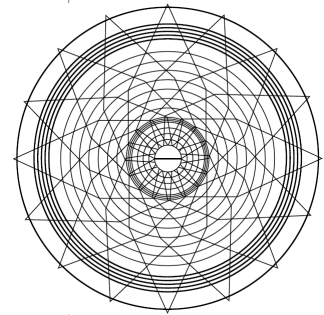


[Scientific Articles]

Roumate F.

*Mechanisms of Advanced International Psychological Security
in the Age of Artificial Intelligence*



MECHANISMS OF ADVANCED INTERNATIONAL PSYCHOLOGICAL SECURITY IN THE AGE OF ARTIFICIAL INTELLIGENCE

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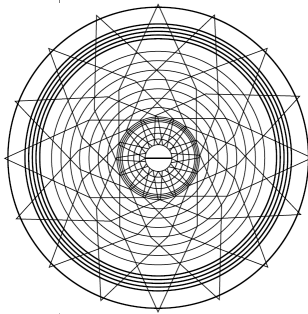
Abstract:

Artificial intelligence (AI) influences all branches of international law, including economic and health law but also humanitarian and human rights law. Nevertheless, the most important challenges imposed by the malicious use of AI (MUAI) are not limited to the modernization of some fundamental principles of international law. This paper addresses mechanisms of advanced international psychological security in the age of AI. Three specific mechanisms are discussed in this study. A conclusion in this paper is that optimal actions are needed because AI is strengthening the role of transnational corporations in international society at the expense of the role of governments and states. While companies' investments in AI are motivated purely by economic profits, states are left with the responsibility of guaranteeing international psychological security. Rethinking global systems has thus become an obligation rather than a choice.

Keywords: artificial intelligence, autonomous weapon system, international law, international humanitarian law

Introduction

Innovation and implications due to the malicious use of artificial intelligence (MUAI) are not limited to the commercial sector but also extend to the information, diplomatic, and military sectors. The leader of the US Defense Advanced Research Projects Agency (DARPA) Robotics Challenge has argued that technological and economic trends are converging to deliver a "Cambrian explosion" of new robotic systems (Pratt, 2015). The main trends outlined by Pratt are improvements in the use of machine learning techniques and the ability of these techniques to allow robots to intelligently make decisions based on sensor data. Despite any practical applications, growing investments in AI in the commercial and military sectors will expand upon the



challenges and threats to international psychological security. Greenberg (2017) states that the increase in digital and physical systems will facilitate the introduction of deadly cyberweapons. These threats are significant because AI use is growing rapidly, whilst the development and updating of international mechanisms (International conventions or charters, recommendations adopted by international organizations, etc.) regarding regulation or oversight are sluggish in comparison.

What are the current international mechanisms that address the malicious use of AI in conflicts between states? Are they efficient in terms of ensuring international psychological security or do they need to be updated? What are the possible reforms that could ensure international peace and security?

To answer these questions, we will discuss the most recent international mechanisms that could advance the malicious use of AI and its impact on international psychological security. Consequently, additional limits related to international law and possible reforms could be pursued further to reduce the potential threat from the malicious use of AI.

Recent International Mechanisms Related to the Malicious Use of AI

The malicious use of AI imposes new challenges related to international law and human rights; these challenges are underscored by the prevalence of the phrase “the Age of AI” used in the development of international law regarding a variety of issues. New international mechanisms have been created, namely the Organisation for Economic Co-operation and Development Council (OECD, 2019, May 22) principles on AI, The Charter of Human Rights and Principles on the Internet (Internet Rights & Principles Coalition, 2019) and the Council of Europe (2001) Convention on Cybercrime.

OECD Principles on AI

On May 22, 2019, the OECD adopted a recommendation on AI. The OECD's Recommendation identifies five value-based principles:

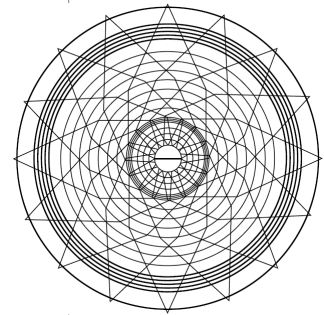
- Inclusive growth, sustainable development, and well-being to benefit people and the planet.
- Human-centred values and fairness that respect the rule of law, human rights, democratic values and diversity, including appropriate safeguards to ensure a fair and just society.
- Transparency and responsible disclosure in AI systems to ensure people understand and challenge AI-based outcomes.
- Robustness, security, and safety in AI systems throughout their life cycles.
- Accountability among organisations and individuals developing, deploying, and operating AI systems (OECD, 2019, May 22).

These values are based on the international legal framework, especially the international human rights law. But what OECD chooses only five? Every value contains more than one but the links between them are not clear. Mixing them in five

[Scientific Articles]

Roumate F.

*Mechanisms of Advanced International Psychological Security
in the Age of Artificial Intelligence*



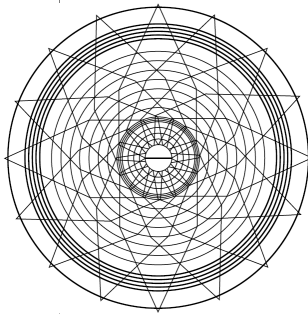
was not successful. For example, OECD prioritizes inclusive growth and sustainable development which are the way to ensure wellbeing. The first value is a combination of inclusive growth which is not a goal in itself but a way to ensure wellbeing. Rethinking the organization of these values is needed to clarify the difference between the values and the way to ensure each them. OECD in this text is considering only AI systems without any definition of this concept and one of the questions stakeholders can ask is if these values are linked only to the AI systems or AI technologies, in general, considering the difference between both concepts? The fourth value, for example, is focusing on the security and safety in AI systems, consequently, the challenges imposed by AI systems to international security and the threat imposed by malicious use of AI to international psychological security are completely neglected.

Consistent with these value-based principles, the OECD also provides five recommendations, as listed in the following:

- Facilitate public and private investment in research & development to spur innovation in trustworthy AI.
- Foster accessible AI systems with digital infrastructure, technologies, and mechanisms that facilitate collaboration between data and knowledge.
- Create an environment to foster the deployment of trustworthy AI systems.
- Empower people with AI skills and support workers in jobs that will employ AI.
- Cooperate across borders and public sectors to ensure responsible control of AI (OECD, 2019, May 22, para. 5).

The first comment is that these five recommendations are limited to some topics as fostering trustworthiness on AI, empowering the public and private partnership, but these recommendations neglected other fields influenced by AI systems. The second comment is that the link and connection between the five recommendations and values-based principles is ambiguity. The third comment is that these recommendations should be addressed first to member states and then throughout them to other stakeholders as the public and or individuals. The fourth comment is that these recommendations are addresses sometimes to public and private sectors or people and these entities are not members of OECD and they should not be addressed directly considering State's sovereignty. Only member states should be addressed by the recommendation then it is depending on their decision, they can choose to harmonize their national legislation and impose the respect of the recommendation to other actors (public and private sectors, civil society, academia, individuals, etc.). The last comment focus on the legal importance of this text considering that recommendations serve as non-binding guidelines and international society needs an international conventional instrument ratified by member states.

The OECD also implemented an AI Policy Observatory, which aims to offer assistance needed by countries in enacting these principles and help them by encouraging, nurturing and monitoring the responsible development of trustworthy AI systems for the benefit of society OECD (2020, February 27).



Only 40 countries have adopted these principles, 36 OECD member countries and six non-member countries (OECD, 2019, May 22); this has led us to question the efficiency of some regional mechanisms, especially when the topic is as universal as the malicious use of AI and its implications on international psychological security, which itself necessitates international mechanisms.

Charter of Human Rights and Principles on the Internet

The Charter of Human Rights and Principles on the Internet, created by the Internet Rights & Principles Coalition (2018), states that under international law, there is an obligation to protect, respect and fulfil the human rights of citizens both online and offline. However, the charter takes the view that the internet is by design a trans-boundary, multi-stakeholder environment where no single entity has control; governments, businesses and people all have a role in developing the environment, and control is dispersed among many institutions and actors. Thus, for human rights to be respected on the internet, the charter states that all stakeholders have a part to play.

The charter's 10 internet rights and principles are as follows: universality; accessibility; neutrality; rights; expression; life, liberty, and security; privacy; diversity; standards and regulation; and governance.

However, the charter is an unconventional mechanism which means that neither state nor non-state actors are obliged to respect all the principles contained within it. It is purely an ethical statement devoid of any legal value.

Council of Europe Convention on Cybercrime

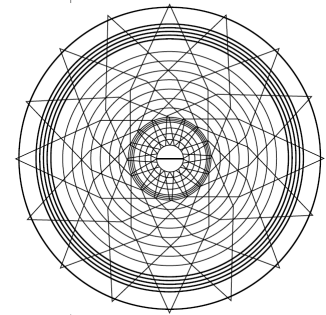
The Council of Europe (2001) *Convention on Cybercrime* is often referred to as the Budapest Convention, which was the location where it was introduced and signed. Seger (2012) states that The Budapest Convention is a criminal justice treaty that establishes criminal law measures based on the rule of law and human rights principles. It is a beneficial juridical response to the malicious use of AI, particularly cybercrimes such as phishing, fake news, and identity theft. This convention enhances international cooperation between states, which is a condition to simultaneously fight cybercrime and ensure cybersecurity. "The Budapest Convention is considered as a guideline and many countries have used it as a 'model law' when preparing domestic legislation" (Seger, 2012, p.2). The convention was adopted by the Council of Europe on 23 November 2001. However, this convention is open for accession by any country that is prepared to fully implement it in order to cooperate with the other parties who have done so. Canada, Japan, South Africa, and the USA participated in its negotiations (Seger, 2012, p.2).

Since the adoption of this convention, significant efforts have been made by countries that ratified it; however, countries still need to invest more in orienting their national legislation to fighting cybercrime, which is growing rapidly despite these legislation reforms. The convention is limited only to cybercrime, and other malicious

[Scientific Articles]

Roumate F.

*Mechanisms of Advanced International Psychological Security
in the Age of Artificial Intelligence*



uses of AI are not included. The convention itself is a regional mechanism “ratified by only 65 countries and a total of three-member signatures not followed by ratifications” (Council of Europe, 2020, p.1).

In 2019, the Council of Europe created an Ad Hoc Committee on AI (CAHAI), which is working on “the feasibility and potential elements based on broad multi-stakeholder consultations, of a legal framework for the development, design, and application of artificial intelligence, based on Council of Europe’s standards on human rights, democracy and the rule of law” (Council of Europe, 2019 p. 1). Several international organisations are working on a rules and legal framework related to the ethics of AI, such as the European Commission’s High-Level Expert Group on AI (AI HLEG), which produced the DRAFT Ethical Guidelines for Trustworthy AI (AI HLEG, 2018).

According to the first draft of the AI ethics guidelines prepared by the AI HLEG, “ethical purpose is used to indicate the development, deployment, and use of AI which ensures compliance with fundamental rights and applicable regulation, as well as respecting core principles and values. This is one of the two core elements to achieve Trustworthy AI” (AI HLEG, 2018, p.7). The goal of this initiative is to prepare European countries for the tangible and intangible impact of artificial intelligence, including socio-economic changes. Therefore, this goal is conditioned by the respect of European values, which can only be ensured by an ethical and legal framework. Fundamental legal reforms and new policy actions are needed with the integration of all the stakeholders.

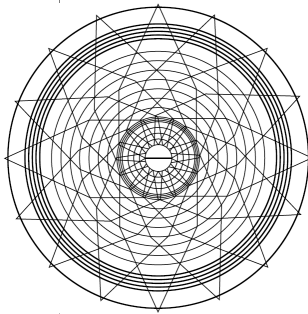
The EU is based on a constitutional commitment to protect the fundamental and indivisible rights of human beings as cited in Articles 2 and 3 of the Treaty on European Union (European Union, 2012, October 26, p.5) and the Charter of Fundamental Rights of the European Union (European Parliament, 2000, December 18, p.9).

Ethics in artificial intelligence is reflected in their statements regarding principals, values and rights. A starting point is trustworthiness as a cornerstone to guarantee human rights in the age of artificial intelligence. The COVID-19 pandemic has accelerated the use of AI in several fields, such as healthcare, manufacturing and aviation. This means that humans are not only being replaced by machines and losing their jobs, but they are also exposed to other threats linked to the safety of AI systems. Another example that increases the importance of the trustworthiness of AI is data science, which is now considered a key in combatting COVID-19.

For that reason, ethics and law are important to enhance the trustworthiness of AI.

The Draft Text for the Recommendation on Ethics of Artificial Intelligence

The ethics of artificial intelligence is a new dilemma that urges international society to give the legal response to the many ethical challenges created by artificial intelligence. COVID-19 accelerates the use of AI in all countries and all fields. This pandemic is accelerating the transition to a society based on the massive use of AI, and this also enhances the threats and creates new risks. Therefore, international society needs now, more than at any previous time, to consider the ethics of AI.



[Scientific Articles]

Roumate F.

*Mechanisms of Advanced International Psychological Security
in the Age of Artificial Intelligence*

Several intergovernmental organisations are focusing on this topic. Since November 2019, UNESCO has started to elaborate the first global standard-setting instrument on the ethics of artificial intelligence in the form of a recommendation. For that reason, it nominated an ad hoc expert group composed of 24 individuals from different disciplines, representing all the regions in the world. The process includes inclusive and multidisciplinary consultations with a wide range of stakeholders. This first draft recognizes all the international mechanisms concerning human rights. This important legal framework confirm that international society is convinced by the importance of ethics, which also means rules and strategic actions to fight against the malicious use of artificial intelligence and the importance of updating international law in the age of artificial intelligence.

Other regional and global instruments focus on the application of AI in a human-centred approach.

For example, the G20 AI Principles (G20 Insights, 2010) were adopted by the G20 Trade Ministers and Digital Economy in June 2019. The principles are drawn from the OECD recommendations on AI. The goal was to include a human-centric approach to AI, which is the only way to guarantee human rights and democracy in the age of AI. According to these principles, trustworthiness in AI is at the centre, and it needs the contribution of all stakeholders. The goal is to protect human rights and democratic values. Trustworthiness is the first principal cited because it is considered a cornerstone to ensure human rights, democracy and sustainable development. As stated in the principles, “AI actors should respect the rule of law, human rights, and democratic values, throughout the AI system lifecycle. These include freedom, dignity and autonomy, privacy and data protection, non-discrimination and equality, diversity, fairness, social justice, and internationally recognized labour rights” (G20 Insights, 2010, para. 1.2.a). This document is also a call for action, and it contains recommendations that require the engagement of all stakeholders. Part of the principles document is dedicated to solutions and policy actions that can be adopted by states, and it underlines the importance of international cooperation in this field.

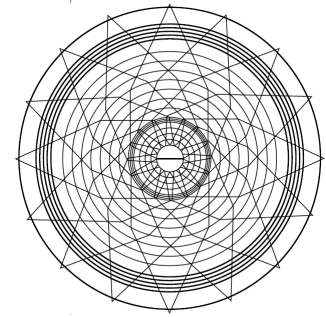
A more recent example was the G7’s (2018) *Charlevoix Common Vision for the Future of AI* adopted in Charlevoix, Canada in June 2018 by the leaders of Canada, France, Germany, Italy, Japan, the United Kingdom and the United States. It contains 12 commitments. This vision recognized that “AI that fosters economic growth, societal trust, gender equality, and inclusion depends on a predictable and stable policy environment that promotes innovation” (G7, para. 2). Several actions are recommended to the state members based on “ethical and technologically neutral approaches” as was stated in the first commitment of this vision.

A last example presented here is the African Union’s (2019) Working Group on AI declaration as stated by Sharm El Sheik as being adopted by African ministers responsible for communication and information and communication technologies (CICT) in Egypt on 26 October 2019.

[Scientific Articles]

Roumate F.

Mechanisms of Advanced International Psychological Security in the Age of Artificial Intelligence



Malicious Use of AI and New Challenges for International Law

International law aims to ensure peace and security, but MUIAI has imposed challenges on international law, which limits its efficiency. These challenges have been increased by the COVID-19 pandemic, which is facilitating the transition to a new world order different from the order established after the Second World War. The World Economic Forum has stated that the “COVID-19 pandemic has accelerated 10 key technology trends, including digital payments, telehealth, and robotics” (Xiao & Fan, 2020, para. 1, 2, 3, 4). AI is changing our lives and is influencing all sectors, as argued by the OECD (2020) (Figure 1).

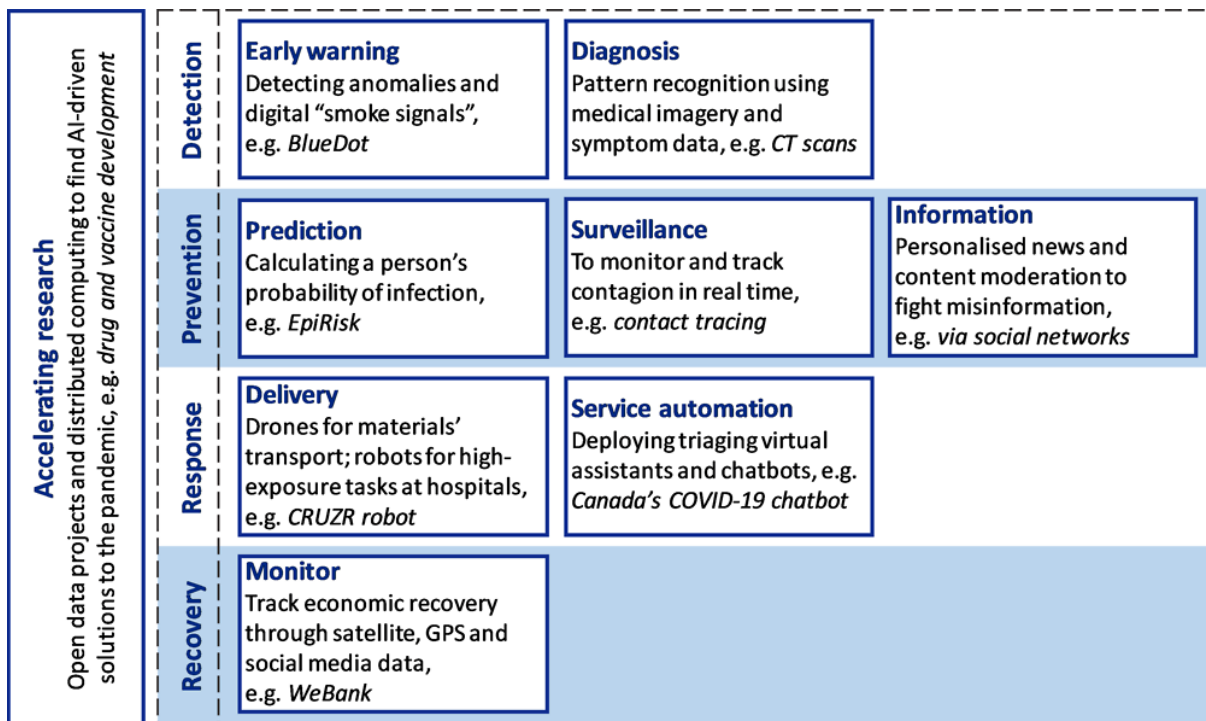
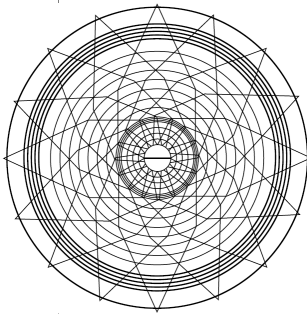


Figure 1. Examples of AI Applications at Different Stages of the COVID-19 Crisis¹

COVID-19 is taking societies around the world to another phase in history with an increased use of robots for online shopping and deliveries, digital and contactless payments, remote work, distance learning, etc. According to the World Economic Forum, “telehealth can be an effective way to contain the spread of COVID-19 while still providing essential primary care. Wearable personal IoT devices can track vital signs. Chatbots can make initial diagnoses based on symptoms identified by patients” (Xiao & Fan, 2020, para. 14).

¹Reprinted from “OECD policy responses to coronavirus (COVID-19), using artificial intelligence to help combat COVID-19,” by OECD, 2020, <http://oecd.org/coronavirus/policy-responses/using-artificial-intelligence-to-help-combat-covid-19-ae4c5c21/>, Copyright 2020 Organisation for Economic Co-operation and Development.



[Scientific Articles]

Roumate F.

*Mechanisms of Advanced International Psychological Security
in the Age of Artificial Intelligence*

eClinicalWorks **healow**
Health and Online Wellness

healow TeleVisits™ Utilization: Minutes per Day



Figure 2. Telehealth Utilization has Grown During the COVID-19 Pandemic²

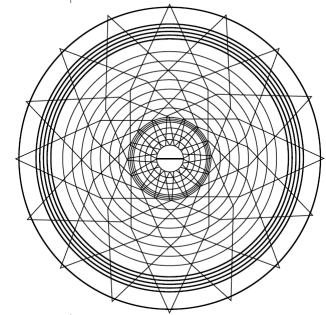
Already, the increased use of AI during the COVID-19 pandemic is influencing international relations. The World Health Organization has stated that free access to scientific data is the only way to combat the pandemic. In this context, “digital technology can play a role in contact tracing programs implemented in the Member States. Member States are obliged under the International Health Regulations to develop public health surveillance systems that capture critical data for their COVID-19 response, while ensuring that such systems are transparent, responsive to the concerns of communities, and do not impose unnecessary burdens, for example, infringements on privacy” (World Health Organization, 2020, p.1). This is creating a serious tension between states. The malicious use of this kind of technology creates new challenges for international law regarding human rights, and it can be a risk to freedom and privacy. According to the World Health Organization, “such uses of data may also threaten fundamental human rights and liberties during and after the COVID-19 pandemic. Surveillance can quickly traverse the blurred line between disease surveillance and population surveillance” (World Health Organization, 2020, p.1). Free and open scientific data impose other challenges that necessitate rethinking international law in consideration of the appearance of new notions linked to the states and their sovereignty. Open access to scientific data is creating new risks to data sovereignty, which is one of the causes of the conflicts between China and the

² Reprinted from “OECD policy responses to coronavirus (COVID-19), using artificial intelligence to help combat COVID-19,” by OECD, 2020, <http://oecd.org/coronavirus/policy-responses/using-artificial-intelligence-to-help-combat-covid-19-ae4c5c21/>, Copyright 2020 Organisation for Economic Co-operation and Development.

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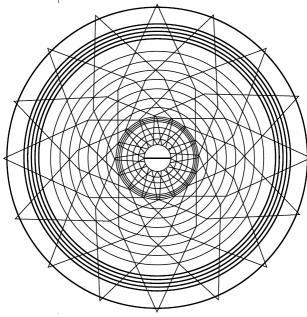
Roumate F.

*Mechanisms of Advanced International Psychological Security
in the Age of Artificial Intelligence*



US. Donald Trump and his administration have accused China of failing to share its samples of COVID-19 with other countries (Smith, 2020). The conflict between China and the US is not because of scientific data and transparency but rather data sovereignty, which is essential to technological sovereignty. In the age of AI, data sovereignty is a *sine qua non* condition of sovereignty.

The malicious use of AI is now a new tool for interference in the internal affairs of states. Some AI systems are more efficient than humans in certain tasks, such as mimicking the voices of individuals to influence people and create political change (Brundage et al., 2018, p. 22). In systems that combine data from satellite imagery, facial recognition-powered cameras and cell phone location information, among other things, AI can provide a detailed picture of an individual's movements as well as predict future movement and location. It could therefore easily be used by governments to facilitate more precise restriction of the freedom of movement at both the individual and group level and by foreign actors who are targeting political changes (Access Now, 2018, p. 21). Voting behaviour and election campaigns are also influenced by social media (Brundage et al., 2018, p.29). We remember "the day the Internet died, or more precisely, was put to sleep by the Mubarak government" (Cohen, Para 2). On 28 January 2011, when Egyptians started protesting against Hosni Mubarak's system, "Twitter, YouTube, Hotmail, Google, Chinese search engine Baidu and a 'proxy service'—which would allow users to evade obvious restrictions—appeared to be blocked from inside the country, according to Herdict.org, a website where users report access problems" (Arthur, Para 3). In a sense, MUIAI generates instability with the rise of populist-nationalist movements around the world in contrast to the human rights revolution facilitated by other powerful tools. For that reason, there is a need to rethink international law and to include ethical concerns in AI, which is the only way to ensure security and to face the tension between states. Therefore, the most important challenges imposed by the MUIAI are not limited to the modernization of some fundamental principles of international law. The vital challenge is "how this law will be interpreted by non-humans" (Abhivardhan, 2018, p. 5). Thus, an urgent reform of the UN Charter is needed. International law needs to be updated to consider all aspects of AI implications, including automation, personhood, weapons systems, control and standardization. Burri (2017) argued that international law must be reviewed as AI entities possess legal personalities. The proliferation of AI entities demands that international law reassess this topic, but "neither international law nor will the work of international lawyers be automated because the data remains too limited for AI to learn to give a sound legal assessment" (Burri, 2017, p. 95). In the same context, the introduction of autonomous weapons systems (AWS) has created a controversial discussion between states according to Burri (2017), and it requires an urgent review of the use of force, as cited in the UN Charter. "Fully autonomous weapons systems (i.e., systems that select and engage targets without meaningful human control) are likely to be banned through a new international legal instrument, while the use of weapons systems equipped with a low level of autonomy will be lawful"(Burri, 99). Goldstein (2013) argued that state competition toward AWS leads us



[Scientific Articles]

Roumate F.

*Mechanisms of Advanced International Psychological Security
in the Age of Artificial Intelligence*

to the assessment that the current trade crisis between China and the US maybe escalated to an open military conflict with the use of AI weapons. Fully AWS, or as they have been called by the Human Rights Watch (2012), “human-out-of-the-loop weapons”, are currently the most dangerous threat to international psychological security.

The threat of AWS is “the problem of reaction time, which threatens to turn humans in and on the loop into liabilities” (Leys, 2018, p. 51). Anderson and Waxman (2014) explain: “such systems are much easier to create than lawful ones. The speed necessary to respond to such adversary systems in the field, though, might well create demand for defensive systems that feature greater autonomy in decision-making” (p. 8). First, the future of humanity will not be decided by state actors when AWS are employed. Second, all these new technologies are growing faster than international law and diplomacy, as stated by Anderson and Waxman (2013). Thus, international norms such as those concerning the use of force and defence need to be revised.

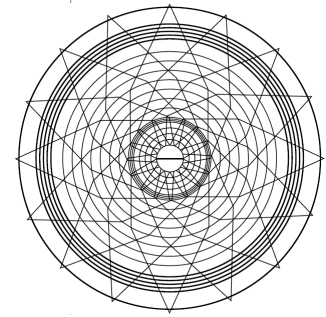
The legitimacy of new weapons is a culminating point in the controversial discussion about AWS. Article 36 of the 1977 revision of the Geneva Conventions provides that “in the study, development, acquisition or adoption of a new weapon, means or method of warfare, a High Contracting Party is under an obligation to determine whether its employment would, in some or all circumstances, be prohibited by this Protocol or by any other rule of international law applicable to the High Contracting Party” (United Nations, 1977, p. 258). “The goal of this article is to inhibit the violation of international law and to impose restrictions on the use of weapons that would violate international law in some circumstances, by determining their lawfulness before they are developed, acquired or otherwise incorporated into a State’s arsenal” (United Nations, 1977, p. 258). Davison (2016) confirmed that the commander (human or otherwise) in the use of weapon systems should respect their core legal obligation. “Can robots ensure the distinction between military and civilian objects or between active combatants and innocent civilians?” (Davison, 2016, p. 3).

This means that states need to invest more in Ethics in artificial intelligence to prevent violations of international humanitarian law. Ethics is the only way to minimize the risks imposed by the use of AI in the military. Thus, States need to collaborate with all stakeholders to ensure technical and legal protection to human rights in peace and during the war. Rethinking international law and national legislation is now an obligation rather than a choice. In the same context, States need to adapt their policies and international mechanisms alongside evolutions in AWS. They must also review their responsibilities in consideration of the right to life as a significant right threatened by AWS, including during armed conflicts. The goal is to ensure international psychological security, which is a condition of international security.

[Scientific Articles]

Roumate F.

*Mechanisms of Advanced International Psychological Security
in the Age of Artificial Intelligence*



Conclusion

In the digital age, sovereignty, which mean independence in international public law, depends on technological sovereignty, which should be the principal goal of a state and its representatives. This new form of sovereignty needs to be accompanied by new reforms that consider the changing identity of international society with the emergence of new actors, particularly transnational corporations who have invested in AI, as well as with the emergence of non-state actors, including terrorist organisations. Thus, it is necessary to update the UN Charter in light of the appearance of these new concepts and phenomena linked to advanced technologies (including AI), which are being used as unconventional weapons. One of the most important reforms of the UN Charter is to include the concept of international psychological security threatened by AI in this new age.

In the same context, rethinking international law and international humanitarian law is necessary because it is an urgent task to reduce the risk of MUIAI on international psychological security and to protect human rights in peace and war. AI is facilitating the creation of a new international order as indicated by the race towards AI in many fields and the large investment of states in this technology. A consequence of this is that international public law will also be influenced by future changes related to AI and the new Westphalia system that will be established in the next few years. COVID-19 is accelerating the transition of international society to a new world order characterized by new powers, new faces of war, new forms of slavery, new colonialism and new tools. Consequently, rethinking international public law and the creation of conventional mechanisms is an obligation rather than a choice.

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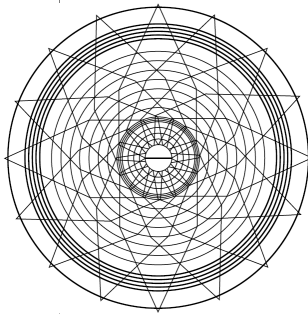
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in the Age of Artificial Intelligence*

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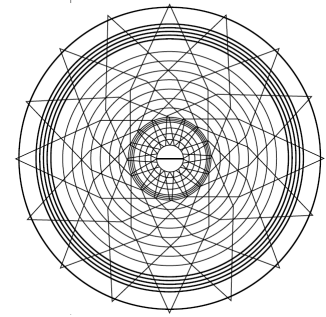
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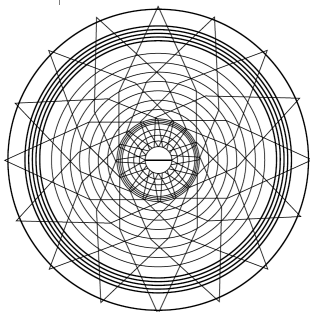
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МЕХАНИЗМЫ РАЗВИТОЙ МЕЖДУНАРОДНОЙ ИНФОРМАЦИОННО-ПСИХОЛОГИЧЕСКОЙ БЕЗОПАСНОСТИ В ЭПОХУ ИСККУСТВЕННОГО ИНТЕЛЛЕКТА

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Аннотация:

Искусственный интеллект влияет на все ветви международного права, включая экономическое право и здравоохранение, а также гуманитарное право и права человека. Тем не менее, наиболее важные проблемы, связанные со злонамеренным использованием искусственного интеллекта, не ограничиваются модернизацией некоторых основополагающих принципов международного права. В данной статье рассматриваются механизмы повышения международной информационно-психологической безопасности в эпоху искусственного интеллекта. В настоящем исследовании рассматриваются три конкретных механизма. В данной статье автор делает вывод о необходимости оптимальных действий, поскольку искусственный интеллект усиливает роль транснациональных корпораций в международном сообществе, ослабляя роль правительств и государств. В то время как компании инвестируют в искусственный интеллект исключительно с целью экономической выгоды, государства несут ответственность за обеспечение международной информационно-психологической безопасности. Таким образом, переосмысление глобальных систем стало скорее необходимостью, чем возможностью выбора.

Ключевые слова: искусственный интеллект, автономные боевые системы, международное право, международное гуманитарное право