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# A Transformation of War: From Hunter Food Gatherer to Automated Weapons

Sarbajeet Mukherjee

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# A Transformation of War: From Hunter Food Gatherer to Automated Weapons

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### Sarbajeet Mukherjee

#### Abstract

The origins of the war are shrouded in mystery; however, its conduct has undergone a dramatic transformation. War is no longer an oversimplified version of a fistfight or a show of bravado. It is all about the technological edge in fighting one's enemy at three levels: strategic, operational (such as campaigns), and tactical (such as battles and attrition). It is a juxtaposition of a PlayStation game and that of steel. For instance, the events of October 7, 2023, its aftermath, and other cases testify to this transformation. The aftermath of the attacks revealed a transformation in the conduct of war, driven by the use of cutting-edge technology in war operations. Young officers approach their targets from close to their guard outpost and respond quickly. Their response is to play with their joysticks and neutralize the approaching targets with automated weapons. This is exactly how the Israel Defense Force guards their border with its neighbours and which many state actors across the world tend to borrow from them in order to secure their borders. Therefore, the business of war has been informationalized through the use of network multi-domain warfare, which encompasses four physical levels – land, air, sea, and space – and two other virtual levels, namely, cyber and electromagnetic. Therefore, the question is whether we have built deterrence or the capacity to achieve peace. The paper examines the transformation of war, war-fighting technology, and war-fighting capabilities worldwide, as well as in Asia. The transformation of war is thoroughly addressed through secondary sources, primarily utilizing qualitative methods in books, articles, and newspaper reports that focus on war technology and warfare.

**Keywords**: Transformation of War, Cutting-Edge Technology, Juxtaposition, Automated Weapons

#### 1. Introduction

To understand the concept of war, its origins, and its evolution, one must examine the broad theme of war. Therefore, to understand how war has evolved to its current form, one needs to consider the perspectives of archaeologists, anthropologists, and military historians, as well as the debates surrounding the question of when and how war originated and how it has changed. Accordingly, to one historian, "the origins of warfare lie shrouded in mystery".¹ It seems indeed mystified and shrouded in various hypotheses. Indeed, this is made more complex by data limitations in understanding the precise origins of war, its concept, and its meaning to humankind. However, one thing is very clear: war has changed and transformed throughout a millennium, as have the nature and size of the political units involved in such warfare, the number of men in arms,

<sup>&</sup>lt;sup>1</sup> Christon I. Archer, ed., World History of Warfare (Lincoln: University of Nebraska Press, 2002), 1.

and the nature and lethality of the weaponry used.<sup>2</sup> Several existing theories, therefore, project how this concept of war has evolved from that of a food gatherer or hunter to an agriculturalist seeking the establishment of rudimentary forms of ancient state institutions for protection. This level of development has further led to the emergence of modern warfare, the nuclear age, and the transformation driven by AI-driven automated weapon systems and their platforms. Here, one must briefly discuss what and how AI or Artificial Intelligence has transformed warfare. This is not a sudden development but rather a culmination of age and practice, similar to facial recognition software, selfdriving vehicles, search engines, and translation software. Therefore, such developments have coincided with their presence in modern warfare and are slowly replacing Nuclear weapons with these alternatives.3 Therefore, the question is how far do we have control over such weapons, or do they remain under the control of man, as the popular saying in military jargon, the man behind the machine. This paper, therefore, tries to address the nature of this transformation in war and in war technology that has taken place in Asia, especially as to China is concerned, and thereby equip the readers and future researchers in the field to understand war from a completely new perspective, for instance, the nature of the multi-domain warfare or war operation that one will get to witness. To address the concept of war and its evolving transformation, the paper primarily employs qualitative methods, drawing mainly on secondary sources, including previously published papers, reports, articles, and books written by authors and experts in the field.

# 2. Theoretical Understanding of War

There is an overwhelming understanding that war has changed. However, to what extent it has changed and in what respects it has transformed, one needs to review the existing hypotheses concerning the origins of war and warfare. One thing is clear: this transformation has not been abrupt. Several issues require discussion, totalling three in number. One of the problems is the lack of evidence regarding the origins of warfare. This leads to speculation. The second one regards the issue of whether warfare is a learnt behaviour and is instinctive.

The third problem is that scholars' assumptions and claims have misinterpreted rock paintings and images created by prehistoric cave dwellers, which depict some earlier wars. However, one must address the validity of the above assumptions in light of newer findings. Therefore, all such existing theories are subject to human speculation and do not offer specific findings.<sup>4</sup>

No doubt, war origins are a prehistorical and a pre-recorded phenomenon. There are only tell-tale signs in terms of archaeological remains, like obscure rock paintings depicting human conflict in some form or the other, and there are also some clear images of men carrying weapons and fighting with other men-in-arms. Therefore, the question here is when war first emerges and how. However, as far as the timeline is concerned, there is no specific indication of dates.<sup>5</sup>

The discovery of obsolete skeletons with head injuries, most likely made by spears, clubs, and knives, may have been caused by accidents. However, the findings of multiple

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<sup>&</sup>lt;sup>2</sup> Jack S. Levy and William R. Thompson, *The Arc of War: Origins, Escalation, and Transformation* (Chicago: University of Chicago Press, 2011), 1–53.

<sup>&</sup>lt;sup>3</sup> Kristian Humble, "War, Artificial Intelligence, and the Future of Conflict." *Georgetown Journal of International Affairs* 12 (2024). <a href="https://gjia.georgetown.edu/2024/07/12/war-artificial-intelligence-and-the-future-of-conflict/">https://gjia.georgetown.edu/2024/07/12/war-artificial-intelligence-and-the-future-of-conflict/</a>

<sup>&</sup>lt;sup>4</sup> Jack S. Levy and William R. Thompson, The Arc of War: Origins, Escalation, and Transformation, 1–53.

<sup>&</sup>lt;sup>5</sup> Ibid.

embedded arrowheads in old skeletons convey something else not caused by accidents. However, they lead us to believe that a war or a conflict caused those. Furthermore, the remains of fortifications used for defensive purposes, walled settlements, and others indicate that they were all constructed for defence and protection. Moreover, the discovery of weapons made both for bringing down large beasts and for humans strengthens the above line of argument.<sup>6</sup>

A second significant source is the genetic basis for aggression. It is possible that man, by nature and its close relations with the primates, is found to be hostile and aggressive, especially towards others. A comparative study with other animal species in understanding the origins of warfare is equally interesting here. The problem is that disagreements over human bellicosity reveal that human instincts can be a source of aggression in humans and some other species. Here, the works of Richard Wrangham and Dale Peterson (1996) emphasize the fact that there are differences which exist amongst species while debating that both chimpanzees and humans belonging to the family of mammals capture a wide range of behaviour showing similarity in terms of maintaining their territoriality through undertaking attacks on its sometimes unguarded enemies.<sup>7</sup> Frans De Waal and Frans Lanting (1997) demonstrate the dissimilarity between chimpanzees and bonobos. Bonobos comprise a member of the great family of apes. In this regard, chimpanzees are recognized for their intricate social dynamics and communal warfare. At the same time, bonobos are literally "apes from Venus," known for their "make-love-not-war" primates living in a matriarchal and egalitarian society. They are also found to have been using sex as a conflict resolution strategy.8 Hence, that is how a close genetic relationship between humans and primates can be established.

The third source is considered equally problematic and created by analysts themselves. For instance, the subject matter of both archaeology and anthropology do not seek to understand the origins of warfare in their study or their research. However, this is beginning to change. There are also no records to be found regarding archaeological or anthropological analysis. Regarding this problem, there also exists an older tradition. This tradition assumes that ancient warfare was far more ritualistic and less serious than contemporary warfare. Here, one must share that in the past, during warfare, there used to be a clear rule of engagement, which revolved around from dawn to dusk engagement, unlike the contemporary practice of night operations and raids on each other's territory.

The next question that comes to mind when hypothesizing the origins of war and warfare is about the use of weapons. Therefore, the question is, did weapons emerge first? According to Arthur Ferrill (1997), at the heart of warfare lie some basic practices carried over from past hunting practices to the present, including the use of weapons and military formations. Making it more evident that hunting in the past has given way to waging wars in the present time. Hence, man has transformed from a food gatherer hunter to a warrior. In this light, the spear or the pike came first. However, no one can say exactly when it had emerged. However, some preserved artefacts date back 70,000 to 300,000 years ago. Similarly, hunting activities were conducted using column lines as a tactic, which is still in vogue, especially in modern warfare operations. They were used for bringing down large animals during hunting and fighting against a common foe. They were intimately linked with military formations, tactics, and the command structure that

<sup>6</sup> Ibid

<sup>&</sup>lt;sup>7</sup> Nicholas Wade, Before the Dawn: Recovering the Lost History of Our Ancestors (New York: Penguin, 2006), 149.

 $<sup>^8</sup>$  Jack S Levy, "The Arc of War, Origins, Escalation, and Transformation", 1-53.

<sup>&</sup>lt;sup>9</sup> Ibid.

would later be found in a war. This development can be dated to an unknown period in Palaeolithic times. More categorically, Ferrill (1997) argues that the first weapons technology revolution occurred between 12,000 and 8000 BC.<sup>10</sup>

There are also other hypotheses, like that of Robert Carneiro's (1970, 1990) "circumscription" thesis. He claims that before the start of agriculture, groups of people had begun settling down in isolated locations. As long as they remained more isolated, warfare remained sporadic and very limited. Coupled with this, the geographical rather than topographical distribution prevented and limited people's movement and restricted warfare.<sup>11</sup>

Then came the adoption of agriculture, marking the beginning of sedentary living among people, which led to hostility and conflict among them as they competed for agricultural land and food supplies. This was coupled with population pressure on the small and limited nature of agricultural land. Therefore, the reason for the next round of warfare had begun. Here, one might refer to what Keith Otterbein had to say here. According to Keith Otterbein (2004), a school of thought regards man as inherently bellicose. Therefore, warfare is a reflection of human hunting instincts that may be dated back to two million years. While the other school of thought regards man as a peaceful being till the emergence of settled agricultural life. Therefore, with the ever-increasing population and growing demand for limited agricultural land, the origin of expanding states seeking more agricultural land led to warfare. Hence, the size of the population led to increased pressure on existing agricultural land, thereby causing conflicts. This establishes that the correlation between agricultural production, growth, and the human population's pressure on limited land has caused the emergence of war. Otterbein offers a fascinating solution to this ongoing debate by asserting that both analyses are correct. To him, the origins of war can be understood at two levels. At one level, two million years ago, in concurrence with the hunting of large animals leading to their extinction in many parts of the world, and then once again, at the second level, several thousand years after the advent of agriculture.<sup>12</sup> Therefore, there could be a clear correlation between settled agricultural life and that of warfare, between man as a hunter and a food-gatherer and that of communal wars.

Others have proposed their hypotheses about the origins of warfare and the evolution of warfare with advancements in the weapons used and other forms. Since then, there have been recorded histories of wars being fought by both hegemonic and emerging powers. From the recorded history, one may identify several hegemonic struggles. Like the Peloponnesian War between Athens and Sparta (431-405 BCE), the Second Punic War between Carthage and Rome (218-201 BCE), Thirty Years War (1618-1648), the Wars of Louis XIV (1667-1713), the Wars of the French Revolution and Napoleon (1792-1814), the First World War (1914-1918), and the Second World War (1939-1945), the ideological war in the form of the Cold War (1947-1989) and numerous other ethnic-national-linguistic wars across the political globe. No one was spared from the Middle East to the Balkans, Caucasus, in the Horn-of-African, Kashmir and other places. However, all this has changed with the induction of artificial intelligence platforms and the use of automated

<sup>&</sup>lt;sup>10</sup> Arther Ferrill, The Origins of War: From the Stone Age to Alexander the Great (New York: Routledge, 2018), 1-20.

<sup>&</sup>lt;sup>11</sup> Jack S. Levy and William R. Thompson, The Arc of War, 34.

<sup>12</sup> Ibid., 38

<sup>13</sup> Ibid

<sup>&</sup>lt;sup>14</sup> Gilpin, Robert. "The Theory of Hegemonic War." The Journal of Interdisciplinary History 18, no. 4 (1988): 591-613.

weapons in recent years. Robots are slowly taking over the role of soldiers in wars, rendering the latter increasingly impotent.

Therefore, one needs to review this growing transformation as to the nature of warfare is concerned and then visit some of the latest theatres of such weapons use, like the ones prepared by the Chinese for the next generation conflict, very similar but not the same as the US had appeared to have used for the first time during the Gulf War (1990-1991). Furthermore, followed their impacts, which were beamed into our drawing room spaces by major US cable TV networks, to the ones the Israelis are using in their military campaigns in Gaza and the region, and are emulated or in the process of getting emulated by others. Therefore, the question is: What is an Automated Weapon driven by AI or artificial intelligence? However, there are different definitions of an Automated Weapons System or AWS. However, the UK Ministry of Defence (MoD) and the US Department of Defence (DoD) have established the two primary definitions. In 2011, the UK MoD defined AWS as "systems capable of understanding higher level intent and direction, namely of achieving the same level of situational understanding as a human and able to take appropriate action to bring about the desired state."15. The US DoD in 2023 proposed an approach differently<sup>16</sup> and defined "AWS as being capable of, once activated, to select and engage targets without further intervention from a human operator." Hence, it is the man behind "those" machines which program or control them and launch them into action as and when required, just like the perception that we have shared earlier where young soldiers while snacking use their joystick kind of device in reaction to a supposedly hostile target close to their check post, border outpost or any other context.

#### 3. Transformation of War

The above discussion, therefore, prepares us to analyze the new theatres of war and how they have changed the very nature and meaning of war as we understand it.

## 3.1 A Case Study of China's Next War

The above discussion, therefore, prepares us for two new theatres in war and how they have changed the very nature meaning of war as we understand it. The first theatre is the Himalayan mountain range where two big Asiatic states, one already a great power, China/PRC and the other aspiring, a would-be great power, India, have locked their horns in a futuristic conflict. Interestingly, the two neighbours have been peacefully coexisting since the 1962 border conflict. Not a single shot has been fired by the two armies since 1962, but suddenly, things appear different and concerning. At the heart of this lies the revocation of Articles 370 and 35A from Jammu and Kashmir on August 5 2019, by India. Cartographic aggression, as interpreted by the Chinese side from the Indian perspective, suggests that Aksai Chin, being part of India, has provoked the Chinese People's Liberation Army (PLA), leading to the Galwan incident in May 2020 and the further militarization of the Line of Actual Control. This has also been matched by war

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<sup>&</sup>lt;sup>15</sup> UK Ministry of Defence, *Joint Doctrine Note 2/11: The UK Approach to Unmanned Aircraft Systems* (London: Ministry of Defence, 2011),

 $<sup>\</sup>frac{https://assets.publishing.service.gov.uk/media/5a81d239ed915d74e34003bc/20110505-JDN\_2-11\_UAS\_archived-U.pdf.$ 

<sup>&</sup>lt;sup>16</sup> U.S. Department of Defense, "DoD Announces Update to DoD Directive 3000.09, 'Autonomy in Weapon Systems,'" January 25, 2023, <a href="https://www.defense.gov/News/Releases/Release/Article/3278076/dod-announces-update-to-dod-directive-300009autonomy-in-weapon-systems/">https://www.defense.gov/News/Releases/Release/Article/3278076/dod-announces-update-to-dod-directive-300009autonomy-in-weapon-systems/</a>.

<sup>&</sup>lt;sup>17</sup> Shaiba Rather, "India and China Border Briefer: The Shadow of Article 370's Revocation," *Lawfare*, November 23, 2020, <a href="https://www.lawfaremedia.org/article/india-and-china-border-briefer-shadow-article-370s-revocation">https://www.lawfaremedia.org/article/india-and-china-border-briefer-shadow-article-370s-revocation</a>.

preparedness from both countries, along with several rounds of talks aimed at achieving some form of de-escalation.

However, as things stand today, a war is brewing between the two Asian giants, and the Chinese capabilities are less understood. Military experts believe that, in the case of a war between them, the world shall witness a different kind of war for the first time—a war which shall make the presence of foot soldiers an impotent part of this entire exchange. The Chinese side will be deploying robots and will use cutting-edge technology, including AI or artificial intelligence, to squarely defeat the Indian side, according to Pravin Sawhney. Now, one thing we must make very clear over here: as a matter of principle, the Chinese will refrain from fighting other Chinese people in Taiwan or perhaps the American proxies. They will do everything possible to reunite Taiwan with the mainland in a peaceful manner. For this, they will maintain strategic patience in the pursuit of reunification. Hence, to vindicate their goal and demonstrate to the rest of the world that they are a great power, they will use their power projection against India across the mighty Himalayas over their disputed and contested border with China, which is 4,056 km. long. According to India's Ministry of Home Affairs, the length of the Line of Actual Control (LAC) is 3,488 km, not the International Border.

According to Pravin Sawhney, there are currently three levels of war: strategic, operational (such as campaigns), and tactical (such as battles and attrition). For instance, a land battle of the 1980s has become a relic of the past. It is at the physical level, governed only by Geography. Today, for instance, China is engaged in an information war. It will utilise a network multi-domain war, which encompasses four physical levels – land, air, sea, and space- and two other virtual levels, namely, cyber and electromagnetic. Pravin Sawhney also says, "If there is a war between India and China in the near future, India will face a defeat in that war in ten days. China could overrun the control of Arunachal Pradesh and Ladakh with a minimum casualty, to which India can do very little in response. The reason is that the Indian military is preparing for the wrong war. Indian military doctrine is based on some old American military doctrines of the 1980s, which still overemphasize fighting the adversary in three domains only. They may fail to understand the grey-zone operation that the Chinese PLA can fully do. Moreover, experts are of the view that the Indian military is too much preoccupied with fighting an insurgency and terrorism in certain pockets of the country".<sup>21</sup>

In his work, he explains how this alarming scenario could play out. China's war with India is expected to be similar to the 1991 Gulf War. For instance, the US military's battle networks connecting sensors to shooters and guided munitions with support from space assets had induced shock and awe in militaries worldwide, as also in Saddam Hussein's Iraqi military. Similarly, China's war with India is expected to surprise and shock the world with the integration of artificial intelligence, emerging technologies, multi-domain operations, innovative war concepts, and collaboration between humans and intelligent

<sup>&</sup>lt;sup>18</sup> Praveen Sawhney, *The Last War: How AI Will Shape India's Final Showdown with China* (New Delhi: Aleph Book Company, 2022).

<sup>&</sup>lt;sup>19</sup> Embassy of the People's Republic of China in the Republic of Maldives, "The Taiwan Question and China's Reunification in the New Era," August 10, 2022, <a href="http://mv.china-embassy.gov.cn/eng/sgsd/202208/t20220810\_10738801.htm">http://mv.china-embassy.gov.cn/eng/sgsd/202208/t20220810\_10738801.htm</a>.

<sup>&</sup>lt;sup>20</sup> Claude Arpi, "Gilgit Baltistan and How India Gets the Length of Its Border with China Wrong," *Center of Excellence for Himalayan Studies*, Shiv Nadar University, February 19, 2023, <a href="https://snu.edu.in/centres/centre-of-excellence-for-himalayan-studies/research/lac-vs-ib-why-indias-assessment-of-the-length-of-border-along-china-is-misleading/">https://snu.edu.in/centres/centre-of-excellence-for-himalayan-studies/research/lac-vs-ib-why-indias-assessment-of-the-length-of-border-along-china-is-misleading/</a>.

<sup>&</sup>lt;sup>21</sup>IANS, "Indian military no match to China's PLA, says author Pravin Sawhney", National Herald, 24 Jul 2022, https://www.nationalheraldindia.com/book-extract/indian-military-no-match-to-chinas-pla-says-author-pravin-sawhney

robots.<sup>22</sup> The robots will hereby make the physical presence of soldiers completely impotent.

According to Pravin Sawhney, China has been preparing for this war since the 2017 Doklam standoff, after which it permanently augmented its troops across the Line of Actual Control. He argues that China's superpower status will only grow, and the 'capabilities lag' between the two countries will expand. Furthermore, in case of an outright war Indian military will stand nowhere in the face of China's AI-backed war machines. In such a war, traditional conventional forces will be at a huge disadvantage, nuclear weapons will have no role to play, and the heroism of individual soldiers will be of no consequence, 23 as it is very clear from the military operations carried out by Western countries in various theatres of operations and where war conduct has become more of a post-heroic deed. As nobody is interested in taking casualties in large numbers anymore. One may add that the primary purpose of having automated weapons platforms is to protect the lives of soldiers. Here, one must talk about the new form of war China plans to use. It will engage in a futuristic war with India across seven realms: air, land, sea (including deep-sea warfare), outer space, cyberspace, the electromagnetic spectrum, and near space (the hypersonic domain).<sup>24</sup>

The Chinese PLA's capability will be such that it will shut down India's civilian infrastructures, including power grids, nuclear reactors, communication networks, power stations, banks, commercial institutions and others. This will lead to the complete disruption of all civilian networks and a complete failure of the political leadership to make informed decisions. Pravin Sawhney states this will happen long before the PLA troops are engaged on the LAC.<sup>25</sup> This projection is very scary; nobody in the Indian region has ever considered it. Furthermore, this is all about the new transformation in warfare. There were unconfirmed reports in India which have stated that during and after the Galwan skirmishes in 2020, the Chinese side had used such cyber warfare against India.

### 3.2 A Case Study of China's War Over South China Sea

In our previous paragraphs, although we have ruled out Chinese war designs over Taiwan's reunification with the mainland, we must re-look at it. Perhaps Chinese designs will only be realized after a successful war against India, or perhaps not. One may, therefore, bring in the usage of Chinese electronic platforms by Pakistan during the four-day military conflict between India and Pakistan over the latter's alleged role in the terrorist attack on Indian tourists in Pahalgam in May 2025. A recent report in The War Zone indicates that China is committed to counter-drone efforts with multiple high-power microwave systems, as showcased at the Zhuhai Airshow 2024. The systems are developed by China South Industries Group Corporation (CSGC) and Norinco, which include a microwave system mounted on an 8×8 light armoured vehicle and another on a Shacman SX2400/2500-series 8×8 truck. These systems feature planar arrays and radars for target detection and tracking. These developments are driven by events in Ukraine and the US Army's deployment of drone killers named Coyote interceptors at various

<sup>&</sup>lt;sup>22</sup> Pravin Sawhney, *The Last War: How AI Will Shape India's Final Showdown with China* (New Delhi: Aleph Book Company, 2022).

<sup>23</sup> Sawhney, The Last War.

<sup>24</sup> Ibid.

<sup>&</sup>lt;sup>25</sup> Ibid.

undisclosed sites under US Central Command (CENTCOM), US Africa Command (AFRICOM) and US European Command (EUCOM).<sup>26</sup>

In this volatile and sensitive atmosphere, Jake Sullivan, the United States National Security Advisor, visited China. On his visit to China, he held extensive talks with the Chinese senior-most diplomat Wang Yi on August 27-28, 2024. There, both sides shared their concerns and agreed that strategic communication on a diplomatic hotline be established between the two countries. Following this recent visit, key concerns have been identified. The USA is uncertain about the PLA's and its Artificial Intelligence capabilities regarding military-to-military exchanges in the South China Sea. Moreover, this is also a matter of concern to India and its military leadership regarding understanding the People's Liberation Army's (PLA) war-fighting capabilities. Considering these developments, one must not think that the states directly affected by such scenarios are sitting idle. Therefore, one may hear that the USA, India and Taiwan are already in the fray to shore up their war-fighting capabilities. However, they are all required to act fast since their adversary is none other than China.<sup>27</sup>

## 3.3 A Case Study of Israel Defense Force's Wars

Staying on course in trying to understand and analyze the military revolution both in terms of domains and technology used, we need to turn our attention on Israel, its Israel Defense Forces capabilities in using artificial intelligence or AI in its ongoing operations in Gaza and the rest of the Middle East. According to a report published by the nonmainstream Israeli media outlets +972 Magazine and Local Call, it is alleged that the Israel Defense Forces (IDF) have relied heavily on AI-powered platforms and systems with a minimal level of human oversight in identifying targets for their precision bombardment and calling in for airstrikes in Gaza.<sup>28</sup> Moreover, there lies the underlying threat to innocent lives and their property. The same report here cites six unnamed Israeli intelligence officers. Their accounts are extremely stark and equally shocking. The Guardian newspaper indicated that one AI or artificial intelligence platform named "Lavender" had gathered a massive body of surveillance data in order to mark as many as some 37000 Palestinians as would be likely Hamas or Palestinian Islamic Jihad militants, which the Israeli side used heavily with little or no human oversight in the early weeks of their current war in Gaza. It is said, according to one such source, that the IDF spent approximately 20 seconds evaluating each selected target are all male targets. Another automated system identified by the report, referred to as "Where's Daddy?" has also allegedly been used to track down targets back to their private homes, which were then marked for bombing strikes. Supposedly, therefore, all of them greatly elevated the risk of civilian casualties quite significantly.<sup>29</sup> This is how the death toll in this war campaign stands at a staggering level of 44 502, while the number of injured is at 105 454 since October 7, 2023.30 Moreover, one should be mindful of those whose bodies have not

<sup>&</sup>lt;sup>26</sup> Gabriel Honrada, "Laser Wars: US-China in Drone-Killing, Directed-Energy Arms Race," *Asia Times*, November 11, 2024, <a href="https://asiatimes.com/2024/11/laser-wars-us-china-in-drone-killing-directed-energy-arms-recol/">https://asiatimes.com/2024/11/laser-wars-us-china-in-drone-killing-directed-energy-arms-recol/</a>

<sup>27</sup> Alex Friedland, "IDF Uses AI to Accelerate Targeting...," Center for Security and Emerging Technology, Georgetown University, April 11, 2024, https://cset.georgetown.edu/newsletter/april-11-2024/.

<sup>&</sup>lt;sup>28</sup> Noah Sylvia, "The Israel Defense Forces' Use of AI in Gaza: A Case of Misplaced Purpose," *RUSI*, 4 (2024), https://www.rusi.org/explore-our-research/publications/commentary/israel-defense-forces-use-ai-gaza-case-misplaced-purpose.

<sup>&</sup>lt;sup>29</sup> Alex Friedland, "IDF Uses AI to Accelerate Targeting According to Report".

<sup>&</sup>lt;sup>30</sup> Statista Research Department, "Number of Palestinian and Israeli Fatalities and Injuries Caused by the War Between Hamas and Israel Since October 7, 2023," March 31, 2025,

been retrieved from the debris left behind by such IDF bombardment. This is so real that when images taken by the drone, which was able to identify Hamas leader Yahya Sinwar's last stand, were released to public media, it was considered no longer surprising.<sup>31</sup>

Hence, there is no doubt that military leaders and politicians across the region are eager to acquire such IDF-borne technologies for their respective security apparatus, and no one is an exception to this mad rush, be it India, Bangladesh, or perhaps other political actors in the region. So, be it Pegasus spyware or AI-driven automated weapons to guard our border from intruders.<sup>32</sup>

Therefore, from the above discussion, one thing is very clear: the Israeli state is no doubt technologically superior, especially in the field of military technology. The Israeli state utilizes its capabilities as part of its diplomatic toolbox to establish itself as a leader in shaping international tech governance. Furthermore, these days, several countries in the West Asia region and beyond are seeking from Israel. The need for all of these technologies now has a background. Israel seeks such cutting-edge technology to maintain its edge its superiority over its adversaries and to fend itself from likely attacks, both physical and cyber-attacks. This is so true for Israel, especially during the 2023-2024 military operations against Hamas. As can be learnt from Israel's experience, the widespread integration of AI, exacerbated by generative AI tools, has reached the military domain of every major country and its organizations. In particular, in Israel, the IDF deploys AI applications: (1) Proactive Forecasting, Threat Alert, and Defensive Systems, and (2) Intelligence Analysis, Targeting, and Munitions. This trend only increased during the Israel-Hamas war of 2023-2024, inviting the consideration of some form of control under international law in this phenomenon.<sup>33</sup>

Therefore, the rise of machine-driven, automated killing systems has transformed the nature of war as we know it today. Modern wars shall not be fought necessarily with men-in-arm but with humanoid robots. The various theatres of war, from the Himalayan range to the Gaza campaign to that of the South China Sea, all bear this major trademark. Therefore, the question is how far are we prepared for this revolution (profound changes in military institutions and practice were adopted) on warfare. Perhaps only time will tell.

### 4. Giving Peace A Chance by Using AI

War and peace are inextricably linked with one another. Here, every war ends with a wave of peace and every peace may be a preparation for the next war. War has become such a common phenomenon for humanity, while peace is seen as something fleeting yet extremely vital and significant for the survival of humanity. Therefore, a period of peace can be considered more than just a break or a pause in the fighting. Hence, just like the concept and the means or tools used in warfare have changed, so does the meaning and concept of peace. Therefore, the issue at hand is how AI, which has transformed war so

 $<sup>\</sup>label{lem:https://www.statista.com/statistics/1422308/palestinian-territories-israel-number-fatalities-and-injuries-caused-by-the-israel-and-hamas-war/.$ 

<sup>&</sup>lt;sup>31</sup> Israel Defense Forces, "Raw Footage of Yahya Sinwar's Last Moments," YouTube video, October 18, 2024, <a href="https://www.youtube.com/watch?v=YqkSaMuuzzY">https://www.youtube.com/watch?v=YqkSaMuuzzY</a>.

Dowling, Paddy. "Dirty Secret of Israel's Weapons Exports: They're Tested on Palestinians." Al Jazeera (2023). https://www.aljazeera.com/features/2023/11/17/israels-weapons-industry-is-the-gaza-war-its-latest-test-lab
Mimran, Tal, and Gal Dahan. "Artificial Intelligence in the Battlefield: A Perspective from Israel." Opinio Juris (2024). https://opiniojuris.org/2024/04/20/artificial-intelligence-in-the-battlefield-a-perspective-from-israel/

extensively, can also be utilized for building peace and security. AI-driven early warning systems and conflict analysis could be one such realm. This can support mediation and peace-making by significantly reducing information asymmetry. AI-driven technology can also help build the capacities of state institutions in fighting conflict and enforcing the rule of law in a given context. It can also be used to police our citizens better and reduce lawlessness. It can also provide accurate information on the ongoing conflict and the parties involved, helping to monitor ceasefires and the cessation of conflict, as well as facilitate conflict management. This may help monitor the use of banned weapons and other war materials. It is also possible that AI could safely evacuate citizens from conflict zones, thereby limiting the atrocities committed by parties in the conflict. It can also help build digital dialogues, where respondents will be asked questions, and their responses will be processed through an algorithm that clusters answers with similar meanings. This approach has been applied in conflict zones, such as Libya. Furthermore, it can also strengthen information gathering regarding the UN's sustainable development goals and achievements.<sup>34</sup>

#### Conclusion

The meaning of war has evolved, and like any other institution, it has transformed, acquiring new significance. Although military historians have chosen to describe the origins of war as something shrouded in mystery, and as discussed, we do not have any concrete and decisive conclusion as to its origins. Therefore, we are led to understand by the tell-tale signs of pre-history that war originated a millennium ago and has evolved over the same period. Hence, various hypotheses and theories as discussed by experts in fields such as military history, anthropology, and others. However, the most outstanding of them all is the genetic origins of warfare, where the authors have compared humans and primates and draw an interesting analogy from the same. Hence, to them, human nature and genetic makeup make man bellicose. To some others, geographical and topographical considerations have determined war and its nature. However, written records indicate that humans have been at war with one another since ancient Greek times. Be it, therefore, the Peloponnesian war or the two great wars of the last century and numerous other warfare that the contemporary world is a witness to it. Therefore, the crux is that war techniques have become more lethal and sophisticated. This has brought us to the cusp of a new kind of warfare, where adversaries will use heavily artificial intelligence- or AI-driven machines and platforms for their conduct of war. This is what one may identify as multi-domain warfare or military operations. In the recently concluded conflict between India and Pakistan during May 2025 over the incidence of the Pahalgam terrorist attack on Indian civilians, it was found that the Pakistan Air Force used the Chinese electronic platforms against the predominantly Western electronic platforms used by their Indian counterparts. The incident saw their induction and application of such electronic platforms along with the random use of drones, UAVs, and missiles in each other's territories. There were also reported rumours regarding the use of similar platforms, such as cyberspace, by the Chinese side against the Indian side during and after the Galwan skirmishes of 2020.

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<sup>&</sup>lt;sup>34</sup> Amani Africa, "Looking into the Future: Artificial Intelligence and Its Impact on Peace and Security in Africa," June 12, 2024, <a href="https://amaniafrica-et.org/looking-into-the-future-artificial-intelligence-and-its-impact-on-peace-and-security-in-africa/-:; Jerome Gavin, "Artificial Intelligence as a Tool for Peace," Vision of Humanity, December 9, 2022, <a href="https://www.visionofhumanity.org/artificial-intelligence-as-a-tool-for-peace/">https://www.visionofhumanity.org/artificial-intelligence-as-a-tool-for-peace/</a>.

The question is, therefore, how much are we in control of these systems? Therefore, would these systems unleash greater chaos and greater bloodshed, disproportionate violence and casualties upon humanity? Their great usage in the Gaza War against Iran and South Asia brings only foreboding conclusions. They are perhaps a dress rehearsal for a greater conflict tomorrow, whether in South Asia or the Pacific. Hence, various theatre scenarios of futuristic wars have been explored in different parts of the world, along with the level of military revolution, which has significantly transformed them.

Nevertheless, one thing has become very clear in the findings: more and more human soldiers are becoming dependent on AI, and artificial intelligence is reducing them to a less significant tool in the hands of political and military leadership. However, the most crucial issue is whether we are prepared for this development or heading for greater chaos brought in by machine-driven warfare; only time will tell.

#### References

- Amani Africa. "Looking into the Future: Artificial Intelligence and Its Impact on Peace and Security in Africa." *Amani Africa*, June 12, 2024. <a href="https://amaniafricaet.org/looking-into-the-future-artificial-intelligence-and-its-impact-on-peace-and-security-in-africa/">https://amaniafricaet.org/looking-into-the-future-artificial-intelligence-and-its-impact-on-peace-and-security-in-africa/</a>
- Archer, Christon I., ed. World History of Warfare. Lincoln: University of Nebraska Press, 2002.
- Arpi, Claude. "Gilgit Baltistan and How India Gets the Length of Its Border with China Wrong." Commentary. Center of Excellence for Himalayan Studies, Shiv Nadar University, February 19, 2023. <a href="https://snu.edu.in/centres/centre-of-excellence-for-himalayan-studies/research/lac-vs-ib-why-indias-assessment-of-the-length-of-border-along-china-is-misleading">https://snu.edu.in/centres/centre-of-excellence-for-himalayan-studies/research/lac-vs-ib-why-indias-assessment-of-the-length-of-border-along-china-is-misleading</a>
- Batallas, Carlos. "When AI Meets the Laws of War." *Insights, IE University*. Accessed June 18, 2025. <a href="https://www.ie.edu/insights/articles/when-ai-meets-the-laws-of-war/">https://www.ie.edu/insights/articles/when-ai-meets-the-laws-of-war/</a>
- Csernatoni, Raluca. "Governing Military AI amid a Geopolitical Minefield." Carnegie Endowment for International Peace, July 2024. <a href="https://carnegieendowment.org/research/2024/07/governing-military-ai-amid-a-geopolitical-minefield?lang=en">https://carnegieendowment.org/research/2024/07/governing-military-ai-amid-a-geopolitical-minefield?lang=en</a>
- Cummings, M. L. Artificial Intelligence and the Future of Warfare. International Security Department and the US and the Americas Programme. London: Chatham House, January 2017.
- Defence, The UK Ministry of. *Joint Doctrine Note 2/11: The UK Approach to Unmanned Aircraft Systems.* London: Ministry of Defence, 2011. <a href="https://assets.publishing.service.gov.uk/media/5a81d239ed915d74e34003bc/20110505-JDN 2-11 UAS archived-U.pdf">https://assets.publishing.service.gov.uk/media/5a81d239ed915d74e34003bc/20110505-JDN 2-11 UAS archived-U.pdf</a>
- Dowling, Paddy. "Dirty Secret of Israel's Weapons Exports: They're Tested on Palestinians." *Al Jazeera*, November 17, 2023. <a href="https://www.aljazeera.com/features/2023/11/17/israels-weapons-industry-is-the-gaza-war-its-latest-test-lab">https://www.aljazeera.com/features/2023/11/17/israels-weapons-industry-is-the-gaza-war-its-latest-test-lab</a>

- Embassy of the People's Republic of China in the Republic of Maldives. *The Taiwan Question and China's Reunification in the New Era.* August 10, 2022. http://mv.china-embassy.gov.cn/eng/sgsd/202208/t20220810\_10738801.htm
- Erskine, Toni, and Steven E. Miller. "AI and the Decision to Go to War: Future Risks and Opportunities." *Australian Journal of International Affairs* 78, no. 2 (2024): 135–47. <a href="https://doi.org/10.1080/10357718.2024.2349598">https://doi.org/10.1080/10357718.2024.2349598</a>
- Ferrill, Arther. *The Origins of War: From the Stone Age to Alexander the Great.* London: Routledge, 2018.
- Friedland, Alex. "IDF Uses AI to Accelerate Targeting According to Report; the White House Releases Guidance on Federal AI Use, and a Roundup of the AI." *Center for Security and Emerging Technology*, April 11, 2024. <a href="https://cset.georgetown.edu/newsletter/april-11-2024/">https://cset.georgetown.edu/newsletter/april-11-2024/</a>
- Gavin, Jerome. "Artificial Intelligence as a Tool for Peace." *Vision of Humanity*, December 9, 2022. <a href="https://www.visionofhumanity.org/artificial-intelligence-as-a-tool-for-peace/">https://www.visionofhumanity.org/artificial-intelligence-as-a-tool-for-peace/</a>
- Gilpin, Robert. "The Theory of Hegemonic War." *The Journal of Interdisciplinary History* 18, no. 4 (1988): 591–613.
- Honrada, Gabriel. "Laser Wars: US-China in Drone-Killing, Directed-Energy Arms Race." Asia Times, November 11, 2024. <a href="https://asiatimes.com/2024/11/laser-wars-us-china-in-drone-killing-directed-energy-arms-race/">https://asiatimes.com/2024/11/laser-wars-us-china-in-drone-killing-directed-energy-arms-race/</a>
- Humble, Kristian. "War, Artificial Intelligence, and the Future of Conflict." *Georgetown Journal of International Affairs* (GJIA), July 12, 2024. <a href="https://gjia.georgetown.edu/2024/07/12/war-artificial-intelligence-and-the-future-of-conflict/">https://gjia.georgetown.edu/2024/07/12/war-artificial-intelligence-and-the-future-of-conflict/</a>
- IANS. "Indian Military No Match to China's PLA, Says Author Pravin Sawhney." *National Herald*, July 24, 2022. <a href="https://www.nationalheraldindia.com/book-extract/indian-military-no-match-to-chinas-pla-says-author-pravin-sawhney">https://www.nationalheraldindia.com/book-extract/indian-military-no-match-to-chinas-pla-says-author-pravin-sawhney</a>
- International Committee of the Red Cross. "What You Need to Know about Artificial Intelligence in Armed Conflict." Accessed June 18, 2025. <a href="https://www.icrc.org/en/document/what-you-need-know-about-artificial-intelligence-armed-conflict">https://www.icrc.org/en/document/what-you-need-know-about-artificial-intelligence-armed-conflict</a>
- Israel Defense Forces. "Raw Footage of Yahya Sinwar's Last Moments." *YouTube*, October 18, 2024. https://www.youtube.com/watch?v=YqkSaMuuzzY
- Levy, Jack S., and William R. Thompson. *The Arc of War: Origins, Escalation, and Transformation*. Chicago: University of Chicago Press, 2011.
- Marwala, Tshilidzi. "Militarization of AI Has Severe Implications for Global Security and Warfare." *United Nations University*. Accessed June 18, 2025. <a href="https://unu.edu/article/militarization-ai-has-severe-implications-global-security-and-warfare">https://unu.edu/article/militarization-ai-has-severe-implications-global-security-and-warfare</a>
- Mimran, Tal, and Gal Dahan. "Artificial Intelligence in the Battlefield: A Perspective from Israel." *Opinio Juris*, April 20, 2024. <a href="https://opiniojuris.org/2024/04/20/artificial-intelligence-in-the-battlefield-a-perspective-from-israel/">https://opiniojuris.org/2024/04/20/artificial-intelligence-in-the-battlefield-a-perspective-from-israel/</a>

- Nye, Joseph S., Jr. "AI and National Security." *Project Syndicate*, July 2024. <a href="https://www.project-syndicate.org/commentary/ai-national-security-some-benefits-and-many-risks-by-joseph-s-nye-2024-07">https://www.project-syndicate.org/commentary/ai-national-security-some-benefits-and-many-risks-by-joseph-s-nye-2024-07</a>
- Osimen, Goddy Uwa, Oluwamurewa Newo, and Oluwakemi Morola Fulani. "Artificial Intelligence and Arms Control in Modern Warfare." *Cogent Social Sciences* 10, no. 1 (2024): 2407514. https://doi.org/10.1080/23311886.2024.2407514
- Paret, Peter, ed. *Makers of Modern Strategy from Machiavelli to the Nuclear Age*. Princeton, NJ: Princeton University Press, 1986.
- Rather, Shaiba. "India and China Border Briefer: The Shadow of Article 370's Revocation." *Lawfare*, November 23, 2020. <a href="https://www.lawfaremedia.org/article/india-and-china-border-briefer-shadow-article-370s-revocation">https://www.lawfaremedia.org/article/india-and-china-border-briefer-shadow-article-370s-revocation</a>
- Sawhney, Pravin. *The Last War: How AI Will Shape India's Final Showdown with China*. New Delhi: Aleph Book Company, 2022.
- Sentient Digital, Inc. "Military Applications of AI in 2024." Accessed June 18, 2025. https://sdi.ai/blog/the-most-useful-military-applications-of-ai/
- Shah, Jawad Ali. "Unravelling Warfare in the Age of AI." *The Defence Horizon Journal* (*TDHJ*). Accessed June 18, 2025. <a href="https://tdhj.org/blog/post/warfare-ai/">https://tdhj.org/blog/post/warfare-ai/</a>
- Statista Research Department. "Number of Palestinian¹ and Israeli² Fatalities and Injuries Caused by the War Between Hamas and Israel Since October 7, 2023." *Statista*, March 31, 2025. <a href="https://www.statista.com/statistics/1422308/palestinian-territories-israel-number-fatalities-and-injuries-caused-by-the-israel-and-hamas-war/">https://www.statista.com/statistics/1422308/palestinian-territories-israel-number-fatalities-and-injuries-caused-by-the-israel-and-hamas-war/</a>
- Sylvia, Noah. "The Israel Defense Forces' Use of AI in Gaza: A Case of Misplaced Purpose." *RUSI* 4 (2024). <a href="https://www.rusi.org/explore-our-research/publications/commentary/israel-defense-forces-use-ai-gaza-case-misplaced-purpose">https://www.rusi.org/explore-our-research/publications/commentary/israel-defense-forces-use-ai-gaza-case-misplaced-purpose</a>
- US Department of Defense. "DoD Announces Update to DoD Directive 3000.09, 'Autonomy In Weapon Systems'." January 25, 2023. <a href="https://www.defense.gov/News/Releases/Releases/Article/3278076/dod-announces-update-to-dod-directive-300009autonomy-in-weapon-systems/">https://www.defense.gov/News/Releases/Releases/Article/3278076/dod-announces-update-to-dod-directive-300009autonomy-in-weapon-systems/</a>
- Wade, Nicholas. *Before the Dawn: Recovering the Lost History of Our Ancestors*. New York: Penguin, 2006.

#### **About the Author**