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Super soldiers and technological asymmetry

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Abstract: In this chapter I argue that emerging soldier enhancement technologies have the potential to transform the ethical character of the relationship between combatants, in conflicts between ‘Superpower’ militaries, with the ability to deploy such technologies, and technologically disadvantaged ‘Underdog’ militaries. The reasons for this relate to Paul Kahn’s claims about the paradox of riskless warfare. When an Underdog poses no threat to a Superpower, the standard just war theoretic justifications for the Superpower’s combatants using lethal violence against their opponents breaks down. Therefore, Kahn argues, combatants in that position must approach their opponents in an ethical guise relevantly similar to ‘policing’. I argue that the kind of disparities in risk and threat between opposing combatants that Kahn’s analysis posits, don’t obtain in the context of face-to-face combat, in the way they would need to in order to support his ethical conclusions about policing. But then I argue that soldier enhancement technologies have the potential to change this, in a way that reactivates the force of those conclusions.

1. Introduction

Any technological innovation that confers a welcome benefit upon the positionally-advantaged military force, carries a corresponding cost for the positionally-disadvantaged military force – at least temporarily, while the relevant technologies are distributed in a decidedly uneven fashion. And it is one of the ethicist’s jobs to worry about these costs, which are borne by the ‘have-nots’ in global conflict. For those who espouse an ethics of Absolute Pacifism, there won’t be much to say about the costs associated with

emerging military technologies (since – for Absolute Pacifists – no war can be rendered morally justifiable thanks to a novel military technology’s involvement in it). For all others interested in the ethics of warfare, however, the ethical significance of the costs accompanying new military technologies have to be examined case-by-case.

What should we say, then, about the potential costs and possible downsides of soldier enhancement technology? For the technologically-disadvantaged military force (henceforth, the *Underdog*), one of the costs that accompanies the development of effective soldier enhancement technologies by an opposing, technologically-advanced military force (henceforth, the *Superpower*) is entirely generic: the Superpower’s large advantages over the Underdog – in weaponry, communications, transport, etc. – are bolstered by a further type of advantage, courtesy of which the Superpower becomes better able to cement its stranglehold over the coercive use of violent force in the global political arena. And the upshot of *this* is an entrenchment of the circumstances of asymmetric political violence, i.e. the kind of dynamics which drive Underdogs towards the use of terrorist violence against civilian populations. The significance of technological asymmetry as a precursor to such violence has been elucidated by others, and I won’t recapitulate that discussion here (see Killmister 2008; Fabre 2012, pp. 239–82). Instead I’ll attempt to map out a distinctive ethical problem which is generated by soldier enhancement technologies, albeit one that relates to a more general family of ethical issues in asymmetric warfare. As I will explain in §1, when major technological disparities separate the opposing sides in a political conflict, there is a plausible case to be made that these gaps render the use of lethal violence *by* Superpowers *against* Underdogs unjustifiable. If one accepts that view, though, it still remains unclear what uses of violent force *are* justifiable for Superpowers in such conflicts. And as I will argue in §2, the suggestion of people like Paul Kahn – that in these sorts of conflicts, Superpowers ought to eschew *warfare* in favour of *policing* – is unconvincing. Why? Here is my objection in brief. In approaching such conflicts as occasions for *policing* wrongdoing, rather than engaging in full-scale combat, the Superpower’s individual personnel relinquish the relatively unthreatened position that they would otherwise occupy in a combat scenario with the Underdog. And thus, it seems to me, the shift to a policing approach cannot be obligatory for the Superpower, since the very basis of the rationale which is meant to make the Superpower’s shift to a policing approach obligatory, is the fact that the Underdog’s forces *don’t* pose any threat to the Superpower’s forces. Or so I’ll argue. The link with the topic of this collection will become clear in §3. My claim will be that the advent of effective soldier enhancement technology transforms the circumstances of threat and risk that obtain in conflicts

between Superpowers and Underdogs, in a way that may enable the Superpower to undertake a policing approach in a political conflict with Underdog, but *without* their personnel relinquishing the relatively unthreatened position they would otherwise enjoy in full-scale combat with Underdog forces. And if that's right, then the advent of effective soldier enhancement technology supports the view that I outline in §1, by removing the objection that I present in §2. In a sense, then, what I will be arguing is that the development of effective soldier enhancement technologies can generate ethically significant costs on both sides of the military technology divides. The cost for the Underdog is to be faced with even greater technological disadvantages, which make the possibility of effective uses of violent force in political conflict even more remote. The cost for the Superpower – assuming they purport to abide by reasonable ethical constraints on armed conflict – resides in the fact that the advantages gained via soldier enhancement technology also generate onerous responsibilities in violent political conflict. What sort of responsibilities? In short, those that come with taking on the duties of policing.

2. Technological asymmetry and the paradox of riskless war

Several authors have recently defended something like the following claim: where there are large disparities in the combat capabilities of parties involved in an armed conflict, these disparities greatly shrink the range of circumstances under which it is morally justifiable for the advantaged party to carry out lethal attacks against the disadvantaged party (e.g. see Dunlap 1999; Kahn 2002; Gallio 2012a, 2012b; Steinhoff 2013; and Simpson and Sparrow 2014). The idea, put simply, is that the permissibility of killing in war depends upon there being a 'fair fight', in the sense that the belligerent opponents are not grossly unevenly-matched in their warfighting capabilities. If this view is correct, it casts a further shadow of doubt across the moral justifiability of a military superpower like the United States carrying out lethal attacks on enemy combatants in many of the conflicts that it has been involved in over the last 15 years, such as in Yemen, Afghanistan, the trans-Saharan region, and in the horn of Africa.¹ Even if we assume

¹ Of course the point that I'm making here doesn't apply to the United States alone. I mention these asymmetric conflicts involving the US simply because the US is, by all measures, the most powerful and technologically advanced military force in the world today.

that the standardly-acknowledged ethical constraints on conduct in war are painstakingly honoured in such conflicts – even if it were true in these conflicts that US forces were limiting the damage that they were inflicting to what was necessary for the achievement of legitimate military aims, *and* only targeting enemy combatants, *and* taking significant further measures to minimise harm to non-combatants – it might still be the case that US forces were not justified in carrying out lethal attacks against opposing combatants in these conflicts.² Why is that? In short, because the disparities between the combat capabilities of the US and their opponents here are far too great; the circumstances of mutual endangerment between the opposing fighters – which is a necessary condition for the justifiability of killing in war – simply do not obtain. Or so the argument goes.

In view of these considerations, Paul Kahn (2002) has argued that states with well-equipped military forces – ergo, Superpowers in particular – face a ‘paradox of riskless warfare’. Such states will naturally aim to achieve superiorities in combat capability which reduce, as far as possible, the risks incurred by their personnel in combat situations. But to the extent that such aims are realised – where a Superpower like the US succeeds in greatly mitigating the risk to their personnel in combat situations – the Superpower *ipso facto* delegitimises its employment of lethal force against the technologically disadvantaged Underdog, in view of the ‘fair fight’ constraint noted above. Kahn’s view has obvious ethical implications for the Superpower using unoccupied weaponised vehicles to conduct lethal attacks on opposing Underdog forces. The drone operator can kill enemy combatants from afar, while incurring no reciprocal risk. And this is, of course, the key consideration that makes drone warfare a strategically appealing combat option.³ For a proponent of Kahn’s view, however, the lack of reciprocal risk in the use of weaponised drones is precisely the thing which renders lethal drone attacks ethically unjustifiable.

² Here I am gesturing toward the two core principles of *jus in bello* that figure in all standard accounts of just war theory – namely, (i) Proportionality (roughly: damage inflicted must be limited to what is necessary for the achievement of legitimate military ends), and (ii) Discrimination (roughly: belligerents must distinguish between combatants and non-combatants and target only the former) – along with the supplementary principle endorsed (e.g.) by Michael Walzer (2006, pp. 151 – 59), that combatants must take measures aimed at minimising accidental harm to non-combatants, even if doing so carries significant costs with regards to their own safety.

³ I should note that some authors, like Bradley Strawser (2010), have argued that there is – over and above the manifest strategic advantages that come with the use of weaponised drones – in fact a moral *duty* for states to employ drones, in order to reduce

Jai Galliot has recently defended a similar conclusion, via a somewhat different route. His focus is on how the technological disparities between a drone-equipped Superpower and its Underdog opponents can preclude any adequate ethical justification for the decision to resort to armed combat in the first place. On all standard accounts of *jus ad bellum*, war – even war waged in the pursuit of an uncontroversially just cause – must be treated as a last resort. A state cannot justifiably resort to war unless it has previously exhausted the other strategic avenues that may be pursued in order to achieve whatever legitimate aims might (putatively) justify the resort to war. Galliot’s point is that in cases where Superpowers face Underdogs, it will seldom (if ever) be the case that we can credibly characterise full-scale combat as a last resort for the Superpower. Because of the Superpower’s enormous technological advantages, it will typically be at least *possible* for it to redress the aggression to which it is responding, without resorting to full-scale combat. So even if we assume that other constraints on justice in the resort to war are honoured, Galliot says, resorting to drone warfare is (often) impermissible, since it results from the more powerful state’s failing to treat war as a last resort (Galliot 2012a, pp. 62–64).

If the conclusion is correct – if large disparities in military technology ethically preclude lethal combat – then what uses of violent force *are* justifiable for a Superpower, A, in responding the aggression of an Underdog, B? According to Kahn, in such cases A should eschew *warfare* in favour of *policing*. Suppose state B has carried out acts of military aggression towards A, or that it has committed humanitarian atrocities that are so egregious as to justify A’s armed intervention. Under a warfare paradigm, A’s aim will be to forcefully overwhelm B’s capacity to use violent force in turn – e.g. by destroying B’s military hardware and/or personnel – to the point where B’s aggression can be decisively repelled, or its humanitarian atrocities prevented. By contrast, if A approaches the situation via a policing paradigm, its aims will be at least somewhat narrower, e.g. to apprehend culpable wrongdoers among B’s political or military leadership, and to instigate some process aimed at holding them formally accountable for their wrongdoing.

risks to their own personnel. Note also that some other authors, like Beauchamp and Savulescu (2013), have defended a similar conclusion, ostensibly on the grounds that states will be more ready and willing to carry out ethically meritorious wars of armed humanitarian intervention in cases where the use of drones can mitigate or eliminate risks to the personnel of the intervening state.

The invocation of a policing paradigm already assumes that the advantaged party has a decisive upper-hand in its capacity to exert violent force, such that there is no need for it to win an advantage over the wrongdoers. The aim of policing – where would-be wrongdoers are *already* decisively out-matched in their capacity to exert violent force – is to subdue, apprehend, and try the renegade actors who choose to engage in violent wrongdoing nevertheless. Note two further important differences between the paradigms. First: in war violent force may be directed against *all* enemy combatants. In policing, by contrast, violent force must be directed toward only those who have (or who are reasonably suspected to have) violated a prohibition whose violation itself supplies a justifying basis for the use of violent force. Second: in war, uses of lethal force are permitted outside circumstances of imminent self-defence, e.g. pilots can bomb an opponent’s military outpost, killing enemy combatants who do not pose an imminent threat to anyone’s life. In policing, by contrast, the use of lethal force is restricted to circumstances of defending against an imminent threat – the police officer may only fire upon a suspected wrongdoer if she believes (reasonably) that he is presently endangering another’s life. Granted, there are all sorts of ways in which a description of these differences could be qualified or more painstakingly formulated. The point is that where, in warfare, there is a general license to use lethal force against some specified class of persons – namely, enemy combatants – in policing there is no such general license. The prerogatives involved in policing relate to the use of sub-lethal violence for the purposes of law-enforcement. As in normal social intercourse, the justifiable use of *lethal* violence in policing is limited to circumstances of defence against an imminent threat to someone’s life.⁴

⁴ In saying that there is a general license to use lethal force against enemy combatants, in war, I do not mean to suggest that in war there is a *completely unqualified* license to kill enemy combatants. At a minimum, the *jus in bello* principle of proportionality imposes firm limits upon this license. As Tony Coady says, the “entitlement to injure and kill [enemy combatants] is restricted by its necessity for furthering the war aims that are legitimated by your just cause, and when attacks upon them are no longer required by those aims, then the normal respect for human life should resume and be exhibited in your conduct” (Coady 2008, p. 157). My point is merely that there is a difference between war and policing, in that only in the former is the general respect for human life (provisionally) suspended, with regards to a specified class of persons (i.e. enemy combatants). Though there are certain things that the police officer is in general permitted to do, which the rest of us are not in general permitted to do, ‘killing enemies’ isn’t one of them. The permissibility (or excusability) conditions of killing people are the same for the police officer as for the rest of us, differing in practice only by virtue of the fact that the police officer more often faces lethal threats than do the rest of us.

I should acknowledge that views like Kahn's and Galliot's, about the ethical ramifications of technological asymmetry in war, are founded upon the contested assumption, that opposing fighters are *in general* morally justified in using lethal force against one another in war. One may wonder, then, what the upshot would be if we followed those like Jeff McMahan (2009), who say that even in war, the justifiable use of lethal violence is – as in normal social intercourse – limited to circumstances of self-defence against an imminent threat. My view is that a version of Kahn's paradox of riskless warfare arises even under McMahan's more restrictive ethical framework for thinking about killing in war. The kind of case in which McMahan accepts the justifiability of killing in war is the case where the soldier doing the killing is engaged in self-defence against an imminent lethal threat, posed by an aggressor fighting in the name of an unjust cause. In this sort of case, as much as in any other, asymmetries in military technology can reduce the degree to which the Underdog's soldier poses a lethal threat to the Superpower's soldier. And so – even for the soldier fighting in self-defence against unjust aggression – there is a point where this disparity is so large, and (correspondingly) where the opponent's threat is so negligible, that the use of lethal force against the aggressor ceases to be justifiable. In McMahan's framework the initial range of cases of permissible killing in war is narrower than in a conventional just war theoretic framework. But, plausibly, there remains a common structure – across the two frameworks – to the way killings in war can be rendered impermissible due to technological asymmetries.

3. The perils of policing

Although I have considerable sympathy for Kahn's account, at the same time something about it seems to me implausible. Where soldier S1 is fighting for a technologically-advanced military Superpower, A, and soldier S2 is fighting for a much less well-equipped military force, B, it is not clear why it should follow that the relational paradigm structuring the engagement between S1 and S2 is *police-versus-criminal*. Even if it becomes unfitting to regard the engagement between S1 and S2 as one of *combatant-versus-combatant*, this does not yet entail that a policing paradigm adequately describes the ethical contours of the interaction between S1 and S2.

Suppose, on one hand, that the Superpower, A, is the aggressor in the conflict, e.g. suppose A is using military force in pursuit of an unjust aim, like territorial occupation, whereas the Underdog, B, is using military force in an attempt to counter A's aggression. The problem, in that case, is that Kahn's

approach still assigns S1 the role of ‘police’ and S2 the role of ‘criminal’. To say that A would be justified only in policing B’s conduct, rather than engaging in full-scale combat against B, is to overlook the most important ethical fact in the neighborhood, namely, the fact that A isn’t justified in exerting violent force against B *in any form*. If large technological asymmetries alter what forms of violence are justifiable for the Superpower, in anything like the way Kahn suggests, it may yet turn out that this effect only obtains where the Superpower has some kind of (defeasible) justification for exerting violent force in the first place.

But even in that case, something in Kahn’s view seems awry. Suppose that Underdog B is the aggressor against Superpower A, such that A is justified, in principle, in using violent force to repel the aggression. And suppose that B’s armed forces are amassed in a military encampment near A’s borders (or, say, embassy), but not yet in the process of launching an attack against A. In such a case, can A’s forces take the initiative and launch a lethal attack on B’s encampment? The answer is surely ‘no’ – not if A is restricting itself to *policing* B’s wrongdoing, as opposed to engaging in full-scale combat with B. Analogously, if members of a police squadron know that the building across the street is occupied solely by people who are planning to carry out a killing spree, they – the police – still cannot respond to this by bombing the building to smithereens and thus killing all inside. They can try to apprehend the killers in advance. Or else, once the violent acts are initiated, they can use lethal force to stop them. But preemptive lethal strikes have no place in any ethically defensible form of police work. But then, if policing really *is* the appropriate framework for understanding the moral character of A’s interaction with B, A’s options for using force to resolve the situation – in a morally justifiable manner – are restricted to either (i) waiting for B’s aggression to commence before responding with force, or (ii) attempting to apprehend members of B’s forces, and thereby initiating a combat situation themselves. And in either case, it seems probable that *more* preventable killing will eventuate, than would have occurred if A simply approached its engagement with B under a combat paradigm, rather than a policing paradigm. Why? Because even if state A’s military force enjoys an enormous superiority in combat capability over state B’s force, A is very unlikely to be able to effectively police violent wrongdoing by B, if B’s members remain ready and willing to ‘go to war’ with A, before acquiescing to their own arrest. And as the perennial occurrence of asymmetric conflict demonstrates, the Bs of the world often *are* prepared to go to war with the A’s of the world, even while faced with seemingly insuperable disadvantages. The idea that large inequalities between armed forces transform combat into policing, trades upon a kind of ‘rational actor’ theory of armed conflict – the key supposition being that actors who can see that they are destined to lose in the event of

full-scale combat will allow themselves to be apprehended, before engaging in futile violence for the sake of an unwinnable conflict. But this supposition is unsafe. Where both sides understand their interaction as one of full-scale combat, and act accordingly, it seems more likely that a decisive outcome will be achieved quickly, with most of the costs being incurred by the disadvantaged state. By contrast, where the advantaged side sees itself as policing violent wrongdoing, while the disadvantaged side thinks of itself as fighting a war, the conflict is more likely to be drawn out, and significant human costs are more likely to be incurred on both sides. And in cases where the disadvantaged party is an unjust aggressor, the first scenario is obviously to be preferred over the second. If that's right, then – in these sorts of scenarios – it may well be a grave mistake for the Superpower to approach its conflict with the Underdogs via a policing paradigm.

Kahn and others are right to insist on the ethical indefensibility of the Superpower annihilating Underdog forces *en masse*. But where complete disengagement is not a viable option either – where the circumstances of the conflict *necessitate* an active response – the question we have to ask is: how *should* the technologically advantaged state conduct itself? And my point is that we cannot tell the military superpowers of the world to eschew warfare in favour of policing, not if by policing we mean anything like what we normally mean by the term in domestic political contexts. “If combatants are no longer a threat”, Kahn says, then “they are no more appropriate targets than non-combatants” (2002, p. 5). I am not objecting to *this* claim – rather, I am arguing that it is insufficient to establish Kahn's claims about the Superpower's duty to adopt a policing approach in all contexts. In the kind of asymmetric conflicts we are considering, wherever it *is* the case that the Underdog's personnel pose no threat to the Superpower's personnel, this is the case *only while* (and only because) the Superpower is actually exploiting its superior combat capability in order to suppress its opponent by violent force. If the Superpower eschews full-scale combat, in favour of a policing approach, it becomes possible once again for the Underdog's personnel to carry out lethal attacks. As long as the individual soldiers who are responsible for carrying out on-the-ground policing activity remain vulnerable to such attacks, the demand that they abstain from combat is equivalent to a demand that they relinquish their positional advantage, and the relative degree of safety which is concomitant with that advantage, in order to risk death at the hands of their opponents. And – especially if the conflict stems from the Underdog's unjust aggression – this demand seems almost perverse. Whatever follows from Kahn's paradox of riskless warfare, then, it cannot be any general

obligation, on the part of Superpowers, to approach political conflicts with Underdogs under a policing paradigm, *instead* of a warfare paradigm.

4. The technologically-enhanced soldier as invulnerable police officer

That is how things currently stand, at any rate. But soldier enhancement technologies have the potential to significantly alter the structure of conflicts between Superpowers and Underdogs – indeed, to transform the circumstances of threat and risk that obtain in these conflicts, in a way that will make it possible for the Superpower to adopt a policing approach in its conflict with the Underdog, but *without* its personnel relinquishing the relatively unthreatened position they would enjoy in full-scale combat with Underdog forces. Obviously not all types of soldier enhancement are pertinent in this connection. But *one* of the core aims of soldier enhancement – for instance, one of the central research agendas pursued by MIT’s Institute for Soldier Nanotechnologies (see <http://isnweb.mit.edu/>) – is to adapt revolutionary materials technologies, in order to equip the Superpower’s military personnel with body armor and life-support systems, which will render them highly resistant to a wide spectrum of normally-lethal physical threats, including projectile ammunition, shockwaves, incendiary agents, neurotoxic agents, and vesicant agents. It’s possible, naturally, that the promises made on behalf of this technological research agenda are exaggerated. On the other hand, technological developments can sometimes outpace expectations, even the ambitious expectations of those undertaking the research. Suffice it to say, there is at least a non-trivial possibility that, in coming decades, US soldiers who are deployed in hostile territory will be equipped with armor and life-support systems which – from the more modestly-equipped, Underdog military force’s perspective – will make the US soldier *extremely* hard to seriously injure, and even harder to kill. To the extent that this transpires, the situation of the US soldier on-the-ground will become much more like the situation of the present-day soldier employing remote weaponry in a combat situation: it is not completely impossible for him to be injured or killed by enemy combatants, but the threat that he poses to the enemy’s life drastically outstrips the threat that the enemy poses to his life. What’s significant about this prospect, to put it another way, is that it recreates – at a *micro* level (i.e. in the up-close interaction between opposing fighters ‘on the ground’) – the asymmetric dynamic of risk and threat that obtains between the Superpower and Underdog at the *macro* level. At present, the Underdog forces *as a whole* pose only a negligible threat to the Superpower’s forces *as a whole*; and that dynamic is preserved for some members of

the Superpower's military force (e.g. Underdog forces pose, at most, only a negligible threat to the Superpower's fighter pilots and drone operators). Given the development of effective soldier enhancement technology, the prospect is that even troops on the ground, in near proximity to hostile enemy combatants, will be in the same (relatively) unthreatened position.

Under these conditions, Kahn's controversial claim – that military Superpowers like the US must, in conflicts with Underdogs, eschew warfare in favour of policing – becomes rather more plausible. Under these conditions it becomes possible for the Superpower's ground forces to carry out the basic functions of policing – e.g. apprehending wrongdoers, maintaining law and order – without thereby incurring the kind of vulnerability to lethal attacks by enemy combatants, which *would* come along with a shift from a combat footing to policing operations, under current conditions. If effective soldier enhancement technologies like those mooted above are achieved, then the Superpower's technologically-enhanced troops will be in a position to police the conduct of the Underdog, in a way that the Superpower's troops today aren't, notwithstanding the existing (macro-level) disparities between Superpowers' and Underdogs' warfighting capabilities. And this would remove the objection that I offered in §2 to the argument outlined in §1.

I'll finish by stressing what I very briefly noted in §2. This entire discussion is immaterial if the Superpower's conduct, in its conflict with the Underdog, is unjust *ad bellum*. And though I won't argue as much here, it's doubtful that most (or even *many*) conflicts between Superpowers and Underdogs are ones in which the Superpower can assert the justice of its conduct *ad bellum*. If that's right, then what is the upshot of this discussion? The upshot is that even more is required of the Superpower in order to acquit itself justly in its international relations, than we might have initially supposed. It is not sufficient for the Superpower to have just grounds for entering into the conflict with the Underdog *ad bellum*. Nor is it sufficient for the Superpower to adhere to the requirements of *jus in bello* within the conflict. The superpower must, in addition, take on the onerous responsibilities that come with eschewing full-scale combat and, instead, carrying out the duties and assuming the burdens of law enforcement. Soldier

enhancement technologies matter, in this arena, because they have the potential to remove a key objection to Kahn's claim that it is morally obligatory for the Superpower to reconfigure its approach in this way.⁵

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⁵ This paper builds upon ideas and arguments that I originally developed in a co-authored paper with Robert Sparrow (see Simpson and Sparrow 2014). I should stress, though, that I am solely responsible for any deficiencies in the argument and analysis here. Thanks to Toby Handfield, Rob Sparrow, and Ryan Tonkens for their comments on a draft version of this paper.