Robots and drones in warfare

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Abbreviations

A2/AD	Anti-Access/Aerial Denial
AI	Artificial Intelligence
AUMF	Authorization for the Use of Military Force
CIA	Central Intelligence Agency
EU	European Union
FBI	Federal Bureau of Investigation
FCAS	Future Combat Air System
GNA	Government of National Accord
HALE	High Altitude Long Endurance
HRW	Human Rights Watch
IDF	Israel Defense Forces
IHL	International Humanitarian Law
ISIL	Islamic State of Iraq and the Levant
ISR	Intelligence, Surveillance, Reconnaissance
NATO	North Atlantic Treaty Organization
NGO	Non-Governmental Organization
UAE	United Arab Emirates
UAV	Unmanned Aerial Vehicle
UCAV	Unmanned Combat Aerial Vehicle
UN	United Nations
UNSC	United Nations Security Council

Introduction

"*It's going to change the fundamental equation of war. First you had human beings without machines. Then you had human beings with machine. And finally, you have machines without humans*"[1].

Robots and drones are still seen as futuristic armament as we often see them in movies, but they are actually part of real warfare. This study will focus on defining precisely what is a drone or a robot. Our perception of this weaponry is largely shaped by what medias show us, and by the facts that states agree to communicate. Robots and drones correspond to different technologies and have different purposes, that can sometimes combine.

First, a drone is an unmanned vehicle, even though most of the time we talk about aircraft drones, UAV (Unmanned Aerial Vehicle) and UCAV (Unmanned Combat Aerial Vehicle). Aerial drones are almost as old as aviation itself. For example, Vietnam war was not only about jungle and paddy fields, it was a prelude to high tech warfare, with reconnaissance or anti-submarine drones being used since late 50's[2]. There are many types of drones, like unmanned ground vehicles, unmanned surface vehicle or unmanned underwater vehicle. The American Heritage dictionary's definition of a drone is "*a remotely controlled or autonomous aircraft with no pilot on board. Also called unmanned aircraft system*"[3]. In this study, we will focus more on UCAV, as they are the most used drones in today's warfare. The term "*unmanned*" does not mean that no crew is involved. Drones can be studied as a system including four parts: the remote-controlled aerial

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[1] J. PIKE, quoted in: G. M. LAMB, "Battle bot: the future of war?", The Christian Science Monitor, online, Jan. 27, 2005.

[2] Air & Space, "D.A.S.H. goes to war", online, Sept. 23, 2019.

[3] The American Heritage dictionary of the English language, online, consulted Sept. 23 2019.

vehicle, the payload (sensors or missiles), the ground station where the crew operate and the data link between the ground base and the vehicle.

Drones are too often described as the weapon of the coward, but reality is more complex. "*The global war on terrorism*" launched by President George W. Bush administration after 9/11can hardly be called a war since terrorism itself can not be an enemy and it is rather a mean used by terrorist groups. Moreover, drones are currently being used by a growing number of states or non-state actors, as we observed recently in the attack against Aramco oil installations in Saudi Arabia[4]. Drones have the advantage, or disadvantage, of being cost-effective weapons, affordable for small groups, non-state actors.

Second, a robot is a "*1. A mechanical device that sometimes resemble a human and is capable of performing a variety of often complex human tasks on command or by being programmed in advance. 2. A machine or device that operates automatically or by remote control*"[5]. We have this idea of a pre-programmed device that is not necessarily always controlled by a human being. This concept can make us ask ourselves what the use of automated objects in warfare could be and how it could meet humanitarian law standards. We should not overestimate the current evolution of technology and war is not led yet by "*killer robots*". However, studies and advanced tests of automated or autonomous systems are being conducted.

For instance, South Korea deployed high-tech guns to protect their border with North Korea, that supposedly have the ability to detect

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[4] The New York Times, "Two major Saudi oil installations hit by drone strike, and U.S. blames Iran", online, Sept. 27, 2019.
[5] The American Heritage dictionary of the English language, online, Sept. 23, 2019.

and kill autonomously[6]. Even if the technology of lethal autonomous weapons exists, the decision to kill an enemy is currently always taken with a "*human in the loop*". The main issue with lethal autonomous weapons is to know whether or not an artificial intelligence (A.I.) can decide who lives and who dies. Different countries are developing lethal autonomous weapons (Russia, China, U.K., U.S.A.), offensive systems as well as defensive systems. This use of such weapons does not go without questions on an ethical side and about the respect of international humanitarian law (IHL).

These weapons, although "*killer robots*" or lethal autonomous weapons have not reached battlefields yet, are some of the tools of warfare. Technology has always been a critical part of war and of military supremacy, in a permanent quest for security[7]. Through military advantages and by arming themselves, the dominant powers tried to establish the *Pax democratica*. Present war is not what it used to be anymore, we went from interstate war opposing national military forces to hybrid warfare in which technology is a key element. Conventional war is also opposed to irregular warfare, but war is a multidimensional dynamic phenomenon that can hardly be measured[8].

Since the end of the Cold War, we have observed denationalized wars, involving state and non-states actors, terrorist groups, or private military companies. Moreover, non-international armed conflict and low intensity conflicts tend to multiply, involving subversive actors fighting within the territories of failed or complaisant states[9]. While

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[6] NBC News, "Future tech? Autonomous killer robots are already here", online, Sept. 27, 2019.

[7] J. FERNANDEZ, Relations Internationales, Dalloz, Précis, 2nd edition, Paris, 2018, p. 546, § 572.

[8] *Ibid*.

[9] *Ibid*.

conflicts become less interstate wars, the asymmetry between belligerents increases and the distinction between combatant and civilian becomes blurry[10]. Western countries have a tendency to get bogged down in asymmetric conflicts lasting too long with no visible front line.

To some observers, war is currently subject to a revolution, but we will more reasonably call it an evolution. War is submitted to an evolution because of technology; but is technology the cause or an effect of this transformation [11]? Technology seems to create a balance in power and at the same time is the result of the changing nature of war[12]. We can add the fact that there is an increasing intolerance of the public opinion on human casualties in its nationals. War is analysed in terms of accomplished mission compared to the number of soldiers killed in action, and this ratio should be improved thanks to technology. The use of technology in war has an impact on society, and people sometimes fear what could be done with "*killer robots*", in a fantasized questioning about human action and machines. We must not forget the influence of the armament industry on the military and politics. Technology, and particularly the most advanced technology, is not only a military tool but is also political. The question is to know whether technology is neutral or does it shape international relations, as nuclear power does (for how long?).

We have to understand that technology can turn against its creators, not by turning against humans, but rather backfiring against major powers who created it, once it's accessible to every actor. Also, new

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[10] B. BADIE, D. VIDAL (dir.), Nouvelles guerres. Comprendre les conflits du XXIe siècle, La Découverte, Poche / Essais, 2016, p. 18.

[11] J.-B. JEANGENE VILMER, "Introduction : robotisation et transformations de la guerre", Politique étrangère, vol. automne, no. 3, 2013, p. 82.

[12] B. BADIE, D. VIDAL (dir.), Nouvelles guerres. Comprendre les conflits du XXIe siècle, op. cit. n°10, p. 23.

robots developments and automated or autonomous weapons may change the stakes and need a complete regulation. Technology spreads quickly and may redistribute some cards, allowing developing countries or private groups to benefit of the newest weapons. Developing and building its own technology is critical for a state that seeks military independence.

In this study, we will focus on how the materialization of remote warfare led to an extensive use of technology such as UCAV. The increasing number of armed conflicts is also an argument in favour of developing new weapons. These weapons need to be equipped with always more intelligent and advanced captors or effectors. This fact will lead to a more cost-effective way of fighting and with less humans needs. The two phenomena seem to feed each other in a world's arms race. With the boundary between combatant and civilian blurring, the boundary between war and peace is vanishing[13]. In a war where death becomes almost inevitable for the targeted enemies, they will naturally evolve and adapt to these new threats, creating new forms of conflicts.

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[13] O. ZUBELDIA, "The eye of war: military perception from the telescope to the drone", online, consulted : oct. 30, 2019, Les lectures d'AEGES.

1. The use of armed drones for military purpose

1.1.   Contextualization of the use of combat drones

The drone is now commonplace in the anti-terrorism arsenal. Approximatively a dozen states currently resort to drones, but they don't always admit it. Israel and the United States have been forerunners in the development and the use of drones, and in the establishment of strong practices which have shaped how we see the "*war on terrorism*". UCAV are one of the weapons used in a war of the strong against the weak, praised by some and decried by others. For the latter, UCAV are the cause of collateral damages, they lack precision, decrease the distinction between combatant and civilians and increase the asymmetry between belligerents. We have to keep in mind that drones just do what their operators tell them to do by following orders driven by political interests. Also, most of what is done by drones could be done by other means, like planes, helicopters, missiles, special operations commandos. Drones are used to accomplish various tasks, and targeted killings are only a small part of it[14]. Drones are mostly used for surveillance of a determined target, complementary with ground surveillance, planes, satellites[15]. For this purpose, MALE or HALE drones are involved depending on the range of action needed.

Drones feed the fantasy of dehumanized or dehumanizing weapons but they are actually dependent on humans. Hence, the notion of

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[14] J.-B. JEANGENE VILMER, "Idéologie du drone, à propos de : G. CHAMAYOU, *Théorie du drone*, La Fabrique, Paris, 368 p., La vie des idées, Dec. 4, 2013.
[15] C. FONTAINE, "La persistance de la surveillance et le temps réel, nouveaux principes d'une sobriété guerrière ? L'emploi des drones dans la stratégie aérienne" in *Stratégique*, 2013/3 n° 104, pp. 57 – 67.

"*remotely piloted aircraft*"[16], or "*unmanned*", does not mean absence of a crew, because there is always a link with the command chain on the ground. A targeting cycle need a beforehand permissive air space, and drones are often used for the support of aviation. Next generation drones will be able to fly in contested airspace. France, China, U.S. and U.K. are developing this technology to be ready for 2020. One other specificity of drones is that they spare sovereignty of the crossed states and are a discrete weapon, although vulnerable[17].

1.2. Drones in the "global war on terrorism": Israeli influence on U.S. doctrine

Israel is a leader in drone warfare. Indeed, Israel uses drones in military operations since 1969, and it was the first country to do so. Consequently, drones have a significant role in Israeli military planning. Since 1985, Israel has been the first drone exporter in the world, selling its equipment to the U.S. and N.A.T.O. members for example, and not only aerial vehicles. Due to its use of drones, Israel was also involved in an early regulation of drone strikes. There was a need of a legal (if not moral) framework to justify the use of such destructive weapons, even more when the time was for the Rome Statute to International Criminal Court to be signed[18]. Drones strikes were first conceived as an exception to the rule, a weapon of last resort[19]. There was no precedent of similar cases because drone strikes were closer to law enforcement than to war. The IDF (Israeli

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[16] J.-B. JEANGENE VILMER, C. FONTAINE, "Drones armés, drones de combat et robots tueurs", The Conversation, online, Apr. 29, 2016.

[17] J.-B. JEANGENE VILMER, "Introduction : robotisation et transformations de la guerre", *op. cit.* n°11, p. 86.

[18] Israel and U.S. signed but never ratified the Rome Statute of International Criminal Court.

[19] A. BARSHAD, "Extraordinary measures. Israel's Gabriella Blum helped write the laws of drone warfare. Nearly two decades later, she has regrets", The Intercept, online, Oct. 7, 2018.

Defense Forces) defended their practice of drone strikes before Israel High Court of Justice and they won. It was a lawyer's and military's work to justify practices for which a soldier on the field would be held responsible for, in violation of IHL. When a practice lasts long enough, it may become accepted by the international community, or, at least, by some other states which share interests. Afterwards, drone strikes and targeted killings were legally justified in Israel.

In July 2001, the U.S. position on drone killings was unequivocal, Martin Indyk, former U.S. ambassador to Israel said: "*The United States government is against targeted assassinations […] They are extrajudicial killings, and we do not support that*". Then came the 9/11 attacks against the World Trade Center towers in New York and the Pentagon. After these violent attacks on American soil came the idea that terrorists must be annihilated by all means[20]. A new kind of frontline appeared, and U.S. administration created what they called "*hyperterrorism*", "*rogue state*" or "*failed state*" terms to justify their acts[21] in the "*global war on terror*"[22], taking up the speech of "*just war*". Although it always existed, terrorism became a major security issue in international relations. The U.N. made the fight against terrorism a priority and the U.N.S.C. took resolutions directly in the aftermath of 9/11 attacks to allow a collective response[23]. The international politics of the U.S. evolved, and allies followed with different outcomes. We must remind that the "*war on terrorism*" is not the adequate formulation, since terrorism is a mean of action and not an identifiable enemy, it's a form of conflict with variable

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[20] A. BARSHAD, "Extraordinary measures. Israel's Gabriella Blum helped write the laws of drone warfare. Nearly two decades later, she has regrets", The Intercept, online, Oct. 7, 2018.

[21] J. FERNANDEZ, *Relations Internationales*, *op. cit.* n°7, p. 529.

[22] *Ibid.*, p. 571.

[23] UNSC, Resolution 1373, Sept. 28, 2001 on the obligation for member states to fight terrorism.

timescale, new adversaries, and means in combat, and above all an elusive and permanent threat[24]. The war against terrorism is more a fight to annihilate very disparate jihadist groups in Middle East or Africa, and a war of the strong against the weak, in which the powerful states are able to practice warfare with drones and many advances weapons.

Back then, the Bush administration drone strike doctrine was inspired by the Israeli precedent, and they successfully obtained the Authorization for the Use of Military Force from the Congress in September 14, 2001 granting the President the authority to use all "*necessary and appropriate*"[25] force. They were able to use lethal force against terrorists or associated groups during so-called "*preventive self-defence*"[26]. Israeli lawyer Markus Reisner said: "*We actually developed the concept of an armed conflict between a state and a non-state entity. Decades into the war on terror, that legal concept has become an international common place*"[27]. Between 2001 and 2011, U.S. built its drone capability and created a legal framework inspired by Israel's legislation, and further tested it all on the battlefield[28]. In 2007, in the Yale journal, Kristen E. Eichensehr foresaw Israeli influence upon U.S. administration, second state to openly use drones for targeted killings after Israel. The U.S. crossed the line and they will not go back to more strict standards. During the Obama presidency, the Israeli's justification to not be able to arrest and detain terrorists was even used by the US: indeed, keeping

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[24] J. FERNANDEZ, *Relations Internationales*, *op. cit.* n°7, p. 571.

[25] *Ibid.* p. 572.

[26] *Ibid.* p. 573.

[27] A. BARSHAD, "Extraordinary measures. Israel's Gabriella Blum helped write the laws of drone warfare. Nearly two decades later, she has regrets", The Intercept, online, Oct. 7, 2018.

[28] N. TURSE, H. MOLTKE, A. SPERI, "Secret war. The U.S. has conducted 550 drone strikes in Libya since 2011, more than in Somalia, Yemen, or Pakistan", The Intercept, online June 21, 2018.

terrorists alive would then create a threat for US soldiers on the ground.. It was part of the "*light footprint*" doctrine which put the drone as a weapon of choice[29].

A targeted killings could be apprehended as more political than really effective to annihilate enemy capacities. The U.S. doctrine may have created more enemies than they were able to eliminate, and seems to be an opposite of the "*win hearts and minds*" strategy[30]. The U.S. use of drones raises questions and despite the numerous strikes, it is not widely known or publicized. Transparency was questioned during the Obama administration about the use of lethal force abroad[31] even in places where the U.S. aren't known to be militarily involved. It contributes to erase the boundaries between peace and conflict, between war and law enforcement. During the Trump administration, rules were eased in favour of less transparency and information about drone strikes are kept under wrap. "*President Obama left a legacy of expansive claims of war authority without congressional authorization in multiple parts of the world, with lethal strike and civilian casualty counts largely shrouded in secrecy until the end of his administration*", his legacy is now in Donald Trump's hands[32].

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[29] J. FERNANDEZ, *Relations Internationales*, *op. cit.* n°7, p. 571.
[30] A. BARSHAD, "Extraordinary measures. Israel's Gabriella Blum helped write the laws of drone warfare. Nearly two decades later, she has regrets", The Intercept, online, Oct. 7, 2018.
[31] N. TURSE, H. MOLTKE, A. SPERI, "Secret war. The U.S. has conducted 550 drone strikes in Libya since 2011, more than in Somalia, Yemen, or Pakistan", The Intercept, online, June 21, 2018.
[32] *Ibid.*

1.3. *Military drones in Europe: France is arming its drones*

After being adopted and theorized by Israel and U.S., the UAV technology spread in Europe. Some European countries have developed their own projects on advanced drones, in order to not rely exclusively on foreign technology. However, foreign technology such as U.S. drones are still popular among European countries because *"they are readily available, proven, and interoperable platforms, but also to the European countries' experience from Afghanistan where they learnt how to operate them"*[33]. For example, the European MALE armed drone is currently developed together with Airbus, Dassault Aviation and Leonardo. Another example, U.K. and France are currently developing the FCAS, the next generation of manned fighter aircraft and its complementary unmanned drone systems like the nEUROn demonstrator[34].

European countries have different reasons to develop their own drone capacities, it is simultaneously an economic, strategic and sovereignty matter. In Europe, U.K. is currently the only country using armed drones and will soon be joined by France[35], which in this case, is going to use U.S. built MQ-9 Reapers armed with GBU-12 Paveway missiles, thanks to a USD 17.87 million contract[36]. In 2017, French Minister of the Armed Forces Florence Parly announced the decision to arm French drones, long after other major military powers. Was a U.S. influenced this decision? Anyway, France could win strategic benefits without falling into the same pitfalls. French

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[33] D. KURNETOVA, *Military drones in Europe. The European Defense Market and the Spread of Military UAV Technology*, Center for War Studies, University of Southern Danemark, Spring/Summer 2019, p. 10.

[34] J.-B. JEANGENE VILMER, ''The French turn to armed drones'', War on the Rocks, online, Sept. 22, 2017.

[35] G. JENNINGS, E. HUBERDEAU, ''*France begins process of arming Block 5 Reapers*'', Jane's 360, online, Oct. 29, 2019.

[36] *Ibid.*

army has already gained experience with (non-armed) drones during foreign operations, like "*Barkhane operation*" in the Sahel-Saharan strip in Africa. The fact that France has decided to arm its drone may be considered as a commitment to pursue its operations in the region where it already consequently uses drones, for reconnaissance or guidance of the missiles and bombs dropped by French Mirages or helicopters.

Also, there are broader reasons why France has decided to arm its drones that could apply to other European countries[37]. Florence Parly reminded that having armed UCAV is a "*key capability of tomorrow's fighting, as was at their time armoured vehicles or aircrafts*". The first reason is economic: mainly to combine sensor and effector functions in one equipment to preserve the French aviation already heavily involved. Besides, drones will not replace aviation because of their vulnerability. Second reason is to improve performance because the armed drones can cover the entire kill chain (find, fix, track, target, engage, assess)[38]. French army presence in Sahel is around 4,000 soldiers, for a territory as large as Europe (5 million sq. km). They need aerial occupation and persistence in flight to be reactive and discrete and only drones can offer this. Third, there is the humanitarian argument, saying that not arming its drones would be riskier and that drones allow to help and protect soldiers. With drones, armed forces have a quicker response to imminent threats and more endurance, with lessrisks of collateral damages. In Afghanistan, allies quickly realized that armed drones are a "*force multiplier and force protector*"[39].

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[37] J.-B. JEANGENE VILMER, "The French turn to armed drones", War on the Rocks, online, Sept. 22, 2017.
[38] *Ibid.*
[39] The University of Birmingham, *The security impact of drones: challenges and opportunities for the UK*, Birmingham Policy Commission, The Report, Oct. 2014, p. 30.

The French military now has a feedback from its non-armed drones and is aware of the difficulties it met because of lack of armed drones. As the UK did, itis possible to import a weapon system and use it differently than the U.S. Their use will depend on the political orientation of Macron's government. Anyway, with the joint U.K. / France projects (nEUROn et FCAS), having armed drones was only a matter of time. To have its own drones is a key element in terms of sovereignty, because when you use American drones, the U.S. impose some restrictions on how to arm or to operate it[40]. However, even though French involvement in Sahel include gray zones where the existence of an armed conflict is questionable, the French army couldn't adopt the same approach as the U.S. do. France has a smaller drone fleet and as Florence Parly said: "[it] *does not change anything to the rules of engagement, to the respect of the law of armed conflicts*"[41]. France will limit drone strikes to surgical strikes against high-value targets when "*immediate and demonstrable threat to national security, only when the state the target is in does not have the will or the capacity to eliminate the threat*"[42].

The use of drones is often confused with the use the U.S. made of them, especially by the C.I.A. in Waziristan, Yemen or Somalia, in the context of the worldwide manhunt launched by the Bush administration post 9/11.

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[40] J.-B. JEANGENE VILMER, "The French turn to armed drones", War on the Rocks, online, Sept. 22, 2017.
[41] *Ibid.*
[42] J.-B. JEANGENE VILMER, "The French turn to armed drones", War on the Rocks, online, Sept. 22, 2017.

1.4. Targeted killings controversy

In early 2000's, the U.S. began to implement a policy of targeted killings which was legally questionable. The practice of "*signature strike*" created the controversy, since it was only based on the behaviour of the target without personal identification needed. This follows U.S. "*light footprint*" strategy in which targeted killings were preferred to massive and ineffective intervention[43]. Targeted killings could be defined as the use of lethal force by an international law subject with the premeditated and deliberate intention to individually kill selected individuals who are not under the jurisdiction of concerned states. The controversy is more about the way than the act of killing in itself. Drones are often considered by the public and in the medias as a coward weapon[44]. Some NGO advance the fact that targeted killings are against domestic law of the concerned countries and this fact does not allow to legally prosecute the targeted individual. The shadow surrounding drone strikes does not help to be clear, and again, the distinction between combatant and civilians is blurred. In a society where the loss of soldiers' lives is unacceptable, some may argue that drone strikes are a way to lower the risks., sSome people think the drone strikes are not the noble way to fight and "*who kills should be ready to die*"[45]. This seems inconsistent with the aversion of the public opinion about their soldiers' death. Furthermore, does the B-2 pilot dropping bombs from thirty thousand feet high really is more in danger than the drone pilot operating from Nevada? For example, during NATO bombings, there were no losses above Serbia. During every war the

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[43] J. FERNANDEZ, *Relations Internationales*, *op. cit.* n°7, p. 575.
[44] J.-B. JEANGENE VILMER, "Introduction : robotisation et transformations de la guerre", *op. cit.* n°11, p. 82.
[45] *Ibid.*

purpose was to increase the distance between the soldier and the battlefield[46]. Besides this romantic view of warfare, we can look for more pragmatic answers about the politics behind drone strikes.

The strategic consequences of this practice do not receive any definitive answer. The access to information is one of the main reasons, butthe causality can be uncertain. Moreover, many data such as strategic environment, national interests, political context, would be necessary to analyse strategic consequences in parallel with drone strikes. The strategic finality is uncertain, is it to annihilate terrorist groups, to dissuade their expansion and recruitment or to prevent attacks on its soil? Anyway, targeted killings cannot be an overall strategy against non-state actors and irregular combatants. It can only be a tactical way that should be combined with other ways depending on the context and on a strict framework.

Targeted killings are only a small part of drones' functions and we should remind that in modern war, information and data are some of the main assets an army needs, and drones are essential to collect it. Technological developments have led to new ways to wage war, drones and robots being some of the modern tools. These evolutions raise together new legal and humanitarian challenges.

2. The rise of autonomous weapons

The automation of weapons is happening and according to Martin Van Creveld, we would be in the "*fourth generation war*"[47]. To many

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[46] *Ibid.*

military experts, lethal autonomous weapon systems or "killer robots" are the most feared application of A.I. in military technology[48]. The difference between a simple drone and an autonomous drone would be that for the latter, "*the software running the drone will decide who lives and who dies*"[49]. A completely autonomous weapon has not reached the battlefield yet, but the technology is developing fast and is a major issue for the UN or NGOs.

2.1. "Killer robots": an already efficient technology?

"*Years of war has brought something we didn't prepare for, drones combined with A.I., making them 'killer robots'*"[50]*.* Although not fully autonomous, weapons can be able to fulfil their mission without being guided all the way through.

Jean-Baptiste Jeangène Vilmer offers a classification depending on the level of autonomy or in other words, the place of the human in the loop[51]. First,we have semi-autonomous weapons (human-*in*-the-loop) with human intervention to open fire for an offensive or defensive use. Second, there are supervised autonomous weapons (human-*on*-the-loop) which can select and process the target by itself under human supervision, are able to use defensive lethal force or aimed at materials and not directly at human beings. Third,

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[47] M. VAN CREVELD, *The transformation of war*, Free Press, 1991, 254 p.

[48] J. WARE, "Terrorist groups, artificial intelligence, and killer drones", War on the rocks, online, Sept. 24, 2019.

[49] *Ibid.*

[50] M. HORTON, "Inside the chilling world of artificially intelligent drones", online, The American Conservative, Feb. 12, 2018.

[51] J.-B. JEANGENE VILMER, "Terminator ethics : faut-il interdire les "robots tueurs" ?", IFRI, *Politique étrangère*, vol. hiver, no. 4, 2014, p. 154.

autonomous weapons (human-*out*-of-the-loop) are able to select and process target without human supervision, but only a non-lethal use of force aimed at materials is acceptable. Obviously, these categories are artificial, and a weapon could be at any level between these three or could be multimodal. The third category (autonomous weapon without human supervision) raises questions about the potential use of lethal force by these weapons.

HRW define a lethal autonomous weapon as a weapon system that, once activated, allows to select and process targets without the supervision of a human operator[52]. "*Once activated*" means that the weapon is never fully autonomous, it could be if it was built and programmed by another machine and so on, but it seems like science fiction. It does not prevent some arms companies to label their weapons as autonomous. Some experts give a more precise definition of lethal autonomous weapon system, but a restrictive definition could allow to exclude weapons with low-level of autonomy and therefore, to exclude it from regulation.

We have recent examples of so-called autonomous weapons, like the Samsung SGR-A1 A.I. controlled machine gun, used by South-Korea in its surveillance of the demilitarized zone between the two Koreas. On another scale, Russian Minister of Defense has presented a "*robotic mobile complex*"[53] guarding ballistic missiles facilities and able to target and fire without human intervention or supervision. More than killer robots with guns, it is a combination of A.I. and nuclear weapons that raises many questions. The US and the UK have an official doctrine about lethal autonomous weapons, and they don't

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[52] HRW, *Losing humanity : The case against Killer robots*, 2012, p. 2.
[53] J.-B. JEANGENE VILMER, "Terminator ethics : faut-il interdire les "robots tueurs" ?", IFRI, *Politique étrangère*, vol. hiver, no. 4, 2014, p. 155.

wish to see this kind of weapons on the battlefield because they are in favour of a human control.

Since 2018, the EU allows companies to apply for European funding to develop autonomous weapons. The EU member states, or at least some of them, want to build a European strategic autonomy while increasing competitiveness of its defence industry and seek more integration in security and defence cooperation.

Autonomous weapons could present benefits with, for example, lesser staff costs for a military operation, they could allow a quicker time in decision making and to be less dependent on live communications. Combatant's security could be increased, and supporters of autonomous weapons argue that IHL would be better respected.

Fully autonomous weapons are not in anyone's interest and scare the public opinion as well as military who are opposed. If many countries plead before UN the need to always have a "*man-in-the-loop*", how to define the human control? NGOs also militate for a "*meaningful human control*" over what they call "*killer robots*" but in this area, there's always ambiguous definitions. Are supervision and programming different levels of control? In this approach, we could first try to define how would a lethal autonomous weapon meet IHL standards.

2.2. Lethal autonomous weapon systems and the moral debate

Different conceptions clash over the prohibition of "*killer robots*". Some are in favour of a preventive prohibition, like the "*Campaign to stop killer robots*"[54] launched in 2013, while others think IHL becomes irrelevant when the situation involves terrorism[55]. Theoretically, the question resembles the one about conventional weapons, which is to know whether a weapon can be authorized or forbidden. A median approach would be to strictly regulate rather than ban autonomous weapons.

In order to assess "*killer robots*" legitimacy, we have to be forward looking because such weapons do not exist yet. Moreover, a distinction has to be made between autonomous weapon and automated weapon. The autonomous one should have freedom of behaviour and make its own decisions in an unpredictable environment[56]. The analysis is complexified because these two categories are not mutually exclusive and there are levels of automation or autonomy, there is also the possibility of hybrid systems.

The debate is about morality and NGOs as well as the UN Special Rapporteur have a deontologist approach in which lethal autonomous weapons are inherently immoral and inhuman, referring to the Martens clause[57]. These weapons are presumed to be dehumanized, which raise the question of the compatibility with the

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[54] Campaign to stop killer robots, [https://www.stopkillerrobots.org/].

[55] J. FERNANDEZ, *Relations Internationales*, *op. cit.* n°7, p. 584.

[56] J.-B. JEANGENE VILMER, "Terminator ethics : faut-il interdire les "robots tueurs" ?", IFRI, *Politique étrangère*, vol. hiver, no. 4, 2014, p. 157.

[57] R. SPARROW, "Ethics as a source of law: The Martens clause and autonomous weapons", Nov. 14, 2017, [https://blogs.icrc.org/law-and-policy/2017/11/14/ethics-source-law-martens-clause-autonomous-weapons/].

international humanitarian principles. Another argument is the identification of the responsible person. We would have to choose between the responsibility of the state or of the individual. If we consider the responsibility of the individual, we would have to find who is responsible in the chain of command, provided that the superior responsibility apply.

If the target is legitimate and legal, is the question of the mean relevant? For example, would have been the bombings of Nagasaki and Hiroshima more human if the bomber planes had been piloted by human beings[58] ?

2.3. Lethal autonomous weapon systems and international humanitarian law

According to the ICRC, the development and the use of autonomous weapon systems in armed conflicts must abide by IHL. According to UN experts, this is a prerequisite to the use of this category of weapon, but it can only be prospective, as a prior verification of compliance to IHL. The ICRC is involved in this procedure and propose guides about how to apply laws of war. For example, the ICRC published a guide about the Article 36 of Additional Protocol I to Geneva Convention[59].

Geneva Conventions and its additional protocols forbid the use of weapons that are "*of a nature to strike military objectives and civilians*

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[58] J.-B. JEANGENE VILMER, "Terminator ethics : faut-il interdire les "robots tueurs" ?", IFRI, *Politique étrangère,* vol. hiver, no. 4, 2014, p. 157.
[59] ICRC, *A Guide to the Legal Review of New Weapons, Means and Methods of Warfare. Measures to Implement Article 36 of Additional Protocol I of 1977*, January 2006.

or civilian objects without distinction"[60]. Weapons causing unnecessary suffering are also forbidden. For autonomous weapons to respect IHL, designers must be able to program laws into algorithms. In modern conflicts, the distinction between civilians and combatants is less and less easy to determinate. Civilians may participate in conflicts or combatants may be out of combat and there is no consensus on the question.

A human interpretation of situation is still superior to the interpretation of a machine, even if it is the most advanced A.I.,. The principle of proportionality is another human asset and it also depends on the context. Some situations need to be analysed in the light of strategic or political scope, the capacity that a robot does not have.. The respect of IHL need a form of deliberative reasoning and humans are still largely superior to machines and therefore complete autonomy is not desirable[61]. Nevertheless, humans constantly violate IHL, but do we have to demand machines to be infallible or just less fallible than humans? To Jean-Baptiste Jeangène Vilmer, if an autonomous weapon is able to better respect IHL in similar circumstances, it would be immoral not to use it, in order to minimize unnecessary risks for combatants[62].

The question is still to know whether or not IHL respect is inherently human. Autonomous weapons aren't subject to emotions that can cause crimes like those that can prevent it[63]. They don't feel stress nor hate, and they don't seek revenge, these are arguments in favour of autonomous weapons that could theoretically better respect IHL

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[60] Additional Protocol I, Article 51(4) to Geneva Conventions, 1977.
[61] J.-B. JEANGENE VILMER, "Terminator ethics : faut-il interdire les "robots tueurs" ?", IFRI, *Politique étrangère,* vol. hiver, no. 4, 2014, p. 161.
[62] *Ibid.* p. 162.
[63] *Ibid.* p. 163.

than human combatants. It could also be used to monitor humans in their practices with respect to IHL.

The limit is that these autonomous weapons could be used with bad intentions by the decision makers. This is why NGO want preventive prohibition for weapons operating without a meaningful human control. The ICRC asks states to set strict limits and argues that only humans can make the best decision in a specific context and comply to the principles of distinction, proportionality and precaution in combat. A machine will never be able to embody human conscience or ethical values.

2.4. What use for autonomous weapons?

This is currently impossible to decide but it does not seem to have enough elements in favour of an *a priori* prohibition. A regulation with an international convention will have a limited effect because of the voluntarist policy of many states which will not accept to sign it, and it will not be opposable to non-state actors. Also, dual technologies will be excluded of military regulation, and that will not solve the problem.

Law must regulate autonomous weapons and if it cannot respect IHL, it has no interests for military either. Some limitations could minimize risks of IHL violations. IHL distinguishes military objectives by nature and by their "*location, purpose or use*"[64].

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[64] Additional Protocol I, Article 52(2) to Geneva Conventions, 1977.

Firstly, to avoid too complex reasoning, we could limit the use of autonomous weapons to military objectives by nature. However, a military objective can cease being one: the identification of the target depends on the context. Therefore, autonomous weapons should be deployed only in a certain environment. For example, in urban areas, risks of collateral damages are higher than in some environments with a low presence of civilians. Moreover, in counterinsurgency warfare, a deviant use of technology and civilian deaths are opposed to the "*win hearts and minds*" strategy. A too unpredictable weapon will not be used on the battlefield.

Secondly, military objectives could be prioritized by their strategic or tactic importance. IHL requires an objective to offer "*a definite military advantage*",[65] but this notion is the subject of different interpretations, which is larger for the U.S. than for the ICRC[66]. We could decide to use autonomous weapons only when the military objective allows a certain and precise advantage. Autonomous weapons could be programmed to apply benefit of the doubt and ask for a human confirmation in a doubtful situation or a veto power providing the possibility to deactivate the weapon. For example, the *LowCost Autonomous Attack System* de Lockheed-Martin is a weapon system able to process targets with a pre-programmed priority order. The underlying objective is to increase predictability of such weapons. It may seem paradoxical since these weapons are innovative and could have unmanageable effects, and we need to know what the effects will be to deploy a new weapon. Therefore, the autonomy of a weapon can't be a complete autonomy.

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[65] *Ibid.*
[66] J.-B. JEANGENE VILMER, "Terminator ethics : faut-il interdire les "robots tueurs" ?", IFRI, *Politique étrangère*, vol. hiver, no. 4, 2014, p. 166.

In 1899, Jan Bloch, a polish banker converted into a war specialist, predicted the impact of modern technology on warfare and "*the emergence of technologies so disruptive that they overtake existing military concepts and capabilities and necessitate a rethinking of how, with what and by whom war is waged*"[67].

3. A new balance of power through technology

Some people talk about "*new wars*" where the difference between combatant and civilians is blurred. The war is moving away from the classic battlefield, and drones and robots become weapons of choice. We can ask ourselves if the changing nature of war causes the spread of technology and how these evolutions affect Clausewitz principles of war[68].

3.1. Small states and non-state actors use of military technology

Non-state actors and small states benefit from globalization in terms of technology, information, communication and economically, with the intention to counter the U.S. or occidental hegemony[69]. Some of these non-state actors use technology or want to use it to perpetrate mass violence in a "*hyperterrorism*", which isopposed to a

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[67] C. BROSE, « The new revolution in military affairs: war's sci-fi future », Foreign Affairs, online, May/June 2019.

[68] B. BADIE, D. VIDAL (dir.), *Nouvelles guerres. Comprendre les conflits du XXIe siècle*, *op. cit.* n°10, p. 23.

[69] J. FERNANDEZ, *Relations Internationales*, *op. cit.* n°7, p. 566.

"*hyperpower*" of the U.S.. This trend is going towards an acceleration of the multilateralism crisis and a recurrence of security issues[70].

We observe a commoditization of warfare and the blurring of the lines between civil and military fields. The privatization of dual or military technology and the involvement of private actors in warfare are factors of the spreading of technology to small states and non-state actors. We will focus on two examples of the use of technology: the first one is about a "small" state in the matter of civil superpower, which is Turkey and a non-state actor, ISIL.

Turkey first depended on foreign military technology, as the majority of small or medium powers and was buying drones to U.S. or Israel but it created too many restrictions and conducted to a lack of strategic autonomy. Turkey launched itself in an arms race to stop relying on its NATO allies or Israel. Turkey is now a strong regional actor in terms of armament and build its own armed drones, "*allowing Turkish supremacy in its operations against terrorism*"[71]. Turkey is "*the only country to regularly use them* [drones] *on its own soil, against its own citizens*"[72]. In Turkish south-east, where lives a Kurdish population, approximatively four hundred people have been killed by drone strikes since 2016. The Turkish nationalist infatuation allowed the government a broad mandate in its fight against terrorist groups. Currently, Turkey also exports drones to its allies[73]. In Libya, the GNA uses Turkish Bayraktar drones called a "*drone war*" in Libyan sky[74], despite the embargo on weapons imposed by the UN

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[70] *Ibid.* p. 570.
[71] U. FAROOQ, "The second drone age. How Turkey defied the U.S. and became a killer drone power", The Intercept, online, May 14, 2019.
[72] *Ibid.*
[73] O. IMHOF, "Increasing foreign role risks spiraling Libya conflict out of control", Airwars.org, online, Sept. 25, 2019.
[74] Courrier International, "Dans le ciel libyen, bataille entre drones turcs et émiratis", online, Sept. 29, 2019.

since 2011. The war in Libya is one of the first drone versus drone combat. The use of such technology allows airpower at a low cost, while many airplanes are grounded due to the need of maintenance. Drones are a key asset to weaken enemy forces and supply chains. Turkey now rivals the U.S. and the U.K. in the use of lethal force with drones. They appropriated this technology and no restrictions were able to restrain the spreading of armed drones. China also takes part in the Libyan conflict by furnishing UAE, supporter of Marechal Haftar. Chinese Wing Loong drones are more advanced than Turkish drones.

The second example is the terrorist group ISIL, which carried the first successful drone attack in combat in 2016[75] and are using more and more advanced technology. This trend is followed by an increasing number of non-state actors. They even formed the so-called "*Unmanned Aircraft of the Mujahedeen*" to develop drones, this is a step forward the long-term weaponization of drone technology[76]. There's an increasing use of 21st century technology among terrorist groups, like drones or even elementary A.I. Non-state actors have the possibility to weaponize A.I. and it could lead to "*automate killing on a massive scale*". Some terrorist groups could progressively develop autonomous lethal weapons. Nevertheless, the ISIL was not the first terrorist group to use drones. Another example is a Syrian rebel group that has deployed a swarm of thirteen homemade drones carrying submunitions to attack Russian bases at Khmeinin and Tartus[77] or Iran proxy militia that attacked Saudi Aramco facilities in

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[75] J. WARE, "Terrorist groups, artificial intelligence, and killer drones", War on the rocks, online, Sept. 24, 2019.
[76] *Ibid.*
[77] *Ibid.*

September 2019[78]. High value components are integrated into locally assembled weapons, or to commercial drones that can be easily purchased. FBI director Christopher Wray told the Senate that the beginning of the use of drones by terrorist groups was an imminent threat, as did U.S. Homeland Security.

Terrorist groups now have the intent to develop and use technology because of the spreading of technology. Some items are easily purchased in trade and some items could become arms by destination. An increasing technical complexity and skilled operators are now able to use adequate materials[79]. This could allow rapid, coordinated and complex attacks, for example with the help of swarms of autonomous weapons. Terrorist groups are interested in A.I. and autonomous weapons for three main reasons, this is a cost-effective strategy, there's less traceability and they could reach more effectiveness in their actions[80]. As long as more and more actors will be capable to use advanced weapons, there will be more attacks and more potentially reachable targets. A.I. weaponry is "*relatively cheap to develop and easy to procure compared to weapons of mass destructions*"[81].

If the U.S. were pioneer in using drones in combat, other countries have learned from them. Other countries will follow Turkey's path. Regarding the increasing complexity of war and "*how deadly and*

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[78] L. BARRINGTON, A. YAAKOUBI, "Yemen Houthi drones, missiles defy years of Saudi air strikes", Reuters, Sept. 17, 2019.

[79] L. LAGNEAU, "L'armée russe dit avoir abattu près de 60 drones en Syrie depuis le début de cette année", Opex360.com, online, Sept. 29, 2019.

[80] J. WARE, "Terrorist groups, artificial intelligence, and killer drones", War on the rocks, online, Sept. 24, 2019.

[81] D. EGEL, E. ROBINSON, Lt. Gen. (Ret.) C. T. CLEVELAND, C. (CJ) OATES, "AI and irregular warfare: an evolution, not a revolution", War on the rocks, online, Oct. 31, 2019.

effective remote-control warfare by non-state actors has become"[82], global policy makers should take this threat seriously.

3.2. The adaptation of major powers to "new wars"

Despite having its own capabilities, one of the main issue for the major powers would be to regulate new weapon technologies and to adapt their own capacities to the evolution of warfare. While the use of advanced technology in asymmetric wars and by non-state actors thrives, the western states may have lacked imagination and they started to think that they would never be rivalled in warfare.

After 9/11, unmanned capacities became critical in the global fight on terrorism, but this strategy was designed to take place in a permissive environment[83]. In modern conflicts, states are most likely to have advanced capabilities but there is an increasing number of non-state actors having access to these same technologies. Major powers are now most likely to be attacked from afar by non-state actors, which will focus on the weaknesses of western states like their legal framework restricting the use of force or the public opinion[84]. Non-state actors will surely prefer asymmetric or irregular warfare against the more powerful states. Environment where combats take place is more and more criticized and requires a comprehensive adaptation of means, on a strategic and tactic level. It will demand to optimize the anti-A.I. and anti-drone technology, to make *in situ* equipment less vulnerable and to improve C4

[82] J. ROGERS, "Remote warfare increasingly strategy of choice for nonstate actors", *UK Defence Journal* (UKDJ), online, May 13, 2019.

[83] Joint Air Power Competence Centre, "*Remotely piloted aircraft systems in contested environments*", online, consulted Oct. 31, 2019.

[84] J. HILLESHEIM, "How the Media Shapes Public Opinion of War", Rewire, online, Aug. 4, 2017.

("*Command, Control, Communications and Computers*"[85]) and more automation in the strict conditions we discussed above.

States' military ask themselves how robots, (A.I. enabled weapons) will change warfare and what kind of war will be waged in the next decades. The terms of irregular wars, asymmetric conflict, non-state actors or proxies are becoming commonplace where we talk about the evolution of warfare. Irregular wars are nothing new and less powerful actors have always tried to avoid more uncertain and costly open conflicts. A.I. could make a difference. Indeed, besides the lethal use of drones or robots, the key element in modern warfare is a control of information. The speed of communications could be crucial in keeping the advantage and to use adequate means on the battlefield.

Some detractors argue that A.I. will not be a revolution. According to the doctrine, «humans*, and not hardware, have historically proven decisive*"[86]. Irregular wars are also about understanding the context, actors and social environment. As in Afghanistan, the U.S., despite all the "*hearts and minds*" strategy, were never able to effectively understand and to undermine the support to the Taliban regime.

Nevertheless, A.I. could provide a better analysis of context and improve all the ISR (Intelligence, Surveillance, Reconnaissance) dimension of warfare. A faster analysis would allow a quicker response. But would it be truly effective? Anyway, A.I. will increase efficiency in data collection and in its processing, but it's currently difficult to measure how human analyst will still be needed to make decisions. The progress made with A.I. in warfare is still slight but it

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[85] Joint Air Power Competence Centre, "*Remotely piloted aircraft systems in contested environments*", *op. cit.* n°83.
[86] D. EGEL, E. ROBINSON, Lt. Gen. (Ret.) C. T. CLEVELAND, C. (CJ) OATES, "AI and irregular warfare: an evolution, not a revolution", War on the rocks, online, Oct. 31, 2019.

has to be seen as a long-term integration to become a real game changer.

Using more advanced technology will create new flaws and vulnerability, in a world where wars can be fought in cyberspace or in a "*sensor-rich physical domains*", A.I. systems will be targeted by sabotage, deception. It will be more difficult to operate in the shadow. Even the most advanced technology is very likely to be detected by states or private groups. Progress has to be made in A.I. enabled weapons as well as in counter-A.I. technology[87].

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[87] D. EGEL, E. ROBINSON, Lt. Gen. (Ret.) C. T. CLEVELAND, C. (CJ) OATES, "AI and irregular warfare: an evolution, not a revolution", War on the rocks, online, Oct. 31, 2019.

Conclusion

Studying robots and drones in warfare was an opportunity to discuss a broader field, to talk about how technology has always been a part of warfare and how it evolves with it. The study was also about the challenges of technology either for states or non-states actors. The question is not to decide in favour of whether it is a revolution of warfare or just an evolution, but to analyse the transformation and the spreading of advanced technology. Western military powers lacked imagination in their analysis of the spreading of technology. This fact could backfire towards them. Major actors like China, Russia seized the stakes and launched a new arms race with technology. While the U.S. are busy in Middle East, China and Russia are developing A2/AD (*Anti Access/Aerial* Denial) capabilities, aiming at surpassing them in every domain. China also works to become world leader in A.I. and advanced technologies, taking advantage of the Chinese military-civilian fusion. The U.S. are a little bit behind, pouring money into newer versions of old military platforms, while praying "*for technological miracles to come*"[88]. A 2017 RAND report analysed that: "*U.S. forces could, under plausible assumptions, lose the next war they are called upon to fight*"[89]. More than a revolution in technology, a revolution in thinking is expected. The U.S. should not use new technologies to keep the same strategies[90]. Regarding the erosion of conventional deterrence, Beijing or Moscow could become bolder if they think they could have the advantage against the U.S., by taking greater risks and by undermining American commitment to its

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[88] C. BROSE, "The new revolution in military affairs : war's sci-fi future", Foreign Affairs, online, May/June 2019.
[89] D. OCHMANEK, "Restoring the Power Projection Capabilities of the U.S. Armed Forces", Testimony presented before the Committee on Armed Services, Feb. 16, 2017.
[90] C. BROSE, "The new revolution in military affairs : war's sci-fi future", Foreign Affairs, online, May/June 2019.

allies with hybrid war means. As Sun Tzu once professed, they would try to "*subdue the enemy without fighting*"[91].

We also observe an increasing importance of connectivity between systems and it is not only about the force of a weapon. The communication is a key since autonomous systems have understood the information they collect and communicate, without relying on a command hub. Military networks should be resilient and reconfigurable according to the context. The paradigm "*command and control*" seems to be reversed, going from a large crew to operate a drone to an operator being able to control a swarm of autonomous systems. New levels of quantity and quantity of military systems will have significant effects. Intelligence systems will radically reduce the time between the identification of a target and the potential attack.

The future army may use large swarms of "*intelligent machine that distribute sensing, movement, shooting and communications*"[92]. The multiplication of networks will multiply the number of targets, making it more difficult for the enemy to cause serious damages, while multiplying the threat against it. Unmanned and autonomous weapon systems are easy to replace and are expendables. The information would benefit from a better analysis and human operators could focus more on political or moral questions. There's also a need for more resilience and adaptation of capabilities, in order to gain domination in every aspect and restoring deterrence effect.

In terms of conflicts, we are witnessing an erosion of sovereignty, while armed interventions can take place abroad, sometimes without

[91] Sun Tzu, *The Art of War*.
[92] C. BROSE, "The new revolution in military affairs : war's sci-fi future", Foreign Affairs, online, May/June 2019.

the consent of the concerned states. Since the end of Cold War, interventionist states increasingly justify themselves by self-defence (even in a preventive way), or humanitarian reasons[93]. The relationship with time is also evolving into a warfare society where combats are waging 24/24.

The greater distance between combatants and the battlefield goes with the decreasing of the frontier between war and peace. A state does not declare war anymore, states of violence are less defined[94]. Conflicts are also less of interstate nature and there are more conflicts linked to the deconstruction of a state due to internal, economic, social factors[95]. Violence is becoming more privatised, but can we really talk about "*new wars*" since irregular and asymmetric wars have always existed? The very term of "*war*" is challenged, we often hear about conflicts or violence. Their grounds may be different, more global, permanent, and non-state related. With the advent of drones and autonomous weapons, we are witnessing a global and remote manhunt[96] resembling to law enforcement, which is permanent while war is a temporal event. We must remind that technology, either robots or drones, are just links in the chain of war, they're part of a wider system from the policy makers to the boots on the ground. We will certainly soon assist to a period of technologic transition where the U.S. could encounter more political blockings than Russia or China, that do not deal the same way with ethics. The

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[93] J.-B. JEANGENE VILMER, "Introduction: robotisation et transformations de la guerre", *op. cit.* n°11, p. 86.
[94] *Ibid.*, p. 87.
[95] D.VIDAL, "Aux quatre coins du monde. Panorama des conflits contemporains", *Nouvelles guerre. Comprendre les conflits du XXIe siècle*, B. BADIE, D. VIDAL (dir.), La Découverte, Poche / Essais, 2016, p. 29.
[96] L. GAYER, "Ni guerre ni paix: guerres sans fin(s) ou désordres ordonnés ?", *Nouvelles guerre. Comprendre les conflits du XXIe siècle*, B. BADIE, D. VIDAL (dir.), La Découverte, Poche / Essais, 2016, p. 69.

assumption that "*the purpose of preparing for war will remain to never have to fight one*" stays true.

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