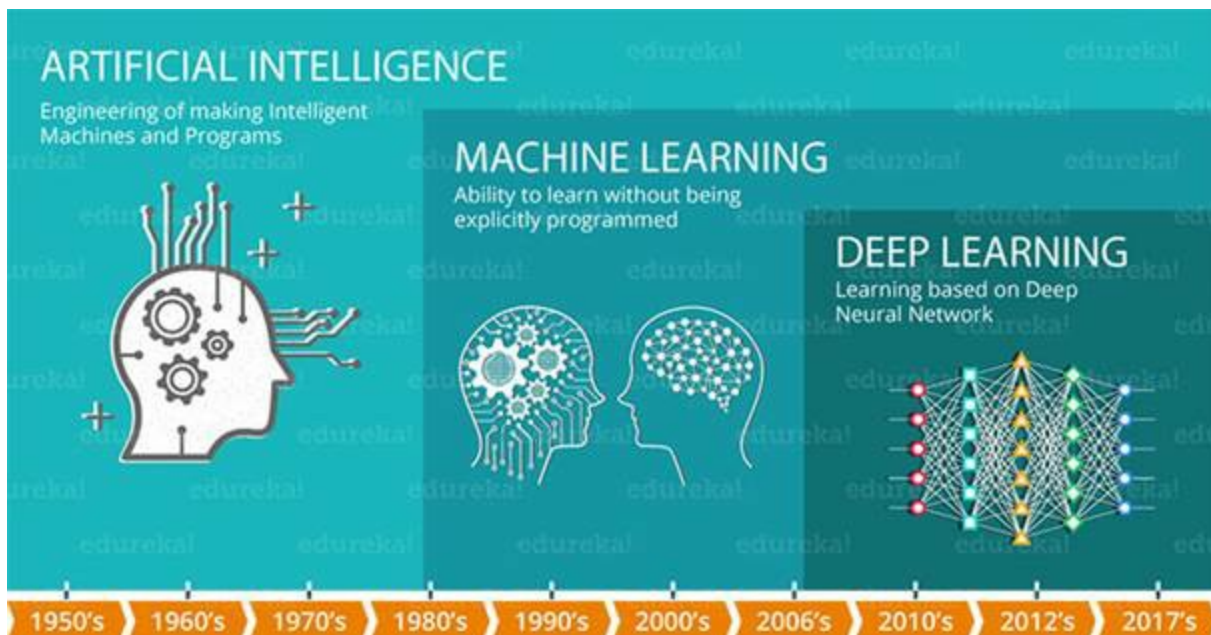
ARTIFICIAL INTELLIGENCE TECHNOLOGY

Most technologies have been adopted and implemented throughout history without understanding human beings. Knowing the technology, understanding what it is capable of, knowing its strengths and weaknesses together with risks should be the first starting point. The basic question must be "If I would like to use this technology in a specific area, how can I solve the problems emerging related to that area and what can I create with this technology". Artificial intelligence is considered to be the greatest existential threat that is thought to bring the end of humanity as a result of the competition in this field between the states and the ongoing studies carried out by many scientists and it is a technology wherein all studies must be performed in a transparent and controlled manner. The efforts of the British physicist and astronomer Stephan Hawkings ([Cellan-Jones \[web\] 2014](#)), who passed away in 2018 and Elon Musk, who included the concerns of 116 scientists from other countries in a letter to the United Nations to ban the weapons systems based on this technology, reveal that artificial intelligence technology carries unpredictable risks.¹

What is artificial intelligence technology, which is considered an existential threat to humanity by its development? Why is it feared? Although

there is not a single definition that is accepted globally, artificial intelligence is defined as a part of computer engineering as a set of software and hardware systems that have many capabilities such as digital reasoning, movement, speech and sound perception, which allow people to think like computers. Computer science defines AI research as the study of “intelligent agents”. Since coding is the element that makes this technology possible, individuals who can do coding have the power to make computers do everything. In the definition of artificial intelligence, concepts such as machine learning and deep learning are also included. Machine learning is the algorithms that enable the machine to obtain logical and rational results with the inputs entered as data. An algorithm is a set of unambiguous instructions that a mechanical computer can manage. It can be performed in two ways as Supervised and Unsupervised. In supervised learning, human labels the input data first. On the other hand, in unsupervised learning, there is an ability to find patterns in a stream of input, without a human label, the inputs first. Deep learning is the self-learning of the algorithm and improving the knowledge it learns. As can be seen from the table below, chronologically first artificial intelligence takes place and it is followed by machine learning, which is a sub-branch of it, which leads to deep learning about it.

Figure 1. Chronology of Artificial Intelligence



Source: Media Click [web]

When Alan Turing, the father of Artificial Intelligence technology, created this technology, he started with this question: "Can machines think? " (Turing, 1950: 443). Turing successfully hacking Nazi Germany's secret encryption machine "Enigma" during World War II, defined the main purpose and vision of the artificial intelligence technology through the Turing test (a test of machine's ability to exhibit intelligent behaviour equivalent to a human), referred with his name. According to Turing, computers could mimic human cognitive activities and even have the ability to think. This idea has been confirmed by the technology achieved today. In the 1950s, thinking machines were called cybernetics, automata theory, and complex information processing.²³ The first concept of artificial intelligence was used in a summer school research project called the Dartmouth Workshop in 1956, and possible areas of use of this technology were discussed. Automatic computers, natural language processing, neural networks, a theory of computation, self-improvement, abstraction, randomness, and creativity were considered within the field of artificial intelligence (McCarthy, Minsky, Rochester, and Shannon [web] 1955).⁴ Artificial intelligence, which could not show much progress due to the high costs and negative reports on the technologies to be developed until the 1990s, entered a breakthrough in 2010 and has become an area where many technology companies invested.⁵

Many studies connected to the neuroscience discipline such as how a person thinks, decides and remembers, have gained speed starting from the 1950s to create a machine that can think. Stuart Russell and Peter Norvig (1995: 5-4) have identified four fundamental ideas that should be taken into account in the principle of developing intelligent machines in *their Artificial Intelligence: A Modern Approach* book for computer programmers and software engineers;

- 1) Think like a human
- 2) Think Logically
- 3) Act like a human
- 4) Act rationally like a human

The rational model of action is what should be according to the Turing test. The *Deep Neural Networking model* has been developed to represent the human brain consisting of neural networks called neurons with a software

function.⁶ The learning principle of the human being is realized by interpreting the data obtained through our senses by keeping in memory, remembering and using our intelligence. Machines have also realized the learning function by imitating the learning style of the human brain. The ability to learn from data and develop their algorithms is achieved by machines.

The question of whether a machine model can adequately describe a brain has long been considered in terms of either strong AI or weak AI. Most people find weak AI as computers can solve certain kinds of problems better than humans. This kind of artificial intelligence operates within a limited context and is a simulation of human intelligence. Narrow AI is often focused on performing a single task (playing strategic games, language translations, self-driving vehicles and image recognition, etc.) extremely well and while these machines may seem intelligent, they are operating under far more constraints and limitations than even the most basic human intelligence. Weak artificial intelligence can perform voice recognition (such as Siri developed by Apple), image processing (in the field of health radiology, security cameras) natural language processing (search engines) and interpretation (forensic cases) operations ([Executive Office of the President National Science and Technology Council Committee on Technology, 2016:7](#)).

Weak AI also includes artificial intelligence and the capacity to store and process unlimited data through cloud computing. Cloud computing, which is the name of the system that provides online storage service that can access from anywhere via the internet, is important for the efficient operation of artificial intelligence. While the data gained a critical role as the raw material of artificial intelligence, it has been suggested that the one who has control over this data has great power. Big data has become the most valuable resource of digital life after oil, developing with artificial intelligence. In 1990, the data created a new business, data mining, used in the business world and the press. This concept was trademarked by a San Diego-based company, HNC. Data mining is also used as data archaeology, information harvesting, information discovery. During this process, while scanning information in databases, anomaly detection (unusual data records), association rule learning (search for relationships between variables), clustering (as to similarity), classification (generalizing known structure), regression (finding a function) and summarization (visualization and report

generation) functions are performed ([Fayyad, Piatetsky-Shapiro and Smyth, 1996: 44-45](#)).

By the way, the strong AI is however machines can think like humans and solve the same kinds of problems just as well. It is also called Artificial General Intelligence. In this type of AI, a machine is like a human being. When we talk about machines, it has been started to talk about creating robots from desktop computers within the concept of a thinking machine. After humans and animals with biological brain structures, machines with artificial intelligence started to take part in social life. Humanoid robots, as well as machine parts in the form of robots in the business world, agriculture, health, and service sectors, have become visible. Robot animals, which resemble animals other than humans, have been created by combining nanotechnology and robot technology to be used in areas such as tunnels where humans cannot enter.⁷ Considering that it would be difficult for people to adopt metal-shaped robots, they were covered with a substance similar to the skin of the human being and transformed into a design that cannot be distinguished from humans using the software. Affective informatics paved the way for the creation of robots in a way that can mimic human emotions by utilizing multiple fields such as computer science, artificial intelligence, robotics, cognitive science, genetics, and psychology ([Minsky, 2007](#)).⁸ As the digitalization of emotions, it was thought that a robot could make empathy and anticipated an alternative to the concept of "killer robot". It is assumed that there will be no civilian losses other than the real target when drones and robots gain emotional awareness. Taking into account the first of the three rules of Isaac Asimov⁹ on robots, robots cannot harm humans unless we, as human beings, teach them violence or code their software to kill ([Asimov, 1950:40](#)). However, any software can be modified by a virus. It should be considered that it does not provide a 100 percent guarantee. In Dark Fate, which is the latest movie of the Terminator series, the Rev-9 humanoid robot was able to translate the DNA of the person he touched into his image. Indistinguishable from humans, the robot can be used as an ideal weapon for states seeking intelligence and control of any country, but this robot can also choose to hunt people at its target. The robotic space that humans can no longer control through deep learning (where machines will develop new knowledge and behaviour by themselves) can also end humanity.

On the other hand, the biggest problems for robot sapiens are how they are

energized and the obligation to keep their mobility, speed, and flexibility similar to human beings. Robots supported by plastic elements instead of metal lining are applied with a skin, which is called Frubber, similar to the human body with the help of nanotechnology (the skin material used in the robot Sophia and Zeno, created by *Hanson Robotic*. This multilayer elastic polymer provides realistic expressions when motors and actuators are activated.) human prototypes of humanoid robots have been developed.¹⁰ The ‘*Geminoid*’ robots which are indistinguishable from human beings created by robot scientist Hiroshi Ishiguro¹¹ and Cynthia Breazeal¹² bringing social robots to life can be given examples of this. However, from the power perspective, the question of how long the battery, electricity and solar-powered robots would sustain without charging, limits their capabilities. While it is calculated that the existing resources in the world will not be able to meet the requirements of the future population, either the human population will decrease or the planets with the possibility of life similar to the alternative world will be found in the solar system. Regarding the aerospace studies, robots are considered as the most important tools that can carry out new planet searches, which cannot be achieved by human beings. The risk of radiation in the long space travel, the atmosphere of the planets has made robotic machines, which do not need other than energy to work long-term, indispensable for scientific space studies. The planetary research robots currently developed by NASA are the Mars rovers, Curiosity, Spirit and Opportunity, Puffer, BRUIE, SPIKY, R5 or Valkyrie ([NASA Science Space place \[web\] 2017](#)) and FEDOR Skybot F-850, which is a humanoid robot that was sent back by Russia in August 2019 to serve in the international space station ([Phys \[web\] 2019b](#)).

On the other hand, the question on what will happen to the machines if they gain super intelligence way beyond the smartest person in the world through machine learning and deep learning under Artificial General Intelligence i.e. strong AI has gained importance.¹³ What make us think that way are the facts that IBM Deep Blue developed by IBM had defeated the world chess champion Garry Kasparov in 1997 and the machines called AlphaGO and AlphaGo Zero defeated the best player in Go game, which is more difficult than chess, respectively in 2016 and 2017 ([Wu \[web\] 2018](#)) by creating a new strategy and move. The answer to the initial question was as explained by John von Neumann in "singularity" concept or *technological*

singularity” explained by the science fiction writer [Vernor Vinge \(1993\)](#) based on the negative hypothesis that artificial intelligence goes beyond human intelligence and radically changes human nature and civilization until 2050.¹⁴ Because the technology will reach a certain point after which it can no longer be controllable and predictable through deep learning of the machines. In particular, how we will be able to predict the intentions of sentient robots that can feel emotionally? Facebook robots, which develop their language through interaction between machines, have revealed the weakness that humanity cannot control ([Kucera, \[web\] 2017](#)). While a virus system can damage computers all over the world, a robot can create its virus through deep learning and put all robots at its disposal. The strategic infrastructure of many states can be damaged, like the one happened in 2010 at Natanz nuclear enrichment plant of Iran by a cyber weapon, like ‘STUXNET’ ([Halliday \[web\] 2010](#)). There are a lot of scientists who suggest that if "killer robots" developed for use in the military field delete the semi-autonomous features and come to an autonomous position and see the "human beings" as a target that needs to be destroyed, they will conquer the world.

Besides, the creation of a new species between human and robot has been suggested by thinkers who advocate the transhumanist¹⁵ current asserting that the human can transfer to the machine the consciousness and live in an ‘*avatar*’ robot¹⁶ for reaching eternal life. One of the well-known people who put forward these ideas is Ray Kurzweil. As to him, we will be a human-robot hybrid by 2030 ([Kurzweil \[web\] 2002](#)). The third species called cyborg (cybernetic organism), which is a mixture of human and machine (bionic or robotic), is thought to be used in civil and military fields ([Landau \[web\] 2012](#)). As *human augmentation*¹⁷ technology which is the field of developing human capabilities with technology, i.e robot arm and leg prostheses, exoskeletons retinal prostheses against visual damage, bionic eyes, neural implants, cochlear implant (hearing aid) apparatus, microchip implants under skin, 3D printed body parts (hearts, lungs, and kidneys) develops, the process for achieving the cyborgs has accelerated ([Bohan \[web\] 2017](#)). Transhumanism studies seem to have shifted post-humanism by changing human nature. The new human model, which emerged with the help of biotechnology, nanotechnology and artificial intelligence in the human genome structure, is expected to take its place in society as a new generation

after humanoid robots.

After specifying the innovations provided by artificial intelligence technology for human life, the impact of this technology on politics and international relations will be discussed.

THE EFFECT OF ARTIFICIAL INTELLIGENCE TECHNOLOGY ON POLITICS

If we accept the state administration as the definition of politics, the main tasks of the government governing a state can be defined as maintaining the order of the system, achieving the welfare society and protecting the security of the citizens. It can be said that artificial intelligence, one of the emerging technologies, has contributed to increasing diversity by creating new identities alongside social individuals in the process of transformation into a digital society starting with compound technology. Apart from human robots, androids and human cyborgs developing in social life will be assigned to contribute to the state order by undertaking certain tasks. Human rights have begun to come up with demands that people not only apply to humans but to cyborg citizens.¹⁸ With the help of genetics, biotechnology and artificial intelligence, a more intelligent, powerful human design can be produced according to the needs of states in bureaucratic and military fields. The post-human model will cease to be a problem in countries where the population does not develop at the desired level, especially where the male population is low. (Fukuyama, 2003) In the bureaucratic model, there will be a staff of civil servants who are loyal to the state, have a smart human model and whose brain can be controlled by the remote microchip.

The industrial revolution 4.0, in which robots began to take part in the workforce, is a development that will prevent any country from becoming a production centre. As the concept of cheap labour goes down in history, robotic machines that can be operated 24/7 will be the main employees of the production line. Germany, which transfers foreign workers from abroad, many countries producing in China will now be able to continue their manufacturing with their own robots without being connected to this country. Small states will be able to overcome the limitation in production due to a lack of population with robotic machines. The surplus-value, which is the basic concept of Marxist ideology, related to which the worker does not

receive his right, will show that the exploitation order ends with the disappearance of the blue-collar worker position. With the robots taking over the works in the factories, the position of support elements that can repair these robots can be created for the old blue-collar workers. Robots have already started to work in professions that carry risks for human life, such as mining. It is said that not only the blue-collar but also the information-based, reporting and analysis executives will find it difficult to find jobs as a result of intelligent software (White House, 2016: 12-20). Today, the high inequality between the rich and the poor can be further increased by the new economic working order resulting from technological development. Artificial intelligence, while attracting robots to the job site, limits the possibilities of human capital. Besides, an attack on the machine production system based on artificial intelligence with cyber weapons carries a risk that could bring the entire economy of the country to a standstill and cause economic collapse.

Instead of parties and their leaders in state administration, technology creators that help build this digital order will become dominant. Developers who know the weaknesses and strengths of algorithm software will be able to shape the state system in their own way. Because of unfair elections in many countries, the masses of people who go down the streets will be able to obey a political system in which electoral security is controlled through blockchain, thinking that democracy is working correctly. As much as political leaders wanted to control the Internet, computer experts who could find open doors were able to exempt themselves from this control at all times. New technologies, therefore, create a political order in which real power and authority are transferred to those who create the system based on artificial intelligence. The claim that states will disappear, and technology companies will rule the world is still valid.

Although we want to define the modern state as a democratic constitutional state, there are also monarchies based on the authoritarian and one-man regime in the world. Artificial intelligence applications that are written on the order and can control people and keep them under control will ensure sustainability in such regimes. As stated in George Orwell's (1949) 1984 book, the oppressive authoritarian regime will be able to maintain control over the masses that are under its control, manipulation and even create a digital virtual reality like in the Matrix movie. As William J. Dobson'un (2012) mentioned in his book *The Dictator's Learning Curve: Inside the Global Battle for Democracy*, dictators will be able to adapt to the

new technologies of the world and continue to challenge the progress of democracy. Since data mining technology enables real-time control of the masses, it has become possible for an authoritarian leader to maintain a police state. It is seen that features defining the liberal state such as human freedom, freedom of will and freedom of expression cannot develop. Media and social media have become easier to control and it has become possible to produce content that can mislead the public. The so-called post-truth contents have become easier to be produced with artificial intelligence. The obedience mechanism will be facilitated by people who can keep it under technological control.

It can be thought that the class difference based on economic data among people in the society can continue again. They will be superior in terms of human types (physical and mental abilities) redesigned within the scope of transhumanism. Today, the costs of research for eternal life are covered by such 1%, who rule the world. To maintain these advantages, the technology to be obtained after the money spent can only be applied to them and some units of the state (military-police-intelligence-economy / foreign policy management). This class distinction will continue with those who can renew themselves with technological means. Just as there are nine countries with nuclear weapons technology, a maximum of three states with artificial intelligence leadership will ensure the continuity of the hierarchy between states. The state that can develop the fastest software and control everything with artificial intelligence will become a hegemonic state. Within the scope of international political economy, we will see policies developed over big data such as controlling financial structures through stock exchange algorithmic software, breaking the defense of rival states by accessing secret weapon systems, manipulating their people through social media networks, maintaining order with new generation cyborg and android armies, keeping the data of each object produced with internet technology.

Every global problem, poverty, income inequality, conflict and war exist today will also survive in a new political system based on artificial intelligence. An order will be establish with '*Smart city*' systems starting from every city and expanding to the states in the areas such as energy, food management, air, soil, water and environmental pollution monitoring, chemical attack warning system, traffic monitoring system, thirst, taking measures depending on changing weather conditions (extreme rainfall, such as snow), earthquake prevention warning system, security, waste

management. Cities already have begun to deploy AI technologies for public safety and security. These include cameras for surveillance that can detect anomalies pointing to a possible crime, drones, and predictive policing applications. Singapore is an example of this. In 2019, the tech city of Bengaluru in India is set to deploy AI managed traffic signal systems across the 387 traffic signals in the city. This system will involve the use of cameras to ascertain traffic density and accordingly calculate the time needed to clear the traffic volume (Singh [web] 2019). As with most issues, there are benefits and risks. At least it will be possible to manage resources intelligently without wasting them through these cities. In the security area, through intelligent monitoring platforms for comprehensive community management, new criminal investigations and anti-terrorism measures can be done. Some of the crimes committed under state administration will also change towards the new technological system. Biohackers can pose a threat to transhumanist bodies. Machine learning significantly enhances the ability to predict where and when crimes are more likely to happen and who may commit them.

Driverless cars, flying cars and motorcycles and changing transportation¹⁹ vehicles can also become insignificant with teleportation. In this year Austrian and Chinese scientists have succeeded in teleporting three-dimensional quantum states for the first time (Phys [web] 2019a). That means teleportation is possible. But we do not know how long it takes for humans to use this technology? The teleportation technology will reduce the transportation costs of each house with just one machine bought for the house and will also reduce the time spent on public transport. Time-saving can be said to be the most earned value thanks to these technologies. It would be possible to become a world in which fossil fuels could no longer damage the environment through cars, aircraft and other vehicles. On the other hand, without a visa every person would travel anywhere without controlled. From that point usage in human life would take a long time. This would not be valid for military purposes.

The question of "In a world where computers with super-intelligence and the whole system through which this intelligence are transferred to robots are managed by artificial super-intelligence machines, will education really be necessary for humans?" will come to mind. Or which training branches? Can it be said that there will be science education only? Even today, it is possible to design the teaching techniques for children in a way that they can be placed in visual memory. It will also be possible to learn a foreign language

within 1 hour with a chip implanted in the brain. However, when the state creates its own civil servants through transhumanist or new genetically designed bodies, it will be highly debatable which normal human being will need such an education in a system where they can receive what they want on the "product " basis from the technological firms in the private sector.

It is possible to think that today's societies that evolved into civilization based on artificial intelligence will eliminate the deficiencies of state structures without this technology. Smart Court system would include AI applications for evidence collection, case analysis, and legal document reading and analysis and lead to intelligentization of courts and trial systems and trial capacity. Robotic prosecutor software will be able to make the most accurate judicial decision from all data entered in a justice system. The idea of a justice system that stands at an equal distance from everyone can work in a system based on robot-software. Biopolitical judicial practices may not be allowed in countries that adopt a liberal state understanding. On the contrary, in an algorithmic software of the ruling party seeing the minorities and opposition as enemies, it will perfectly fit with the will of the body governing the justice. The coups are the fear of every political regime. A civilian street movement, or police or security forces coup to overthrow the current power. If you build your police and soldiers from robots based on artificial intelligence and they are controlled by the ruler of the country, the possibility of a coup can be eliminated. However, a hacker or other state that may infiltrate the system may also alter this algorithmic software or send it to the detriment of the administrator. Intervention patterns can be further digitized by making it easier.

Robot reverends are also newly developed applications. It may seem strange for today's generation of people to teach religion by robot software. The use of robots in religious spaces can be a precautionary measure as a technique for combating radical terrorist groups that exploiting religion (Heiweil [web] 2018; [Mind Matters News \[web\] 2019](#)). One can interrupt his cult-based congregations and sects under the rule of a single clergyman. The problem of clergy abusing young children in Christianity can be solved by robots taking over these tasks. Today's a 400-year-old temple in Japan, a robotic priest²⁰ has begun to work. Also, BlessU-2 is another robot priest in Germany ([Thompson \[web\] 2017](#)).

It was decided that the first form of a political city-state, where political

robots would be more than humans, would be established on the territory of Saudi Arabia. The project called '*NEOM*'²¹ is supported by the USA and Israel. Extreme costs that prevent artificial intelligence from developing in certain years have been ensured to be sustainable with Gulf Arabian oil wealth. It will be a new global hub for trade, innovation and knowledge. As operating an independent economic zone, the city would represent a future type of life. Both the United Arab Emirates and Saudi Arabia, while providing all kinds of financial support, a community of camel ridge strolling in the desert, making a civilization leap forward in the 2040s to lead the order. The UAE police organization switched to the artificial intelligence system, and visible police robots became active in the public ([Bridge \[web\] 2018](#)). The NEOM project will bring new opportunities to change the conflict and war environment in the Middle East. This city-state model can serve as an example of state structures that can be established on other planets.

Local government and leaders holding power, who want to serve their citizens politically are trying to ensure uninterrupted and fast state services by encouraging the spread of artificial intelligence technologies. Fair elections for the regular functioning of democracies, the blockage of hostile rhetoric that can offend the public with text analysis, and efficient economic order without being dependent on external labour, technological renewal to increase the capability of the national army starting from the border can be counted as visible effects of politics. In a digital state structure in which human freedom and privacy are narrowed by hidden door cameras (Chinese mass surveillance system) and systems leading to brain control with microchips are implemented, robot and cyborg, android masses added to people can be evaluated as negative effects of this technology on the political field.

THE EFFECT OF ARTIFICIAL INTELLIGENCE TECHNOLOGY ON INTERNATIONAL RELATIONS

The discipline of international relations is a science that emerged after two great world wars so that these wars would not happen again. Every technology change military power by acting directly on the weapon systems and field of defence. In the war literature, where robots can replace human armies as new soldiers, gun powder is seen as the third revolution after

nuclear. It also has a new paradigm that can transform artificial intelligence and machine learning, cybersecurity and cyber warfare. In cyber defence systems, AI and machine learning may allow systems to not only learn from past vulnerabilities but also observe anomalous behaviour to detect and respond to unknown threats. Besides, Artificial Intelligence is a technology that can cause changes not only in military power but also in economic power. It eliminates labour costs and insufficient labour weakness, which is an obstacle to increasing wealth and prosperity.

The reason why the ultimate development of artificial intelligence technology is not desired most by many scientists is the "killer robot" phenomenon. Autonomous robots that are not operated by a human operator seem particularly dangerous as they can destroy not only the enemy but all humanity. Mines can still kill people without distinguishing friends/foes. An aggressive and revisionist state may desire to create a new order by building its entire army out of killer robots. Like Hitler Germany's secret weapons before World War II, robots based on artificial intelligence can change the world's balance. Therefore, it is required that the studies in this field of technology be transparent and that the developed weapons should be limited by international law as in the nuclear arms regime.

Computer-based artificial intelligence with its own decision-making capability and associated robot technology allows the design of robot soldiers in the military field. Military robots that can automate modern battles, combat without fear, detect and disarm targets with superhuman abilities (bulletproof, perfect aiming, working extreme hot and cold regions), aim the targets perfectly and disarm them are thought to reduce casualties and general damage when they are used instead of human beings.²² The presence of the military robot army in the first line of defence or a zone under fire, robotic soldiers taking a position within the building, neutralizing terrorists including suicide bombers, the effectiveness of modular robots in exploration and exploration after a chemical-biological or nuclear attack, providing logistical support are indisputable.

Military robots, which can be directed with the help of remote troops and even with the thought of the military leader, can be in metal appearance (The robot Atlas developed by Boston Dynamics²³ for research and rescue or Robonaut²⁴ designed by NASA for space studies) as well as are in the form of humanoid robots made in China similar to human beings in future years.²⁵

In *Ghost in the Shell* movie (2017), directed by Rupert Sanders, it is seen that a special team of humanoid robots provides city security. Technologies in movies shot by the American film industry Hollywood, such as Star Wars Series, Matrix (1999), I Robot (2004), Star Trek series, Terminator series, Surrogates (2009), Universal Soldier (1992), Cyborg series, Cyber Tracker I (1994) and II (1995), RoboCop series, Avatar (2009) etc. , are slowly being implemented, city security will soon be realized by robots that act like human beings with artificial intelligence.

The software will be of great importance in the design of military robots. Each country will set goals by developing national software according to their threat and enemy perception. Artificial intelligence-based warfare can actually be described as a war of algorithms (Leyton, 2018). Chinese government's smart surveillance system Skynet and Project Maven of American Army are used in Syria. It shows that smart machines are implemented in the military field. It is desirable to develop semi-autonomous weapons that can be controlled by the human operator instead of autonomous weapons created with the algorithm software. The possibility of autonomous military robots, which can move independently by itself, has led to a great debate around the world. They are at risk of ending the human race by copying themselves and communicating through the computer (Scharre, 2018). The American Terminator series directed by James Cameron attracts the attention of the world public in this direction, emphasizing that robots should always be under human control. On the other hand, the biggest problem faced in the fight against terrorism is the difficulty in distinguishing the civilian and the terrorist. Human rights violations of the state are the areas where terror organizations benefit most in legitimizing their actions and creating grievances. The effectiveness of the software should be tested as to whether soldier robots can find and neutralize the right targets. Nevertheless, military robots will be able to undertake effective tasks in areas where a possible chemical-nuclear or biological attack has taken place or to prevent it.

Today, modular robots are used in the military field. Bomb and mine disposal systems (Explosives Ordinance Disposal (EOD)²⁶ and M160 Remote Controlled Mine System²⁷, Airborne Warning And Control System (Awacs) and the Predator drone destroying terrorist targets, laser-assisted sniper targeting system for military units operation (Robotic Enhanced Detection Outpost with Lasers REDOWL²⁸; Soldier wore Acoustic Targeting

Systems SWAT²⁹ (especially the systems developed against Iraqi snipers who eliminated American soldiers during the war in 2005) and Robo-fly that will perform intel gathering and video capturing in find and rescue missions Cognitive Robot Abstract Machine CRAM³⁰, can be given as examples of semi-autonomous systems (remotely controlled by humans), which decrease the dependency on humans in combat environments. Stand-off Detection of Explosives and Suicide Bombers System- STANDEX, which was launched in 2010 to detect suicide bombers from a distance, enables the predetermination of persons with weapons or explosives without using these in places such as transportation centres and stadiums where there are lots of people (NATO [web] 2013).

The US, China, and Russia continue to develop autonomous weapon systems and are in a weapon race based on artificial intelligence. All three countries have proclaimed intelligent machines as vital to the future of their national security. The "arms race" in battlefield artificial intelligence meant smart drones and other systems that roamed around firing. Although it has unpredictable risks, the country that is the leader in artificial intelligence technology will have control of the whole world. Vladimir Putin publicly announced Russia's intent to pursue AI technologies, stating, "Whoever becomes the leader in this field will rule the world." Similarly, the U.S. National Defense Strategy, released in January 2018, identified artificial intelligence as one of the key technologies that will "ensure the United States will be able to fight and win the wars of the future (USA Department of Defense, 2018 :3).

As the Internet enters human life, all kinds of data are produced, while the communication between the internet of objects and machines is strengthened. While each data created is recorded, several countries evaluating these data can easily be manipulated by other states. In the beginning, people produced numerous digital contents in an uncontrolled online environment. The Internet has led a new field of opposition and social movements, in which people, especially women, want to organize and change the existing order. With the leaking of Wikileaks data to the world public, the problem of data security has turned into problems of security of regimes through digital activist movements organized through social media. States that have set up their own national filtering and internet access network are trying to prevent external government interference. While China succeeded with the ' Wechat '

system, Russia has decided to leave from a global access network and establish its own composition infrastructure.

The American government, which created composite technology, has pioneered the technological revolution and consolidated its position as a major force. AI is also a strategic technology that will lead in the future. The Chinese government has already approved a project called “*Artificial Intelligence 2.0*” having specific applications both in the economy and in military and intelligence structures. The Chinese Armed Forces are now working on a unified project in AI 2.0, an initiative regarding precisely the relationship between AI civilian and military applications. On July 20, 2017, the Chinese government released a strategy³¹ detailing its plan to take the lead in AI by 2030. Visual and voice recognition technology used in its own country has become one of the export goods. The social credit system to be implemented will be a model for many states that would like to revive the economy through consumption. In the USA defence system, AI is being incorporated into many intelligence, surveillance, and reconnaissance applications, as well as in logistics, cyberspace operations, information operations, command and control, semi-autonomous and autonomous vehicles, and lethal autonomous weapon systems. The most important part of artificial intelligence technology is that it will change the balance of nuclear weapons in favour of the leading country in this field. A country that has access to launch codes through this technology will have a major advantage over the number of countries, regardless of how many nuclear missiles it has (Lieber and Press, 2017: 11-12).

These three big countries competing in the field of artificial intelligence will also shape the future of human beings. They will be able to survive in the international system without creating a change in the concept of great power. Because AI technology will provide military, information, and economic superiority (Allen and Chan, 2017: 12-42). Other states will continue to protect their national security by preparing themselves for the security risks that may arise with artificial intelligence technology. Because these threats can come from other states as well as non-state actors, especially from the terrorist groups. Terrorist organizations that can use the drone system have also changed their tactics of attack.

In terms of national security, apart from the new war model and weapon forms, mass human migration is also a threat. With the outbreak of civil wars

after 1991, many people had to migrate to safe countries around the world. The Syrian civil war that emerged after 2011 has led to the emergence of new radical Islamic terrorist organizations and the participation of almost all countries in the world as foreign fighters. With the civil war, refugee crises brought new problems for neighbouring countries and Europe. Biometric data such as fingerprints, DNA, eye retina, voice recognition, and face recognition have become important for determining who is a civilian and who is a member of a terrorist group. To exclude population movements from being a threat, states will soon be able to choose to reinforce biometric security with artificial intelligence, such as installing chips, monitoring cameras with a chip in the country, to accept those entering their countries as refugees. The biometric database has become a priority target for national security in every state. Not only the human tracking system but also financially suspicious money tracking has been facilitated with artificial intelligence

Intelligence gathering and analysis is facilitated through open sources thanks to artificial intelligence-based software. Text analysis, tracing digital traces of searched individuals, emotion analysis and access to confidential information have become very simple. Computer vision and machine learning algorithms into intelligence collection cells would comb through footage from uninhabited aerial vehicles and automatically identify hostile activity for targeting. Artificial intelligence computers faster than humans in terms of speed can perform image recognition, speech recognition and translation in noisy environments, geo-locating images without the associated metadata, fusing 2-D images to create 3-D models and building tools to infer a building's function based on the pattern-of-life analysis. AI-based intelligence analysis provides a decisive strategic advantage in decision-making and shaping. The Rev-9 humanoid robot in the Terminator Dark Fate will be able to replace people as an agent that can easily change shape to gather information in the field of intelligence. Algorithm software can be written by terrorist organizations and can be realized through their own communications. To reveal this communication network, human intelligence can be seen as possible by infiltrating into the organization. Although a mechanism that can control all algorithmic software for all states has been developed, different perspectives on terrorist organizations (freedom fighter / terrorist organization) can prevent the establishment of an effective preventive mechanism.

In terms of international relations, artificial intelligence-related

technologies, which we analyse from a "security" perspective, create opportunities and constitute a threat that can end all humanity based on weapon systems. According to this threat, robots are the pessimistic view of who will win if the new form of war is between humans and robots. It has been argued that robotic systems, which collectively hunt people, will continue the war without the realization of the old-child until there is no single human. There is always the threat of a revisionist state or technological company owner to establish a new world order with this technology. Cyborg human profiles can be considered indispensable for both private military companies and governments by changing their warrior profiles. On the other hand, while the poles are shifting due to global warming, there are views that the photon storm will cause the world to become dark without electricity. In such an environment, it can be thought that artificial intelligence may be dysfunctional and may experience life at a level that goes down to the primitive level of life. The human model of Cyborg will also be disabled in such a situation. An effective control mechanism, transparent studies and widespread use of ethical practices can be a saviour for humanity.

CONCLUSION

With the creation of nuclear technology, the world experienced how it could be damaged both in the arms and in the energy field. When we evaluate every new technology from this perspective, it first focuses on the risks. Although it was perceived as a new technology, the beginning of artificial intelligence started in the 1950s, but due to the heavy costs, it showed a bumpy development process and gained momentum after 2010. While multidisciplinary studies bring together scientists from different fields in the construction of the future, opportunities have been discovered to carry human life to eternity. It is assumed in the NEOM city-state on the territory of Saudi Arabia, in particular, that superhuman humanoid robots and similar cyborgs can increase visibility in society in the near term.

The artificial intelligence technology that transforms the international system is a technology that can keep humanity away from the problems of humanity and continue to live as healthy individuals. Robots, in particular, are critical to the construction of life on other planets, even if not for this world. Given Asimov's robot rules, we don't expect robots to kill us unless

we teach them violence. The threat of killer robots will not come from the robots' internal structure, but from the human being's desire to gain more power. The entire history of human life is full of wars and conflicts created by this desire for power. For this reason, one day, human ambition will bring an end to robots that kill all humanity.

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¹ See also Future of Life Institute, “ An Open Letter To The United Nations Convention on Certain Conventional Weapons”, <https://futureoflife.org/autonomous-weapons-open-letter-2017/> (Access 01.11.2019)

² Cybernetics word is first used in Norbert Wiener's (1948) book on Cybernetics. That means to control and communication in the animal and machine.

³ Automata theory means machines that imitated certain features of man, completing calculations more quickly and reliably. It is the study of abstract machines and automata as well as the computational problems that can be solved using them. Automata enable scientists to understand how machines compute the functions and solve problems (Anderson, 2006).

⁴ Theory of computation in theoretical computer science and mathematics, the theory of computation is the branch that deals with how efficiently problems can be solved on a model of computation, using an algorithm.

⁵ See Lighthill report published in 1973. The report gave a very pessimistic prognosis for many core aspects of research in this field, stating that "In no part of the field have the discoveries made so far produced the major impact that was then promised". It was highly critical of basic research in robotic technology and language processing (Lighthill [web] 1973).

⁶ The first computer developed in this field was the Stochastic Neural Analog Reinforcement Computer (SNARC) developed by Marvin Minsky who was a student at Harvard University and Dean Edmond in 1951. The neurocomputer consisting of forty neurons was created to perform a specific task. The model was developed based on the behaviors of a mouse looking for food in a maze. This machine could learn by providing them with memory "neurons" connected to "synapses". Also, It would have to possess memory to function efficiently when faced with different situations. (Cyberneticzoo [web])

⁷ Nanotechnology derives its name from a nanometer, a billionth of a meter. It deals with structures the sizes of which are between about 0.1 nm (single atom) and about 100nm (large molecule) It includes works such as processing, measuring, modelling and organizing at dimensions smaller than 100 nanometers. In other words, controls over material at atomic, molecular and supramolecular levels are ensured through nanotechnology (Drexler, 1986). As materials behaved differently from the macro world at the Nano dimension, this technology became important. Especially molecular nanotechnology which ensures that larger systems are controlled by producing systems at molecular dimensions has created new opportunities in mobile Nano-robots, merging human and robots, brain studies (Nanorobots in neurons to sense or control, readout of brain contents, evocation of thoughts, downloading of brain contents to software, brain implants to expand memory, thinking, and feeling and for communication) (Altman, 2006: 27-28).

⁸ See Rosalind Picard, (2000) Affective Computing, MIT Press, and Massachusetts Institute Technology Media Lab Affective Computing Group Facilities <https://affect.media.mit.edu/>

⁹ Isaac Asimov's 'Three Laws of Robotics'; (1)A robot may not injure a human being or, through inaction, allow a human being to come to harm (2)A robot must obey orders given it by human beings except where such orders would conflict with the First Law (3) A robot must protect its own existence as long as such protection does not conflict with the First and Second Law (Asimov, 1950:40).

¹⁰ See Hanson Robotics (2019) "The Making of Sophia: Frubber", (04.06.2019) <https://www.hansonrobotics.com/the-making-of-sophia-frubber/> (Access 01.11.2019); "Zeno" <https://www.hansonrobotics.com/zeno/> (Access 01.11.2019)

¹¹ See Hiroshi Ishiguro Laboratories <http://www.geminoid.jp/en/elfoid.html> (access 01.11.2019)

¹² See Cynthia Breazeal (2002) Designing Sociable Robots, Massachusetts Institute of Technology Press.

¹³ See Nick Bostrom (2014) Superintelligence: Paths, Dangers, Strategies, Oxford University Press.

¹⁴ See Vernor Vinge (1993) "The Coming Technological Singularity: How To Survive in the Post-Human Era", in Vision-21: Interdisciplinary Science and Engineering in the Era of Cyberspace, G. A. Landis, ed., NASA Publication CP-10129 <https://mindstalk.net/vinge/vinge-sing.html>

¹⁵ See World Transhumanist Association, <https://humanityplus.org/>)

¹⁶ See Landau, E. (2010) " Is the ' Avatar ' concept really possible? " CNN, (03.02.2010) <https://edition.cnn.com/2010/TECH/02/03/avatar.technology.science/index.ht> (Access 10.11.2019)

¹⁷ The concept of human augmentation is used together with the concept of human enhancement. Human enhancement can be described as the natural, artificial, or technological alteration of the human body to enhance physical or mental capabilities.

¹⁸ See James Hughes (2004) Citizen Cyborg: Why Democratic Societies Must Respond To The Redesigned Human of The Future, Basic Books; Advance Uncorrected Proof edition, pp. 75-107 and Chris Hables Gray (2002) Cyborg Citizen Politics in Post Human Age, New York and London: Routledge Pub.

¹⁹ See Future transport vehicles <https://www.thefutureoftransportconference.com/en/> (Access 10.11.2019)

²⁰ See YouTube (2019) “ This Temple in Japan has a robot priest”, <https://www.youtube.com/watch?v=4lTUDv4TX70> (Access 25.09.2019)

²¹ See NEOM <https://www.neom.com/> (Access 10.09.2019)

²² Peter Warren Singer, Wired for War: The Robotics Revolution and Conflict in the 21st Century, New York: The Penguin Press, 2009, pp.326-344.

²³ See. Boston Dynamics,

http://www.bostondynamics.com/robot_Atlas.html

²⁴ See. NASA, <https://robonaut.jsc.nasa.gov/R2/>

²⁵ See. Youtube, "China reveals highly realistic Humanoid Robot", 16 April 2016 <https://www.youtube.com/watch?v=at5BLCAeyEU>

²⁶ See Gregory Dudek and Michael Jenkin, (2000) Computational Principle of Mobile Robotics, Cambridge University Press, p.245

²⁷ See Military, "M160 Remote Controlled Mine Clearance System" <http://www.military.com/equipment/m160-remote-controlled-mine-clearance-system> (Access date: 2 February 2016)

²⁸ Rebecca Lipchitz," BU Technology is the Brain Behind New Military Robot Porotype", BU Today, (October 7, 2005) <http://www.bu.edu/today/2006/bu-technology-is-the-brain-behind-new-military-robot-prototype-2/>

²⁹ James Dunnigan, " A Chip on the Shoulder That Kills Snipers", Strategy page, (December 13, 2010) <http://www.strategypage.com/dls/articles/A-Chip-On-The-Shoulder-That-Kills-Snipers-12-13-2010.asp>

³⁰ Patrick Tucker, " The Army Has Made a Robot Cockroach ", Defense One, (8 February 2016) <http://www.defenseone.com/technology/2016/02/army-has-made-robot-cockroach/125766/>

³¹ See China State Council on the Issuance of the Next Generation Artificial Intelligence Development Plan, (20 July 2017) <file:///C:/Users/A%C5%9Fk%C4%B1n/Downloads/translation-fulltext-8.1.17.pdf>