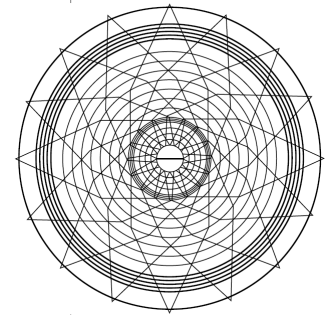


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Ethics on AI and Technological Sovereignty



ETHICS ON AI AND TECHNOLOGICAL SOVEREIGNTY

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Abstract:

This paper addresses the current evolution of some notions and principles such as sovereignty recognized since the Westphalian system to States and which become now competed by big tech. This lead to a new form of dictatorship and tyranny.

New forms of sovereignty as technological, digital, and data sovereignty characterize the artificial intelligence era. In this paper, we will try first to explain the difference between these three forms of sovereignty. Second, we will try to contribute to the debate concerning competition between States and big tech to monopolize technological sovereignty considering international public law and ethics on AI.

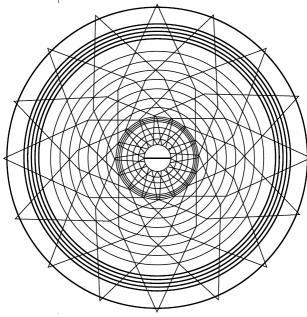
In conclusion, sovereignty in general even newer forms of sovereignty are linked to States because the ultimate goal of these entities is peace and security where the ultimate goal of big tech is profit. In this context, the new world order urges international society to rethink the international public law and international institutions and to enhance the ethical framework.

Keywords: technological sovereignty, cyberspace sovereignty, data sovereignty, artificial intelligence

Introduction

COVID-19 is accelerating the transition to a society based on the massive use of Artificial Intelligence (AI), which is changing the world, and its impact on international life is unlimited. AI is influencing international society and imposing new challenges on international actors (states, international organizations, NGOs, and transnational corporations). Nowadays, AI offers new opportunities for international cooperation and reinforces the role of the other actors within global governance. The massive use of AI, especially during COVID19, changed players in international society. This explains the emergence of new phenomena, such as e-diplomacy, open society, and technological sovereignty.

AI technologies facilitate the use of a virtual space for dialogue, cooperation, negotiation, debate, trade, etc. These technologies are used for good things but also bad



ones like terrorism and cyber criminality. It enhances the threats and creates new risks linked to the appearance of new forms of wars, diplomacy, and sovereignty.

This invites researchers and policymakers to rethink concepts linked to the state notion as data sovereignty, cyberspace sovereignty, and technological sovereignty....

The key questions that could guide us are:

1. What is AI's impact on notions linked to State especially the impact on sovereignty as a principal notion in international public law?
2. What does it mean about technological sovereignty and what are the differences between this notion and other new notions as cyberspace sovereignty and data sovereignty?
3. Why it is important to rethink the role of transnational corporations in the global governance of AI?

We will try to answer these questions, first throughout the definition of these new notions. Second, we will analyze the importance of the State's technological sovereignty, which necessitates rethinking the relationship between States and Big Tech.

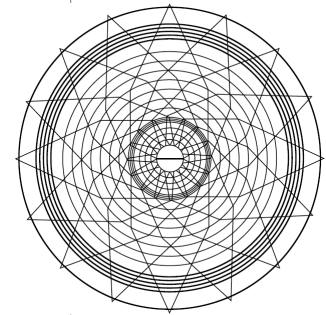
2. Conceptual Framework

COVID 19 accelerates the transition to a new era characterized by the massive use of AI. This era is accompanied by an evolution in many levels; evolution of notions, new practices, phenomena, and new power; the use of AI to create change in the world and to influence global affairs. This was confirmed by the Arab «revolutions». The use of social media and their AI systems to influence public opinion and create political changes in several countries as Venezuela and during the last American presidential elections between Democratic and Republican supporters illustrates the beginning of a new age in history with big tech's contribution to the global governance of AI. These companies are powerful than some States. The age of AI is also characterized by a new territory difficult to be controlled by the state. This leads us to the transnational approach in international relations. Beyond states, the transnational links between people are in progress with social media as stated by (Touil, 2014). He argued that individuals are increasingly characterized by multi-adherence; they are citizens and members of several professional and civic networks. Depending on the issues, new forms of extra-territorial solidarity guide them. Thus, we see the appearance of "spheres of authority" and new forms of non-state "political constitutions". Touil confirmed that the state is no longer the sole international actor. In this new form of territories and the massive use of social media by individuals which produce data all the time. Big tech becomes powerful than the state. This explains the competition between these two actors and their race to data sovereignty.

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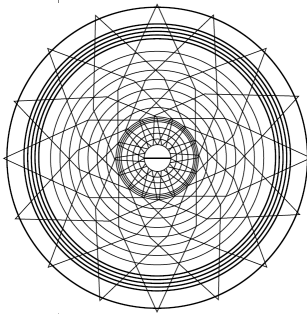


Sovereignty was discussed first by Jean Bodin, it was then evaluated by his followers like Thomas Hobbes, Jean Jacques Rousseau, etc. (Kakisim, 2011). Furthermore, the new era imposes the revision of this notion considering the appearance of new phenomena, which are over the state control. Sovereignty was defined by Bodin as “the highest, absolute, and perpetual power over the citizens and subjects in a Commonwealth” (Beaulac, 2003, p. 11). This definition requires to be revised because this notion was influenced by AI technologies and “the nature of sovereignty itself is changing” (Doernberg, 2010, p. 2). To understand the evolution of this notion we need to rethink power because sovereignty is the initial and original power that is superior to all other kinds of power (Truchet, 2010). It is also defined by Black’s Law Dictionary as “The power to do everything in a state without accountability, to make laws, to execute and to apply them, to impose and collect taxes and levy contributions, to make war or peace, to form treaties of alliance or commerce with foreign nations” (Doernberg, 2010, p. 3). Subsequently, we should consider the importance of the source of power. This draws us back to the social contract between the population and the state as well as to the delegation of power to the political institutions. This means that AI also influences power, as a notion. It had many evolutions in the last decades and it is time to think differently about all the changes as Clinton argued: “Like our predecessors after World War II, we had to update our thinking to match the changes we were seeing all around us” (Clinton, 2014, p. 33). COVID-19 is like a Westphalian system, a remarkable step in history. It is accelerating the transition to a society based on the massive use of AI and the appearance of new notions such as digital sovereignty, cyberspace sovereignty, and technological sovereignty.

2.1. Data sovereignty

According to UNESCO “Data sovereignty means that States, complying with international law, regulate the data generated within or passing through their territories, and take measures towards effective regulation of data based on respect for the right to privacy and other human rights.” (UNESCO, 2020). Data sovereignty is important especially with the increasing use of drones which is a real risk to privacy and security.

According to the study published recently by the Digital security firm Surfshark on Drone privacy laws around the world in the form of a comprehensive world map, covering almost every country, “There are currently 1.7 million drones registered in the US (.....) and according to the World Intellectual Property Organisation, the number of patents for drone technology is increasing rapidly growing 34% from 7,076 in 2017 to 9,485 in 2018 alone” (Surfshark, 2020). Drones facilitate access to data and they are real privacy risks. They are an easy tool that can make surveillance easy for all, government, companies,



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terrorist and individuals (Surfshark, 2020). In this context, the Newsdesk team at Geospatial Media, “the global drone industry is projected to double over the next five years, from \$22.5 billion in 2020 to \$42.8 billion in 2025. With commercial, personal and military drone use on the rise, we have mapped the laws and regulations in nearly every country” (News Desk, 2020), Figure 1.

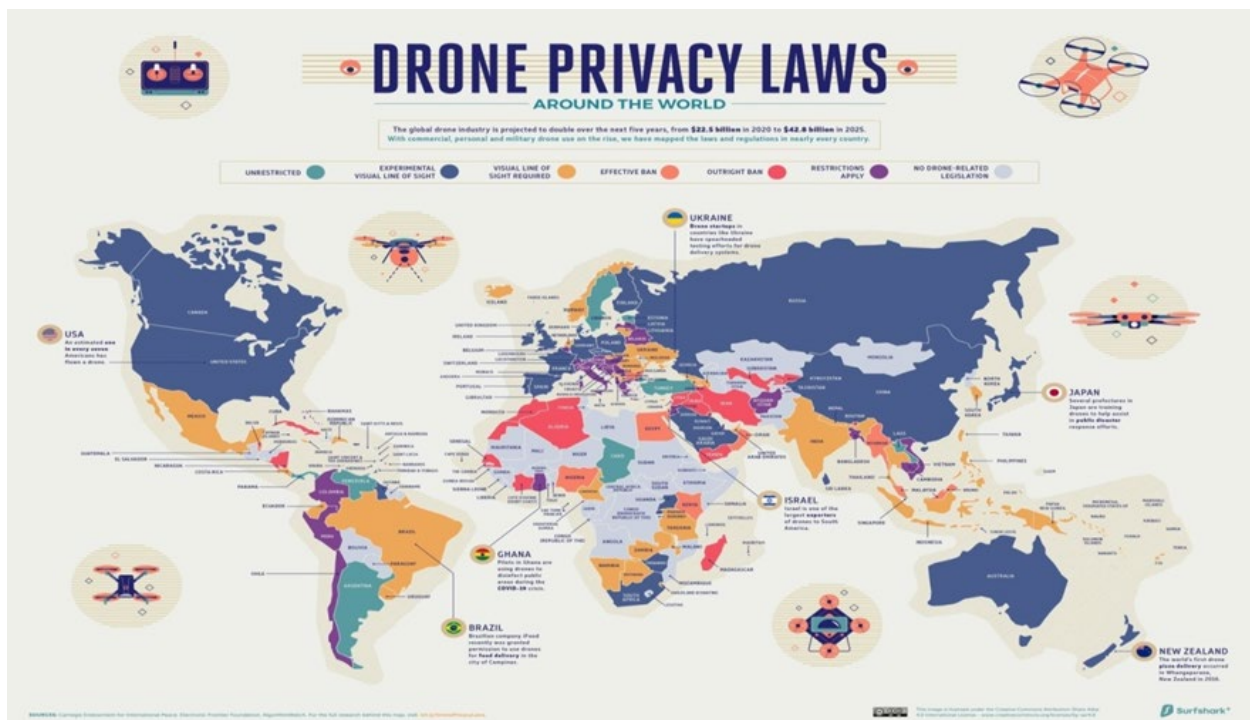


Figure 1. Drone Privacy Laws Around the World¹

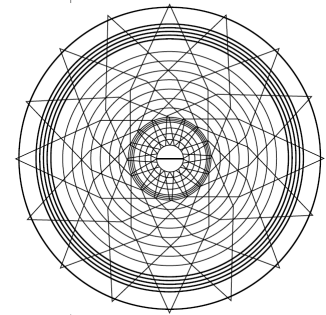
The blue color in the map refers to the experimental visual line of sight, which means that the pilot can let the one drone fly outside their field of vision without a license or permit example during the race. Red color refers to the countries that banned the use of drones. This imposes challenges to the lawmakers who face new and complex regulatory challenges to protect the privacy of ordinary citizens. At least 143 countries have enacted some form of drone-related regulation (Surfshark, 2020). The use of Drones by different actors for different reasons imposes new threats. That is why States need to rethink their legislation. International mechanisms are also needed to face the current and future challenges imposed by drones considering future innovations in these fields. Ensuring privacy necessitates technical and legal protection and collaboration between lawmakers and developers.

¹ Source: License to Fly. Drone Privacy Laws Around the World (Updated on 18 January, 2020) <https://surfshark.com/drone-privacy-laws>

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2.2. Cyberspace sovereignty

Cyberspace sovereignty is a type of autonomy in cyberspace (Baezner & Robin, 2018). In the same context, The United Nations Governmental Group of Experts UNGGE decided that international law, including state sovereignty, was applicable in cyberspace (Baezner & Robin, 2018). The Tallinn Manual on the International Law Applicable to Cyber Warfare also confirmed applicability of international law and State Sovereignty to cyberspace (Schmitt, 2013).

Sovereignty in international law means independence that is now threatened by AI that explains the importance of the extension of sovereignty to cyberspace. However, cyberspace sovereignty is conditioned by technological sovereignty which is a large notion and which refers to other types of sovereignty such as innovation and scientific sovereignty.

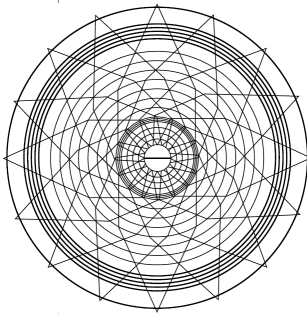
2.3. Technology sovereignty

Jakob Edler et al. defined «technology sovereignty as the ability of a state or a federation of states to provide the technologies it deems critical for its welfare, competitiveness, and ability to act, and to be able to develop these or source them from other economic areas without one-sided structural dependency» (Edler et al., 2020). Technological sovereignty refers to technology independence in all fields, politics, economy, and social. This means states should be able to choose their political and economic systems without any intervention or influence from other states such as the use of AI to manipulate public opinion and to change election results. Therefore, technological sovereignty depends on other types of sovereignty for example innovation and scientific sovereignty. Technological sovereignty is a condition to sovereignty as a principle of international law and it is a key to other types of sovereignty (economic, agriculture, science, innovation). This explains the race and competition to AI and technological sovereignty.

3. Competition between States for technological sovereignty

Technological sovereignty cover sovereignty in all space and all fields. This notion is ranging from political to social because technology, including AI technologies, is influencing all actors and fields. Vladimir Putin warned Russians that the country that led in technologies using artificial intelligence would dominate the globe (Indermit, 2020). Angela Merkel said:

...on the one hand, we want to retain our digital sovereignty but, on the other, we want to act multilaterally, and not shut ourselves off. Of course, digital sovereignty is very important. (The Federal Government, 2019)



The problem with these new notions is that there no unified definition that makes a common understanding difficult. According to the Angela Merkel:

...digital sovereignty does not mean protectionism, or that state authorities say what information can be disseminated – censorship, in other words; rather, it describes the ability both of individuals and of society to shape the digital transformation in a self-determined way. (The Federal Government, 2019)

During the keynote speech of the three-day World Internet Conference in the city of Wuzhen, Chinese President Xi Jinping said:

China is willing to work with the international community for the common welfare for all people, to uphold the concept of cyberspace sovereignty and to make the global cyberspace governance system fairer and more reasonable. (Xinhua, 2016)

He urged executives in the tech industry to “respect cyberspace sovereignty” (Xinhua, 2016). Common governance of AI and cyberspace with cooperation start first with a consensus on notions. The definition of this notion is the first step for a common understanding of the challenges.

State’s competition for technological sovereignty could be illustrated using three criteria: AI and robotics investment, 5G technologies, and Research and Development in AI.

AI and robotics investment

In September 2018, the research arm of the US military, the Defense Advanced Research Projects Agency (DARPA), announced that it is investing \$2 billion into artificial intelligence over the next five years. Canada, UK, Russia, Israel, China, India, and France also are prioritizing AI, knowing that it is a key to growing their economies. China said it wants to be a global leader by 2030 (Stober, 2018). The market for Lethal Autonomous Robots (LARs) is increasing exponentially, and unit prices are falling significantly (Allen & Chan, 2017). According to the Boston Consulting Group, between 2000 and 2015, the worldwide spending on military robotics (narrowly defined as only unmanned vehicles) tripled from \$2.4 billion to \$7.5 billion, and it is expected to more than double again to \$16.5 billion by the year 2025 (Sander & Wolfgang, 2014). (Figure 2).

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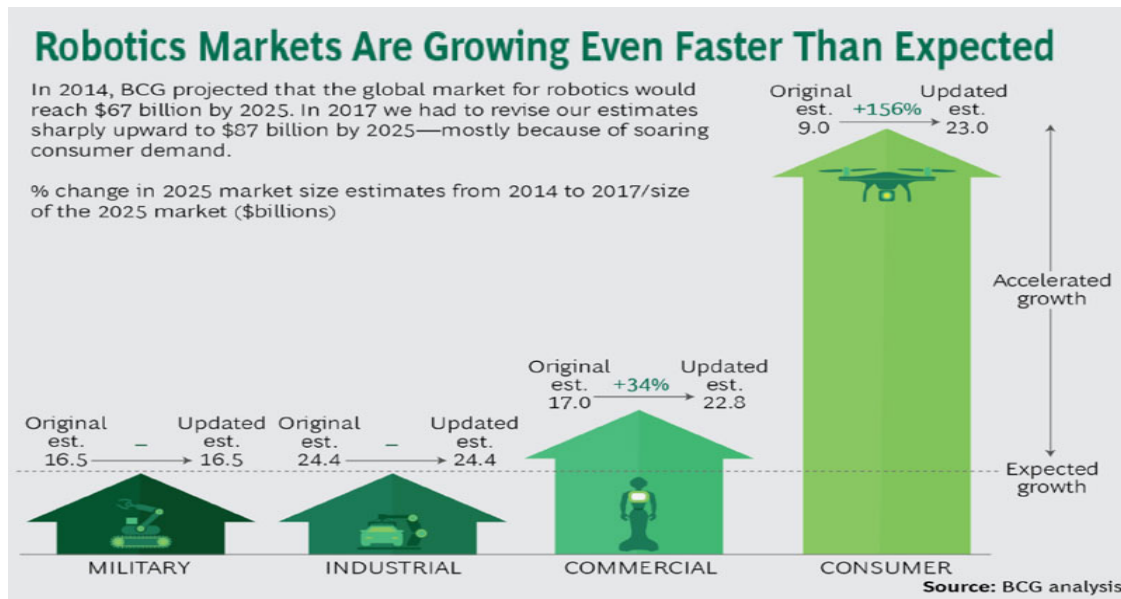
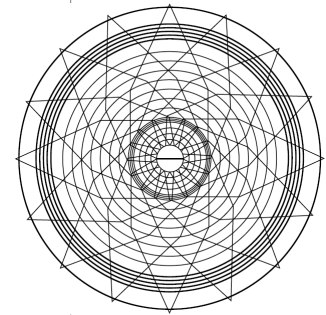


Figure 2. Robotics markets growth²

The growing military robot market gives an idea of future wars, which will be characterized by the widespread use of LARs by states and non-state actors. Autonomous systems have been used in warfare since World War II when the Norden bombsight and V-1 buzz bomb were used and computer systems were linked to sensors involved in the dynamic control and application of lethal force (Allen & Chan, 2017).

Annual installations of industrial robots 2013-2018 and 2019*-2022*



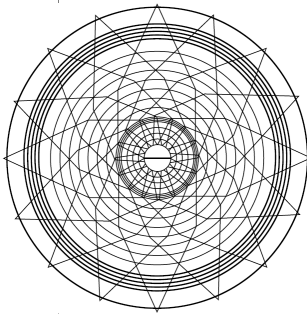
Figure 3. Annual Installations of Industrial Robots 2013-2018 and 2019-2022³

² Source: Sander, A., Meldon, W. (2014). The Rise of Robotics. Boston Consulting Group.

https://www.bcgperspectives.com/content/articles/business_unit_strategy_innovation_rise_of_robotics

³ Source: International Federation Robot, (2020). IFR presents World Robotics Report 2020, Record 2.7 Million Robots Work in Factories Around the Globe - #WorldRo, Press Releases

<http://ifr.org/ifr-press-releases/news/record-2.7-million-robots-work-in-factories-around-the-globe>



In the industrial field, International Federation Robot presented in 2020 a new world report under the title “Record 2.7 Million Robots Work in Factories around the Globe - #WorldRo” and it expects average growth of 12% per year from 2020 to 2022. Global sales value for service robots reaches US\$12,9bn (International Federation of Robotics, 2020), (Figure 3).

China remains the strongest market for industrial robots reached about 783,000 units- plus 21% in 2019. Japan ranks second with about 355,000 units – plus 12 %. The USA reached a new operational stock record of about 293.200 units – up 7%. Europe reached an operational stock of 580,000 units in 2019 – plus 7%. (International Federation of Robotics, 2020), (Figure 4).

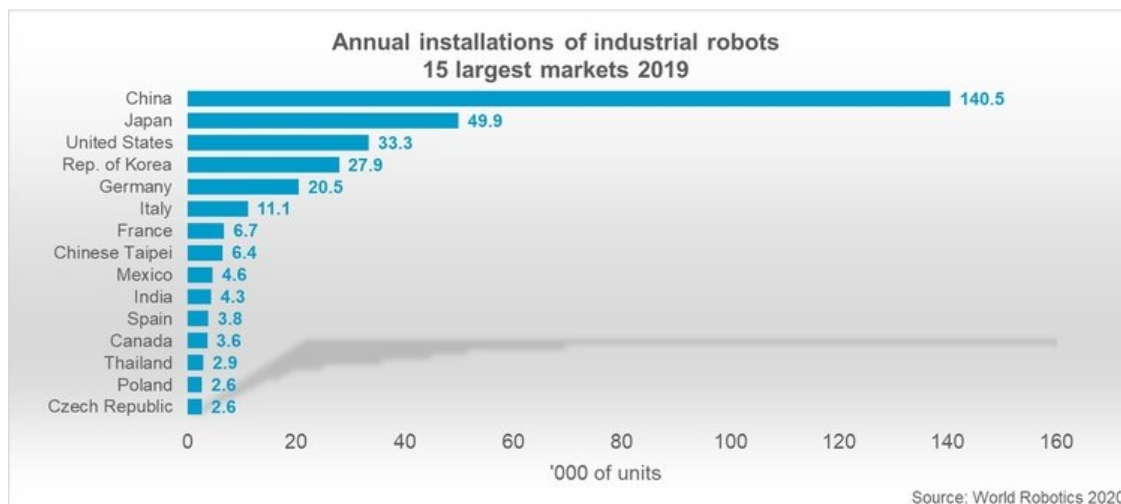


Figure 4. Annual Installations of industrial robots 15 largest markets 2019⁴

This increased investment in industrial robotic is explained by this report by the COVID-19 impact on the digitalization process in this sector that takes advantage of social distancing.

5G technologies

Fifty companies are involved in this war but behind them, we have states especially China and the US. In this context, the commercial value of the internet of things is 12 billion and it is linked to 5G. China is leading in 5G (CTIA, 2018).

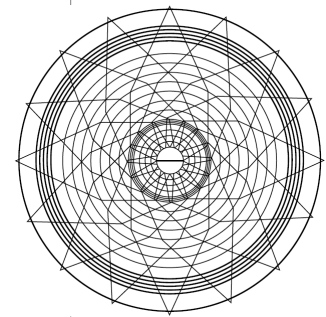
Over 200,000 5G base stations built by Huawei on May 20, 2020, and this company spent 800 million dollars in 5G research and development. Huawei takes 30- 40% of the global market and 15% of patents. Therefore, the game is not over. The 2020 ranking

⁴ Source: International Federation Robot, (2020). IFR presents World Robotics Report 2020, Record 2.7 Million Robots Work in Factories Around the Globe - #WorldRo, Press Releases <http://ifr.org/ifr-press-releases/news/record-2.7-million-robots-work-in-factories-around-the-globe>

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from the World Intellectual Property Organization (WIPO) reveals that the U.S is leading in innovation (Wood, 2021). It is the third country after Switzerland, Sweden, in the high-income group while China is leading the Upper middle-income countries composed also by Malaysia, and Bulgaria (Table 1).

Table 1. The three most innovative countries in each income group⁵

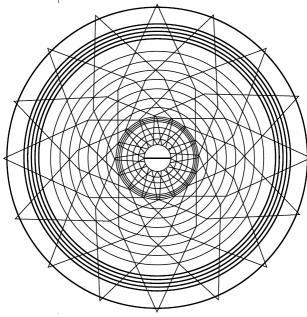
Income Group	Group Rank	Country (Overall Rank)
High	1	 Switzerland (#1)
High	2	 Sweden (#2)
High	3	 United States of America (#3)
Upper Middle	1	 China (#14)
Upper Middle	2	 Malaysia (#33)
Upper Middle	3	 Bulgaria (#37)
Lower Middle	1	 Vietnam (#42)
Lower Middle	2	 Ukraine (#45)
Lower Middle	3	 India (#48)
Low	1	 Tanzania (#88)
Low	2	 Rwanda (#91)
Low	3	 Malawi (#111)

Competition for technological sovereignty is not limited to States. Transnational companies especially Big tech are also competing States and racing for technological sovereignty. They are monopolizing cyberspace by their innovation and important investment in the research and development of AI systems. IBM said:

Technological sovereignty should be based on presence, values, and trust, not the geographic location of the company. (Jetter & Leclerc, 2019).

Codes are laws, but are they superior to the constitution and international law? Codes must be complying with local laws including data privacy laws considering attacks on Freedom of speech as a universal value.

⁵ Source : Therese Wood, Global Stars: The most innovative Countries, Ranked by Income Group, January 28, 2021 <https://www.visualcapitalist.com/national-innovation-the-most-innovative-countries-by-income/>



Big tech founded their legitimacy on their occupation of cyberspace and on their contribution to internet governance that is a cornerstone of global governance of AI. Their innovations ensure the use of cyberspace by all other actors; states, international organizations, NGOs, companies, and individuals. Therefore, cyberspace is an extension of the analog one that means also an extension of all activities. Freedom of trade, freedom of the press, and freedom of expression are enhanced with the internet but also they are threatened by big tech considering censorship. This leads us to rethink the governance of AI linked to the governance of the Internet that should be based on a multidisciplinary approach. Governance of this sector should be the first mission of State considering the impact of AI in all walks of life and because protecting, defending, and promoting human rights is the main goal of the state and because individuals have a social contract with the state not with the big tech who are looking for profit.

New strategies are needed in different levels:

- National strategies mean also strategic independence in the economy, society (data privacy human rights, culture, language, etc), and policy, especially the protection of the democratic process from any foreign intervention using AI. Technological infrastructure a key to ensuring strategic independence.
- Regional strategies such as the effort made by the Council of Europe and OECD which focuses on ethics on AI. European Union also adopted several measures aimed to gain technological sovereignty, for example, the single European data market by 2030 (Valero, 2020).
- International strategies: In this context, the draft of the recommendation on the ethics in AI was elaborated by UNESCO. Ten policy areas set out in this draft addressed the Member States based on sovereignty and equality as it was included in international law. Even if the recommendation is not a banned document, it's the first instrument in this field and it could guide international society in the AI governance process.

Conclusion

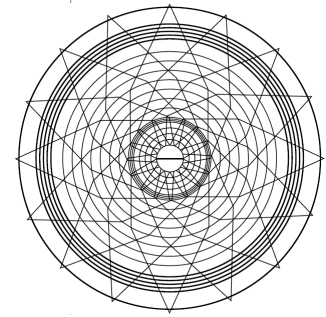
In the era of AI, new reforms are needed at different levels considering the new identity of the international society with the emergence of new players, especially transnational corporations that have invested in AI more than in some states.

Great powers and small states should rethink the legal framework concerning their relations with transnational corporations, especially Big Tech to ensure peace and security for all. Governments should work with transnational corporations to building an enabling environment for data protection, transparency, and trustworthiness.

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In the same context, international organizations should be, not only, a space of negotiation limited to the Member States, but it is time to create new tools which could facilitate the integration of transnational companies in the global governance of AI.

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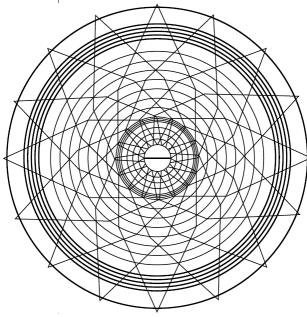
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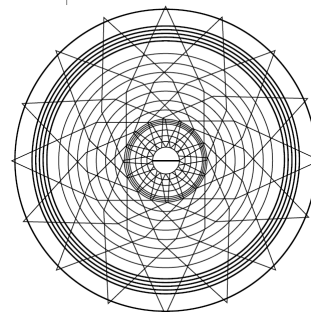
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ЭТИЧЕСКИЕ СТАНДАРТЫ В ОБЛАСТИ ИСКУССТВЕННОГО ИНТЕЛЛЕКТА И ТЕХНОЛОГИЧЕСКОГО СУВЕРЕНИТЕТА

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Аннотация:

В статье рассматривается текущая эволюция некоторых понятий и принципов, таких как суверенитет, признанный государствами со времен вестфальской системы, и которые в настоящее время конкурируют с технологическими гигантами, что приводит к новой форме диктатуры и тирании. Эпоха искусственного интеллекта характеризуется новыми формами суверенитета, такими как технологический, цифровой и информационный суверенитет. В этой статье мы попытаемся сначала объяснить разницу между этими тремя формами суверенитета. Далее мы попытаемся внести свой вклад в обсуждение конкуренции между государствами и технологическими гигантами за монополизацию технологического суверенитета с учетом сложившегося международного публичного права и этических стандартов в области искусственного интеллекта. В заключение мы отметим, что суверенитет в целом, в том числе более новые формы суверенитета, связан с государством, потому что конечной целью этих образований являются мир и безопасность, в то время как конечной целью технологических гигантов является прибыль. В этом контексте новый мировой порядок призывает международное общество переосмыслить международное публичное право и международные институты и укрепить этические рамки.

Ключевые слова: технологический суверенитет, суверенитет в киберпространстве, суверенитет в области данных, искусственный интеллект