Journal of Human Security | 2023 | Volume 19 | Issue 1 | Pages 22–31
DOI: 10.12924/johs2022.19010022
ISSN: 1835–3800

Journal of Human Security

Research Article

Accommodating Artificial Intelligence in International Law: An Overview and New Frontier

Yaser Khalaileh

Applied Science University – Bahrain, Eker, Bahrain

Corresponding author: Yaser.khalaileh@asu.edu.bh

Submitted: 12 September 2022 | In revised form: 26 November 2022 | Accepted: 6 December 2022 | Published: 1 October 2023

Abstract: Within vivacious international relations, human rights dictums developed whilst racing to advance offensive and defensive capacities. Lately, artificial intelligence (AI) systems have been utilized in the spectrum of these advancements. This has led to a new form of arms race and human rights abuses whilst resisting any attempt to conclude a binding regulation in developing or using AI technology, and although AI has been a frontline issue in many disciplines from various angles, it nonetheless has not been as much in the legal profession, and specifically in international law.

The unprecedented AI technology changes, despite the many advantages, alarms the need to continuously explore its impact within various aspects of international law. The absence of a conclusive international threshold for AI development and use might cause hindering international relations if international law orthodoxies in humanitarian law and human rights become improperly effected. Accordingly, this paper examines whether there is a need to develop the existing international legal order, whether directly or indirectly, and suggest establishing an IGO entity with a mandate to reshape rules and embedded values in the face of a rapid AI technological advancement.

Keywords: Artificial Intelligence; human rights; humanitarian law; International Law

1. Introduction

In 2017, Russian President Vladimir Putin described Artificial Intelligence (AI) as "the future not only for Russia, but for all humankind", but also projected the threats of AI and that "whoever becomes the leader in this sphere will become the ruler of the world [1]." The diversity of state' interests constrained public international law from properly interacting with this issue. With the slow motion of international law, given its slow decision-making and norm-creation processes, regulating AI does not seem to have caught up [2]. On the contrary, scholars diffused discussion examining how new technology can be disruptive (see for example: [3] and [4]), envisaging particular policy changes or regulatory challenges to mitigate AI risks (see for example: [5] and [6]) and much concentration was paid to the issue of using prospective military AI systems in particular (see for example: [7] and [8]). More recently, AI ethics and guidelines were involved, and began to explore possible avenues or arrangements by which international law might effectively govern the challenges posed by AI systems (see: [9]).

The scope of effect AI can have on specific domains of international Law still needs continuous attention (see similar in this regard: [10] and [11]). For instance, in 2018, the UN Secretary General Published its 'Strategy on New Technologies' aiming to define how the United Nations system

© 2023 by the authors; licensee Librello, Switzerland. This open access article was published under a Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0/).

librello

shall support using new technologies (artificial intelligence, biotechnology, blockchain, and robotics) in achieving its 2030 Sustainable Development Agenda [12]. It was then hoped that the report facilitates the alignment of these new technologies with certain values enshrined in the UN Charter, the Universal Declaration of Human Rights (UNDHR), and the norms and standards of international law. This strategy, however, was not an end itself, and only designed to contribute to broader efforts to reform the UN to deliver the UN Charter commitments in the 21^{st} century.

Hence, this paper explores developments in Artificial Intelligence (AI) in relation to specific domains of international law, particularly human rights and humanitarian law during armed conflicts, as well as the extent to which international law and the deployment of AI interplay may lead states' decisions, and interaction of stakeholders within states (governmental or private) that use AI in various arenas.

As such, we ought to start with defining AI and merits of AI, and then explore the substantive rules of international legal system in as much as whether they correctly interacts with AI deployments, and then explore how states should adjust international law to home new facts and scenarios posed by AI. In short, this paper assesses the general gaps existing in international law and attempts to path the way ahead where possible.

2. Ontology and Merits of AI

To understand the correlation between AI and international law, one should first clarify the concept of AI and its fundamental characteristics. Whilst merits of AI are undeniable in social studies, a clear definition from legal parameters remains problematic.

2.1. Definition of AI

There seems to be a difficulty in setting a clear concept for AI or applicable legal parameters. No internationally agreed legal definitions exists for AI [13]. This hinders any potential international elaboration since states oblivious of the scope of commitment shall always be rooted to the absence of clear definition of the subject matter. What known to states, however, is merely a broad identification of elements that provide preliminary guidance. For instance, some define AI as: "technologies that enable machine ... automated decision-making in robotics or software that can substitute for tasks once performed exclusively by human action and judgement" [14]. Others say that AI is "the capability of a computer system to perform tasks that normally require human intelligence, such as visual perception, speech recognition and decision-making" [15].

The concept of 'autonomy' seems to be a key factor to AI for it simply enables independent action of a machine. Autonomy itself is the "the ability of a system, platform or software to complete a task without human intervention" [16]. This suggests that AI is about replicating humans' insight and reasoning in making a decision, and granting certain independence to systems in modelling human intelligence. AI refers to the simulation of human intelligence in a machine programmed to think like humans. From a security perspective, these may be fraught with challenges. A broad consensus that AI impact on society is likely to increase with potential huge benefits, but also with allowing AI tools to provide their own product of AI. How to reap the benefits of AI while avoiding potential pitfalls remains a vital concern [17,18].

2.2. Advantages and Disadvantages of AI

Indeed, the advancement of AI in recent years is remarkable. Scientists tirelessly worked on making intelligent machines able to function with speed and accuracy substituting humans in specific tasks. An idea began by computer scientist in the midst of the twentieth century (for a definition of AI see: [19]). With the advance of technology, machines are now able to calculate operation through embodied artificial intelligence, and is beneficial for different industries performing complex tasks. One can draw comparison of the impact of AI with past revolutionary findings such as fire, electricity, and the internet [20].

The many advantages of AI expressed in its availability whether be in mathematics; computer science; linguistics; psychology; space science, etc. It has proved immensely helpful specifically in reducing human error and taking risks instead of human. For example, radiations caused by Chernobyl nuclear power plant explosion in the Ukraine territory could have much more controlled if AI-powered robots existed controlling the fire in early stages as human were unable to enter the core. During COVID-19 pandemic, technologies helped in leveraging predictive models of the spread of the virus, and have immensely helped in keeping the global public informed, and medical research advanced (for a comprehensive details of advantages and disadvantages see: [21]).

Interestingly, AI has certain advantages in the legal periphery. States may now improve their ability to build counter-arguments by merely scanning thousands of documents to help their position in negotiating treaties, adjudication processes, identify evidence of war crimes, and even help in enforcing international law [22]. States may simply deploy computerized text analysis to improve dispute resolution more quickly and efficiently. Indeed, technology advancement in communications and mobility have made the negotiation and conclusion of treaties much faster, easier and more interactive by states and non-governmental organizations. The flow of information produced a solid ground for a democratized negotiation process to conclude treaties. Therefore, AI potential in improving the lifestyle of human is undoubted for it can attend to global challenges such as those reflected in the United Nations 2030 Sustainable Development Goals [12].

Accordingly, putting aside the actual dynamics of international law that AI cannot change or effect, AI systems

advantages for the international legal order, and international relations, are not difficult to presume. AI tools are able to predict emerging challenges and help us comprehend evidence of state practice necessary for the creation of customary international law. AI might even help producing a smarter global governance in areas where international interests are misshaped [23]. AI strengthens the implementation of international law, the maintenance of peace, and resolving interstate conflict (for the effects of AI and international law see: [24]). It might even help in improving our understanding of the problems such as the link between regional climate change and civil conflict [25]. AI might come handy in assisting proper international negotiations, or even enabling direct citizen input in international relations' debates.

Nevertheless, the other side of the coin suggests that AI also has certain disadvantages. The high costs of AI creation, its addictiveness and dependability that causes loss of emotions and laziness amongst humans, the raise of unemployment ratio, all suggests that we need to articulate specific laws and regulations for their creation and deployment [26]. Self-automated vehicles developed so fast that even cars, trains, and plans, can now operate transnationally, suggests that a void exists in existing international law and is insufficient to regulate these developments. Regrettably, negotiations in this respect have merely circled around banning systems of automated lethal weapons and no more [27]. Accordingly, how to reap the merits of AI while avoiding potential hazards remains a vital concern.

With the presented cons and pros, current AI trustworthy and governance frameworks and literature presented political and societal issues relating to trusting AI in terms of the institutions and organizations. Such attempts included the National Institute of Standards and Technology (NIST) 2021 [28], the U.S. Government Accountability Office [29], and the ISO 24028 for the year 2020 [30]. All these instruments argued that the discourses on AI must constitute good data used to increase the wellbeing of society and especially to increase the power of the most marginalized and disenfranchised. These have offered recommendations and remedies towards implementing 'better' approaches towards AI based on continuous evaluation of AI as part of the broader socio-technical systems in which AI is built and deployed.

Yet, with these cons and pros in mind, this paper is particularly related to the ramifications of AI on the International legal order that should be noticed in deploying these endeavors.

3. Ramification on the International Legal Order

Although we currently possess limited AI technologies, and regardless of their merits above, signs of their usage is starting to shape the international balance of power. Signs of a troublesome effect on the global order appear inevitable if AI advancement does not adhere to a proper international legal order. AI systems might even strengthen authoritarian states, and signals erosion in the broader legitimacy and regulatory capacity of international law [31]. AI technology and production itself may prove resistant to international law accommodation. The question rises as to the sort of impact AI may have on the international legal order especially with an absence of a clear consensus on its legal definition, and whereas no agreed international agreement exist to draw near the accelerating AI development. Hence, at the outset, international law does not seems to be proactive and have not so far produced particular measures for the yet immature AI current and future uses [32].

3.1. Implications Related to Orthodoxies of Legal Personality

Regrettably, at this stage, obvious politically contentious challenges to international law regimes exist rendering regulatory oversight difficult on both national levels [6] and treaty negotiation setups [33]. Implications touch upon orthodoxy rules in the law of armed conflicts and international humanitarian law, human rights, sovereignty, intellectual property law, civil litigation, company and tax law, and trademark law, among others (see details in: [34] and [35]). Here, we are to explore ramifications solely related to public international law and specifically the issue of international legal personality, the law of armed conflicts and human rights hoping much more research will follow into other valid concerns.

A compelling requirement for governance and legal and regulatory coordination on a global level needed. Creating new entities or introducing new technology no doubt needs specific changes in the legal setup. AI induces new behaviors, incentives and values, directly or indirectly. Hence, AI effects the global regime, which needs to be developed or even substituted to keep proper order for healthy international relations.

In 2001, Colin Picker envisaged serious effect of technology on the international legal system [36]. He manifested that innovations produced by technological advancement have either created, modified or destructed international law throughout history ([36], pp. 149 and 156). To him, the very ideas of 'sovereignty' and 'diplomatic relations' were reflections of many causes, and that the advancement of agriculture by revolutionized technologies with States sensing the need to advance controlled agricultural spaces was just one cause ([36], p. 158). Similarly, the idea of 'freedom of high seas' came as a result of navigation technologies that projected the domination of naval forces over trade routes ([36], pp. 160-163). Surely, the international legal order as we see it today stemmed from the days when the Permanent Court of International Justice and the UN system was established in response to the bloodshed caused by using advanced war machines and the smell of nuclear weapons.

Some correctly see that the deployment of AI may generate, directly or indirectly, conflicts and tension worldwide including, but not limited to, labor displacements, inequality,

reinforced authoritarian states with powerful surveillance tools, amongst others (generally see: [37]). Leading industrial companies that use AI will inevitably have superiority over others, and competitiveness diluted to the benefits of wealthy and more powerful states [31]. Disruption may even occur to the international balance between the classical actors in allowing indulgence of non-state actors to take crucial part in future affairs merely for their AI capabilities in collecting data, inflicting public opinion, preserving the know how in extracting oil reserves, etc.).

In this sense, AI is not similar to the previous general-purpose inventions (such as electricity) as suggested above. AI uses, if not carefully tailored to the benefits of human kind, and regulated as such, can cause international imbalance [3]. For instance, States can now use facial recognition software to record individuals' pattern of life, with all the possible implications on the international human rights standards and rules. There are significant ramifications of AI in this respect coupled with no conclusive international court decisions.

Moreover, to become a subject of law the subject must obtain a legal personality. National laws determines specific requirements to gain legal personality. Besides humans as natural persons, economic ventures in the form of a company, may acquire legal personality if they satisfy the rules set out by the state's authority as the granter of such personality. In international law, where there is no supranational authority, the legal personality evolves around becoming a subject of international law classically entertained by recognized states. States have so far been the primary subjects of international law, and have maintained their role as such in shaping international law. States conclude treaties and participate much in developing international customary law through their practices.

Yet, states are not the only subjects of international law. International organizations expansion too became subjects of this law and possessed legal status. Moreover, strong arguments emerged supporting a legal status for individuals as subjects of international specifically before the international criminal court. Multinational companies and non-governmental organizations (NGOs) do not possess this legal personality yet. As of this moment, AI receive no protection whatsoever as legal persons do and are no more than objects that lack cognition or sentience and are used by human.

Recognizing autotomized AI tools with a potential to actual personhood, or gaining the status of 'being', would simply be groundbreaking for all legal systems [38]. With this in mind, legal uncertainty engulfs AI in relation to specific concepts such as 'attribution', 'control' and 'responsibility' once AI tools are deployed causing injury to other persons of international law. Granting 'personhood' to AI machinery [39], simply means, if indorsed, that artificially intelligent persons may much conquer major markets [40]. One fundamental issue to using AI technologies relates to the scope of responsibility that can only ascertained if attribution of illegal acts found to a legal person (see: [41]). Awarding legal status to AI have many ramifications for the issue of legal liability and criminal liability in particular. Without legal personality, governments will have to decide to blame either developers of AI or their owners and users [42].

In this respect, suggestions varied onto how to, if possible, grant AI some degree of personhood. Some articulated that AI tools be treated as inanimate objects having legal personality compared to other objects of special status in international law such as rivers that entertain legal personality of their own relevant to the need to protect them as have environmental activists longed and thrived for in safeguard waterways as integral parts of the ecosystems. Others related a limited personality of AI systems as companies, while *ultra vires* acts need human authorization.

However, until now, most legal systems foresee AI tools as no more than objects despite the prevalence of AI in various fields of life. Any attempt for change needs specific modification of existing norms. This is still utopian at this moment of life since AI has not yet reached its prime 'evolution' where one can determine its exact status and characteristics to warrant similar treatment to that of humans (discussion of this is found in: [43]). In fact, the final judgment of statehood and being subject of international law stays within the ambit of the supremacy of international law principles as embodies in treaties. This is due to the significance of humanity interests over the national interests on one hand, and that any emerging personhood for AI breach the relationship between the existing subjects of international law and the very dictums of 'sovereignty' and 'territoriality'.

Notwithstanding this, the Global Initiative on Ethics of Autonomous and Intelligence Systems remarking peculiarity to label a product responsible in the eyes of courts notes this particular issue [44].

Here, fortunately, the various international courts concluded sufficient precedent for resolving such issues relying on the existing general treaties and customary international law, and has plugged the gaps and provides sufficient conceptual clarification even for AI involvement [45].

In such context, the international community should begin to bear the global commons concerns in mind. In creating AI entities, attribution to a human or to a corporation for daring to produce such tools is safer even if harm is not causally connected to their initial programming. Technology of this momentum should be regulated internationally and not under the private sector's prevailing ambition for quick profit.

3.2. Ramifications within the Law of Armed Conflicts (LOAC) and International Humanitarian Law (IHL)

LOAC is part of international law that regulates the resort to armed force. It specifically deals with the conduct of hostilities, and sheds appropriate protection for war victims in both international and non-international armed conflict, as well as belligerent occupation [46,47]. LOAC principle rules were formed through treaties and customary international

law, mandating that the use of military force to take account of military necessity, humanity, proportionality, distinction, and honor. New weapons must be pre-evaluated to ensure they do not subdue these principles.

AI weapon systems certainly maximizes human's lethal capabilities. They are so as component of military network that can accelerate the speed, application and management of fire force [48]. So far, we have not witnessed a robot-soldier carrying weapons with life and death decisions, but improved machine possessing certain algorithms and high-performance processors are constructed and may blend AI as part of the kill chain providing decisive military advantage without direct human intervention ([48] p. 18). Accordingly, debate surfaced between supporters of banning AI weapons altogether, and others calling for placing appropriate regulation that comply with IHL and that commanders and operators should exercise reasonable levels of human judgment over the use of AI force. NGOs, in their call for a swift ban, argued that the decision of using force is unethical if made by agents on behalf of humans (see: [49]).

The preliminary question that normally arises when the question of armed attack raised is that of attribution. Assigning responsibility is a necessary precondition to the use of self-defense measures within the purpose of Article 51 of the UN Charter. Artificially intelligent weapons challenge the traditional notions of responsibility and accountability, especially when fully autonomous. The absence of a 'legal personality' to AI weapons is problematic since for responsibility to be triggered attribution to human beings must be first satisfied [50]. The human role in independent machine decision-making can vary from being 'in the loop' referring to machines that require human intervention for its operation, or 'on the loop' system where human intervention is provided only when needed, and an 'out of the loop' system where no human intervention is required at all [51].

Noteworthy in this respect that international humanitarian law applies to international actors who plan and execute attacks [47], taking into account the four core principles (i.e., necessity, proportionality, discrimination, and humanity) on the assumption that humans made decision and judgment in military actions. Related obligations cannot be delegated to machines and individuals stay responsible for complying with International Humanitarian Law. To be noted here, fully automated AI weapons strikes state responsibility as set forth in Articles 5 to 11 of the 2001 Articles on Responsibility of States for Internationally Wrongful Acts that provide general principles for determining state responsibility under international law (see: [52]).

In fact, claiming remedy for injuries sustained because of using AI weapon may still be brought forward just as any compensation claimed concerning breaches of the law of armed conflict. Victims of AI weapons can seek judicial remedies under international criminal law (which provides for individual responsibility of the perpetrator, the manufacturer, the programmer, or the commander, depending on the merits of each case. Hence, concerns about 'accountability' is generally concluded in reference to individuals' accountability and not to State responsibility. No problem arises as long as a human can be held accountable for the effects of AI autonomous weapons. Therefore, providing guidance on the notion of 'attribution' and 'accountability' for using AI weapons might be sufficient.

Hence, it is argued that existing international law provides an appropriate legal framework in this respect. Perhaps a matter of clarification needed as to how the existing legal framework applies to new and evolving technologies. States will always remain central to the development and the application of international law, and should provide appropriate and realistic assessment and baseline of using AI weapons, by way of their daily practice, and as many nations as possible. They should be prepared to produce a mutual legal and firm understanding of the legal position of the use of AI weapons. For instance, in early 2020, the U.S. Secretary of Defense adopted five ethical pillars (responsible, equitable, traceable, reliable, and governable) in deploying AI weapons and only in defense situations. Assigned personnel must be responsible for the development, deployment, and use of AI capabilities, and must exercise appropriate levels of judgment and care [53].

Notable here, developing an explainable artificial intelligence (XAI) has been put forward as a dramatic success in machine learning leading to a torrent of AI applications, and promising to reduce autonomous systems that will perceive, learn, decide, and act on their own. Yet, the effectiveness of these systems proved limited for machines is still unable to explain their decisions and actions to human users. As such an 'Explainable AI (XAI) program' aimed to create a suite of machine learning techniques that are able to produce more explainable modules (predicting accuracy), and enable human users to understand and effectively manage emerging generation of artificial intelligent partners (see: [54]). Besides Military use, there has been various discussions on making AI machinery trustworthy, explainable, and hence acceptable in specific sectors. These include the Food-Energy-Water or healthcare, such as the discussion presented by the European Union High-Level Expert Group on Artificial Intelligence (AI HLEG) [55] and the International Organization for Standardization (ISO) [56], in an attempt to compare several approaches to make AI trustworthy, and to show how far AI have come to trustworthy.

Whilst it is true that the lawfulness of a method or means of warfare is debatable sometimes, subjecting AI weapons to legal considerations is nevertheless possible, whether that be in design, evolution or in the use of AI weapons. A clear note was repeatedly passed, for instance by the USA, stating that 'although technology changes their commitment to the law of war does not', and that the killing chain must comply with the international law of armed conflicts [57]. This includes, of course, not causing suffering that is manifestly disproportionate to the military advantage, and that states must determine whether a weapon reasonably controlled and used against a lawful target [58]. States that are not party to the concluded Geneva conventions [58] to conduct a legal review of new weapons and ensure their

compatibility with applicable customary international legal rules and the law of armed conflicts.

As a result, no implication of AI on LOAC and international humanitarian law is seriously apparent. Perhaps new weapons may require revisiting existing laws to ensure that considerations of humanity and military necessity are observed, yet, the mere incorporation of AI as a weapon system does not make the produced new weapon unlawful as such. So far, AI in itself is not prohibited, or even restricted, by any specific rule of law or treaty.

3.3. Ramifications within the Law of Human Rights

Even when used with the best intentions, AI systems may pose unique risks for human rights. For instance, a simple human right to work, as indicated to in the Universal Declaration of Human Rights and the International Covenant on Economic [59], Social and Cultural Rights means that employment opportunities should be secured for citizens. Ad AI systems may well surpass human beings in more and more skills, the dependence on them might simply render many of jobs obsolete with many people left unemployed [60].

Certain risks may arise unavoidably from using AI though intended to serve a legitimate purpose. For instance, as mentioned above, during COVID-19 pandemic the world saw unprecedented technologies helping the confrontation of the virus's spread by keeping the global public informed, and pathed the way for the advancement of medical research, yet, as extremely powerful as they are, these systems can generate analytical and predictive insights that can outstrip human capabilities individuals or groups. The 'black box' nature of AI tools create challenges for transparency and oversight.

Naturally, risks implicated by AI are addressed by certain fields of law such as data privacy and protection (see for example: [61]), but fell short in areas such as 'ethics' and 'governance' of using AI and as yet anew. Therefore, states produced 'codes of ethics' as guidance for the design and deployment of AI systems. Many national and international organizations, private corporations and NGOs published principles that they believe should guide a responsible use of AI [62]. Regrettable, these are not binding in nature and cannot be deemed as internationally agreed principles.

As a result, in 2019, both the UN General Assembly and UN Human Rights Council passed specific resolutions calling for the application of international human rights law to AI alongside other emerging digital technologies, warning that "automated decision-making [technologies]... without proper safeguards, may lead to decisions that have the potential to affect the enjoyment of human rights" [63]. The question raised here on how static principles of human rights observed in a continuously and rapidly evolving AI setup, and whether there is a need to develop certain accountability measures to protect human rights tailored to using AI technology.

This is so since what make AI systems as powerful as they are poses adjacent risks for the balance of rights and freedoms. The challenges posed by AI systems on human rights include 'obscurity' as AI systems can preclude individuals from knowing whether their rights has been violated in the first place, and accordingly never seek redress for those violations [64,65]. This of course impedes effective accountability for harms caused by AI systems that are capable of developing conclusions unforeseen even by the humans who programmed or tasked them [12], and as a result can have serious implications for the right to privacy including location, friends, sexual preference, political affiliation... etc., and may jeopardize safety and security of vulnerable individuals. These challenges are not merely theoretical. Amongst many other issues, one can enumerate many incidences of people being deprived of their right to financial assistance due to systemic flaw of data, or inadequate human oversight over this flow, and consequently lost housing and health assistance in the UK, Netherland, Australia and the USA [66,67].

As such, placing a proper safeguard on AI tools is essential whenever deployed to guarantee ethical results. An overarching framework is ought to be in place to ensure accountability whenever anything goes wrong [68]. A 'standalone' commitment to respect human rights hardly suffices ramifications of using AI on human rights. It cannot provide no answer for who bears the cost of harm for AI tool unethical use, or how to monitor violations or even determine that a wrong has indeed occurred, or, finally, what procedure to follow in seeking seek redress and enforcement of reparation.

As a result, the UN Global Pulse and UN Human Rights reflected a consensus that human rights should become a cornerstone for an effective AI governance regime, keeping the existing international human rights regime as the baseline future framework. Unlike codes of ethics, these international instruments have the benefit of being binding on all states, avoids jurisdictional impediments, possess readily established organizations and built-in accountability and enforcement procedures, and an International Court of Justice beginning to take a more substantive role in human rights jurisprudence [69]. Moreover, the regional human rights mechanisms play an obvious role in allowing individuals to bring legal actions against perpetrators of human rights violations [70].

Nevertheless, one drawback in these systems is that they only bind States [71]. Private sectors (the real developers of AI tools) might avoid accountability unless domestic laws, and national jurisdiction, incorporate an international minimum standard stemmed for the international human rights treaties. In practice, this might fall short because most AI technologies developers operate transnationally. Accordingly, the responsibility of businesses to respect human rights have been called upon by the UN Guiding Principles on Business and Human Rights (UNGPs) in an attempt to conceptualize there responsibility and carry out due diligence in identifying, addressing and mitigating adverse impacts on human rights whilst developing their products (see: [72]).

4. Conclusion: Patching the International Legal System and the Way Ahead

The above challenges show that piloting unproven AI tools on vulnerable populations may potentially undermine certain aspects of international law and consequently international relations. Human rights issue is particularly at the forefront of these issues if the deployment of AI tools are ill-suited in the hands of the less experienced nationally or internationally.

So far, the issue of accountability for illegal acts performed by AI systems has dominated serious debates. Regulating this issue is not easy since AI spheres of application does not come in a single form. For instance, self-driving cars are so different from automated weapons systems to regulate.

Many States, international organizations, NGOs, and think tanks, have formulated policies for AI paving a groundwork for future international cooperation [73]. For instance, the Organization for Economic Co-operation and Development (OECD) have flagged emphasis on AI responsible nature of development [74]. Regionally, the European Union contemplated several initiatives [75]. The United Nations created UNICRI (Centre for Artificial Intelligence and Robotics) focusing on the advantages and opportunities of emerging technologies [12]. The United Nations Educational Scientific and Cultural Organization (UNESCO) formulated in November 2021 a global non-binding agreement on the ethical aspects of AI in an endeavor to create a common denominator regarding development [76].

However, to assess international law in playing a part with the arrival of more developed technologies, we shall, for now, overcome the issue whether AI granted personhood or have become a subject of international law, and merely see into the reaction of the international legal order to AI and for the benefit of the international community as whole. This can be by creating suitable legal regimes, as well as producing new legal entities as needed, to either accommodate or aptly refuse new AI propositions. In the intermediate phase, however, the international community should take on a 'global commons' concept in regulating AI technology. A shift to 'res communis' may just be a proper threshold to move to the more articulated 'legal personhood' attributed to AI tools if ever, just as was primarily referred to rivers, high seas, space and the Antarctica. This however should only mean that developing AI tools be tailored towards the benefit of the common heritage of mankind, and that an international responsibility should be akin to already existing legal person that have a hand in developing such tools whether states or corporations within the jurisdictional ambit of a State [38]. Whilst legal uncertainty may evolve in relation to AI and specific concepts such as 'attribution', 'control' and 'responsibility', fortunately, the various international courts concluded sufficient precedent for resolving such issues relying on the existing general treaties and customary international law, and has plugged the gaps and provides sufficient conceptual clarification even for AI involvement [77]. However, some have even explored the issue of granting 'personhood' to AI machinery [39]. If indorsed, artificially intelligent person may much conquer major markets [40].

Of course, in this respect, AI models may threat established norms such as 'state sovereignty', 'none interference' 'illegalizing aggression'. Here, the international legal order should remain untouched as cornerstone pillars. Extreme hazardous conducts empowered by AI (such as enhanced surveillance devices and autonomous lethal weapons) are naturally resisted by most international actors and could therefore explicitly banned (such as the 1968 Treaty on the Non-Proliferation of Nuclear Weapons) [78], or qualified in a treaty regime (such as 1972 Treaty on the Limitation of Anti-Ballistic Missile Systems) [79]. In principles, international law seems to react well to address the gaps opened up by new technologies in this respect.

Noteworthy here, technology independent decision-making capability of specific autonomous weapon systems in carrying out battel-field operations without human intervention is problematic. IHL principles should be revisited to account for this if using such lethal tools is suspected to act discriminatory or disproportionally [80], bearing in mind the definition adopted by International Committee for the Red Cross for what constitutes an autonomous weapon system [81]. Accordingly, although IHL legal principles provide certain constraints and shapes States' behaviors, a comprehensive reviewing IHL becomes necessary to determine its applicability to accommodate technology advancement.

More problematic is when legal rules become dated and in need for replacement or specific attention. For instance, the very idea of human rights entwined to the International Covenant on Economic and Cultural Rights [59] is to push states to advance employment and humans' skills. Using AI outdoes this prime aspiration and shall have a reverse effect on lengthy list of treaties prepared by the International Labor Organization. More concretely, the international humanitarian law norms are bulky concerned with human civilians and soldiers' rights and duties in a battlefield. Military decision dependence on reliable automated data from satellite then used by unsupervised AI tools for analysis is problematic [82], rendering IHL principles primitive to deal with nonhuman behaviors. Accordingly, a shift towards adopting the principle of 'effect' of armed conflicts on non-combatants, incapable soldiers and civilians must be realized (for the international law of armed conflicts (LOAC) see:[83]).

Accordingly, a swift reply to all should start with creating an international institution as a vehicle international cooperation. Once it is proven that a given problem is impossible to tackle by States acting independently of each other, international cooperation towards establishing an international institution becomes the most prevalent vehicle to do so. A softer approach, though takes longer to articulate rules of any forceful legality, is to have an NGO, rather than IGO, for this particular purpose. Hence, a better model is to create an IGO as a focal hub for debates on all AI related matters. Once sufficient international support acquired, such insti-

tution should be able to raise its regulatory capacity when needed. Of course, heated debates are most likely to arise over certain issues, but past experiences tell us that such flexible approach pours into creating acceptable common grounds necessary for drawing a future binding treaty tool (see in this: [22]).

Of course, proposing to initiate IGOs for this particular point demands discussing the its advantages and disadvantages to be convinced that that IGOs would solve part of the presented problems knowing that establishing such organizations is not an easy task. Admittedly, the needed patching of the legal gaps is not easy to achieve, and perhaps conceived as irrational even by powerful states who become reluctant to fully comply, or engage, with any introduced international law regime. No clearer example than the refusal of major naval powers of the proposed creation of the 'Prize Court' and the rejection to ratify the 1909 Declaration concerning the Laws of Naval War (see: [84]). Even if this Court was created, it would have soon prove to be insufficient since the eventual introduction of submarines for warfare uses made a drastic shift in the naval warfare, and could have superseded many of the Court's jurisdictional basis[85,86].

Yet, talking on an IGO for a solution may alleviate much of these obstacles. This multilateral approach bring national efforts towards AI uses to international level, and helps creating transparency and builds confidence measures between States. For instance, in 2018 Canada became supportive of developing key transparency in a Group of Governmental Experts meeting [87] whereas back in 2013 its officials have not supported proposals to negotiate a new international treaty [22]. If nothing, applying a transparent code of conduct means that States indulge into mutual dialogue, share information, and become committed to comply with international law principles at least in respect of risen responsible and peaceful use of AI.

The relationship between multilateralism in global policy and the role of IGOs in this particular domain is vital for a result-oriented effective multilateralism to the benefit of global public interest (see: [88]). Multilateralism without IGOs will be "fragile and unstable since IGOs help to anticipate, understand and respond to global policy challenges" [88]. IGOs are instrumental in constructing global collective actions both at the global and the regional levels, and influence their own members as well as engaging external actors [89].

Resorting to the establishment of an IGO may be explained once a global public interest is proven for both current and future generations. Multilateralism gains its legitimacy if it generates solutions to global problems [90], and its capacity to produce procedural qualities and norms that assure a faithful adherence to certain principles, as well as transparency of actions (see generally: [91]) in issues stretch to maintaining international security, economy, the environment, etc (see generally: [92]).

If no treaty concluded in the short term, international dialogue reflects many advantages in customary law building. One irreplaceable advantage of customary international legal norms in this (though a lengthy process to avoid catastrophic results) is its ability to mature effectively in determining states' rights and duties in relation to the lawful use of AI tools. In difference to the then existing treaties, customary norm developed has a capacity to illustrate broader patterns whereby technological developments continuously challenge or bypass existing governance approaches, or theoretical treaty regimes.

References and Notes

[1] Vincent J. Putin Says The Nation that Leads in AI 'Will Be the Ruler of the World'. The Verge. 2017; Available from: https://www.theverge.com/2017/9/4/16251226/russia-ai-putin-rule-the-world.

[2] Suter K. The Successes and Limitations of International Law and the International Court of Justice. Medicine, Conflict and Survival. 2004;20(4):344–354. doi:10.1080/1362369042000285973.

[3] Friedman DD. Does Technology Require New Law? Harvard Journal of Law & Public Policy. 2001;25. Available from: https://core.ac.uk/download/pdf/149256227.pdf.

[4] Lyria BM. Recurring Dilemmas: The Law's Race to Keep Up With Technological Change. 10.2139/ssrn.979861.

[5] Calo R. Artificial Intelligence Policy: A Primer and Roadmap. Social Science Research Network (SSRN). 2017;3(2):190–213. doi:10.2139/ssrn.3015350.

[6] Scherer MU. Regulating Artificial Intelligence Systems: Risks, Challenges, Competencies, and Strategies. Social Science Research Network (SSRN). 2016;29(2):376–392. doi:10.2139/ssrn.2609777.

[7] Garcia D. Future Arms, Technologies, and International Law: Preventive Security Governance. European Journal of International Security. 2016;1(1):94–111. doi:10.1017/eis.2015.7.

[8] Maas MM. How Viable is International Arms Control for Military Artificial Intelligence? Three Lessons from Nuclear Weapons. Contemporary Security Policy. 2019;40(3):285–311. doi:10.1080/13523260.2019.1576464.

[9] Bostrom N, Dafoe A, Flynn C. Policy Desiderata for Superintelligent AI: A Vector Field Approach. In: Liao MS, editor. Ethics of Artificial Intelligence. Oxford University Press; 2019. Available from: https://www.fhi.ox.ac.uk/wp-content/uploads/Policy-Desiderata-in-the-Development-of-Machine-Superintelligence.pdf.

[10] Burri T. International Law and Artificial Intelligence. In: German Yearbook of International Law 2017. vol. 60. Duncker & Humblot; 2019. pp. 91–108. doi:10.2139/ssrn.3060191.

[11] Maas M. International Law Does Not Compute: Artificial Intelligence and the Development, Displacement or Destruction of the Global Legal Order. Melbourne Journal of International Law. 2019;20:29–56.

[12] Secretary-General's Strategy on New Technologies. United Nations Secretary-General's; 2018. Available from: https://www.un.org/en/newtechnologies/images/pdf/SGs-Strategy-on-New-Technologies.pdf.

[13] Lance E. Difficulties In Legally Defining AI For The Law. SSRN Social Science Research Network. 2021;doi:10.2139/ssrn.3958555.

[14] Scott B, Heumann S, Lorenz P. Artificial Intelligence and Foreign Policy. Berlin, DE; 2018. Available from: https://www.stiftung-nv.de/sites/default/files/ai_foreign_policy.pdf.

[15] Cummings ML. Artificial Intelligence and the Future of Warfare, International Security Department and US and the Americas Programme. Chatham House. 2017;pp. 3. Available from: https://www.chathamhouse.org/sites/files/chathamhouse/publications/research/2017-01-26-artificial-intelligence-futurewarfare-cummings-final.pdf.

[16] Role of Autonomous Systems in Gaining Operational Access, Policy Guidance (MCDC Policy Guidance): Autonomy in Defense Systems. Multinational Capability Development Campaign (2013-2014); 2014. Available from: https://www.innovationhub-act.org/sites/default/files/u4/Policy%2520Guidance%2520Autonomy%2520in%2520Defence%

2520Systems%2520MCDC%25202013-2014%2520final.pdf.
[17] ;Notable in this respect the definition produced by the US 2019 Fiscal Year of National Defense Authorization Act that AI systems are those "that performs tasks under varying and unpredictable circumstance without significant human oversight or that can learn from experience and improve performance when exposed to data sets".
[18] Russell S, Dewey D, Tegmark M. Research Priorities for Robust and Beneficial Artificial Intelligence. AI Magazine. 2015;36(4):105–114. doi:10.1609/aimag.v36i4.2577.
[19] Nilsson NJ. The Quest for Artificial Intelligence. Cambridge University Press; 2009. Available from: https://books.google.com/books?id=nUJdAAAAQBAJ.
[20] Horowitz MC. Artificial Intelligence, International Competition, and the Balance of Power. Texas National Security Review. 2018;1(3):36–39. doi:10.15781/T2639KP49.
[21] Sunil K. Advantages and Disadvantages of Artificial Intelligence. Toward Data Sciences. 2019; Available from: https://towardsdatascience.com/advantages-and-disadvantages-of-artificial-intelligence-182a5ef6588c.
[22] Erdélyi OJ, Goldsmith J. Regulating Artificial Intelligence: Proposal for a Global Solution. Government Information Quarterly. 2022;39(4):101748. doi:10.1016/j.giq.2022.101748.
[23] B B. Technologies for International Law & International Law for Technologies. Groningen Journal of International Law. 2018; Available from: https://www.grojil.org/2018/10/22/technologies-for-international-law-international-law-for-technologies/.
[24] Athus M. International Law does not Compute, Artificial Intelligence and the Development, Displacement of Destruction of the Global Legal Order. 2019;pp. 10–15. Available from: https://www.researchgate.net/publication/335243242.
[25] Krampe F, Nordqvist P. Climate Change and Violent Conflict: Sparse Evidence from South Asia and South East Asia. SIPRI Insights on Peace and Security. 2018;(4). Available from: https://www.sipri.org/publications/2018/sipri-insights-peace-and-security/climate-change-and-violent-conflict-sparse-evidence-south-asia-and-south-east-asia.
[26] AI is even useful for legal departments for its benefits "stretch to assisting lawyers and legal institutions do things faster, better, and cheaper. . . availability, quality, and price... is hard to resist in legal research, contract prepare and management, due diligence reviews, legal analysis, litigation analysis, and wrong-doing detection". See: [21], Supra note 16.
[27] Sterling M. Benefits of Artificial Intelligence: What Have you Done for me Lately? Thomson Reuters. 2017; Available from: https://static.legalsolutions.thomsonreuters.com/static/pdf/S045388_3_Final.pdf.
[28] This proposed 'Method for Evaluating User Trust in Artificial Intelligence Systems, at:. Available from: https://www.nist.gov/news-events/news/2021/05/nist-proposes-method-evaluating-user-trust-artificial-intelligence-systems.
[29] Produced 'An Accountability Framework for Federal Agencies and Other Entities' in 2021, at:. Available from: https://www.gao.gov/assets/gao-21-519sp.pdf.
[30] Produced 'Information Technology–Artificial Intelligence–Overview of Trustworthiness in Artificial Intelligence', at:. Available from: https://www.iso.org/standard/77608.html.
[31] Danzig R. An Irresistible Force Meets a Moveable Object: The Technology Tsunami and the Liberal World Order. Lawfare Research Paper Series. 2017;5(1). Available from: https://s3.documentcloud.org/documents/3982439/Danzig-LRPS1.pdf.
[32] Glennon MJ. The Dark Future of International Cybersecurity Regulation. Journal of National Security Law and Policy. 2013;6(2):563–564. Available from: https://cryptome.org/2013/04/dark-cybersec.pdf.
[33] Abbott K. In: Introduction: The Challenges of Oversight for Emerging Technologies. Edward Elgar Publishing;. pp. 1–16. doi:10.4337/9781782545644.00006.
[34] Mezei P. "You AIn't Seen Nothing yet" – Arguments Against the Protectability of AI-generated Outputs by Copyright Law. SSRN Electronic Journal. 2021;doi:10.2139/ssrn.3890051.
[35] Curtis L, Platts R. Alexa, What's the Impact of AI in Trademark Law? HGL Ltd. 2019;pp. 43–47. Available from: https://www.hgf.com/news/alexa-whats-the-impact-of-ai-on-trade-mark-law/.
[36] Picker C. A View from 40,000 Feet: International Law and the Invisible Hand of Technology. Cardozo Law Review. 2001;232. Available from: https://ssrn.com/abstract=987524.
[37] Miles B. The Malicious Use of Artificial Intelligence: Forecasting, Prevention, and Mitigation. Future of Humanity Institute, University of Oxford, Centre for the Study of Existential Risk, University of Cambridge, Center for a New American Security, Electronic Frontier Foundation and OpenAI; 2018. Available from: https://arxiv.org/ftp/arxiv/papers/1802/1802.07228.pdf.
[38] Tzimas T. Artificial Intelligence as Global Commons and the "International Law Supremacy" Principle. Atlantis Press; 2018/08. pp. 83–88. Available from: https://doi.org/10.2991/rais-18.2018.13. 10.2991/rais-18.2018.13.
[39] A comparison is made in relation to the European Court of Justice rulings in Centros Ltd v Erhvervs-og Selskabsstyrelsen ((C-212/97) [1999] ECR I-1459, I-1497) and Überseering BV v Nordic Construction Company Baumanagement GmbH ((NCC) (C-208/00) [2002] ECR I-9943, I-9975–6), deducing that AI entities would have to be recognized by all EU member states. See in this respect: Matt S., 'Is AI Personhood Already Possible under US LLC Laws? (Part One: New York)', Law and AI (Blog Post, 14 May 2017), at: http://www.lawandai.com/2017/05/14/is-ai-personhood-already-possible-under-current-u-s-laws-dont-count-on-it-part-one/.
[40] Burri T. Free Movement of Algorithms: Artificially Intelligent Persons Conquer the European Union's Internal Market. In: Barfield W, Pagallo U, editors. Research Handbook on the Law of Artificial Intelligence; 2018. pp. 537–559. doi:10.4337/9781786439055.00034.
[41] Lewis D, Modirzadeh N, Blum G. War-Algorithm Accountability; 2016. doi:10.54813/fltl8789.
[42] AI in the UK: Ready, Willing and Able?; 2018. Available from: https://publications.parliament.uk/pa/ld201719/ldselect/ldai/100/100.pdf.
[43] Andras H. AI and International Law – Legal Personality and Avenues for Regulation. Hungarian Journal of Legal Studies. 2022; Available from: https://akjournals.com/view/journals/2052/aop/article-10.1556-2052.2022.00352/article-10.1556-2052.2022.00352.xml#fn47.
[44] Ethically Aligned Design: A Vision for Prioritizing Human Well-being with Autonomous and Intelligent Systems, Version 2. The IEEE Global Initiative on Ethics of Autonomous and Intelligent Systems; 2017. Available from: https://standards.ieee.org/news/2017/ead_v2/.
[45] The international courts concluded sufficient precedent for resolving questions of attribution, state control and responsibility. See: [10].
[46] Referred to as 'international humanitarian law' and as the regimes that regulate armed conflict, and generally regarded as synonymous with the 'law of war'.
[47] What Is International Humanitarian Law? International Committee of the Red Cross (ICRC); 2004. For a general overview see:. Available from: https://www.icrc.org/en/doc/assets/files/other/what_is_ihl.pdf.
[48] Brose C. The Kill Chain: Defending America in the Future of High-Tech Warfare. Hachette Books; 2020.
[49] Department of Defense Directive: Autonomy in Weapon Systems. Department of Defense USA; 2012. Available from: https://cryptome.org/dodi/dodd-3000-09.pdf.
[50] Report of the 2017 Group of Governmental Experts on Lethal Autonomous Weapons Systems (LAWS); 2017. CCW/GGE.1/2017/CRP. Available from: https://digitalcommons.usmalibrary.org/rrc_rp/2/.
[51] Hill S, Marsan N. Artificial Intelligence and Accountability: A Multinational Legal Perspective. S&T Organization, Nato, STO-MP-IST-160; Available from: https://www.sto.nato.int/publications/STO%20Meeting%20Proceedings/STO-MP-IST-160/MP-IST-160-PP-4.pdf.
[52] Mayer C. Developing Autonomous Systems in an Ethical Manner. In: Autonomous Systems: Issues for Defence Policymakers. NATO Allied Command Transformation; 2015. pp. 89.
[53] DOD Adopts Ethical Principles for Artificial Intelligence. Press Release, US Department of Defense. 2020; Available from: https://www.defense.gov/News/Releases/Release/Article/2091996/dod-adopts-ethical-principles-for-artificial-intelligence/.
[54] Matt T. Explainable Artificial Intelligence (XAI)'. Defence Advanced Research Projects Agency (DRAPA). 2021; Available from: https://www.darpa.mil/program/explainable-artificial-intelligence.
[55] A Definiation of AI: Main Capabilities and Discipline. The European Commision; 2019. Available from: https://www.aepd.es/sites/default/files/2019-12/ai-definition.pdf.

[56] Artificial intelligence;. Available from: https://www.iso.org/committee/6794475.html.
[57] Ford CA. AI, Human-Machine Interaction, and Autonomous Weapons: Thinking Carefully About Taking 'Killer Robots' Seriously. Arms Control and International Security Papers. 2020;1(2). Available from: https://www.state.gov/wp-content/uploads/2020/06/T-Paper-Series-2-LAWS-FINAL-508.pdf.
[58] See generally the 1949 Protocol Additional to the Geneva Conventions related conventions, and specifically Article 22 of the 1907 Regulations Respecting the Laws and Customs of War on Land (annexed to Convention IV Respecting the Laws and Customs of War on Land), 36 Stat. 2227, T.S. 539. See also Article 35(1) of the 1977 Additional Protocol I relating to the Protection of Victims of International Armed Conflicts, 1125 U.N.T.S. 3.
[59] Article 23(1) of the Universal Declaration of Human Rights, GA Res 217A (III), UN GAOR, UN Doc A/810, and Article 6(1) of the International Covenant on Economic, Social and Cultural Rights, 1966, 993 UNTS 3.
[60] See generally McKinsey Global Institute, 'Jobs Lost, Jobs Gained: Workforce Transitions in a Time of Automation' (Report, December 2017).
[61] UN Global Pulse and International Association of Privacy Professionals, Building Ethics into Privacy Frameworks for Big Data and AI. Available from: https://iapp.org/resources/article/building-ethics-into-privacyframeworks-for-big-data-and-ai/.
[62] Fjeld J, Achten N, Hilligoss H, Nagy A, Srikumar M. Principled Artificial Intelligence: Mapping Consensus in Ethical and Rights-Based Approaches to Principles for AI. Social Science Research Network (SSRN). 2020;doi:10.2139/ssrn.3518482.
[63] See: UNGA Res. 73/179, 2018 and HRC Res. 42/15, 2019 respectively.
[64] As warned by David Kaye (former UN Special Rapporteur on the Promotion and Protection of Freedom of Opinion and Expression) expressing that people are oblivion to the "existence of the algorithmic decision-making processes that may have an impact on their enjoyment of rights". UN Doc. A/73/348, 29 August 2018, para. 40. Available from: https://www.ohchr.org/en/special-procedures/sr-freedom-of-opinion-and-expression/mr-david-kaye-former-special-rapporteur-2014-2020#:~:text=David%20Kaye%20was%20the%20UN,August%202014%20to%20July%202020.
[65] Rudin C, Radin J. Why Are We Using Black Box Models in AI When We Don't Need To? A Lesson From An Explainable AI Competition. 12. 2019;doi:10.1162/99608f92.5a8a3a3d.
[66] See details in: 'Regulating Algorithm Decision' Reports for the years 2018 and 2019 by 'AI Now Institute' manifesting that areas such as health care, criminal justice, education, employment, amongst others, the implementation of technologies has resulted in numerous problems, at: =https://ainowinstitute.org/litigatingalgorithms.pdf and https://ainowinstitute.org/litigatingalgorithms-2019-us.pdf respectively.
[67] McDonald H. Home Office to Scrap Racist Algorithm for UK Visa Applicants. The Guardian. 2020; Available from: https://www.theguardian.com/uk-news/2020/aug/04/home-office-to-scrap-racist-algorithm-for-uk-visa-applicants.
[68] McGregor L, Murray D, Ng V. International Human Rights Law as a Framework for Algorithmic Accountability. International and Comparative Law Quarterly. 2019;68:309–343. doi:10.1017/S0020589319000046.
[69] Lyal S. The International Court of Justice's Growing Contribution to Human Rights and Humanitarian Law. The Hague. 2016;.
[70] Regional Human Rights Mechanisms and Arrangements. Available from: https://www.ohchr.org/en/countries/nhri/websites-regional-human-rights-mechanisms-and-arrangements.
[71] Knox JH. Horizontal Human Rights Law. American Journal of International Law. 2008;102(1):1–47. doi:10.1017/s0002930000039828.
[72] New York, Geneva - USA, CH; 2011. Available from: https://www.ohchr.org/sites/default/files/documents/publications/guidingprinciplesbusinesshr_en.pdf.
[73] Such as: the Global Partnership on Artificial Intelligence: https://gpai.ai, Equal AI: https://www.equalai.org/, The Future Society: https://thefuturesociety.org, the Centre for AI and Digital Policy, https://www.caidp.org.
[74] The OECD Council adopted an AI related recommendation in May 2019, OECD/LEGAL/0449.
[75] See for example EU reports and regulations: 'Regulating Emerging Robotic Technologies in Europe: Robotics Facing Law and Ethics', Final Report, Project No 289092 (31 May 2014); the European Parliament resolution on a civil liability regime for artificial intelligence, (2020/2014); the European Parliament resolution on intellectual property rights for the development of AI technologies (2020/2015); the European Parliament resolution on a framework of ethical aspects of artificial intelligence, robotics and related technologies (2020/2012); the Proposal for a Regulation of the European Parliament and of the Council Laying Down Harmonized Rules on Artificial Intelligence (Artificial Intelligence Act) and Amending Certain Union Legislative Acts, COM/2021/206 final (21/4/2021).
[76] UNESCO Recommendation on the Ethics of Artificial Intelligence, 61910, 23 November 2021.
[77] The international courts concluded sufficient precedent for resolving questions of attribution, state control and responsibility. See: [10].
[78] Treaty on the Non-Proliferation of Nuclear Weapons, 729 UNTS 161.
[79] Treaty on the Limitation of Anti-Ballistic Missile Systems, United States of America–Soviet Union, signed 26 May 1972, 944 UNTS 13.
[80] Grut C. The Challenge of Autonomous Lethal Robotics to International Humanitarian Law. Journal of Conflict and Security Law. 2013;18(1):5–23. doi:10.1093/jcsl/krt002.
[81] Weapons of this type are defined as: "An autonomous weapon system is one that can learn or adapt its functioning in response to changing circumstances in the environment in which it is deployed. A truly autonomous system would have artificial intelligence that would have to be capable of implementing IHL", International Committee of the Red Cross, Report on the Ethics and Autonomous Weapon Systems: 'An Ethical Basis for Human Control?', 2018, at: https://www.icrc.org/en/download/file/69961/icrc_ethic_and_autonomous_weapon_systems_report_3_april_2018.pdf.
[82] Allen G, Chan T. Artificial Intelligence and National Security. Massachusetts, US: Harvard Kennedy School; 2017. Available from: https://www.belfercenter.org/sites/default/files/files/publication/AI%20NatSec%20-%20final.pdf.
[83] Kraska J. Command Accountability for AI Weapon Systems in the Law of Armed Conflict. International Law Studies. 2021;97(407). Available from: https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=2958&context=ils.
[84] Brown HB. The Proposed International Prize Court. The American Journal of International Law. 1908;2(3):476–489. Available from: http://www.jstor.org/stable/2186326.
[85] Manson J. International Law, German Submarines and American Policy; 2000. doi:10.15760/etd.2489.
[86] Crootof R. Jurisprudential Space Junk: Treaties and New Technologies. SSRN Electronic Journal. 2018;doi:10.2139/ssrn.3352614.
[87] Meeting of the High Contracting Parties to the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects (2019), at: https://undocs.org/CCW/MSP/2019/9.
[88] Surdej A. Multilateralism and International Governmental Organizations: Principles and Instruments. Transforming Government: People, Process and Policy. 2020;14(3):337–350. doi:10.1108/tg-11-2019-0107.
[89] Blanco-Jiménez M, Parra-Irineo G, González-González N, Tavizon-Salazar A. Regional Integration in Latin America. Emerald Publishing Limited; 2019. pp. 1–12. doi:10.1108/978-1-78973-159-020191001.
[90] Karunasena K, Deng H, Singh M. Measuring the Public Value of E-Government: A Case Study from Sri Lanka. Transforming Government: People, Process and Policy. 2011;5(1):81–99. doi:10.1108/17506161111114671.
[91] Newman E, Thakur RC, Tirman J. Multilateralism Under Challenge?: Power, International Order, and Structural Change. United Nations University Press; 2006.
[92] Erturk E. Intergovernmental Organizations (IGOs) and Their Roles and Activities in Security, Economy, Health and Environment. Journal of International Social Research. 2015;8. doi:10.17719/jisr.20153710606.