HyperWar: The Evolution of Conflict in the Digital Age

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Introduction

The only way to survive in a chaotic international system is to be stronger and more durable than others. Resilience is a critical element in building a secure future for every actor in the international arena. The most important area of implementation of this effort is defence technologies. For this reason, great powers allocate a significant part of their national income to the defence industry. While technology brings new changes to every aspect of our lives daily, the defence industry is where the most apparent developments are experienced. Many technological developments are the product of efforts primarily for military purposes. The internet, which has become an integral part of our lives today, emerged thanks to efforts to build a communication network that cannot be disconnected in case of war.

With numerous examples that can be cited, including the internet and the microwave oven, it is evident that research conducted for military purposes and the substantial budgets allocated for such endeavours serve as the most prominent catalysts for technological advancements. While certain innovations and developments stem from loftier objectives, including pure scientific exploration, commercial gains, or enhancing the quality of life for individuals, it is not an overstatement to assert that the primary driving force behind rapid technological progress is maintaining military capabilities at their zenith.

The escalation of technological conflicts between countries has expedited this process, with each invention marking a fresh advancement in the art of war.

Although the reasons for wars have varied throughout human history, the necessity of having superior resources to win the war has often remained valid. Today, we encounter a multi-layered structure that goes far beyond the traditional meaning of war and conflicts, including the digital field and the latest technology tools.

Hyperwar is a term coined by John R. Allen and Amir Husain which refers to algorithmic or AI-controlled warfare with little to no human decision making. This is a new concept in conflict areas that involves the comprehensive use of advanced technologies, artificial intelligence (AI), and the cyber world in warfare (Husain, 2021).

Hyperwar will be a form of warfare where the decision-making process accelerates to an extent unimaginable in today’s context. With all the concerns, uncertainties and risks, hyper-war has already started despite us not being fully aware. With the involvement of AI, battlefield rules are being rewritten by an uncertain hand. It may be the last war in which human beings, who have turned the world into a place where chaos and conflicts are rampant with the weapons they produce and artificial causes, hold the decision-making power.
Military modernization ensures the feasibility of new technologies by integrating their power into existing equipment, so countries are interested in implementing further improvements (Allen & West, 2020). The momentum of creating new horizon-opening technologies started with the Industrial Revolution and manifests in many different areas today. These technologies shape the power-user skills of countries, providing them with the opportunity to gain an advantage over other nations. There are two ways to use power: Soft power and hard power, considering that significant powers have greater influence capacity than others (Nye, 1990). Technology has shown significant developments in hard-power military operations. Technology is also used in soft power in diplomatic relations between countries. Countries fostering warm relations with the host country of their diplomatic missions through social media exemplify the use of soft power. On the other hand, the creation of a new technology-armed drone by the army serves as an illustration of hard power, specifically, deterrent power.

To shape the future, one must glean valuable lessons from history. For thousands of years, humans have found reasons to fight each other, with self-interest being a dominant force (Diamond & Renfrew, 1997). Over time, groups clustered in cities and later countries, increasing motivation to survive. It became evident that mere motivation was not enough to prevail against adversaries; substantial action was required, and at the forefront of this progression is technology (Horowitz, 2022). Technology is an evolutionary continuum, drawing upon the knowledge and innovations of the past to propel us into the future.

The rapid growth of technology also reveals new areas of use. However, it is only those governments capable of keeping pace with these advancements and leveraging them effectively that can ensure continuity. Just as a wired phone cannot search the internet and display images, old military technology cannot cope with new technology. Technological advancements should continually update the array of power utilisation options available to countries.
If technology is used effectively, it helps to gain superiority over the opponent, which in turn acts as a deterrent to the opponent. Nevertheless, if nations become complacent with their technology and deterrence capabilities, they risk losing their advantage over time. Preventing this risk requires imagining the future and proactively considering possible scenarios in strategies.

Following the conclusion of the Thirty Years’ War, European armies transitioned to a more systematic approach. Achieving battlefield superiority relied on the regularity and manoeuvrability of these forces. Nevertheless, the advent of firearms mechanisms increased casualties and rendered them superior to outdated technology. In the 1800s, extended firearm ranges and enhanced accuracy transformed warfare into a tactical affair. As time progressed, cutting-edge technologies, such as aeroplanes and tanks, were integrated into military units (Lind et al., 1989).

Wars aimed to exploit weaknesses in the opposing side and further exploit them, yet traditional physical battlefields and military units remained central to these conflicts. The swift evolution of communication technology gave rise to civil society actors, introducing a new dimension to conflict – terrorist organisations and entities. Highly mobile units, coordinated through central organisations, assumed an active role in countering these entities, giving rise to concepts like psychological warfare and cyber warfare. This relentless technological advancement, coupled with the rapid growth of artificial intelligence, is poised to usher in the era of hyperwar on the international stage. While hyperwar will rapidly gain prominence, it is essential first to understand the key concepts shaping conflict dynamics.

In the age of technology, the discussion of the cyber path is inevitable. Cyber warfare involves unauthorised, secretive, and invisible access to computer-controlled systems over the internet to psychologically impact the enemy by manipulating, altering, or misleading information (Karakus, 2010). While centuries ago, firearms were paramount in military might, today, nuclear weapons hold a central position. Soon, emerging technologies will reshape the global agenda, with armies and artificial intelligence applications dedicated to cyber warfare playing pivotal roles. The preservation of world peace relies on swift and effective diplomatic communication between nations. Evolving technology will soon enable the prediction of potential threats and the rapid generation of alternative solutions.

It is well-known that many countries allocate substantial budgets and engage in intensive efforts to develop cyber-attacks and defence systems. Following several significant attacks on networks containing classified information in the United States, a collaborative effort between the Pentagon and the National Security Service led to the establishment of the Cyber Warfare and Cyber Intelligence Unit (Greenwald, 2013). This unit has been actively recruiting and training cyber defence experts. In addition, the Israeli military intelligence agency has established a specialised unit for safeguarding against cyber-attacks, focusing on securing automation systems and financial institutions in the virtual realm. Presently, it operates under national intelligence. China, alongside the US, is recognized as a global leader in cyber warfare capabilities. Furthermore, Russia is acknowledged for its substantial expertise in attacking the internet systems of other countries’ governmental networks (Karakus, 2010).

**AI enters the battle arena**

The diversity of information sources and the sheer volume of data collected from these sources have reached staggering proportions. This data is swiftly processed via artificial intelligence and algorithms, yielding logical outcomes. From radars to social media networks, this system rapidly collects and processes data from diverse environments, including satellites and facial recognition systems. Consequently, it leads to the generation of logical results. Artificial intelligence, known for its ability to perform tasks at a pace far surpassing that of an average human, offers a glimpse into the rapid evolution of warfare in the future (Davis, 2019).

Based on the works of the British computer pioneer Alan Mathison Turing in the 1950s, artificial intelligence studies have numerous contemporary applications. Artificial intelligence encompasses the capacity of machines or computer programs to think and learn autonomously. In simpler terms, artificial intelligence can interact with its environment, utilise the resultant data, and exhibit behaviours akin to machine intelligence and logical systems. Regarding practicality, it is important to consider artificial intelligence within the context of the interests of nations striving to thrive in the economic landscape and the nations they are invested in. As Vladimir Putin stated, the entity that attains leadership in this domain will also assume global dominance (Gigova, 2017).
Artificial intelligence is an emerging technology with widespread applications (Davis, 2022). AI plays a crucial role in diagnosing patients’ illnesses, as well as supporting academics in their field research. While the potential applications of AI are virtually limitless, there are two contrasting scenarios to consider (Fast & Horvitz, 2017). One is optimistic, believing that AI can enhance society and improve people's lives, while the other is pessimistic, fearing that AI could lead to a rapid decline in humanity.

AI algorithms have replaced tasks that once required group collaboration. Real-time monitoring systems equipped with artificial intelligence are set to become integral components shortly. These systems will provide instantaneous information to military operations. They are poised to play a crucial role in scenarios where an extremely swift response time is crucial, such as calculating the optimal weapon combination and firing time in air defence and ballistic missile defence (Sharikov, 2018). Moreover, these algorithms can protect weapon systems against cyberattacks, detecting vulnerabilities and taking immediate corrective action.

Drone technology is a critical factor in defining the military power capacities of states today. With their usage rates increasing daily, drones have become an element that affects the transformation of commercial and military sectors beyond being a technological tool that brings many benefits and concerns. In addition to their many positive features, drones are now much more than an exciting tool. With the contribution of many developing technologies, such as the Internet of Things and artificial intelligence, drones have become highly effective tools.

Drones, which can be produced in different sizes and used for many purposes, offer various uses, from taking photographs at weddings to destroying tanks in military operations. Thanks to drones, which have gained the capacity to carry weapons with developing technology and have become known as armed unmanned aerial vehicles (UAV), it has become possible to hit targets by controlling them from kilometres away without sending soldiers to conflict zones. Moreover, information about a drone that can identify its target and shoot without needing a remote control pilot has recently entered the military literature. The drone that can perform this operation with the help of artificial intelligence is defined as the first drone that can perform such a task. The autonomous drone named Kargu 2, produced in Turkey, which has attracted the attention of the whole world with its success in producing unmanned aerial vehicles in recent years, marks the transformation of the battlefields (Husain, 2022).

The Nagorno-Karabakh region, which has been the cause of conflicts between Azerbaijan and Armenia for more than 30 years, is a case in point. According to experts' statements, Armenia lost 40 per cent of its military presence in the 2020 War (Kınık & Çelik, 2021). The lethality of the drones took the Armenian forces by surprise. After a three year hiatus, Baku launched a counter-terrorism operation to uproot the illegitimate secessionist groups, in which drones were the game changers (Ertl, 2023), leading to the complete defeat of Armenian secessionist elements. Subsequently, Karabakh came under Azerbaijani rule again after three decades.

The armed and unarmed aerial vehicles produced by Turkey were very effective and gave the edge in Karabakh, a challenging geographical region. Armed drones are estimated to have caused military losses of approximately 4.8 billion dollars for the Armenian side (Rehimov, 2020). Drones are extremely cost-effective. They are produced and purchased at meagre costs compared to other means, such as warplanes. Yet, they inflict considerable damage. Against this backdrop, Turkey's UAVs in conflicts became a source of criticism from certain quarters. Statements were made that Turkey was directly involved in this conflict. Ironically, these same sources never used the procurement of Western or Russian weaponry as an argument proving these states were part of this or that conflict.

Yet again, there is no question that the use of UAVs in conflict attracted the attention of all countries as low-cost and high-tech vehicles. Many countries have accelerated their investments and efforts towards the development and use of this technology due to its capacity to affect the battlefield. China is the largest exporter in this field, and many countries are trying to acquire this low-cost but highly ef-
fective tool to increase their capabilities on the battlefield (MacDonald & Howell, 2019).

Thanks to the ease of their operation and cost effectiveness, drones are increasingly used in military operations. Employing UAVs provide an essential advantage as they can be controlled remotely or with no need to control. As such, it has become possible to prevent human loss, in other words, to neutralise the target without risking the life of the pilot. But beyond safeguarding the life of the pilot(s), one of the most critical capabilities of armed unmanned aerial vehicles is to kill people remotely.

Conflicts featuring armed drones are on the rise. The Russia-Ukraine war is a prominent case study. UAVs have prevented the fall of Kyiv in the opening days of the conflict, which prompted Ukrainian soldiers to sing their praise. Videos of soldiers singing for the Turkish-made Bayraktar TB2 armed UAV circulated on social media platforms for months (Gunesli, 2022).

Subsequently, as Russian forces acknowledged their inferiority in terms of armed drones, they started procuring these from Iran. Although Russia denied the allegations, evidence exists that Iranian-made drones such as the Ababil-2 and Shahed-136 were used in attacks against Ukraine. Ironically, parts produced by American companies were found in these low-cost drones (Jahanbani et al., 2023).

Meanwhile, Russia suffered substantial blows to its assets. Although Moscow did not confirm it, Moskva, the flagship of Russia’s Black Sea Fleet, was sunk by a drone assault, revealing the asymmetric power and game-changing characteristics of drones in combat (Finnerty, 2022).

While the US and other Western nations have long maintained their supremacy in military warfare technology, they do not appear to be happy with the development of this simple but highly effective game-changing technology by non-Western countries. Despite Western attempts to stymie this evolution through embargoes, efforts to develop these low-cost hardware have been ongoing in many countries for years. Türkiye, China, Pakistan, and Iran have become dominant players in the field of drone technology, whereas two decades ago, Israel and the US were the only players in this field. There is also wider interest worldwide in this military technology, and some 95 countries have either acquired or are in the process of acquiring it (Getinger, 2019).

As drones can be produced at a low cost and in a short time, they have become force multipliers on the battlefield, bringing about a decisive element in the hyperwar era. On the other hand, the rise in prominence of armed drones as a deterrent and effective tool also boosted efforts to develop a defence system against drones.

However, the picture is not completely rosy. Swarming drones have a low success rate against expensive and sophisticated air defence systems. Then again, it is highly costly for the defenders to sustain such expenses. The cost of preventing a $20,000 drone attack is a $500,000 defence missile.

Moreover, drones, which are small in size and extremely difficult to detect by radar due to their reduced dimensions, are utilised for targeted killings and inflicting significant harm to military units and civilian infrastructure. A notable instance of this scenario was Qasem Soleimani, the Commander of the Quds Force of the Iranian Revolutionary Guards Army, who was assassinated via a US drone strike on the airport in Baghdad in 2020.

Therefore, many countries have made it a priority to possess this technology and develop low-cost defence technologies against drone attacks. France, the United Kingdom and Spain have announced they are working on swarm drone projects (Jackson, 2023). Many expect the US and Israel to develop adequate solutions again.

Still, Türkiye remains one of the most prominent players in recent times (Cole, 2023). Türkiye has supplied Bayraktar TB2 to 14 of the 20 countries equipped with unmanned aerial vehicles in the last five years. Many of these countries prefer to provide drones to bolster their military stockpiles as a deterrence rather than employing them in active military operations. The Turkish defense industry is also expected to tap into the lucrative Anti-Drone Market (worth $5.2 billion by 2028). In this context, Turkish defense giant Aselsan signed contracts to export anti-drone system IHTAR to several countries.

The ever-changing nature of technology necessitates constant adaptation. Countries that align their military systems with these changes gain a competitive edge—strategic investments in emerging technologies position nations favourably in the new world order. Leveraging technological progress, especially in soft power, is imperative. The connectivity of devices to the internet generates vast databases, driving advancements in artificial intelligence across diverse fields. This transformative force now permeates technology, society, and politics. As time progresses, artificial intelligence will be crucial in shaping the global economic and military landscape. In the 21st century, keeping pace with technology is paramount. The leading nation in artificial intelligence will not only shape the future but also enjoy diplomatic success.
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Conclusion

Thanks to technological integration in HyperWar, the comprehensive collaboration of technologies, including artificial intelligence, autonomous weapons, unmanned aerial vehicles, cyber warfare, and data analytics, is brought to the battlefield. These technologies increase the capabilities of the armed forces and their capacity to go to war. The most apparent innovation can be expressed as speed and automation. The use of artificial intelligence and autonomous systems enables rapid decision-making and execution. Human involvement may decrease as machines take on more tasks, which can both enhance and complicate military operations. While current legal regulations and practices, such as the law of war, are insufficient to prevent practices against human rights in conflict zones, it is still an unanswered question how liveable a future in which autonomous weapons and artificial intelligence-powered war machines are included in the game will be for humanity.

It is easy to imagine how the disproportionate situation in technological developments between countries will turn from an economic factor into a destructive element in the case of war. While the difference between developed and developing countries is severe, it is not even possible for the population of underdeveloped countries, which constitute more than half of the world’s population, to defend themselves in the hyper-war arena. HyperWar marks a period when the manpower participating in the war decreases. Still, the number of people who lose their lives, are displaced and have to face destruction and harsh conditions as a result of the war increases.

The effective use of information, an essential tool of power in every period of history, turns into an element whose impact and importance increase exponentially in hyper-war. Through manipulation of information, disinformation campaigns, and psychological operations, the digital space is becoming a central battleground for controlling narratives and influencing public opinion.

The era of hyperwar has already begun, with ethical concerns, unforeseen risks, difficulties in terms of legal regulations, and the possibility of deepening injustice in the current order, where inequality already prevails. It is not an exaggeration to state that being strong diplomatically, economically, and militarily is equivalent to being strong technologically. Nowadays, where the boundaries of virtual and reality are blurred, we witness that the edges of war are disappearing. Surviving in this multifaceted and comprehensive war is a matter of understanding technology, using it effectively, and, of course, producing it.

Hyperwar is a type of conflict where AI is utilised in every facet of a country’s conflicts, encompassing both soft and hard power tools. It quietly commences behind the scenes and persists in a competitive format. The countries most enthusiastic about technological advancements will hold a stronger position with AI-powered developments when actual warfare becomes visible on the world stage. There is both risk and opportunity for countries to use AI to manage their way through this technological competition without getting into conflict.
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