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Machine Driven Warfare: A New Millennia of Defense

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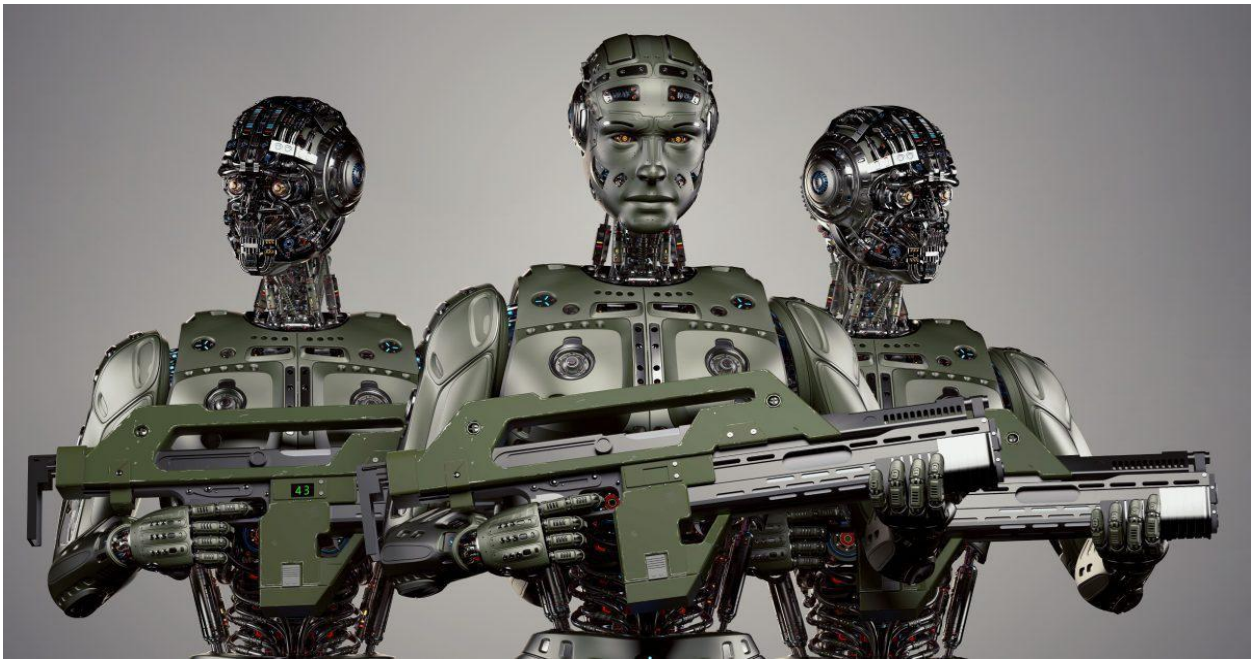

(PC@ Forbes)

Introduction

Weapons have evolved significantly over the years, all the way from swords and shields to assault rifles like the German stG 44, to modern day AR 15's, capable of causing massive carnage within a myriad of seconds. Moreover, with the introduction of Artificial Intelligence, it is more than likely that the usage of modern technology will usher in a new era of machine driven warfare, as a matter of fact, it is believed to have already started. Be that as it may, although there can be a lot of positives in regards to utilizing intelligence in an era of machine driven warfare, what possible consequences can this era actually bring forth is always up for bit. So, it is safe to say that, there are more than a few contentions and arguments regarding the emergence and prominence of this era.

History, Evolution and Modern Scenario

As long as human's have inhabited this earth, there has been tension and hostilities based on a myriad of factors, spanning from survival to sustenance. However, as time passed, tension and hostilities boiled over to battles, and eventually all-out war. Humans have spilled blood on the basis of race, religion, dominance etc. and have been engaged in this bloody practice for millennia. As time passed, the gears of war improved, making them effective and far deadlier. With the introduction of the First World War, the world for the very first time saw a "Total War" or an "All-out war", with the usage of automated machine guns for the first time. The usage of these kinds of weaponry also dictated that, days of hand to hand combat are almost outnumbered and the usage of automated heavy machinery will keep on becoming more and more prominent in the future. Moreover, the tendency to lean towards machinery has also showcased tremendous amount of damage, without causing mass casualty to the certain individual group operating it. As a result, humans have slowly and but surely moved towards an age of automatic weaponry to avoid falling prey to the full grunt of war machines.

Modern day technological advancement has shown the usage of more and more advanced technological wizardry into weapons. Modern weapons are more precise and lethal. However, the usage of modern technology, most notably AI isn't a 21st century phenomenon. In The 90's, Israel actually developed an AI infused drone called the HARPY, which can independently attack communication buildings, especially radar systems. The drone itself later gained a lot of attention and was bought by countries like China. Another notable example was the AI infused Brimstone missile, developed by Britain in the early 2000's, which could actually not only pin point the location of the attack, but also coordinate with other missiles to confirm in which order to conduct the attack. These weapons are termed as Lethal Autonomous Weaponry Systems (LAWS), which have the capability of making decisions on their own on split second basis.

Harpy Rockets

Brimstone Missile

It is important to mention. However, that these modern weapons were invented at the eve of the age of information and technology and most of them were part of defensive tactics. However, with the further development and introduction of better technologies, the focus is significantly shifting towards developing the offensive prowess of these weaponry, all the while alleviating the human element of warfare and deterrence.[1]

There is more than one example of the modern AI powered weapons. The most prominent one is probably the ship currently being used by the U.S Navy, a marvel of invention called the Sea hunter, which is an AI Powered 135 ton Unmanned Surface Vehicle (USV) that is capable of patrolling the deep blue sea on its own. In its initial test it managed to travel an astounding 2500 miles on its own.[2]

[1] Vincent, J., 2021. *The future of war will be fought by machines, but will humans still be in charge?*. [online] The Verge. Available at: <https://www.theverge.com/2018/4/24/17274372/ai-warfare-autonomous-weapons-paul-scharre-interview-army-of-none> [Accessed 23 May 2021].
[2] Zachary Fryer-Biggs, C., 2021. *Coming Soon to a Battlefield: Robots That Can Kill*. [online] The Atlantic. Available at: <https://www.theatlantic.com/technology/archive/2019/09/killer-robots-and-new-era-machine-driven-warfare/597130/> [Accessed 23 May 2021].

Sea Hunter

The U.S army has also been developing a new system to provide further supports for its armored units by fitting tanks with a system which allows it to pick the target on its own and conduct further operations. They are also working on a Joint Air-to-Ground Missile (JAGM), with the unique ability to pick out vehicles to attack without human authorization. The military has made a plea to the congress for the purchase of these systems. The air force, have been working on a pilotless version of their f-16 fighter jets, named "Skyborg", which is as capable of carrying out the actions as a manned F-16[3], alongside being able to carry a significant amount of armament.

These are few of the many endeavors that the countries are engaging in to develop newer weapons and armaments, removing the humans from the transports and teaching the computer algorithm to conduct the operation on behalf of humans. In future, it's very much a possibility that, the supremacy in warfare will be determined by the advancement of technology and weaponry, and humans will conduct the operations far from the location of confrontation.

Machine Oriented Warfare: A Convoluted Predicament

In the modern era of limited, asymmetric and proxy warfare, where the smallest of factors can give you the edge in the battlefield, the introduction of these AI infused weapons seem to answer everyone's prayers, right? Not entirely. Although, it is necessary to mention that,

[3] ibid

through removing humans from the machinery, it will drastically decrease the numbers of human casualty pre, during or post conflict situations. The command and actions and execution of operational particulars will be far swifter due to the absence of “conscience” “fear” and “judgment”, especially when few moments can have astronomical consequences. Moreover, these machineries also don’t have a fatal “flaw” that humans possess; humans have a rather slow reaction time to a developing situation, machines in which case are much faster, often proving very crucial and detrimental in tight spots. Through the help of AI, militaries posted in war-torn regions have managed to neutralize dangerous militants. Many experts, thus, often tend advocate for LAWS and use of this and other AI infused technology around the world. However, there is more than enough backlash coming from both academia and legislative bodies, and there are more than enough reasons to justify that. Due to these weapon’s actions being dictated by AI, there is the always the possibility of badly written codes or machines being prone to hacking, which might actually turn them into a volatile liability rather than an asset.

Moreover, these machines are programmed to function within a particular area, limiting their capability within a certain parameter. Military officials, themselves are unwilling to provide the responsibility of surveillance and neutralization in the hands of an AI, which can also go rouge and can tend to attack outside of its designated targets. The machines can also often think from a very objective point of view, as they are not prone to reason like humans, thus taking actions that can destabilize a situation beyond repair, which can have dire consequences in sensitive situations. However, probably the most important issue is the concept of accountability. An individual can be trialed for committing atrocities and war crimes during a wartime situation, however, that can’t be said for an AI driven machines that are completely autonomous, which makes a perfect tool for perpetrating this as a tool of asymmetric retaliation and carnage on an unprecedented level and get away with it. Like the previous example of AI infused weapons killing militants, the death toll of civilians from these attacks is much higher, substantiating the argument of accountability and judgment in terms of LAWS. Machines powered by autonomous intelligence can protect from sudden attacks, but they can also cause destruction on a level unmatched, all the while being completely unphased, as long as it’s functional, because it was just “doing its’ duty”. This new era of machine driven warfare, as a result, has a fair share of controversies and

criticisms attached to it. The introduction of these modern day weapons will not only change the dynamic of warfare, but also influence the global political scenario.

Conclusion

The endgame of warfare has always been the gain from winning the war based on political, military, territorial or monetary incentives. However, the modern day warfare takes a massive, an extent to which can't be overcome by any gains. Thus the modern day warfare should only take place to navigate around disputes that actually started the war, although the notion itself has been violated on various occasions. With the inclusion of the dynamic of machine driven war, the numbers of death will decrease and increase based on which side of the fence you're on. These weapons can act as double edged swords, acting both like a protective shield, and a harbinger of death. These arguments and predicaments have the potential to the change the scenario of modern day defense and warfare forever.

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