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The Rights of (Killer) Robots

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The list of moral and legal issues regarding the development and potential deployment of lethal autonomous weapon systems (LAWS) is as complex as it is interesting. "How will the use of robot weapons," as Rob Sparrow (2007, 66) asks, "affect the ways in which wars are fought, the level and nature of casualties, and the threshold of conflict? What sort of decisions should they be allowed to make? How should they be programmed to make them? Should we grant non-human intelligent agents control of powerful weapons at all? If a system is intelligent enough to be trusted with substantial decisions making responsibility in battle, should it also be granted moral standing? Should they then be granted rights under the Geneva Conventions?"

The vast majority of existing research take-up and address the kinds of questions with which Sparrow begins—questions regarding safety, liability, and responsibility (Asaro 2012, Johnson and Axinn 2013, Kirshnan 2013, Lokhorst and van den Hoven 2012, Noorman and Johnson 2014, Sharkey 2012, etc.). When questions of moral standing and rights are in play, these are typically limited to inquiries regarding the status and rights (or, more often than not, the potential for the violation of these rights) of human combatants and non-combatants—those individuals and communities who are on the receiving end of military action undertaken with and by such mechanisms. Very little (almost nothing, in fact) has been published on last two questions that appear in Sparrow's litany—questions concerning and inquiring about the moral status and even rights of battlefield robots. In fact, this phrase "the rights of battlefield robots" already sounds wrong and somewhat discordant with contemporary efforts and initiatives regarding international conflict and the development and/or deployment of what have been called (mobilizing a science fiction inspired sense of drama) "killer robots."

It is the purpose and objective of this chapter to consider and to make a case for this other, apparently marginal set of concerns by responding to a seemingly simple and direct question: Can or should killer robots have rights? This question, however, is not just any question. At the beginning—even before beginning—we should be clear about the inherent difficulty of even articulating such a query. As David Levy (2005, 393) has pointed out, "the notion of robots having rights is unthinkable," presumably because 1) it is something that is unable to be thought, insofar as the very concept of robots having rights strains against common sense or good scientific reasoning; or 2) it is to be purposefully avoided as something that must not be thought, insofar as it is a kind of prohibited idea or blasphemy that would open a Pandora's box of problems and therefore should be suppressed or repressed (to use the common psychoanalytical terminology). Whatever the reason(s), there is something of a deliberate decision and concerted effort not to think—or at least not to take as a serious matter for thinking—the question of robot rights. But there are good reasons for considering the rights of robots in general and the rights of battlefield robots in particular.

1 Standard Operating Presumptions

In confronting and contending with other entities—whether other human persons, animals, the natural environment, or technological artifacts—one inevitably needs to distinguish between those beings *who* are in fact moral/legal subjects and *what* remains a mere thing or object. As Jacques Derrida (2005, 80) explains, the difference between these two small and seemingly insignificant words—"who" and "what"—makes a big difference, precisely because it parses the world of entities into two camps: those Others who can and should have a legitimate right to privileges, claims, powers and/or immunities[1] and mere things that are and remain objects, instruments, or artifacts to be used without further consideration.

Though every moral and legal system institutes and operationalizes distinctions between *who* is a subject of legitimate consideration and *what* is not—or between what are, in existing legal terminology, "persons" and "property"—a good example/illustration of this decision-making and its consequences is available in the rules governing international armed conflict. International Humanitarian Law (IHL) comprises a set of rules that seek to control and limit the impact and effect of war. IHL is based on international treaties like the four Geneva Conventions and their Additional Protocols and a substantial body of "customary law" that is binding on all

states and parties engaged in hostile actions. IHL is currently administered, catalogued, and overseen by the International Committee of the Red Cross (ICRC), which had been named the controlling authority in the fourth Geneva Conventions of 1949.

1.1 Animals

IHL in both name and substance is exclusively anthropocentric (Nowrot 2015 and de Hemptinne 2017). Indicative of this exclusivity is what the IHL stipulates (or more importantly, does not stipulate) regarding non-human animals. "Despite the fact that certain animals are quite frequently allowed or required to 'participate directly in hostilities' in the sense of Article 43 (2) of the 1977 GC [Geneva Convention] Protocol I, they are not granted the rights and do not have the obligations deriving from the legal status of combatants under international humanitarian law" (Nowrot 2015, 136). Animals have accompanied human beings into battle since ancient times. The chronicles and tales of human conflict include a menagerie of other living beings: camels, horses, donkeys, elephants, dolphins, sea lions, birds, and dogs. These "animals soldiers" (a moniker that is itself the site of significant conflict over the presumed role and status of the animal) have fought alongside human beings and have occupied a number of important positions on the battlefield. "Canine assistants," as Julie Carpenter (2015, 43) recounts, "have been used in defense for transport, weapons detection, communications, and as comfort to soldiers on and off the battlefield. As of 2012, there were a reported 2,700 dogs serving with the US military worldwide, with 600 of those active in designated war zones." Despite this service however, animals are virtually absent from the documents that comprise IHL. As Jérôme de Hemptinne (2017, 272) critically pointed out, "being deeply anthropocentric, international humanitarian law (IHL) largely ignores the protection of animals."

Exceptions to this are informative, mainly because they are those kinds of exceptions that prove the rule. In the existing documents, animals are explicitly addressed in just two places.

- Article 18, first and third paragraphs, of the 1949 Geneva Convention III indicates that prisoners of war retain possession of "all effects and articles of personal use, except arms, horses, military equipment and military documents" (ICRC 2018, Rule 49). In this context, one specific species of animal, horses, are formally listed as "military

equipment" that can be legitimately seized from captured human combatants and disposed of as "war booty."

- "The only explicit reference to animals in general is," as Nowrot (2015, 136) points out, "hidden in Article 7 (1) lit j of the 1996 Protocol II on Prohibitions or Restrictions on the Use of Mines, Booby-Traps and Other Devices to the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May be Deemed to be Excessively Injurious or to Have Indiscriminate Effects of 10 October 1980, prohibiting the use of booby-traps and other devices which are in any way attached to or associated with 'animals or their carcasses.'"

Additionally "article 53 of Geneva Convention IV," as de Hemptinne (2017, 276) argues, "prohibits the destruction by the occupying power of private and public properties, except in cases of absolute military necessity. This provision could provide minimum protection to certain animals when considered to be items of private or public property." The extension of the article to animals, and civilian livestock in particular, is codified in Article 54 of the subsequent 1977 GC Protocol I addressing the "protection of objects indispensable to the survival of the civilian population and, in this regard, prohibiting inter alia the destruction and removal of 'livestock.'" This protection, however, is enacted not for the sake of the animal but for the purpose of respecting the property rights its human owner(s). It is, therefore (and at best), a form of indirect protection for a human non-combatant who has the right to possession and use of a particular item of personal property.

1.2 Other Things

Animals, as both Nowrot (2015) and de Hemptinne (2017) demonstrate, have been and remain largely excluded from the protections codified in IHL. The situation is (or would seem to be) worse for robots and other autonomous machines. As the other of the animal other (Gunkel 2012), machines are also excluded or marginalized from the IHL protections granted to both combatants and non-combatants. Under the current rules, things like battlefield robots assisting soldiers in the field are considered "military equipment" that may be seized and destroyed without impunity: "The parties to the conflict may seize military equipment belonging to an adverse party as war booty" (ICRC 2018, Rule 49). Under this stipulation, "military equipment"

has been interpreted to designate "all movable State property captured on the battlefield" including "arms and ammunition, depots of merchandise, machines, instruments and even cash" (ICRC 2018, Rule 49).

There are some notable exceptions. But these exceptions, once again, only serve to prove the rule. Some objects, specifically "objects used for humanitarian relief operations," are protected. But these protections are granted not for the sake of the object but for the intended human recipients of the relief this object supports or makes possible. As summarized in ICRC (2018) Rule 32:

> State practice establishes this rule as a norm of customary international law applicable in both international and non-international armed conflicts. This rule is a corollary of the prohibition of starvation (see Rule 53), which is applicable in both international and non-international armed conflicts, because the safety and security of humanitarian relief objects are an indispensable condition for the delivery of humanitarian relief to civilian populations in need threatened with starvation. In that framework, this rule is also a corollary of the prohibition on deliberately impeding the delivery of humanitarian relief (see commentary to Rule 55), because any attack on, destruction or pillage of relief objects inherently amounts to an impediment of humanitarian relief.

Other objects, like "articles of personal use" and "protective gear" belonging to and in the possession of captured combatants and other persons *hors de combat*, cannot be seized and shall remain in their possession (ICRC 2018, Rule 49).

Finally there are various articles, protocols, and guidelines that stipulate protections for the natural environment and significant cultural objects and sites. But these stipulations and restrictions are instituted not for the sake of the object per se but for the human populations that depend on and value these objects.

> With regard to these and other relevant provisions, it needs to be emphasized in the present context, that the regime of international humanitarian law does not in general protect the environment per se but is first and foremost intended to avoid negative consequences for the affected (human) civilian population indirectly

> caused by damage to the environment. This is vividly illustrated by the additional requirement as enshrined in Article 55 (1) of the 1977 GC Protocol I stipulating that damage to the natural environment is only of relevance for the purposes of this provision if it is intended or may be expected also to "prejudice the health or survival of the population" (Nowrot 2015, 134).

The same is true of cultural institutions and objects: "Each party to the conflict must protect cultural property: a) All seizure of or destruction or willful damage done to institutions dedicated to religion, charity, education, the arts and sciences, historic monuments and works of art and science is prohibited. b) Any form of theft, pillage or misappropriation of, and any acts of vandalism directed against, property of great importance to the cultural heritage of every people is prohibited" (ICRC 2018, Rule 40). Once again, and consistent with the IHL's anthropocentric frame of reference, these prohibition are instituted for the sake of protecting the human population and their interests, not the object per se.

1.3 Instrumental Exclusions

The existing rules, regulations, and protocols of IHL are very clear. What matters, in all cases and contexts, are human beings; objects do not. Or if they matter, they matter only to the extent that they belong to human beings, are necessary for the sake of human survival and well-being, or are recognized as important to the current and future state of human populations. This anthropocentric framework is entirely understandable insofar as it is consistent with the answer that is typically provided for the question concerning technology. "We ask the question concerning technology," Martin Heidegger (1977, 4-5) writes, "when we ask what it is. Everyone knows the two statements that answer our question. One says: Technology is a means to an end. The other says: Technology is a human activity. The two definitions of technology belong together. For to posit ends and procure and utilize the means to them is a human activity." According to Heidegger's analysis, the presumed role and function of any kind of technology—whether it be a simple hand tool, jet airliner, or a sophisticated robot—is that it is a means employed by human users for specific ends. Heidegger (1977, 5) calls this particular characterization "the instrumental and anthropocentric definition" and indicates that it forms what is considered to be the "correct" understanding of any kind of technological contrivance.

As Andrew Feenberg (1991, 5) summarizes it, "The instrumentalist theory offers the most widely accepted view of technology. It is based on the common sense idea that technologies are 'tools' standing ready to serve the purposes of users." And because a tool or instrument is deemed "neutral," without intrinsic value or content of its own, a technological artifact is evaluated not in and of itself, but on the basis of the particular human and humane employments that have been decided by its designers, manufacturers, or users. Consequently, technology is only a means to an end; it is not and does not have an end in its own right. "Technical devices," as Jean-François Lyotard (1984, 33) writes, "originated as prosthetic aids for the human organs or as physiological systems whose function it is to receive data or condition the context. They follow a principle, and it is the principle of optimal performance: maximizing output (the information or modification obtained) and minimizing input (the energy expended in the process). Technology is therefore a game pertaining not to the true, the just, or the beautiful, etc., but to efficiency: a technical 'move' is 'good' when it does better and/or expends less energy than another." According to the instrumentalist way of thinking, a technological device, whether it be a cork screw, a clock, or a LAWS, is a mere instrument of human action. The artifact does not in and of itself participate in the big and important questions of truth, justice, or beauty. It is simply and indisputably about efficiency. A particular technological innovation is considered "good," if and only if it proves to be a more effective instrumental means to accomplishing a humanly defined end.

2 Non-Human Combatants

As Nowrot (2015, 135) has noted: "The scope of application of the *ius in bello*—as strongly indicated by its more recent labeling as international 'humanitarian' law—has always been and continues to be exclusively human-oriented." Although this way of thinking is entirely serviceable, it has increasingly become a problem for responding to and contending with non-human combatants.

2.1 Animal Soldiers

Excluded from IHL protections are animals that participate in combat operations, i.e. dogs, horses, dolphins, sea lions, etc. But animals—and especially dogs—have been (and for quite some time now) something *more* than military equipment. First, animals already occupy a

curious and ambivalent position with respect to human society both on and off the battlefield. "The way society regards animals," as Carpenter (2015, 43) writes, "can appear to be contradictory. The animals or pets in our home are considered family, but outside the home our relationship with animals change (e.g. work, feral, and animals raised for food). In other words, some animals are treated almost like people while others are used as tools…"[2]

The consequences of this ambivalent status can be seen in the way canine assistants have been integrated into military contexts. According to U.S. Federal law, Military Working Dogs (MWDs) are officially defined and classified as "military equipment." This decision, as Carpenter (2015, 43) points out, "comes from the necessary defaulting between only two choices the military currently assigns assets: humanpower or equipment." The classification of MWDs as equipment was legal codified by the passage of the Federal Property and Administrative Services Act of 1949 (FPASA). "One of the purposes of the Act," as Sarah Cruse (2015, 257) points out, "was to provide an economical and efficient system for the disposal of government surplus property." Despite this, soldiers in the field, and especially those individuals working closely with the dogs as handlers, "forge strong emotional bonds with these canines that are acting as part of their team regardless of the formal 'equipment' classification" (Cruse 2015, 257). As Nowrot (2015, 131) reports, "joint participation in armed conflicts not infrequently results in the forming of rather close emotional bonds between human soldiers and their animals. They find their visible expression for example in the countless well-known stories about animals risking their lives to save human 'comrades' in critical situations; but there are also comparable tales about human soldiers doing the same for their canines, horses and other animals assigned to assist them on the battlefield." And the list of publications recounting the importance of these human-animal relationships and celebrating the valor of these animals in battle is impressive (Cooper 2000, Frankel 2016, Hediger 2013, Le Chêne, 2010).

Second, many nations (including many North American and European countries) award both service medals and rank to animals. "The British," as Steven Johnston (2012, 368-369) recounts, "decorate animals. The Dickin Medal, named after the founder of the People's Dispensary for Sick Animals, Maria Dickin, functions as the animal version of the Victoria Cross. Animals receive plaudits for bravery, courage, and devotion to duty. The Medal reads 'For Gallantry, We also Serve,' suggesting patriotic oneness between human and animal. World War II saw 49 medals awarded." The U.S. military not only bestows rank on its "animal

soldiers," but "in some circumstances have awarded MWDs military rank "that make them senior to their handlers, a practice designed to ensure that the humans treat the animals with deference" (Londono 2014). And several countries have now dedicated public memorials to honor animals for their combat service. As Nowrot (2015, 132) recounts: "On 21 July 1994, on the fiftieth anniversary of the invasion of Guam, the Marine War Dog Memorial was unveiled at the United States Marine Corps War Dog Cemetery on the island, dedicated to the twenty-five dogs killed 'liberating Guam in 1944.' To mention but one further example, the Animals in War Memorial was unveiled in London on 24 November 2004."

Finally, and because of this, there has been considerable effort to reclassify military animals. Cruse (2015), for instance, argues that the current classification of MWDs as equipment "grossly underestimates their role within the U.S. military and deprives these dogs of the opportunity to transition to a peaceful civilian life once they are deemed 'excessive equipment' and retired from service." In response to this, as Carpenter (2015, 43) has reported, "there is a passionate MWD advocacy movement proposing to change the military classification for working canines from *equipment* to *manpower* (or a third, as yet undesignated category) in order to initiate and clarify the policies for prolonged care and maintenance of the dogs after retirement." And there has been some traction with efforts to alter the current law. "In February 2012 two identical bills titled the Canine Members of the Armed Forces Act were introduced in the [U.S.] House and Senate to address the current status and treatment of MWDs. The purpose of the Canine Members of the Armed Forces Act was to reclassify MWDs as canine members of the armed forces, not equipment." Although both bills failed to garner the votes necessary to become law, their mere introduction demonstrates public recognition of the need to reconsider and reclassify MWDs.

2.2 Robot soldiers

There are similar opportunities and challenges experienced in the face (or the face plate) of battle field robots, which are also classified as military equipment. As Peter W. Singer (2009), Joel Garreau (2007), and Julie Carpenter (2015) have reported, soldiers have formed surprisingly close personal bonds with their units' explosive ordinance disposal (EOD) robots, giving them names, awarding them battlefield promotions, risking their own lives to protect that of the robot, and even mourning their death. This happens not because of how the robots are designed or what

they are. It happens as a byproduct of the way the mechanisms are situated within the unit and the role they play in battlefield operations. As Eleanor Sandry (2015, 340) explains:

> EOD robots, such as PackBots and Talons, are not humanlike or animal-like, are not currently autonomous and do not have distinctive complex behaviours supported by artificial intelligence capabilities. They might therefore be expected to raise few critical issues relating to human-robot interaction, since communication with these machines relies on the direct transmission of information through radio signals, which have no emotional content and are not open to interpretation. Indeed, the fact that these machines are broadly not autonomous precludes them from being discussed as social robots according to some definitions. … In spite of this, there is an increasing amount of evidence that EOD robots are thought of as team members, and are valued as brave and courageous in the line of duty. It seems that people working with EOD robots, even though the robots are machinelike and under the control of a human, anthropomorphise and/or zoomorphise them, interpreting them as having individual personalities and abilities.

There are three important items to note in this context. First, the robots that are profiled here look like and are deliberately designed to function as tools or military equipment. Existing EOD robots, like the PackBots and Talons mentioned by Sandry, are not designed for nor do they function as "social robots." Unlike the Furbie, the Pleo dinosaur, Pepper, or other sociable robots that are, as Cynthia Breazeal (2004) describes it, intentionally created for human social interaction, these battlefield robots are industrial looking and are created and deployed for the sole purpose of instrumental utility in the disposal of explosive ordinance. Unlike social robots that are fabricated to produce anthropomorphic projection (Darling 2016), the design, look, and function of EOD robots adhere to Joanna Bryson's (2010, 63) thesis that robots be built, marketed and considered legally as serviceable tools (or what she calls, in a rather controversial choice of words "slaves"), not companion peers.

Second, these EOD robots are not autonomous and in many cases would not even qualify as semi-autonomous devices by any stretch of the imagination. Most of these devices are still

under human remote control, do not incorporate or contain anything approaching advanced AI capabilities, and in most cases would not even be considered "smart technologies." Consequently existing EOD robots are considerably less capable than what is predicted for LAWS or fully-autonomous killing machines. Despite this limitation, soldiers working with EOD robots respond to the mechanism *as if* they were another autonomous subject and not just a piece of equipment or mere object.

Finally, none of this is necessarily new or surprising. Evidence of this kind of response was already tested and demonstrated with Fritz Heider and Mariane Simmel's "An Experimental Study of Apparent Behavior" (1944), which found that human subjects tend to attribute motive and personality to simple animated geometric figures. Similar results have been obtained by way of the computer as social actor (CASA) studies conducted by Byron Reeves and Clifford Nass in the mid-1990s. As Reeves and Nass discovered across numerous trials with human subjects, users (for better or worse) have a strong tendency to treat socially interactive technology, no matter how rudimentary, as if they were other people. "Computers, in the way that they communicate, instruct, and take turns interacting, are close enough to human that they encourage social responses. The encouragement necessary for such a reaction need not be much. As long as there are some behaviors that suggest a social presence, people will respond accordingly. When it comes to being social, people are built to make the conservative error: When in doubt, treat it as human. Consequently, any medium that is close enough will get human treatment, even though people know it's foolish and even though they likely will deny it afterwards" (Reeves and Nass 1996, 22).

EOD robots are designed to be tools. They are officially classified as military equipment. And all of this is entirely transparent and clearly communicated to users. Despite this, soldiers in the field often treat these robots as comrades-in-arms and not as a tool or just another piece of military hardware. They do so not because of what these robots *are* but because of the role that these artifacts play in combat operations and how they participate in or contribute to unit cohesion. This demonstrates that external, social-relational aspects, as both Mark Coeckelbergh (2012) and I (Gunkel 2017) have argued, often take precedence over and can be more determinative of actual social status and position than ontological properties or design intentions. Consequently, it is not necessarily what the robot is, how it has been designed, or to what extent its machinic nature is clearly communicated to users of the device that matters. What matters—

and what seems to matter most on the battlefield, in particular—is how these robots comes to be situated within the unit, what functions they performs in combat operations with human partners, and what actually transpires between human soldiers and these artifacts in day-to-day interactions. In other words, what actually happens with and in the face of battlefield robots—as documented in the popular, military, and academic publications on the subject—often contravene and even undermine the best of design intentions, specifications, or rules concerning their official classification.

2.3 The Difference that Makes a Difference

Even though human-animal teamwork in battlefield operations can be looked at as a possible model for insight concerning human-robot relationships (Billings et al. 2012 and Carpenter 2015, 42), these two non-human entities are not necessarily nor should they be considered *the same*[3]. On the one hand, animals have both an historic and biological privilege over robotic artifacts. Historically animals were here first. There were animals before there were robots, and animals have accompanied humans onto the battlefield from the earliest recorded accounts of human armed conflict. So there is, for lack of a better description, a kind of "first come first serve" logic that is operative in these discussions and debates. Biologically human and non-human animals are the product of co-evolution and have substantial similarities that go all the way down to the molecular level. It is not insignificant that *homo sapiens* have been estimated to share 97+% of their DNA with chimpanzees. Consequently, it seems entirely reasonable to address the opportunities and challenges made available by "animal soldiers" before attempting to take-on and deal with the prospect of killer robots.

On the other hand, there are important ways that robots have a kind of precedence over animals, especially in situations regarding armed conflict. As Nowrot (2015, 140) points out, the status of "combatant" as it is currently described under IHL, "involves not only the enjoyment of certain rights and privileges but also—at least indirectly—an imposition of certain legal obligations." And because it is doubtful whether an animal, like a MWD, would be capable of performing these obligations, it seems unlikely that a reclassification of animals as a kind of "combatant" would be successful. As Nowrot (2015, 141) concludes: "a sober evaluation—to put it mildly—gives rise to certain doubts of whether or not the average animal combatant can seriously be regarded as being endowed with the capacity to understand and autonomously obey

the various legal obligations incumbent upon active participants in armed conflicts under international humanitarian law." For instance, it not just unlikely but virtually impossible to expect that an animal would be capable of the obligation imposed by IHL on combatants to have "the capacity to distinguish persons who participate in the hostilities from those who do not or to make proportionality calculations" (de Hemptinne 2017, 274).

Unlike animals, however, robots can be (or at least have a higher likelihood of being) programmed to follow the rules of IHL—assuming that the rules, like that involving the calculation of proportionality, could be made computable (which, for now, remains an open question). In fact, as Ronald Arkin (2009) argues, it may be the case that robots will be better at following the rules of military engagement than fallible human soldiers. Arkin, in fact, lists six reasons why autonomous robots "may be able to perform better than humans" in the "fog of war," including: 1) Robots do not need "to have self-preservation as a foremost drive" and therefore "can be used in a self-sacrificing manner if needed." 2) Machines can be equipped with better sensors that exceed the limited capabilities of the human faculties. 3) "They can be designed without emotions that cloud their judgment or result in anger and frustration with ongoing battlefield events." And 4) "they can integrate more information from more sources far faster before responding with lethal force than a human possible could in real-time" (Arkin, 2009, pp. 29-30).

Additionally, and precisely because of this, advocates for efforts to reclassify "animals soldiers" in both national laws and international agreements now recognize that working on the "machine question" might have a discursive advantage and open a "window of opportunity" for addressing the status of the animal. As Nowrot (2015, 144) candidly points out at the end of his essay, "international humanitarian law and its lawmaking actors are in the foreseeable future highly likely to be confronted with the question of how to legally cope with a number of other categories of 'nonhuman combatants,' particularly in the form of autonomous combat systems." And "it is precisely under such circumstances, one could argue, that the international community might also be more willing to discuss a possible legal status for animal soldiers within a more comprehensive reformation of the laws of war in general and the scope of this normative regime's application in particular" (145). In other words, the animal question might only get traction in the wake of developments with LAWS such that contending with the opportunities and challenge of the "machine question" paves the way for articulating and responding to the

reclassification of animals. In terms of rhetorical strategy, then, the best way to respond to the needs of animals might be to work on behalf of the robot.

3 Solutions and Outcomes

When it comes to non-human combatants, the existing documents and rules governing international armed conflict appear to be out of sync with actual practices on the ground. Despite the fact that both animals and robots are official classified as military equipment that can be used and even abused with very little moral or legal restrictions, these non-human "others" occupy positions that, for better or worse, make them something more than a mere object. They may not ever be as "valuable" as other persons—whether human combatants or civilians—but there is considerable and documented resistance to reducing them to the status of a mere tool or piece of military hardware. So how can or should we respond to this opportunity/challenge? Let me conclude by considering two different and opposed outcomes.

3.1 Status Quo

We can continue to deploy and enforce the existing rules of the game. International Humanitarian Law is, in both name and substance, "deeply anthropocentric" (de Hemptinne 2017, 272). It therefore, and as we have seen, stipulates the lawful conduct of human activity during armed conflict for the sake of respecting the dignity and well-being of human persons. All other, non-human entities involved in these actions—animals, the natural environment, cultural objects, and machines—are and remain nothing more than things and equipment serving the interests of human persons and communities. This way of thinking—this way of dividing between *persons* who count and *things* that do not—clearly works. It is, one might say, of considerable instrumental utility, when confronting and deciding matters of rights and responsibilities in the unfortunate situations of international armed conflict.

A good example of this kind of reassertion of the status quo can be found in recent international efforts to ban killer robots. In 2009, Jürgen Altmann, Peter Asaro, Noel Sharkey, and Robert Sparrow organized the International Committee for Robot Arms Control (ICRAC), calling "upon the international community for a legally binding treaty to prohibit the development, testing, production and use of autonomous weapon systems in all circumstances" (ICRAC, 2017). In 2013, ICRAC partnered with 63 other international and national NGOs from

28 countries on the Campaign to Stop Killer Robots. In effect, the Campaign has argued that advanced weapon systems, no matter how sophisticated their design or operations, must always be tethered to and remain under human control, and there should always be a human being in-the-loop who is able to take responsibility and to be held accountable for targeting and attack decisions. The Berlin Statement from ICRAC (2017) advances a similar cause: "We believe that it is unacceptable for machines to control, determine, or decide upon the application of force or violence in conflict or war. In all cases where such a decision must be made, at least one human being must be held personally responsible and legally accountable for the decision and its foreseeable consequences."

But this top-down reassertion of technological instrumentalism, whereby battlefield robots are declared to be instruments of human decision making and action, is increasingly challenged and put in question by moral intuitions and military practices that appear to proceed otherwise—that consider the operational status of non-human combatants in ways that are both different from and potentially abrasive to this essentially instrumentalist way of thinking. Even if the campaign is successful in restricting battlefield robots to the category of equipment—ostensibly a tool that is always under the direct control and oversight of a human operator—the role that these machines already play in actual combat operations effectively challenge this formulation. Now please understand what is being argued here. I am not taking up a position that is simply opposed to the campaign's mission or advocating for the design and indiscriminate deployment of LAWS. What is being argued, is that efforts to restrict LAWS—like that introduced and promoted by the Campaign to Stop Killer Robots—may need to be reformulated in a way that is more sensitive and attentive to the actual situations regarding battlefield robots (and animals[4]), recognizing that strict imposition of anthropocentric instrumentalism, although entirely workable in theory, risks being "tone deaf" to actual, documented practices.

3.2 Reclassification

Instead of reasserting a strict form of anthropocentric instrumentalism, there may be something to gain from recognizing that actual practices in the field do not (and perhaps never really did) adhere to the simple ontological dichotomy that divides the world of entities into persons or equipment. Evidence from "boots on the ground" experience demonstrate that both animal- and robot-soldiers, like MWDs and EODs, have and continue to occupy liminal

positions that do not fit this neat and somewhat artificial categorization. And in response to this, there may be good reasons to re-categorize these non-human combatants as something other than military equipment.

But one needs to be attentive to what is actually being proposed here. No one is suggesting that military animals or killer robots be classified as personnel on par with human beings—combatant, person *hors de combat*, or civilian. What is argued is that the existing classification schema—one that recognizes only two kinds of entities, personnel or equipment—may simply be too restrictive and insensitive to respond to and take responsibility for the different kinds of things with which we interact and involved ourselves. "In light of these differences," Nowrot (2015, 143) argues, "it appears appropriate and advisable from a legal policy perspective not to transfer and extend the current concept of (human) combatants 'lock, stock, and barrel' to animal soldiers but rather create a new separate category of animal combatants under international humanitarian law."[5] Something similar can and perhaps should be explored for the sake of "robot soldiers." Although currently existing battlefield robots, like the very industrial-looking and utilitarian EODs, are not sentient or even significantly autonomous (by any definition), do not have specific interests (as far as we know), and cannot be harmed in any appreciable way (at least not beyond what is typically regarded as property damage); this does not mean that they do not or should not have some level of recognition for the sake of responding to and respecting the human-robot teams in which they are situated and operate.

This reclassification of things, especially as it applies to battlefield robots, would not, it is important to point out, simply invalidate the instrumentalist theory *tout court*. There are and will continue to be things that are and function as military equipment. But it does mean that everything is not and should not be treated the same. In addition to the usual stock of military equipment, i.e. rifles, tanks, tents, radio transmitters, ammunition, etc., there are also other kinds of things—animals and robots. Unlike mere objects, these animal and robot "soldiers" have a very real social presence that matters for the individual human being who work with them and the social formations in which they have been situated and function. Things, therefore, do not participate in a "flat ontology." There are differences. And our moral and legal systems—even and especially in the case of armed conflict—should be more fine-grained and able to resolve

and contend with these differences. The division of battlefield assets into the two exclusive categories of personnel or equipment is imprecise, inflexible, and potentially inhumane.

Notes

[1] The items listed here—privileges, claims, powers, and immunities—comprise the four Hohfeldian incidents that define and characterize moral, legal, and political rights. For more on the Hohfeldian typology, see Wenar (2005). For a consideration of the way the Hohfeldian incidents apply to and explain rights in the context of AI and robotics, see Gunkel (2018).

[2] Mark Coeckelbergh and I have examined this curious and seemingly contradictory situation regarding the social status of non-human animals in "Facing Animals: A Relational, Other-Oriented Approach to Moral Standing" (Coeckelbergh and Gunkel 2014).

[3] This is an important point made by Katharyn Hogan (2017) in an essay that was published as a critical rejoinder to *The Machine Question* (Gunkel, 2012). In the essay, Hogan argues, in opposition to what she presumes had been developed in the book, that "the machine question is not the same question as the animal question" (Hogan 2017, 29). Hogan is absolutely correct about this. The question concerning the machine and the question concerning the animal are, in fact, not the same question. But she is incorrect in assigning this (mistaken) position to the book, which developed a much more nuanced treatment of things that is attentive to difference. Consequently, Hogan's essay is at best half right and can only proceed and succeed by way of formulating what amounts to a strawman argument.

[4] This parenthetical addition concerning animals is not insignificant. The Campaign to Stop Killer Robots, as its name indicates, is exclusively concerned with technological artifacts; it has had little or nothing to say about animals. But LAWS could also be developed on an animal rather than a technological platform. "Using more advanced animals as cyborgs," as Armin Krishman (2017, 74) has argued, "is clearly possible. Apes could be engineered as animal soldiers: they could be made smarter by adding some human DNA that enhances their cognitive

abilities to a certain extent. If more than 50 per cent was animal DNA, they would probably not be granted human rights status and could be used as slaves or as expendable fighters."

[5] This has in fact transpired in some militaries, where animal soldiers are deliberately not classified as equipment in order to enable their human handlers to adopt the animals after they are retired from military service. Whether this status would extend to and be recognized outside this particular context, i.e. if the animal were captured by the enemy, is another matter.

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