



Artificial or robotic intelligence on the battlefield

Reflection circle G2S - n°23

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Published on 16/04/2019

Sciences & technologies

Today, drones and Artificial Intelligence are making their mark in war and security. These fields, like all other human activities, are no longer immune to robotisation which, for armies, certainly saves soldiers' lives by avoiding direct confrontation but also makes them more effective, especially when the number of troops deployed is strictly limited.

It is true that the ambition to impose force while minimising the risks, or even staying out of reach of the intended adversary, is not a new objective. Throughout the centuries, innovations in armaments have sought this advantage. Today, however, it also means a growing trend towards the delegation of action to algorithms which, on balance, appear to be the mercenaries of the future.

In France, ethical considerations and sometimes other interests have long hindered this development:

- The French Air Force has not...The Air Force did not immediately turn to drones, preferring fighter planes;
- The French Navy has invested in dangerous but defensive missions such as mine warfare;
- The Army, faced with the fog of war or peacekeeping, has made contact and behavior sacred;
- The Army, finally, has erected regulations...Finally, the joint forces have established strict rules of engagement to keep people, from politicians to soldiers, at the heart of the action.

Today, moral reserves are fading away, armed drones are part of the panoply and

automatisms are increasingly integrated into decision support. It is clear that the near future, that is to say the future that the younger generations will experience, is gradually giving concrete form to what science fiction books still had to say yesterday: War and security are becoming the business of men with increased capabilities, humanoids, artificial intelligence massively implemented in sensors, command centers and weapons of all types.

What should we think about this?

It's all been written down. A wealth of recent detailed studies analyses this trend, often to justify it, more rarely to challenge it. In short, for Western democracies, there seems to be no technical or legal obstacle to its rapid development.

This seems all the more legitimate since potential opponents, whether State or of any other nature, can also have access to these modes of action. Indeed, UAVs, computers and access to information are now at the heart of everyday life. Everything is on the shelf at low cost, and diverting their use for non-pacific purposes is within everyone's reach.

Imagining a return to the past would therefore be an illusion. Similarly, to think that this evolution could be controlled would be a laudable and necessary effort, but of limited scope. To be convinced of this, one only has to look at the modest power of international or regional security organizations, such as the relative effectiveness of arms regulations and non-proliferation treaties. Moreover, when international justice is seized, it is best expressed a posteriori.

The use of force will always remain the expression of wills which, for the most part, will be reasoned but, unfortunately, for some, more arbitrary. The latter are already in a position to have greater means of action in view of the vulnerabilities of our societies. In this respect, the craziest, the most extremist, but also the weakest, the oppressed will be able to express themselves tomorrow without warning or moderation. Contained in the second half of the twentieth century, violence could well be a primary dimension of the decades to come.

Tomorrow, ethics will be beaten to a pulp!

This judgment may seem excessive, yet when extremists, dictatorships and certain regimes break free or take liberties with human rights, how can a common ethical reference be defined and applied?

Today, all countries are equipping themselves with air, land and naval drones, armed or not. In fact, the robotisation of armed forces is not governed by prohibition or limitation treaties like those on non-conventional armaments. Similarly, it is difficult to envisage export restrictions or embargoes when these technologies, as we have already noted, are becoming increasingly commonplace and accessible to all.

It will therefore be necessary to be content with laying down rules of engagement legitimizing the use of these means, even if, here again, enacting appropriate and universally accepted rules may seem utopian. It is likely that the law of the strongest will be imposed with, as a corollary, the condemnation of the defeated! Nevertheless, let us remain right: if our democracies want to be able to act in coalition, they will have to implement ethical reflection in delegations, automatisms, controls, robots, weapons and machines. The challenge is there!

But the problem posed by artificial intelligence and robotization will be above all that of their use by extremists of all kinds. These will focus on more rustic actions favouring surprise, often of a terrorist nature in order to strike a chord, which will be carried out in cross-border, regional or even international areas that are difficult to control. Faced with these clandestine organisations, hopes of negotiation are illusory and, as a result, the use of force will be necessary in the long term, beyond the framework of self-defence and the traditional rules of engagement.

What guidelines are needed for the armed forces?

In the face of increasingly unusual threats, violence and destabilisation, it is now necessary to think and conduct war or war and security operations differently. This does not mean that the famous principles (freedom of action, concentration of efforts, economy of means, lightning...) are obsolete, quite the contrary, but the operational art and tactics must deeply evolve and integrate the contribution of robotics and artificial intelligence. It would be quite pretentious to pretend here to exegesis the expected mutations, to identify some strong ideas carrying efforts seems more reasonable.

Paradoxically, the first one consists in accelerating the movement of digitization and robotization of forces. Indeed, in a context of human resources that are always scarce, only these capabilities will make it possible to maintain the necessary freedom of action and reaction; let us consider for ourselves how to make this possible. Let us consider, in order to be convinced, that it would be quite illusory to imagine, without them, the control of the Sahel-Saharan strip with less than 5 000 support men, including a handful of helicopters and planes. Let us also note that the synergy between intelligence, surveillance, analysis, decision-making and action capabilities, which are highly robotic and automated, reverses the conventional balance of power and considerably strengthens force protection. Of course, this robotisation of the battle space cannot be total. Who would accept that war and external interventions should be totally dehumanised? But this reflection is not new, it was already new for other armaments when Agent Orange and napalm, for example, were poured on Vietnam. We must therefore find the best balance in the use of drones, whether it is a question of coercing, stabilising, controlling or dissuading, so that the perceptions of the parties involved and of the population are ultimately conducive to a possible peace.

The second is imperative, since it is a question of maintaining permanent control of these capabilities in all circumstances. Indeed, it is not conceivable to totally delegate the action to networked artificial intelligences, even if they are today capable of imposing themselves on a chessboard to the greatest masters. And, in this context, if the past years have seen political and strategic control often take precedence over that exercised at the level of forces, it is now more a question of giving priority to the commands deployed in theatres and as close to the action as possible, both to take full advantage of the potential of the UAVs deployed and to gain relevance in the proper use of force. Within coalitions where it is difficult for national political and military authorities to decide or react in good time, situational awareness and control of actions in good time are essential. In coalitions where national political and military authorities have difficulty in deciding or reacting in a timely manner, situational awareness and control of real-time actions should further encourage the shortening of decision-making chains and processes by granting more "autonomy" to deployed levels of command. This unequivocal subsidiarity between strategic direction and theatres has a corollary: to have operational and tactical commands that are highly sharpened and prepared for the exercise of these responsibilities. The choice, training, education and education of leaders become real issues.

The third is to impose oneself in space, cyberspace, electromagnetic space, perceptions and morale: These are all indispensable dimensions, when robotisation and artificial intelligence play a significant role, to take the lead from the outset, to establish action, legitimise it and maintain the advantage, but also to guarantee the commitment and protection of forces. Like the prerequisite of having air superiority, which has been established for decades, the mastery of virtual, cognitive and psychological spaces is essential to ensure the success of a mission. This is particularly important in the face of determined and opportunistic adversaries capable of carrying out actions of denial of access or influence at low cost. This therefore implies acting in these spaces from peacetime onwards to be effective when the time comes; mastery of these dimensions cannot be improvised.

What can we conclude from this brief overview?

First of all that we move without hesitation towards scenarios carried yesterday by aliens in *The War of the Worlds* by H. G. WELLS or *Star Wars* by George LUCAS but also in a more human way by the albums of *Blake and Mortimer* by Edgar P. JACOBS.

Robotisation and artificial intelligence are imposing themselves on us. We would like it to be in a reasoned, reasonable way, but we must also imagine the worst, because these technologies, more and more trivialized, can be used or diverted easily and cheaply.

In this context, thinking ethically will come up against the reality of employers. For thugs, mafias, extremists and even unscrupulous regimes, using these capabilities, even in a rustic way, will be a way of surprising, disorganising, imposing, terrorising...

There is no doubt that they will therefore not be bothered by prejudices or rules, including on a daily basis. They can indeed start by disrupting the automatisms that govern the vital functions of democracies such as energy, transport, security, banking, information...

For Defence and armies, robotisation and artificial intelligence cannot be confined to strategic capabilities but now intervene in the direct environment of the combatant. They are multipliers of power, decision and action at all levels of command and execution.

Democracies must therefore assess and measure their strengths and vulnerabilities against these technologies, their rapid development and their systematic use. So must armies!

It is therefore in this context that we must now define lines of effort at the national level and with our allies in order to assume our rank, that of permanent member of the United Nations Security Council, NATO and the European Defence Union. These efforts are manifold, but we can highlight a few strong ideas.

First of all, we must speed up digitisation, robotisation and the incorporation of artificial intelligence into the equipment of our armed forces in all areas and at all levels. Of course, this implies priorities and rigorous analyses in terms of equipment, balance, vulnerabilities, sustainability, etc. It is not a question of "just doing it". It is not a question of aligning drones and humanoids, but of increasing the effectiveness of armies so that they can respond, alone and in coalition, to the defence and security missions of tomorrow.

Then, it is necessary to strictly maintain control of the use of force in all circumstances,

whatever the power and the level of reactivity of the automated systems used in the decision-making processes, drones and robots. This will no doubt lead to a new distribution of responsibilities and tasks between the levels of management and command of operations and, moreover, must be studied with our allies.

Finally, greater use of robotics and artificial intelligence implies access to and defence of indispensable but vulnerable resources: space, cyberspace, electromagnetic space but also more virtual fields of information and perception. It is therefore a matter, from peacetime onwards, of ensuring the availability and control of these resources, otherwise we will be building a defence on sand.

Nevertheless, these efforts made, ethics, because it defines the moral foundations of the use of force and promotes just decisions and responses in action, will remain a fundamental reference point for democracies. When decision-makers, armies and peoples rub shoulders with their enemies through screens and can strike without a blow through machines, the excesses are potentially strong. In the face of determined extremism or authoritarianism, only pragmatic moral rules shared at all levels will avoid sinking into the contagious arbitrariness of hatred as well as into the comfortable automatism of military algorithms.

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Release date 20/03/2019

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