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WEAPONS, WAR AND ETHICS

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It is conventional to begin a discussion of the morality of war by asserting that, if one is not in the tiny minority of pacifists, then issues of killing and defense are simply ones of implementation and degree rather than principle. But this simplification is hard to make stick since humans seem very selective about their attitudes to different methods of killing. In his seminal *On Killing*, Grossman showed that many are pacifists with a knife at two feet from an enemy, but willing military killers with a sniper rifle at two miles. And distance is not the only feature that affects attitudes: efficiency and quantity have been much cited in the past. The medieval church at one-point outlawed crossbows as "abhorrent to Christians", and Bishop Bell in WWII publicly proclaimed his opposition to the mass bombing of German civilians as being indefensible in its quantity of suffering. And the revulsion against atomic weapons of mass destruction was and is widespread.

Modern technology has changed the terms of this discussion in at least two ways: with the development of fully autonomous weapons and cyberattacks. The arguments for the deployment of autonomous weapons such as drones, boats, vehicles and automated soldiers are, first and foremost, the saving of lives on one's own side, but also the avoidance, with proper targeting, of collateral deaths and injuries on the other side. There is also the overcoming of the increasing unwillingness of our own (western) citizenry to kill in combat, discussed at length by Grossman.

The second technological development, Cyberattacks, involve the demolition of the enemy's social infrastructure: hospitals, sewerage, power, communications, transport etc. This assumes them them to have at least an electronic control system capable of demolition by remote means like explosions that create radiation blasts. Another form of cyberattack is software sabotage through worms, viruses and what are called massive "denials of service" that put websites and what they control out of action by overwhelming them with input. These may cause no direct deaths but may lead to substantial loss of life from the failure of these social infrastructure systems.

Summary: Types of cyber-attack:

- Public utilities, sewerage, hospitals, electric grid, broadcasts: radio/tv/public WIFI, power stations, dams, phone communications.
- Intelligent target seeking devices: e.g. Stuxnet that sought Iranian centrifuges.
- Overwhelming target companies via the internet—denials of service.

Sharkey against Autonomous Weapons

Noel Sharkey has argued against all that AI has not yet reached a point where such accurate targeting of enemy soldiers and their hardware is possible and that therefore autonomous weapons are far more dangerous that is publicly realized, and that their deployment would result in mass casualties to non-combatants. The problems with this response are that, although the real accuracy of such weapons is hard to ascertain, it is again an argument about implementation not principle, and will fail as such weapons improve their performance. Moreover, human armies already inflict massive collateral damage on civilians and property----witness the 100,000 Iraqis killed in the last "shock and awe" attack on their country----- and there is no reason to believe any automated systems are worse, even at their current levels of performance.

Sharkey's "distinction" issue

One way of clarifying the issue is to ask whether one believes humans or AI-driven entities are better at tasks, e.g. for arithmetic the latter are clear winners and, at the moment, humans remain safely ahead at, say, facial recognition, though we do not know for how long. The issue that concern us here is: Distinguishing combatants and non-combatants in the battlefield.

Sharkey considers humans well ahead here and that this is crucial. But one might say, after Dresden, Hiroshima and 1940s Ukraine, that humans are very bad at this, and human-controlled drone killings in Iraq are little better. By analogy, automated cars and their performance so far give reason to think that there will be far fewer road casualties when drivers are non-human.

Governments and Corporations as actors

The ethical considerations above started from the point of view of the individual, the individual act of killing and the weapons used for that. But one can also consider the interests and points of view of governments and corporations. It is conventionally said that the first duty of a government is the defense of its population, a contested issue in the US back to the refusal of the Pennsylvania assembly, before and after the Revolution, to fund their own defense by the Government of the day. But the attitude of corporations is more complex and brings up the key issue of participation in defense R&D, usually carried out by corporations, as an issue of conscience separate from that of actual fighting. This issue may be largely a cultural one as to how far corporations are responsible to their employees and their views: in English-speaking countries, companies tend to feel responsible only to shareholders and boards. But in Germany, for example, there is a belief that corporations must take the views of their employees into account in their policies and, even in the US, one can see the protests at Google -----over the MAVEN project on face recognition for defense agencies -----as a move towards a more German attitude on the part of those employees.

As to the corporations themselves, one always recalls at this point the final warning by President Eisenhower on leaving office about the role of "military-industrial complex" and the power that big weapons vendors have in modern states to determine policy. It is clear that suppliers of billions of dollars' worth of military equipment will exert all the forms of persuasion they can to protect their weapons market with governments, and to ensure that international war fears remain high. These issues go back at least to Shaw's 1905 play *Major Barbara* where Undershaft, the armaments manufacturer who was a major character, said that he *was* the government of the country! It is hard to imagine that the extraordinary preponderance of US expenditure in the world----with a larger defense budget than the total of the next ten countries in the list by annual spending, and with a joint population ten times that of the US------is not a product of this "vendor effect".

A final consideration which is hard to describe or discuss is that of the personality types of those with influence among the vendors, politicians, bureaucrats, defense experts and technologists. Kubrick's 1964 film *Dr Strangelove* was a fantastical portrayal of a personality committed to technical acts and solutions of vast destructive power regardless of consequence. In WWII, Lindemann, Churchill's scientific advisor, wanted not only the obliteration of all German cities but the castration of all German adult males after the war, advice Churchill wisely resisted.

Such personalities are often associated with science, technology and computing and seem to be a form of male autism, with an utter lack of any human empathy: the Nazi holocaust itself was run by just such people. They work with vast metaphors of threat, with arguments from efficiency and are often very persuasive. Liberal political processes are not well set up to restrain such people when they are close to a center of power in a heavily armed world. It is hard to relate them to either conventional ethics or politics, but they are a very real phenomenon and worthy of serious discussion.

Recent articles have again raised the question of whether nuclear weapons would be safer or not if controlled by AI devices: intelligent machines, rather than humans. There have been recent dismissals of officers from US missile silo teams out in the desert for a range of misbehaviors that make that possibility seem reasonable, even though it is precisely the automated response or "Doomsday Machine" for nuclear war in the Strangelove movie which was so ridiculed when the film was made. Military strategists in the US have admitted at intervals since the Strangelove

move that that automated response system was not so far from the truth, much as Cold War governments denied it at the time. This issue goes back precisely to HAL9000 in Kubrick's *2001* and Sharkey's "distinction" issue as to whether, in the limit, humans or machines are more trustworthy.

This issue is the wider one of *human psychology and stress in military environments*. Beyond missile silo crews, are we sure we have total confidence in the psychological stability of those in atomic submarine crews in year-long missions while submersed? With the HAL9000 computer on Kubrick's spacecraft, it becomes less reliable than the human crew *from the crew's point of view*—but from the overall point of view of the mission HAL9000 might have been right to try to kill them all. The movie feels on the side of the crew trying to stay alive, but one can still ask if that was really the best outcome.

Inevitability of weapon use?
There is an old theatre cliché: if they show you a gun in Act 1of a play, it will be used in Act 3. It is important that this does not transfer itself to weapons, particularly atomic weapons—that they WILL inevitably be used because they are there. The good precedent is poison and nerve gas which, after the experiences of WWI, were essentially never used again by mutual agreement, even under the stresses of WWII.

David and Goliath
An important feature of modern warfare relevant to automation has been the shift of power towards defenders and smaller, less organized, forces. One could illustrate this by the simultaneous and contradictory shift in, say, UK forces, towards reviving large aircraft carriers as well as more special SAS-type forces. The former are Goliath, large, expensive kits (costing several billion each) which remain vulnerable to cheap weapons such as hyper missiles launched from small craft. The latter are mobile, relatively, cheap and often more effective than regular forces. The shift was obvious with guerilla forces and their effectiveness from the Boer War to China's revolution and Vietnam. One of its later main symbols was a shoulder-carried antitank missile like Blowpipe: cheap and effective against very expensive targets. In the 2007 cyberattack by Russian on Estonia, one could say that was Goliath fighting back, since Estonia was in, many ways a more sophisticated cyber-country than Russia and one might have expected the reverse outcome in other circumstances.

A professor of military studies was asked recently after a lecture if he expected to see another major sea battle and after thinking he said the likeliest candidate was China versus Japan. And the outcome? Oh, he said, I think Japan would win in half an hour. We may hope his speculation is never tested but if it were that outcome would be very much a David victory, which is also how Israel would portray all its wars. Atomic weapons remain the ultimate Goliath arsenal but, in the view of many, one increasingly unusable for any realistic conflicts.

The growing engagement of women in the military can be seen in this light, as part of the rise of David: the loss of the features that made soldiers distinctively men---strength, speed and carrying things. Automation also makes these qualities irrelevant while allowing the augmentation of actual soldier bodies, men or women, with exoskeletons or drugs, so that the original physical features of the human, including maleness, become irrelevant. This is true of human-controlled drone and plane pilots and also of the weak body within the exoskeleton on the battlefield. But overall, humans are becoming as irrelevant to the battlefield as they have become on the factory floor and the office.

Summary: the "augmentation" of human soldiers

- As old as taking hashish by the Hasisheen soldiers in the medieval Islamic-European wars
- Extensive use of keep-awake drugs in the Vietnam War
- New training and drugs in response to work like Grossman's on the ineffectiveness of most soldiers and the low western military "kill rates".
- Robotic exoskeletons making soldiers stronger and faster

- New AI battlefield communications that enable separate soldiers to act better as "flocks" controlled by algorithms aware of all their locations and states (see below on the *Dismounted Platoon* research theme).

The current state of deployed and planned Autonomous Weapons.

Vladimir Putin has recently claimed that Russia is about to deploy nuclear weapons in autonomous submarines, and the US has considerable experience with systems like the Patriot missile system, which operates in principle without human control to shoot down incoming flocks of missiles. Such developments were driven both by the speed of reaction needed for such systems, which can exceed what a human is capable of, as well as by a general desire to cut costs. In a recent study in the *Bulletin of Atomic Scientists*, Hoffman and colleagues conclude that such systems have not saved much because they demand such high expertise from the carers for such systems. Their performance has not always been good either, as they note: "The Patriot air defense system is one of the first US weapons to employ "lethal autonomy," which refers to systems that are able to apply lethal force with minimal or no human oversight. During Operation Iraqi Freedom in 2003, Patriot missile systems successfully engaged nine enemy tactical ballistic missiles. But two other engagements resulted in fratricide when the system mistakenly identified friendly aircraft as enemy missiles." "Fratricide" there referred to British Tornados!

The current major US open program seeking research AI for defense is called "Dismounted Platoon" and calls for the development of systems to "take large amounts of information from different sources, including organic platoon Soldier and robotic sensors, and create an organized, meaningful picture that will enable platoon leaders and soldiers to observe, orient, decide, and act (OODA) and make better decisions 10 times faster."

Real ethical issues in war.
Aside from the "global" issue of ethics and war as such and the relationship to Christianity and pacifism, what are the specific ethical issues if war is accepted as potentially ethical? The pacifist position, that war is in principle unethical, results, one might say, from a conflation of politics and ethics, where politics and democracy determine who and what can be killed independently of ethics and the domestic criminal law.

Outside pacifism and this issue of "war as such", the "inner" ethical issues of war usually reduce to:

- The "just" war doctrine of the Middle Ages: war waged for the right reasons or for defense.
- The Nuremberg crime of "waging aggressive war"
- Ill treatment of prisoners—the main "Geneva Convention" issue
- "Immoral weapons", gas and more recently fragmentation mines and grenades
- Mass killing of non-combatants, chiefly by bombing
- The killing of reprisal hostages, usually civilians
- Civilian killing targeted on groups, or "genocide"
- Organised rape as a war weapon, as with Soviet forces in Germany at the end of WWII

All these were violated in WWII, except perhaps the use of gas, most notoriously by the atomic and other mass bombings by the Allies, the total demolitions of cities and populations by the Axis, and by their different treatment of prisoners on their eastern and western fronts.

The benefits of war?
There is a long tradition of believing that war brings technical progress---though only fascists openly proclaimed it brought social progress----and mitigating factors often cited to the military-industrial complex are:

- Much funded military work is of no direct military relevance but is just cultural funding habit (e.g. ONR/Navy funding of mathematics in the US)

- Much public good has come from military/space funding (as well as jobs): high definition TV, Velcro, Teflon, automated cars, robotics, Silicon Valley, the internet etc.
- As we noted above, the issue is never of principle if one is not a pacifist, only of implementation and the quantity of death, direct and collateral.
- One's own side is better and right (even though potential enemies deploy the same argument: *Gott Mit Uns*—God with Us was on all German soldiers' belts)!

Relationship to ethical theory

How does all this relate to ethics as a topic in general?

- Many take that word to mean no more than codes of practice for international regulation (some of which has been fairly, though not completely, effective e.g. chemical and biological weapons conventions, and atomic weapon suppressions or reductions)
- But that raises the issue of whether those political moves have any relation to ethics as normally understood in philosophy. When a soldier is prosecuted for a killing there is often a strong public reaction that ethics (alias morals) simply cannot be applied to soldiers in war situations, no matter what the Geneva Code says.
- It is almost impossible to relate war killing to a rule-driven ethics of the Kantian kind ("Do not kill" as an ethical rule, echoing the Commandment) because this kind of ethics is necessarily ignored by all military planners, practitioners and soldiers.
- Even calculations of least harm or greatest good (in the John Stuart Mill sense of Utilitarian or Consequentialist ethics) are largely irrelevant as there are no real calculations ever done, nor are there baselines for those. However, there is a widespread cultural belief that it is better to defend one's family and people from attack than not to do so, even though this violates the New and Old Testaments which our society professes to believe in.
- One might argue that the only real ethical relevance of any of such discussions/negotiations of warfare are classical notions of virtue (bravery, protecting the weak etc.) rather than technical ethics.
- Hume believed that the basis of ethics was not reason but sentiment, a notion which seems to have shifted considerably in our society in recent times. Many believe there is now a basic instinct or revulsion to certain classes of action as utterly unacceptable, ones that were judged acceptable and even admirable only fifty years ago e.g. the mass bombing of enemy civilians.
- There is relevance here of anthropological/evolutionary explanations in terms of how "(genetically) close to us" threatened enemies are: warriors and politicians have always been more at ease with mass killing of those genetically and geographically further from us. Evolutionary theory suggests this is obvious, but history suggests it is more complicated e.g. Recent Yugoslavia and Rwandan massacres were between historically and genetically close groups.
- Grossman's discussion suggests physical distance is also crucial to the sentiments associated with killing----- drone controllers kill far easily in a videogame-like scenario at 5k miles than does a man in a trench with a bayonet.
- Pinker and Harari discuss the historical development of such sentiments embracing wider and wider "home" communities----e.g. Chinese are not as foreign to Europeans as they used to be, partly because we are now so likely to know some personally. The old Victorian thought-experiment of killing a random Chinese to get some benefit now seems impossibly far-fetched and distasteful. There is a tension between this and the continuing ability to mass kill close neighbours in civil war scenarios.

FURTHER READING

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