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PROBLEMS OF USING AUTONOMOUS MILITARY AI AGAINST THE BACKGROUND OF RUSSIA'S MILITARY AGGRESSION AGAINST UKRAINE

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Abstract. The application of modern technologies with artificial intelligence (AI) in all spheres of human life is growing exponentially alongside concern for its controllability. The lack of public, state, and international control over AI technologies creates large-scale risks of using such software and hardware that (un)intentionally harm humanity. The events of recent month and years, specifically regarding the Russian Federation's war

against its democratic neighbour Ukraine and other international conflicts of note, support the thesis that the uncontrolled use of AI, especially in the military sphere, may lead to deliberate disregard for the moral standards of controlled AI or the spontaneous emergence of aggressive autonomous AI. The development of legal regulation for the use of technologies with AI is prolonged concerning the rapid development of these artefacts, which simultaneously cover all areas of public relations. Therefore, control over the creation and use of AI should be carried out not only by purely technical regulation (e.g., technical standards and conformance assessments, corporate and developer regulations, requirements enforced through industry-wide ethical codes); but also by comprehensive legislation and intergovernmental oversight bodies that codify and enforce specific changes in the rights and duties of legal persons. This article shall present the “Morality Problem” and “Intentionality Problem” of AI, and reflect upon various lacunae that arise when implementing AI for military purposes.

Key words: artificial intelligence, autonomous systems, disinformation, international law, military ethics.

Introduction. War, regardless of how it may ravage society, has been a constant companion to humanity throughout history. As with many other processes that have attained automation, weapons and support systems have inevitably only enabled violence against our kin to become more targeted and precise. What may once have been an argument to reduce the number of troop casualties via mechanisation now sees itself turned against defenceless, innocent civilian populations the world over – from advanced targeting systems for artillery and missiles, to remotely powered drones. For many reasons, society is inevitably amidst a crisis of consciousness pertaining to advancing war capacity – though it is not entirely human-centric, even if human actors are nominally in each significant decision-making role. Rather, because many other social areas are experiencing similar phenomena, this particular predicament is focused on the morality (or lack thereof) held by autonomous artificial intelligence systems (AAIS). While it must be acknowledged that genuine autonomy is absent in many military systems internationally, early dialogues on the ethics of AAIS in warfare pervade law and ethics in military realms (Kolff, 2011; Taddeo and Floridi, 2018; Tilovska-Kechedji, Bojović and Čvorović, 2018; de Swarte, Boufous and Escalle, 2019; Ali, 2020; Haney, 2020; Bistrion and Piotrowski, 2021). Among the many branches of thought incorporated into these discussions are those that advocate for non-human animal or entity consideration (Jaynes, 2020; Jaynes, 2021b-c, Gellers, 2021, Owe and Baum, 2021), specifically target AAIS or similar system bias (Shank and DeSanti, 2018; Coeckelbergh, 2020), and bleed into more extensive discussions on “Friendly” or “Moral” AI (Wallach and Allen, 2009; Muehlhauser and Bostrom, 2014; Savulescu and Maslen, 2015; Freire et al., 2020; Gordon, 2020). For the context of this argument, we are concerned with two “problems” of AAIS that run in parallel; being the “Morality Problem” and the “Intentionality Problem.”

The “Morality Problem” of AAIS, as understood by the authors, concerns itself with the premise that AAIS requires a component of moral intuition – or rather, awareness and respect for human mores – and can link itself to works by Asimov and others (Wallach and Allen, 2009; Muehlhauser and Bostrom, 2014; Savulescu and Maslen, 2015; Freire et al., 2020; Gordon, 2020).¹ The “Intentionality Problem” of AAIS, described more fully in a separate work, is more concerned with how AAIS may come to be judged under a court of law. More specifically, the “Intentionality Problem” is concerned both with the premise of AAIS “will” or “consciousness” *and* that this “will”, or “consciousness”, can be used by judiciaries to attribute legal harms and duties upon AAIS – rather than solely laying the blame for these harms on human programmers or corporate developers and manufacturers. The former has received much treatment in the past two decades, while the latter can be said to be a lesser, albeit persistent, area of interest. Distinctly, it can be argued that broaching the “Morality Problem” of AAIS is a red herring that detracts from the reality that efforts are being made to incorporate AAIS – with a wide range of capabilities and intents for use – into instruments that will prove their effectiveness in emerging armed conflicts the world over.

¹ See also Encyclopaedia Britannica (Online) entry, “Three Laws of Robotics: Concept of Asimov,” <https://www.britannica.com/topic/Three-Laws-of-Robotics>.

To be clear, we are concerned with the “Morality Problem” of AAIS and its ultimate place in a field of service that traditionally places moral culpability on superior members of the command chain. However, our focus here is on the “Intention Problem” that ultimately lies beneath the countless strings of code that comprise AAIS. After all (in a broad sense), AAIS would never be held to account for its actions should its performance not meet our expectations under current legal regimes internationally. Because AAIS are *tools*, and not considered order-abiding military personnel or extensions of its “piloting crew,” errors may be flung anywhere to the chain of command implementing the system or the programmers behind its code. This notion stands in slight contrast to various international and local provisions found, mainly, within Admiralty or Maritime law, where liability provisions have historically been implemented to restrict damage suits in cases of emergency or an accident occurring outside of the reasonable knowledge of the ship’s owner (Chen, 2001; Mawani, 2018). Not only does the treatment of sea-going vessels differ from modes of transit made standard in the past century, such as aeroplanes and helicopters (Graham, 2012; Hodgkinson and Johnston, 2018; Kareng, 2020), but all nations will ultimately be forced to rule on the private ownership of AAIS-driven weapons. This reality is presented as such because claims of self-defence (Jacobs, 2015) or invasions of airspace (Froomkin and Colangelo, 2015) are likely to become more common as drones and AAIS-assisted weaponry gain in popularity and feasibility, while the nature of “common arms ownership” progresses with the times (Terzian, 2013). When further considering the legal ramifications that arise with human-machine augmentation and the ability of these individuals to become weaponised as soldiers or otherwise walking liability concerns due to potential system “glitches” (Bertolini, 2015; Billauer, 2021; Jaynes, 2021b-c), the “Morality Problem” of AAIS realistically distracts the academic and legal communities from more concerning realities specific to the formal recognition and deployment of fully autonomous AIS.

Hence, the “Intention Problem” is of greater significance here because military aggressors (or potential aggressors) pose a unique threat that exploits our assumptions around AI, AAIS, and their relative level of safety when integrated into bionics or other artefacts. Bad actors may utilise long-term infiltration and espionage techniques to establish AAIS that is beneficial for their ends in the cybernetic equivalent of a “False Flag” operation. Alternatively, these actors may exploit “mandatory” backdoor software keys to cause seemingly unintended harm to the general public – particularly when said technology is “only” in the hands of law enforcement agencies, as in the case of the infamous Pegasus software (Farrow, 2022). While our global society may be familiar with the use of cyber warfare over the eight or so years that the Russian Federation has held its “proxy” (now “real”) war against Ukraine, we will undoubtedly be blindsided by the use of AAIS that *intentionally* leads to acts of genocide – particularly those that the device’s owner could not prevent or otherwise leave legal determinations of intent stymied. One such scenario may already be playing out if China’s use of facial recognition to track their Uyghur Muslim population is any indicator (Leibold, 2019; Van Noorden, 2020), even if these systems may not be “fully” autonomous. Regardless of the “unknown-unknowns” that exist with AI technologies more generally, or any academic desire to frame these artefacts in a positive light to promote their development, the reality remains that today’s “advanced AI” is tomorrow’s “programme” or “software.” This statement is significant when considering the non-expert’s opinion on the difference between AI and computer programmes or software and that same difference as understood by an expert.

Understanding the nature of this trend in opinion deviation and the ease by which society at large forgets how tasks once “impossible” for AI to perform are now commonplace, this article is therefore aimed at exposing the *lacunae* in international law that exist for the use and development of AI or AAIS for military operations of any nature. In light of the aggression currently seen between the Russian Federation and Ukrainian Republic, this article shall first provide a historical background for the “Morality Problem” more generally. We shall then discuss various concerns held regarding the

international community's ability to hold AAIS accountable for actions which may deviate from the intention of its programmers, and close with some words of reflection upon this topic and potential directions that can be taken to address the "Intentionality Problem" of AAIS.

Results and discussion. Autonomy in programming – old realities and future potentials. Born from the attribution of human-compared knowledge, skill, and talent to increasingly-complex computation in 1956 during the now infamous conference at Dartmouth College (McCarthy et al., 2006), "artificial" intelligence seems only to encompass system capabilities that – for the immediate time surrounding their creation and deployment – promises to accelerate human capabilities and daily liberties. This statement is made with the understanding that AI transitions consistently from the state-of-the-art to integral parts of daily life, and is frequently re-branded as "programmes" or "software" to reflect this new mundane truth (Mostow, 1985; Lee, 2018; Wrigley, 2019). Regardless of whether we use terms such as "AI," "algorithms," "bots," "computer-based intelligence (CI)," "programmes," "software," and so forth to categorise computer-based automation, it cannot be denied that various areas of academic study are invested in discussing the ethics, legality, and morality of allowing these systems to operate in self-propelled manners. This investment can be displayed through early discussions on the ability of AI to serve as agents in financial contracts when these systems were steadily gaining use in financial institutions (Solum, 1992; Wein, 1992; Allen and Widdison, 1996; Kerr, 1999). This flashpoint has since evolved into discourses on copyrights, creative licenses, and patents that bridge the gap between human authors and their computer counterparts (Barfield, 2006; Bridy, 2012; Coguc, 2021; Kinsara, 2021).

Furthermore, the conversation has been extended to more phenomenological musings regarding the medical end of human agents (Kester 1994, Linder 1995, Kirchner 2013, Kurki 2019) and the status of non-human animals in law (Stone, 1972; Bennett, 2006; Kurki and Pietrzykowski, 2017; Gellers, 2021; Lostal, 2021; Owe and Baum, 2021; Göksu, 2022). For those less familiar with this area of research, it should be stated here that each of these elements is important precisely because they deal with an element of human life that was taken for granted before technology blurred the lines between "natural" and "unnatural" moral and legal actions. This statement does ignore the status of non-human animals to some extent, as their place in the law extends back to Roman times (Stone, 1972; Lostal, 2021; Göksu, 2022). However, it is still important to incorporate non-human animals in this context because their "conscious" status, when compared to humans, is still being debated in certain circles, much the same as certain AI and AAIS.

As these conversations have evolved and gained both sophistication and international attention, we see that more scholars have begun to question the ability of computer-based intelligence systems to hold values that could (arguably) only apply to the human-based values and norms mentioned above. These conversations also hold a wide range of terminology – including ethical, "friendly," legally compliant, and moral AI (Wallach and Allen, 2009; Muehlhauser and Bostrom, 2014; Savulescu and Maslen, 2015; Mokhtarian, 2018; Freire et al., 2020; Gordon, 2020) – and similarly span a broad range of system structures. After all, human ingenuity has produced "bots" that can inhabit anthropomorphic forms or take on virtual avatars in video games and Metaverse-like spaces (de Swarte, Boufous and Escalle, 2019; Wrigley, 2019; Jaynes, 2020; Jaynes, 2021a; Kostenko, 2022). Given that efforts have been made to "humanise" these systems and have similarly been presented in international media (its often science-fiction nature notwithstanding), it is only logical that we would expect these artefacts to similarly hold values and positions that we understand only to be held by human populations. This statement is made given our inability to truly know the thoughts of non-human species. Nevertheless, this self-same assumption leaves the global community in such a predicament, particularly when an AI is implemented across cultural and national borders. After all, these boundaries have historically resulted in internal and external conflicts, such that nations become lost to the sands of time and may arise in radically different forms.

Information warfare and AAIS. Given the tactical advantages of information warfare (as with any new communications technology in military affairs), it only makes sense that vital infrastructure automated with AI faces an endless stream of digital attacks from a wide range of foreign actors. So too are efforts consistently being made to generate more sophisticated encryptions and firewall-penetrating algorithms to defend against and disrupt regular system functionality. Plenty of attention has been given to the intersection between AI, cyber security, and military affairs (Kolff, 2011; Taddeo and Floridi, 2018; Tilovska-Kechedji, Bojović and Čvorović, 2018; de Swarte, Boufous and Escalle, 2019; Ali, 2020; Haney, 2020; Bistrion and Piotrowski, 2021), so it shall not be covered in depth here. Instead, our concerns are better found in the grey areas left out by many of these dialogues – precautionary as they may or may not be. Specifically, our concern here lies in the areas that encryption and firewalls alone cannot address, and virus-detecting software may similarly be unequipped to appropriately flag.

Indeed, we are concerned with the genuine potential of AAIS to fly out of human control through various methods. For clarity, AI and AAIS can feasibly be hacked and turned against the population from which it is being deployed. Moreover, anti-virus software can catch some methods of hacking (e.g., logic bombs, resident or polymorphic viruses, worms, “zero-click” exploits) before their payload is delivered. The reality remains for many critical systems, however, that the hardware or software used is “out-of-date” for various reasons. The major driving factor behind this phenomenon is that advances in computation and coding structures are occurring at too rapid a pace for IT budget investments, including peripheral devices utilised within a given organisation’s network (Lewis, 2020; Butun, Tuncel and Oztoprak, 2021; Aldasoro et al., 2022). Combined with global semiconductor shortages that will only be exacerbated further by the lack of noble gas exports from Ukraine (Alper and Freifeld, 2022, Athanasia and Arcuri, 2022), upgrades to this infrastructure will also likely face challenges from commercialised optics- and quantum-based computation systems given the level of research being conducted in these realms (Ali, 2020; Jaynes, 2021d; Quantum Technology and Application Consortium – QUTAC et al., 2021; Zhu et al., 2022).

However, older machinery and software are only one small piece of this broader puzzle. Yes, “older” systems are more vulnerable to attacks due to hardware expiry dates and public or de-encrypted knowledge of a given system’s structure. And indeed, a lack of materials to produce more sophisticated artefacts to replace these ageing aspects of local and national infrastructure similarly produces an environment where maintaining one’s cyber defence is a Sisyphean task by itself. Yet these alone do not account for the whole of the “Intentionality Problem” cited earlier in this essay. After all, this can only be addressed by reflecting upon the legal basis whereupon criminal negligence is determined – which, for AI and AAIS, lies in its code. One may easily attribute malicious intent to a specific hacker when such connections are made, or the result of an egregious computational error to the device’s coding team or original equipment manufacturer. For now, we can argue that corporations are liable for the damages caused by the AAIS they developed insofar as the artefact was implemented for its intended purpose. However, this line is becoming increasingly vague; particularly as evolutionary learning models grow in sophistication for AAIS and virtual avatars become acceptable surrogates for humans in digitised spaces (Barfield, 2006; Jaynes, 2020; Jaynes, 2021a-e; Kostenko, 2022). Moreover, the case of the NSO Group’s Pegasus spyware displays the vulnerabilities found in relatively up-to-date artefacts (Farrow, 2022) and the extent to which it can proliferate outside of individual state-security threats.

How might we be able to determine the difference between an AAIS independently being unable to follow the directions of its human pilots and pure human negligence? It is one thing if the system cannot be deactivated without inputting a specific programme termination sequence, such as in the case of a military system requiring multiple codes from a finite pool of authorised users. Should news of the capture, incapacitation, or death of a high-level officer not reach an AAIS or its

human operator(s), the termination of an automated assault may either be delayed or infeasible when cease-fire orders are administered. This example is extreme, granted. Nevertheless, if the system's self-learning architecture results in the development of a non-terminable programme – likely the result of the system learning the most “efficient” way to resolve an armed conflict or achieve military gains – how can we properly attribute malicious intent? Even if we assume that the development team considers such a scenario, at what point does human-authored code no longer become attributable to them? No such conversation has been seriously addressed on the international stage because of human agents' assumptions regarding system controllability (Wallach and Allen, 2009; Muehlhauser and Bostrom, 2014; Savulescu and Maslen, 2015; Mokhtarian, 2018; Freire et al., 2020; Gordon, 2020). Nick Bostrom (2016) famously presented his concerns regarding AI controllability several years ago. Yet, the assumption in the field remains that humankind can sufficiently manipulate and react to the hundreds of actions taken by a given computational artefact over the course of mere milliseconds.

Separately, there is an unsolved problem of the 37th move (AlphaGo's 37th move) of the military AI. People may simply not understand that this is their salvation or the end. We state that autonomous lethal weapons (ALW) are already in use and will soon become a common tool of destruction in all theaters of war. The question arises - whether we can still prevent the consequences of ALW application and whether there are still effective mechanisms to prevent uncontrolled ALW formation.

We have problems: a) Algorithms that provide for the military commander to make the final decision on the use of ALW are ineffective and utopian; b) ALW is difficult or impossible to ban/restrict (like antipersonnel mines); c) there are no legislative, technological, physical and moral control algorithms for its development and application; d) it is difficult or impossible to prohibit/restrict the modernization of known non-autonomous types of weapons for ALW; e) lack of physical and ethical control over the developer of AI algorithms for ALW in order to bias and prohibit the formation of destructive or "black data" on the basis of which the AI forms a recommendation/command to use weapons.

Furthermore, we must consider how state use of propaganda further complicates soldier and civilian complacency in this age of instantaneous media access. As shown in the enactment of regulation banning Russian citizens from referring to their government's conflict with Ukraine as a war (Faulconbridge 2022, Troianovski 2022), or with the increasing number of targeted Internet shutdowns in various nations internationally (Ayalew 2019; Ruijgrok 2021; Sampedro, López-Ferrández and Hidalgo 2021; Tarisayi and Munyaradzi, 2021), government actors are creating means whereby to impose their unique narrative of events that similarly do not expose them to significant criticism. After all, many nations take national sovereignty to mean that state-sponsored public statements are the only truth because government resources can better validate the facts of local events. How accurate this assumption is under international law aside, nations like India have increasingly demanded that social media outlets conform to their laws even if they oppose the core values and policies of the company (Biswas, 2021, Krishnan, 2021). Furthermore, in the case of the Great Chinese Firewall, we have already seen a nearly fifteen-year-long experiment balancing the fine line between government censorship and national sovereignty (Kim and Douai, 2012; Wang and Wang, 2016). Being a conscientious objector is not something every soldier can afford to become, particularly if they wish to continue living as citizens of the state under which they currently serve. Simultaneously, we cannot assume that these troops have the means or ability to utilise virtual private networks to reach international news agencies – particularly in regions where Internet access is restricted or “turned off” by government entities – especially if they face court martial and severe punishment(s) for even attempting, or if their loved ones face direct harm as a result of their actions.

Given AI's absolute need for data, it is little wonder that it may perform contrary to developer expectations when pulling directly from Internet-based text. Search Engine Optimisation (SEO) can only be of so much use, particularly when concepts may be defined with related phrases, incor-

rectly spelt, or formatted in such a way that it makes machine reading improbable. Even if AI were equipped with a genetic algorithm that enables it to “learn” what these different perturbations are to better ensure that its SEO task is accurate, it might only perform “well” in a single language because a direct translation may not exist (or be imperfect when attempting to describe a given concept). Disinformation, or what may otherwise be classified as government-developed propaganda, may similarly skew these SEO results – particularly in environments where “trending” subjects are made public to system users, or where users can silo themselves from receiving information that goes against their set values.

Another problem that is directly related to wars - is the ethics of developing a system that compiles the “best” way to end a conflict in a non-nuclear fashion quickly. This methodology may be as displayed by the tactics of the Russian Federation in recent months, at least for a prior generation or a nation without significant international aid. The targeting of civilian structures and populations is one such method, given the implication that these assaults will end if the defending side capitulates and will continue with impunity if resistance is shown. Another would be continual city bombardment without direct structure targeting, which prevents traffic from flowing into or out of the affected area, and has the dual impacts of restricting food supply and reducing civilian populations for those unlucky enough to be caught in a bombing or shelling. Indiscriminate killing of civilian populations and forcible acts of rape and torture that fly in the face of the Geneva Convention have traditionally been used to ethnically purge a region and prevent dissidents from locally organising. And, increasingly, the use of drones which serve as both an “eye in the sky” and a method to overwhelm anti-air defence systems. Should AI or AAIS take these and other historical examples and train with that information as its baseline, which (if any) war crimes can be levied against the developers? The intent, after all, is to bring conflicts to an end in the quickest way possible to prevent more significant casualties and economic damages. Much like those involved in the Manhattan Project of the last century, will the developers of such a system be cleared of legal culpability simply because they were under government mandate or prevented the conflict from escalating further? Moreover, what of the tactics that are unique to the system itself, wherein human tacticians would have been unable to draw similar conclusions with the same level of inference and data?

Touching back on the notion of intent and its subsequent place in judicial proceedings, society has already experienced scenarios where technology is deployed for no other purpose than to profit a given company, region, or state, countless times throughout recorded history. Hence the genuine concern that, under the right circumstances, a developer may wish to “anonymously” deploy a system they understand contravenes any established norms or laws. For example, using “deepfake” technologies may ultimately result in corporations refusing to hire human surrogates for a wide range of industries or establishing corporate-driven holographic celebrities (Jaynes, 2021a). While corporations may be held liable for copyright infringement or charged with monopolisation suits, it is challenging to pin malicious intent upon them should an AI or AAIS cause harm after deployment (Kostenko, 2022). After all, they can always fall back on the question of whether a system was used “as intended” and claim that any “out of scope” usage is beyond their realm of immediate control; thereby placing all responsibility for the “misuse” of the system in the consumer’s hands.

These are not “new” issues on the global stage, but they may easily result in difficulties securing objective evidence in digital environments should AAIS be directed to collect and destroy data which matches its SEO parameters automatically. And, worse still, such a system may easily be classified as a content filter used to protect users against violent or pornographic imagery, hate speech, or other material that is generally banned on social networking sites. When such a claim is backed under the authority of national sovereignty, how can courts distinguish between legitimate content moderation and the intentional destruction of incriminating evidence? When nations can demand foreign companies to conform to local laws, can they similarly compel them to turn over any independently gathered

information in the interest of national security or public safety? Some of these concerns are, as of yet, untested in the International Criminal Court – partially because there has been little need to involve international adjudication. They are similarly tied to matters of state sovereignty regarding the operation of foreign companies in their territories. Whether this attitude can or will change, however, is likely something only time will reveal.

International rule-of-law and national accountability

Another element of the “Intentionality Problem,” particularly in military aggression between states (either geographically close or far away), is the international community’s inability to force an immediate end to conflicts. Unlike in citizen-led referendums to solicit for a given region’s autonomy, state-facing violence from another autonomous nation is not something that can be ended through popular vote. As the world has seen, the UN’s current structure lacks the authority to demand immediate ends to violent conflicts because it operates under a framework that holds state autonomy and sovereignty paramount. Attempting to impose upon another member state’s right to self-determination (no matter how legitimate the reason) risks the legitimacy of the UN’s authority – particularly where it is not, in its own power, a purely autonomous structure (Meisler, 1995; Czernecki, 2003; Liebenberg, 2020). Simply phrased, the UN is like any other sovereign state in that it can only survive insofar as it maintains some form of public confidence. While we may not see its dissolution in the near future, given its relative effectiveness against the League of Nations (which it replaced), it cannot be helped that its reputation is mixed between the various economic blocs of the world (Former, 2007).

These criticisms aside, there is a growing debate on how the UN should be organised in the face of the Russian Federation’s current militant actions in Ukraine (Derviş and Ocampo, 2022; Treisman, 2022). Given the veto power bestowed to the permanent members of the UN Security Council and the lack of jurisdictional authority held by international courts over the Russian Federation as a permanent member (Chappell, 2022), the international community can justifiably be stated to exist in an administrative grey zone even though the International Justice Court has ruled for military operations to cease.² This point becomes more poignant when discussing cybersecurity and warfare (Derviş and Ocampo, 2022; Treisman, 2022), as these tools did not exist in the same capacity when the UN Security Council was formed. Even with the entity’s efforts to develop some regulatory framework for using AI (UNESCO 2021), it is debatable how these artefacts or AAIS will influence criminal punishment for any form of verified war-crime allegation(s).

For example, it will be nigh impossible to pin the use of “bot farms” to facilitate cyberwarfare to intentional manslaughter charges, even though it will be easy to tie those attacks to disruptions in critical electronic infrastructure. Moreover, who will be held to blame for those damages if such connections *can* be made? Given the precedents in the Nuremberg Trials, some would argue that the attribution of liability is clear. However, not every such “farm” is state held, and not every coder is a direct member of the invading military forces. In some regards, private owners may only comply with government orders to avoid the repercussions of being in the opposition – particularly so when considering the weight of the charges being brought against peaceful protesters on Russian soil (Faulconbridge, 2022; Troianovski, 2022) and the relative state of their prison system. Further complications include “farms” existing outside of the territories directly held by the Russian Federation or Belarus and the ramifications of the misidentification of system owners. How does one tell the difference between a legitimately hacked system and one that only holds that same strand of malicious code because of the owner’s desire to avoid the legal consequences of supporting aggressive militant actions?

Some of these concerns have been present in the international community, but not to the scale or severity seen through the Russian Federation’s actions today. How could they have been, when AI

² See the news bulletin from the Court here: <https://news.un.org/en/story/2022/03/1114052>, and a full summary of the order here: <https://www.icj-cij.org/public/files/case-related/182/182-20220316-SUM-01-00-EN.pdf>

is such a relatively new tool for warfare – much the same as planes were in the Second World War or tanks for the First World War? Worse yet, AI and AAIS will continue to be utilised more sophisticatedly as time progresses and applications are validated. Already, we are seeing massive sums of cryptocurrency ending up in digital wallets used for scamming campaigns worldwide (Peachey, 2022)³. While these transactions are traceable, blockchain-aided transactions are often shrouded behind various veils of anonymity that delays efforts to resecure the funds wired. The security of these digital wallets are not absolute. Such virtual-only interactions, including those facilitated through XR-extended technologies (Jaynes, 2021a; Kostenko 2022), increase the burden of evidentiary prosecution and defence across physical territorial borders and court-specific jurisdictions. What may be a more straightforward trial in the Hague may require support from territories that are only partially recognised on the international stage as being legitimate, autonomous nation-states, or from nations that still have not ratified the 1998 Rome Statute of the International Criminal Court.⁴ Given the ambiguity posed by non-ratifying nations, as is the case for the Russian Federation (Chappell, 2022), we are likely to see more challenges to the UN’s overall authority without any real ability to resolve them successfully.

Conclusion. While many industrial standards are being developed globally to address various aspects of AI and AAIS development, utilisation, and termination in new and well-established fields in computer-based automation, our global reality remains that no one governance model is universal. Whether or not this is due to the realities of pursuing libertarian ideals, the case ultimately remains that public needs and desires are ever-changing. Incorporating new technologies, cultures, and perspectives inevitably displays the shortcomings of existing systems—which has become even more apparent with the introduction of the IoT and modalities for engaging in virtual spaces. Yet too are persistent realities something that cannot simply be shrugged away. Actors (malicious or otherwise) will always strive to show the flaws of various structures through any means available. Utopian ideals of global unity will always exist and come under scrutiny for their potential to create dystopian futures. Pockets of national populations will always wish to pursue isolationist policies no matter how thorough cultural education and appreciation are touted and pursued. The pursuit of individuality will ultimately lead to points of misunderstanding or refusal to compromise. Each may be desired or undesired by the individual or community, but they are inevitably just the result of human experience.

Regardless of what multilateral ideals have been able to evolve with the changing times since their crystallisation into the UN in the last century, they simply cannot keep pace with the expansion of automation and Internet-based communication. However, the counterpoint to that argument is that national priorities have similarly evolved over the last seventy years (COVID-19 notwithstanding). Hence, multilateralism in today’s globalised society may similarly be confused even as it relies upon various anachronistic mechanisms that favour those sovereign states that ended the last World War. This is stated not as a direct attack against the UN Security Council or other bodies of the UN, but more because we cannot judge the will of former colonies or vassal states to match those of the former Imperialist superpowers that dominated the world stage before the turn of the current millennium. Sharing a common language does not equate to *a de facto* consensus of multilateral priorities – particularly in nations striving to shrug off Colonialist-imposed worldviews to regain their cultural heritage.

So too must we view the development, utilisation, and termination of AI and AAIS from a more global perspective and incorporate the realities of human experience into their cores. War *will* happen. Databases *will* be raided to track down “undesirables” or manipulate populations into the preference for specific actions by the state. Simply requiring “respect” for human rights does not entail that invading populations will not engage in acts of genocide or actions deemed as war crimes, nor

³ See also “How scammers are hijacking Ukraine war charity donations – BBC News,” <https://www.youtube.com/watch?v=yHwyRUr6Zt0>.

⁴ A full list of the states which have ratified the Rome Statute of 1998 can be found on the International Criminal Court’s site here: <https://asp.icc-cpi.int/states-parties>.

that current interpretations of these actions will remain stagnant as technology gains sophistication. There will always exist a subset of the population that engages in acts otherwise deemed as “illegal” or “criminal,” and there will always be legal challenges against these assumptions and their correlated state-imposed consequences.

Russian Federation may not be utilising truly autonomous AI in its militant actions against the Ukrainian people, and the same can be said in many conflicts occurring on the world stage today. However, the “autonomous” aspect of AI is not the point we should be focused on insofar as we continuously ascribe the results of its use to human action. Insofar as instruments of war utilise computers to aid in their effectiveness as tools of aggression or protection, and Internet access (or the imposed lack thereof) is framed as the ultimate means to harm populations coming under military action, AI inevitably has a hand in the results of these events. As iterated earlier in this piece, AI consistently transitions from the state-of-the-art to integral parts of daily life and is re-branded as “programmes” or “software” to reflect this new mundane truth (Mostow, 1985; Lee 2018; Wrigley, 2019). How can we claim, with any certainty, that once state-of-the-art automation mechanisms are not at the heart of these conflicts when they are ultimately embedded into the very tools used to instrument modern-day warfare?

Recent actions by the UN to add scrutiny to Security Council Permanent Member veto utilisation⁵ will likely be a positive step towards actualising a greater balance of power within the organisation. However, many commentators remain sceptical about whether this move will generate meaningful change, given prior attempts to reform the UN’s internal systems (The Associated Press, 2022). At the same time, the international community is still puzzled over how AAIS utilisation in military affairs (and other aspects of daily life) can be better monitored and regulated, given the drastic impacts that can result from an error in computer-based automation. Attempting to approach the issue from a purely EU perspective, or one based on American ideologies, disregards the needs of other economic blocs and sovereign states—particularly where other issues remain of higher priority for local governments, such as loss of land to rising sea levels or populations still unserved by clean water, power, and Internet services. Bridging the interest divide between those nations or blocs considered to be AI-developing superpowers and those for whom the technology may have been a bolt from the blue does not mean a complete cessation of AI development. Instead, it is a reminder that progress that occurs too rapidly results in real-world harms for all interested parties involved.

Ultimately, any further international efforts to regulate AI will be slow. And, perhaps, the current European conflict will have seen its resolution—though doubtlessly with tens of thousands of civilian casualties and the establishment of a war-crimes tribunal that will face unprecedented legal challenges of a nature like Nuremberg. As such, we urge those pursuing truly autonomous AI development to consider the long-lasting ramifications these systems will hold in times of conflict, especially as more “smart” devices become available internationally. War may be a great driver for technological innovation, at least when considering the desire to end hostilities as rapidly as possible. Nevertheless, that is no excuse to avoid the prevention of innocent civilian casualties or the enablement of new avenues for genocidal action.

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