

## **Preventing Another Mosul; Unmanned Weapon Platforms as the Solution to the Tragedy of a Hostage Siege**

The recent Iraqi offensive that recaptured the city of Mosul from the Islamic State have demonstrated the inability of contemporary armed forces to retake urban areas from a determined and ruthless enemy without either suffering debilitating casualties or causing thousands of civilian deaths and virtually destroying the city itself. The enemy's willingness to refuse civilian evacuation via a humanitarian corridor and effectively take them hostage is all it takes to impose this tragic dilemma on an attacking force. The civilian death toll of the battle of Mosul alone is estimated to have reached between seven and forty thousand, with almost one million people displaced and large portions of the city levelled. Avoiding another such tragedy should be a priority for all practitioners and theorists of urban warfare, especially as the barbarous yet highly effective tactics employed by the Islamic State are likely to be copied not only by other jihadist movements but by other armed groups and rogue states caring little for the lives of civilians and their own rank-and-file combatants. The use of such tactics constitutes a most serious challenge both to the broad ethical program of reducing the cruelty of war and de facto implementation of the international Laws of Armed Conflict (LOAC) and to the way of war based on mobility, informational supremacy and the use of precision fires. Confronting and defeating this challenge may be the most important task for ethics, theory and practice of urban combat in the coming decade. Armed forces of countries committed to sustaining and improving the present levels of compliance with LOAC and the *Ius in Bello* principles that underlay it should pay particular attention to this issue.

In this chapter I will argue that the only viable way of escaping the Hostage Siege Dilemma, that is, enabling the blue force to retake the city without causing itself and/or the city's inhabitants to suffer extensive and possibly prohibitive casualties consists of incorporating very large numbers of unmanned and autonomous weapons into the force structure and using these to substitute for artillery, armour and aerial fires presently being used to overpower urban defenders. While other measures may be used to marginally improve the outcome of hostage sieges<sup>1</sup>, only the automatization of the assault can dramatically change the calculus and in result either discourage rogue actors from creating hostage siege dilemmas in the first place or, if they do so, defeat them decisively while suffering unequivocally proportional casualties.

I will proceed as follows: first, I will provide an account of the 2016-17 Iraqi assault on Mosul, giving special attention to the events and features relevant to the hostage siege dilemma; I will use this case study to introduce the theoretical concept of the hostile siege and the ethical dilemma it creates, discussing possible objections in the process; I will then make the case that the circumstances of the Battle of Mosul are far from unique and are bound to repeatedly transpire in the future. The possibility of relative prevalence of hostage sieges in turn generates a duty to find a way out of the dilemma, as I will argue next, defeating several objections to this claim. Finally, I will try to convince the Reader that widespread use of unmanned and autonomous weapon platforms constitutes a viable way of assaulting hostage cities in a manner that assures respect for the principle of proportionality, proposing several ways in which such

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<sup>1</sup> While the term „hostage city assault” would describe Mosul-like scenarios with more fidelity, it seems to me to do a worse job of communicating its meaning without further explanation, and therefore I will settle for “hostage siege” as a more convenient label.

weapons may be designed and used to drastically limit both military and civilian casualties. Concluding that it may be not only permissible but morally required to employ autonomous weapons in the circumstances of the hostage siege, I will finish the chapter discussing the implications of such a conclusion for a wider debate concerning moral feasibility of autonomous weapons.

### **Battle of Mosul – a Hostage Siege Story**

In June 2014, ISIS stunned the world by taking over the city of Mosul. The group's conquests, though extremely rapid and surprising, run out of steam at the edges of Sunni-dominated part of Iraq and, once stalled, became a target of slow but meticulous rollback operations by the Iraqi government and its American, European, Iranian, Arab, Kurdish and Shia militia allies. Tikrit, Ramadi, Fallujah and approximately half of Daesh-conquered territories were retaken prior to the assault on Mosul. These operations were widely viewed as a build up to the climactic battle, allowing Iraqis to develop urban combat capabilities and test themselves in much smaller battles before advancing onto a truly large urban target. Their success, coupled with the raising and retraining of sufficient number of troops by the anti-ISIS coalition, made it possible for the assault on Mosul to begin in October 2016.

During a three years long occupation of the city and the adjacent region the Islamic State committed all imaginable and unimaginable atrocities, up to and including a revival of slavery (El Masri 2018) and an attempted and partially realized genocide against the Yazidis and other ethnic and religious minorities (Cetorelli et al. 2017). While ISIS' crimes are both well-known and well documented (Amnesty international 2017; UNAMI 2016), it is important to notice that for this particular group these violations were not mere means to an end, but an end in itself. Daesh did not kill, torture, rape and enslave its victims just to gain and sustain power. Permanent denial of basic human rights to all persons living under its regime was inherent in its goal of creating a state based on a strictly fundamentalist interpretation of Islam. This is exemplified *in extremis* by the institutionalization of sexual slavery within the groups bureaucracy and with explicit reference to, justification by and guidance from Islamic law and jurisprudence, as ISIS interpreted it:

Two of these departments [of Daesh bureaucracy – M.Z.] were the Department of Slaves, which supervised the slave trade and the treatment of the enslaved, and the Islamic State's Research and Fatwa Department, whose responsibility was to issue religious guidelines dealing with women slaves. In fact, the latter issued two manuals for slavers, published in December 2014 and January 2015, respectively. These manuals regarded captured girls or women as 'merely property' that can be inherited as part of the owner's estate, and considered sexual intercourse with them 'halal' (accepted by God), with a few restrictions to avoid incest and to determine the 'nasab' (the identity of the father) of the resulting offspring. In addition, ISIS-run Islamic courts had a role to play in this process, through notarising the official sales contracts between the sellers and the buyers. (El Masri 2018, 6-7)

Thus the cause ISIS was fighting for was intrinsically and irredeemably wrong, the methods it was using, the grievances it was claiming to represent and the flawed legitimacy of its many enemies notwithstanding (not that it could mount a convincing argument regarding

these issues). The people it had conquered were its direct and primary victims, and the Iraqi effort to reclaim lost territory was not only a sovereign state's attempt to assert its territorial integrity, but also a humanitarian intervention.

Clear understanding of this fact is essential for correctly picturing the proportionality calculations bearing on the Iraqi commanders. Leaving the city in the hands of the Islamic State for a period of time meant nothing less but accepting that for such a period of time the human rights of all its inhabitants will remain completely unprotected, and that their violations will be both frequent and extreme. Moreover, as the enemy's willingness to defend the capital of their self-proclaimed caliphate was openly and convincingly declared, little was to be gained by delaying the assault. ISIS made it clear they would never leave Mosul unless evicted by military force. Launching the assault as soon as it was militarily feasible was thus preferable, from a humanitarian viewpoint, to delaying it any further.

Launching the assault in October 2016 the Iraqi leadership made a strategic decision not to encourage civilian flight out of Mosul. After their experiences fighting ISIS in the previous two years, the Iraqis could have been under no illusion that the city would fall swiftly or without heavy fighting, especially as Mosul was being treated as a decisive, no-retreat battle by ISIS itself, this attitude clearly communicated in Daesh propaganda. It is important to stress that the Iraqi government did not prevent any of the inhabitants from leaving Mosul – all refugees were accepted within Kurdish and Iraqi lines, and no open or veiled threats aiming to discourage people from leaving Mosul have been issued<sup>2</sup>. Yet the fact remains that the inhabitants were advised against leaving by the Iraqi authorities. I do not know whether the principle motivation for this policy was the realization that the government had no resources to deal with one million refugees with winter slowly approaching, a desire to shelter the population of Mosul from ISIS retaliation that might follow an attempted exodus (and that ultimately followed later attempts), a conviction that as the battle approached their particular neighbourhoods, the people should be able to get to the Iraqi lines in manageable numbers, or simple negligence. Whichever combination of reasons motivated it, the policy itself seems in hindsight dubious, if not outright disastrous. At the time, it was a judgment call, though perhaps one made too lightly and with too little informed deliberation.

The government's advice was one of the reasons for the Moslawis deciding to stay in their homes in large numbers as the assault was launched, though probably not – in most cases – a decisive one. The Islamic State deployed the full force of its apparatus of coercion to keep the populace from fleeing. Attempts to flee the city, if discovered, were punished by death, though in the final stages of the battle, as it was trying to exfiltrate many of its fighters, Daesh must have consciously allowed at least some refugee outflow as it served as cover for its operatives<sup>3</sup>. The diligence and competence with which these orders were executed at various

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<sup>2</sup> It might be argued that the government alliance with the Shia militias responsible for a campaign of ethnic cleansing aimed at Iraqi Sunnis in the 2006-2008 period engendered somewhat reasonable fear of being subject to similar atrocities in the Sunni population of Mosul (especially in men of military age); it is certain that Daesh tried to capitalize on such fears and used them as a tool for making Moslawis stay. However, the 2016 Iraqi government may be said to have allied with the militias out of genuine necessity in the face of an existential threat, not out of freely expressed preference; I therefore believe it should not be held responsible for the ill effects that such an alliance have indirectly produced. It definitely cannot be asserted that the use of the militias in rather marginal roles during the assault constituted a veiled threat directed the populace and aimed at keeping them in the city – proving such an assertion would require extraordinary evidence that has not surfaced.

<sup>3</sup> This, of course, was also a war crime, as it endangered fleeing civilians and made them, at the very least, subject to thorough and definitely unpleasant status verification process. Men of military age were routinely separated from their families as a result, sometimes for prolonged periods.

stages of the battle notwithstanding, it was official Daesh policy to keep civilians from leaving by force. It goes without saying that the consent of the local population for turning Mosul into a besieged fortress was not asked for, and was never given.

Other reasons – fear of losing their homes and other possessions in the chaos of war, fear of the conditions prevalent in refugee camps, attachment to their hometown – might have enticed many locals to stay, but the threat of punishment made by ISIS was on its own enough to coerce a reasonable person.

Initial efforts, aimed at the reoccupation of the eastern part of the city, were not characterized by the extremely heavy and sometimes indiscriminate use of fires that was to become one of the defining features of the assault's latter stages. Spearheaded by the separately raised and commanded Counter-Terrorism Service troops, the initial assault relied on softer, infantry based tactics and took ground successfully, albeit with unsustainably large losses<sup>4</sup>. The Counter-Terrorism Service did not have enough troops to continue in this way, and other Iraqi units were unwilling or unable (perhaps both) to apply these tactics. Consequently, a historically typical reversion to the use of heavy fires motivated by desire to lower own casualty rates transferred a large amount of risk away from the Iraqi units and onto the civilian population and the physical infrastructure of the city itself (Amnesty International, 11). These new policy has been enabled by the Obama administration relaxing the rules of engagement guiding the use of American firepower in Mosul in December 2016. While these heavy fires, especially those provided by the American, British, French and other Western allies, were mostly used against specific points of resistance within a city, later into the battle some of the Iraqi units, especially the Iraqi police, were documented firing indiscriminately into the city and/or using inherently indiscriminate weapons such as Multiple Launch Rocket Systems or Improvised Rocket Assisted Munitions (Amnesty International 2017, 12, 26; Oakford et al. 2018, 6).

The Western allies alone claim to have released twenty nine thousand munitions within the city in the October 2016 – June 2017 period (Oakford et al., 6). This number does not account for organic Iraqi fires, nor for the seven hundred car bombs used by ISIS, nor for any other fires or Improvised Explosive Devices used by the terrorist group.

The Islamic State understood that the coalition air supremacy and absolute superiority in artillery would, if unchecked, result in its defeat; it responded by using civilians as human shields, increasing the death toll from air and artillery strikes but failing to deter the Coalition from using these heavy-handed tactics. As described by the Amnesty International report:

Beginning in October 2016, IS rounded up thousands of civilians in contested villages and neighbourhoods and forced them to move directly into zones of conflict in west Mosul. This systematic campaign of forced displacement allowed IS to use an ever-greater number of civilians as human shields as their territory contracted. The armed group then prevented civilians from evacuating, in some cases trapping them inside their homes by welding their doors shut or by rigging the entrances with booby traps. IS also summarily killed hundreds, if not thousands, of men, women and children as they attempted to flee and hanged their bodies in public areas (2017, 5).

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<sup>4</sup> According to some sources (Amnesty International, 11) the total casualty numbers for CTS units may have exceeded 50%, entirely plausible in the case of infantry units attacking in dense urban terrain, especially as these troops faced ISIS defenders at the latter's peak capacity, when Daesh were not yet attrited by the fighting and rigors of the siege, and capable of bold counterattacks (Spencer 2020).

Another factor may have contributed to the exceptional intensity of fighting in Mosul. The Trump administration, taking office in January 2017, vowed to toughen the American approach towards the Islamic State. These political pronouncements were in line with a strategic approach favoured by the incoming US Secretary of Defense, retired general Jim Mattis. The approach, known as the “battle of annihilation”, called for surrounding and destroying ISIS forces, including within cities, rather than allowing them to retreat in order to avoid urban combat, as Australian general John Noble claims had happened in Fallujah (Spencer 2020). “Our intention is that the foreign fighters do not survive the fight to return home to North Africa, to Europe, to America, to Asia, to Africa. We're not going to allow them to do so”, Mattis publicly claimed in a CBS interview in May 2017 (Watson 2017). While it is unclear whether American influence over the Iraqi leadership was substantial enough at the time to influence decisions of this magnitude, Mattis and other American officials appeared satisfied that the annihilation strategy was being put into place, and there is no evidence of attempts to induce ISIS to leave the city, although such an approach was part of the Iraqi playbook at the time.

It would be deeply unfair to say that the battle of Mosul has been won just through the use of overwhelming firepower. Great sacrifices and growing military prowess of the Iraqi troops, especially the Counter-Terrorism Service; improvements in tactics and operations made by the Iraqi commanders as the assault progressed; technological superiority of the Coalition – these and many other factors contributed to the outcome of the battle. Yet there is no denying that it was the substantial use of heavy fires that enabled the Iraqis to advance into the ISIS stronghold without suffering unsustainable casualties, and so having to suspend or abandon the assault.

These fires were, unsurprisingly, the main driver of civilian casualties that may be attributed to the coalition. The initial civilian casualty estimates provided by Iraqi and Coalition authorities were quite low – Iraqi prime minister Haidar al-Abadi have provided the media with a figure of twelve hundred sixty civilian dead. Later an Associated Press examination of various tallies, including of the data collected by the Mosul morgues, rendered a figure of nine to eleven thousand civilian dead, with morgue records identifying nine thousand six hundred six civilian fatalities (George 2017). Of this number a third were counted as victims of the Islamic State, another third as fallen in the Coalition bombardment, with the final third of deaths unattributed to the operations of a specific actor. A much higher figure of forty thousand civilian dead has been put forward by Kurdish intelligence and constitutes the high end estimate of the civilian losses (Cockburn 2017). The very fact that this figure remains within the realm of possibility and cannot be dismissed as implausible demonstrates the character of the fighting and the levels of uncertainty involved. Still, as it is a decisive outlier, for the purposes of this paper I will treat the more clearly established number of roughly ten thousand civilian casualties as currently available best estimate.

Despite the use of tactics aimed at reducing military losses, the Iraqi forces still suffered fourteen hundred killed in action and seven thousand wounded (Cooper 2017), markedly exceeding the worst annual casualties suffered by US forces in the Iraq War. The city itself, especially its more densely populated western part, has suffered World War II levels of devastation. Most of its remaining population has been internally displaced; according to a report by the World Bank Group, 65% of the city's housing has been either partially or completely destroyed (2018, 17). The historically significant Old Town was one of the hardest hit districts, with the demolition of the famous Al-Nuri Mosque, one of the last acts performed by ISIS fighters, becoming a symbol of the group's wanton destruction. The city's

reconstruction has since been plagued by mismanagement and corruption on top of obvious challenges involved (Davison 2019); in July 2020 it is still far from completion.

### **Hostage Siege Scenarios – a problem, a Problem or no problem?**

Ethics of war require the defender of a besieged city to allow the evacuation of all civilians who wish to be evacuated, without retaliating against them in any manner; they also require the besieging force to grant them safe passage – a humanitarian corridor – into the territory unaffected by fighting and do their best to provide for their basic needs while they remain displaced by the fighting and resultant destruction. For practical reasons, the civilians are allowed a choice and means to effect it, not an outcome – those who refuse a proper offer of evacuation lose their right to immunity from attack, and so an assault may commence without constituting indiscriminatory violence (Walzer 1977/2006, 160-170). These simple requirements stream from basic principles of *ius in bello* – distinction, proportionality and precaution in attack. Such an ideal scenario is the realization of any ethical commander's dream – a battlefield with no civilians to worry about. A siege – one of the most static forms of warfare – is one of the few that allows the willing to realize such a dream.

Yet it almost never is so, as it is very rare for both sides to genuinely care for the civilian's well-being and for one side not to be (dis)advantaged by such an ethically desirable outcome. Historically, it was the danger of the attacker refusing the civilian evacuation in order to place a greater burden on the defender's resources that had to be addressed by the ethics of war. Nowadays, the prospect of the defender refusing to let the willing civilians go while simultaneously denying them access to essentials and/or subjecting them to widespread human rights violations has, as I will argue, become more threatening.

The conundrum is game theoretical in nature, and arises if the following conditions are met:

- 1) The defender of an urban area places little or no value on the lives and wellbeing of the city's civilian inhabitants, while the attacker does so
- 2) The defender does not fear or mind sanctions for breaking the Laws of Armed Conflict
- 3) The inhabitants have little or no means of resisting the defender's abuses themselves
- 4) The defender does not answer to a politically superior entity that, if forced or convinced to do so, has the authority to make it surrender

If these conditions obtain jointly, the defender has every incentive to turn the city's inhabitants into human shields who will either starve if the attacker settles for a static siege<sup>5</sup>, or be subjected to the attacker's fires if he decides to take the city by storm. The attacker thus faces a choice of either initiating a battle that will result in mass civilian casualties or abandoning the effort to reclaim the city<sup>6</sup>. Such a choice becomes morally tragic if the attacker is a just warrior and retaking the particular city is for her not only a political, but also a moral goal. Given that only a morally vile defender would take an entire city hostage, and that such an action almost certainly demonstrates that the defending regime is capable of, and aiming at, widespread and

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<sup>5</sup> It is an interesting legal question whether the attacker who offered free passage to civilians, which offer they could not accept because of defender's coercion, would be permitted to then take the city by starvation under the Laws of Armed Conflict. However, since any such attempt would most probably cost much more civilian deaths than an assault, it would be prohibited anyway as a clearly more harmful option, and so the legality of the move needs not to concern us here.

<sup>6</sup> The third possible choice, that of avoiding the use of heavy fires and consequently failing to liberate the city while suffering debilitating casualties and still causing some civilian ones is Pareto dominated by the former two.

grievous human rights abuses, taking in hostage city will almost always constitute a moral goal of very substantial importance (Orend 2013, 34-43, 54-56).

The attacker's dilemma may take a soft or a hard form. If the civilian casualties to be expected from the assault are regrettably high, yet not high enough to render the assault disproportionate, the attacking commander is dealing with a soft problem. If she takes all necessary precautions in attack, she is just choosing the least bad of the available options. Her choice is heartbreaking and tragic, but morally correct. In the case of the harder problem, she is forced to abandon her design of liberating the city, as the expected civilian casualties would be so large as to render the effort disproportional. This possibility is especially disturbing since it offers rogue actors such as ISIS means to run roughshod over the human rights of large populations and perpetuate their ability to do so by threatening even larger breaches if someone intervenes. Such dynamic is already in play in the case of nuclear dictatorships – no matter what these actors do to populations under their control, all armed intervention, carrying with it the risk of nuclear war, is obviously disproportional and thus morally impossible. The Hostage City Dilemma in its hard form replicates this on a smaller scale, and makes this kind of effective moral blackmail available to every actor who can gather a couple thousand fighters armed with Kalashnikovs.

I do not believe the occasional occurrence of the Soft Dilemma can be successfully challenged. As to the Hard Dilemma, the case of Mosul could actually be used to argue that it almost never occurs – or that it is relatively common. If one believes that the outcome of the assault on Mosul, as known to us in hindsight, was proportional, then it is possible to argue that few if any urban assaults undertaken without gratuitous destruction will ever be. After all, ISIS – one of the most notoriously immoral actors of the post- Cold War era – did its best to increase the civilian casualties through human shield use, was aided in this enterprise by at least some indiscriminate fire on the Coalition part, then directly targeted thousands of civilians and managed to produce a civilian death rate of one percent (four percent, if the worst estimates are to be believed). No own-casualty-averse assault, especially conducted with greater ethical competence (no IRAMs, no delayed signature strikes) could, according to this logic, do much worse, and most could do better.

On the other hand, if one considers Mosul disproportionate in hindsight (again – does the answer depend on which casualty estimate is believed?), then one should assert that the Hard Dilemma could in fact be quite common, both in the sense of the absolute frequency of its occurrence and in terms of a proportion of urban battles to which it pertains. Consider that, while fierce and competent, ISIS fighters were in the most part self-taught amateurs, with some of them being slave or child soldiers. What if they were professionals, and better equipped? What if they were more numerous, which could well have been the case, if ISIS did not bleed itself with hyperaggressive attacks in battles such as Kobane? The proportionality calculus is, moreover, affected not only by the casualty figures, but also by the moral worthiness of a goal constituted by liberation, which is itself affected by the moral character of the defender regime, defined as the scope of human rights violations it perpetrates. Again, it is hard to be morally worse than ISIS in our day and age. What if the hostage siege was undertaken not against Daesh, but, say, the Russian-backed separatists in Eastern Ukraine? Escaping life under Islamic State to live under contemporary Iraqi State may be worth a 1% chance of dying; is escaping life in New Russia to live under contemporary Ukrainian state worth a 5% chance of dying? If not, then imposition of such a risk on the hostage population would be disproportional.

Whether the Hard Dilemma is rather common or negligibly rare seems to me a decently interesting topic of academic disputation, but settling the issue is not essential for the point I am trying to make. Certainly, if the Hard Dilemma is common, than solving the Hostage Siege Problem is more important than if it were not common. But I believe the issue carries sufficient importance even if only the Soft Dilemma occurs in real life. I have stated that the Soft

Dilemma's existence is not to be challenged, in the sense that tactics required for conquering competent and determined opposition in an urban environment necessarily generate very substantial civilian losses under the conditions of a hostage siege. Yet it is nonetheless worth anticipating two plausible, if ultimately unconvincing, ways of defusing the dilemma.

The first one consists of asserting that many specific efforts may be undertaken to marginally improve the outcome of hostage sieges, jointly resulting in lowering civilian casualties to the acceptable – or at least routinely accepted – level. More precise munitions may be used, and dumb munitions entirely eliminated; scope and intensity of surveillance extended even further in order to gather even more intel on the current location of civilians. More and better trained troops may always be used; civilians may be proactively aided in their escape from the hostage city, and cared for even better afterwards. Finally, an even better effort to convince the enemy not to stay and fight in the city may be undertaken.

The theory that it is the violations and the imperfections, rather than the core tactics of the assault-by-heavy-fires that cause most civilian casualties is convenient to believe in; this is one reason for which I do not, but there are several other. For one, the frontline Coalition airstrikes in the Battle of Mosul were ultimately effective and quite numerous, and we know that ISIS used human shields on the frontlines, and that the hundreds of thousands of civilians who did escape the city escaped through the frontlines. It stretches credulity to assume high civilian casualties did not occur in such environment. Moreover, a third of casualties registered by the Associated Press could not be attributed by the local witnesses to the actions of either party, which means that these deaths most probably happened on the frontlines, in the zone where both parties simultaneously used fires. These could not be the effect of inherently indiscriminate weapons, as these would not be used in close proximity to won troops, at least not routinely.

The final piece of evidence that convinces me that this empirical hypothesis is not true comes from the examination of Amnesty International's post-Mosul recommendations for actions to be taken by Coalition militaries in order to lower the death toll (2017, 46). Of the six measures proposed, only one – eschewing the use of inherently indiscriminate weapons such as IRAMs in densely populated areas – is an ethical no-brainer. Another – eschewing all artillery – is demanding and may be infeasible for countries that do not possess a world-class Air Force (assuming present-day level of technological advancement). Complying with IHL's targeting requirements and "assuming the presence of civilians in all structures" was being done throughout the battle, with room for improvements, but at an unprecedented level of excellence, at least as far as Western forces were concerned (Spencer 2020). The remaining two – safely evacuating civilians when feasible and providing civilians with advanced warnings and guidance on escape routes – are made impossible by the very nature of the Defender's repressions that defines the Hostile Siege Problem. In short, there is not much room for improvement by picking the low-hanging fruits of minimally decent behaviours. Moral saints, if made to use this kind of fires in a densely packed hostage city, would still bury entire families under the rubble of their own houses with depressing frequency. There is no easy fix, not within the air-and-artillery paradigm.

The second challenge to be addressed is the issue of culpability for the civilian deaths. The Defender is clearly culpable for these, in more than one way. Does this not solve the problem? These deaths, morally, are terrorist murders – and so the whole thing is just an act of terrorism writ large. We do not blame addressees of terrorist threats for the deaths that occur when these threats are ignored, especially if fulfilling the terrorists' demands would mean doing substantial harm to innocents – as would Attacker, were it to abandon the inhabitants of a



hostage city, leaving them in the hands of the rights-violating Defender regime. Why should we blame the Attacker then?

I am more than willing to assert the ultimate, yet also direct, culpability of the Defender for each and every death that happens during the battle<sup>7</sup> - and the ultimate irrelevance of this culpability for the moral problem at hand. Both ethics and law obviously require the Defender to quit its illegal and tyrannical occupation of the city. In addition to this *ius ad bellum* culpability, the Defender has an obvious *in bello* culpability for the civilians being there at all at the time of the assault and for them being in locations used for military purposes during the assault. This makes any direct comparisons between the number of civilians who die as a result of the Defender's repressions or its use of fires with the number of civilians who died as a result of the Attacker's fires absolutely misguided, if not morally obscene. Yet it does not eliminate the moral problem of the civilian death toll, nor does it excuse the Attacker for causing avoidable civilian casualties. The fact the terrorists taking civilian hostages are ultimately responsible for each and every death that occurs during the intervention of a SWAT team does not excuse the SWAT officers for rushing into ill-advised action when negotiations could work better, or for indiscriminately killing hostages and terrorists alike, or for transferring all the risks from themselves onto the hostages. The situation is surely no different when the hostage group is the population of a large city. Thus the Attacker cannot simply state "it is not us who shed this blood" as long as they do not deliberately target civilians. The list of their *in bello* responsibilities is far longer, and their obligation to actively try to preserve lives, instead of just avoiding culpability, is much more profound.

The Hostage City scenarios are also non-trivially different from another group of scenarios that I will dub None Left Behind ones – the difference being more significant at the level of actual military and political practice than from a viewpoint of pure ethics. In Hostage City scenarios, the military necessity of using heavy fires combined with the presence of civilians will mean that before a certain neighbourhood may be secured by the Attacker, a certain percentage of its civilian inhabitants will die as unintended yet foreseen victims of the Attacker's air- and artillery strikes. In None Left Behind scenarios, the Defender will execute a certain percentage of a neighbourhood's inhabitants upon being forced out of it – an action clearly and credibly communicated, and therefore foreseen, by the Attacker. The civilian death toll in both groups of scenarios will be identical – but the Attacker's control over the outcome, and the Defender's ability to deter the Attacker will not. As to the former dissimilarity, in Hostage City Scenarios the Attacker is free to develop new tactics and technologies that, when applied, will lower the death toll; in None Left Behind, the death toll stays the same. As the Attacker in the Hostage City scenarios may improve the outcome, it is morally obliged to try.

Realizing this difference could lead one to a depressing conclusion that if the efforts of the Attacker to lower the civilian death toll through novel solutions succeed in a Hostage City scenario, the Defender, insensitive as it is to the value of human life, will simply switch into the None Left Behind Mode. This does not take into account, however, that this would significantly diminish the Defender's deterring power vis-a-vis a certain kind of Attacker – a kind that might have been represented by at least some members of the anti-ISIS Coalition. The Clean Hands Attacker does not really care about the civilians – but cares about the culpability for their deaths not being assigned to it, its moral reputation being important for the overall legitimacy of the war effort. (The Clean Hands Attacker does not believe it can deceive others

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<sup>7</sup> With the exception of instances, if there were such, when civilians were deliberately targeted by the attacker's forces.

about its actions, at least not perfectly). It would thus be deterred by human shield civilians dying in its airstrikes, as this might tarnish its image; but civilians being murdered by its opponents just because Clean Hands Attacker was on the brink of liberating them is not a deterrent – it is a gift to its propaganda machine, a golden opportunity for showcasing moral contrast. Given the growing importance of narrative-shaping efforts (and awareness thereof) for present day military campaigns, it is hard not to see this theoretically insignificant difference between being forced to caused unintended deaths and being terrorised with such as a potent restraining factor.

In summary – the conditions constitutive of a Hostage City Dilemma may be said to have applied in a number of historical urban battles. The assaults on Mosul and Raqqa provide the most recent examples; yet these are far from being historically unique. One need only to think of Manila, or of Hue, to understand the width of possible ideological backgrounds that may lead the Defender to create them. These conditions differ, in a morally and politically significant way, from those created by the Defender’s use of purely terrorist tactics against the inhabitants – unlike the latter, they live the Attacker with space for improvement, and so with responsibility to pursue it.

Hostage City scenarios may be created relatively easily – military control of a city, lack of moral scruple and lack of incentive to do otherwise suffice – but they cannot be easily escaped, not through basic levels of IHL compliance. Whether it is equally easy for the Defender to bind the Attacker in a hard version of this dilemma, making the attack itself disproportional, is subject to discussion; regardless of its outcome both ethicist or practitioners should research the possibility of a paradigm shift enabling the latter to significantly lower civilian casualties in Hostage City scenarios.

### **The Unmanned Solution**

Restating the Hostage City Dilemma: the city must be taken. The use of potent munitions – taking the city with shells, bombs and missiles – causes unacceptable civilian casualties. But the use of other tactics – taking the city with bullets and grenades – generates too many military casualties and consequently jeopardizes the assault’s success.

The two possible ways of escaping the problem are lowering the civilian casualties resulting from heavy fires – as indicate above, most probably an impossible task – or lowering the military casualties resulting from lighter tactics. If the Attackers lower their attrition rate to acceptable levels, they can go on clearing house by house and street by street with small arms fire without their being a problem.

The obvious solution is a thorough and far-reaching robotization of the assault force. Unmanned platforms do not have intrinsic moral value, can be replaced or repaired far easier than humans, and their destruction, even on a massive scale, does not result in institution-wide loss of expertise and competence. Unlike most air- or artillery delivered munitions, they may be scaled to remain proportional to effects not only in the ethical, but also in the economic sense. Sure, robotics are expensive, especially before they become subject to the economics of scale; but intelligence munitions delivered by fighter aircraft (themselves AI-driven robots of a very specific type) are equally, if not more so. Their logistical footprint may also be lower than that of artillery, and almost certainly lower than that of the air campaign.

In short, there are many good moral reasons to pursue such technologies even outside the specific context of Hostage Sieges or urban combat (Arkin 2013) (Strawser 2010), and, once they reach an appropriate level of maturity, to introduce them into urban combat in the role of first-through-the-door soldiers and close fire support. In fact, the case for robotization of these tasks is so strong that advocating for it in an academic publication may be considered trivial. Still, there are several reasons for which it is not so, and these are well worth exploring.

The first one is obvious in the context of this article. Until the Hostage Siege Dilemma will be recognized as a serious and urgent problem of both military ethics and military theory, the effort to conceptualize and subsequently create tactics and specialized units capable of applying unmanned technologies to urban combat will not materialize. It should be understood, and I do not think it is the case, that the roboticization of infantry units capable of urban warfare is no less urgent, and perhaps more so, as that of other, traditionally more technologically endowed formations. This is especially so because the urban environment is especially cluttered and so one of the toughest to conquer for robotic platforms. If no special theoretical pressure is applied to the efforts in this area, there is a risk they will, within a large scheme of things, receive less attention and resources than work on easier domains, even though breakthroughs in these domains are not as urgent from an ethical perspective.

Unless the “unmanning” of the urban combat is thought of as a single project oriented upon a specific result – being able to take Hostage Cities without unacceptable civilian losses – there is also a danger that technologies and tactics will be introduced piecemeal and without achieving full synergy between them, or that truly novel tactics, such as these described by Major “Jay” Hurst (2017, 2019), will be introduced with a large yet avoidable delay. The dramatic change in urban tactics and its moral benefits will best be realized through shifting the whole paradigm of urban combat, and such a shift requires solid ethical justification and theoretical grounding.

Last but not least, the elephant in the room – the issue of retaining meaningful human control over the robots. There are reasons to think that established human-in-the-loop ways of controlling robots in urban combat may not be robust and/or resilient enough to do the job. Communication signals may be lost in the urban labyrinth or be jammed by a technologically competent enemy. If these challenges may be overcome – or rather if they kept being overcome in the constant arms race against jamming methods of various kinds – then everything is fine, at least till the next cycle of technological development. But if they are not, than unmanned platformed would need to be given a certain level of autonomy, including autonomy to select and engage human targets with lethal force.

Doing this is, of course, anathema to certain ethicists (Asaro 2012, Sparrow 2016) and organizations (Human Rights Watch 2018), who decry weapons capable of lethal autonomy as inherently indiscriminate and worthy of a pre-emptive ban, not only on use, but also on research into such weapons. Yet it is precisely the example of a Hostage Siege that makes one realize that in some contexts, all weapons being used are being used in an inherently indiscriminate manner. Even if autonomous weapons were to be incapable of any kind of discrimination – a proposition that may be contested – they would not be more so than a 500 pound bomb, but the harm they effected would be much more limited. In fact, a robot consisting of a tracked platform with a machine gun mounted on top of it, a common unmanned-ground-vehicle design, would be capable of killing all the occupants of a given building, but not of collapsing the building itself. At the very least, its use instead of a bomb would preserve the housing unit and enable the retrieval and identification of corpses, a matter significant for both the issues of accountability and for its human (and oftentimes religious) dimension. This, of course,

assuming that the robot would be incapable of even very simple forms of discrimination, such as child-adult or armed-unarmed person, which stretches credulity.

Thus the project of replacing the use of heavy bombardment with weapons and tactics based on unmanned technologies is, despite its obvious merits, not ethically uncontroversial, or at least not without ethical work to be done. Despite this, it constitutes the best prospective solution to the Hostile Siege Dilemma, a solution that deserves the attention of ethicists, engineers and military thinkers alike. The required level of attention is not yet present. I believe we owe it to the memory of the Mosul victims to bring it about.

## Conclusion

We cannot dismiss the tragedy of a hostile siege as a product of highly unlikely circumstances, whether moral or military in nature. Neither can we decry the outcome as a product of preventable moral failings of those we expect to do better. Shifting all blame for the civilian death toll onto the Defender will also not do – as long as we have the moral opportunity to lower civilian casualties, our duty to do so is independent of issues of culpability.

While state-of-the-art weapons and tactics are, when skillfully employed, capable of alleviating the problem to a certain degree, they cannot bring civilian casualties and physical destruction down to a level that would enable the blue force to liberate the city without destroying it. This will be true as long as artillery- and air-delivered munitions of considerable yield will remain the primary means of decisively engaging the enemy. The level of precision adequate to a hostage situation that obtains in a non-evacuated city can be achieved only if the enemy is engaged primarily with miniaturized warheads, small arms fire and non-lethal weapons. Attacking with these relatively precise means incurs prohibitive casualties – unless the most dangerous frontline positions in urban combat are automated. Employing drones and partially or even fully autonomous robots as a spearhead of an urban assault constitutes a way out of the dilemma and is fully warranted morally in such tragic conditions. These expendable platforms would lower both civilian and military casualties and allow a greater number of enemy combatants the possibility to surrender or to be rendered *hors de combat* without dying. Taking into account the costs of taking cities “by airstrike” and the price of the subsequent reconstruction efforts, such a solution may even prove cost-effective in monetary terms.

The case study of the battle of Mosul and its implications for the use of semi- and fully-autonomous robots in warfare may also point to an alternative framework for discussing the moral and legal feasibility of autonomous weapons. Instead of trying to discuss these weapons as a general class, experts should look at their application in specific contexts and scenarios and decide their feasibility for each scenario separately. Such an approach could breach the divide between enthusiasts and prohibitionists and allow autonomous weapons to be rendered into a force for making war more humane and less destructive.

## Bibliography<sup>8</sup>

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<sup>8</sup> All Internet links provided active as of July 6, 2020.

Amnesty International (2017) – Amnesty International. “At Any Cost: The Civilian Catastrophe in West Mosul, Iraq.” July 11 2017, Report Index Number: MDE 14/6610/2017, <https://www.amnesty.org/download/Documents/MDE1466102017ENGLISH.PDF>

Arkin (2018) – Arkin, Ronald. "Lethal autonomous systems and the plight of the non-combatant." *The political economy of robots*. Palgrave Macmillan, Cham, 2018. 317-326.

Asaro (2012) – Asaro, Peter. "On banning autonomous weapon systems: human rights, automation, and the dehumanization of lethal decision-making." *International review of the Red Cross* 94.886 (2012): 687-709.

Cetorelli et al. (2017) – Cetorelli, Valeria, et al. "Mortality and kidnapping estimates for the Yazidi population in the area of Mount Sinjar, Iraq, in August 2014: A retrospective household survey." *PLoS medicine* 14.5 (2017): e1002297.

Cockburn (2017) – Cockburn, Patrick. “The massacre of Mosul: 40,000 feared dead in battle to take back city from Isis as scale of civilian casualties revealed.” *The Independent* July 19, 2017 <https://web.archive.org/web/20170719234812/http://www.independent.co.uk/news/world/middle-east/mosul-massacre-battle-isis-iraq-city-civilian-casualties-killed-deaths-fighting-forces-islamic-state-a7848781.html>

Cooper (2017) – Cooper, Helen. “Revived After Mosul, Iraqi Forces Prepare to Battle ISIS in Tal Afar.” *New York Times*, August 18 2017, <https://www.nytimes.com/2017/08/18/world/middleeast/iraq-tal-afar-isis-battle.html>

Davison (2019) – Davison, John. “No plan for Mosul: chaos and neglect slow Iraqi city's recovery.” *Reuters*, February 4 2019, <https://www.reuters.com/article/us-iraq-mosul/no-plan-for-mosul-chaos-and-neglect-slow-iraqi-citys-recovery-idUSKCN1PT0JV>

El-Masri (2018) - El-Masri, Samar. "Prosecuting ISIS for the sexual slavery of the Yazidi women and girls." *The International Journal of Human Rights* 22.8 (2018): 1047-1066.

George (2017) – George, Susannah. “Mosul is a Graveyard: Final IS Battle Kills 9,000 Civilians.” *AP News*, December 21 2017, <https://apnews.com/bbea7094fb954838a2fdc11278d65460>

Human Rights Watch (2018) - Docherty, Bonnie, Danielle Duffield, Annie Madding and Paras Shah. “Heed the Call: A Moral and Legal Imperative to Ban Killer Robots”, Human Rights Watch. [https://www.hrw.org/sites/default/files/report\\_pdf/arms0818\\_web.pdf](https://www.hrw.org/sites/default/files/report_pdf/arms0818_web.pdf).

Hurst (2017) – Hurst, Jules. "Robotic swarms in offensive maneuver." *Joint Force Quarterly* 87.4 (2017): 105-11.

Hurst (2019) – Hurst, Maj Jules. "Small Unmanned Aerial Systems and Tactical Air Control." *Air & Space Power Journal* 33.1 (2019): 19.

Oakford et al. (2018) – Oakford, Samuel, Alex Hopkins, Sophie Dyer, Abdulwahab Tahhan and Kinda Haddad and Eeva Sarlin. “Death in the city: High levels of civilian harm in modern warfare resulting from significant explosive weapon use”, May 2018, <https://airwars.org/wp-content/uploads/2018/05/Airwars-Death-in-the-City-web.pdf>

Orend (2013) – Orend, Brian. *The Morality of War*. Broadview Press, 2013.

Sparrow (2016) – Sparrow, Robert. "Robots and respect: Assessing the case against autonomous weapon systems." *Ethics & international affairs* 30, no. 1: 93-116.

Spencer (2020) – John Spencer, “Fighting ISIS in the City - Interview with Major General John Noble”, May 15 2020, Urban Warfare Project Podcast, Modern War Institute at West Point, <https://mwi.usma.edu/fighting-isis-city/>

Strawser (2010) – Strawser, Bradley Jay. "Moral predators: The duty to employ uninhabited aerial vehicles." *Journal of Military Ethics* 9.4 (2010): 342-368.

UNAMI (2016) – United Nations Assistance Mission for Iraq, “A Call for Accountability and Protection: Yezidi Survivors of Atrocities Committed by ISIL”, August 2016, [https://www.ohchr.org/Documents/Countries/IQ/UNAMIRReport12Aug2016\\_en.pdf](https://www.ohchr.org/Documents/Countries/IQ/UNAMIRReport12Aug2016_en.pdf)

Walzer (1977/2006) – Walzer, Michael. *Just and Unjust Wars: A Moral Argument with Historical Illustrations*. 4<sup>th</sup> Edition, Basic Books, New York 2006.

Watson (2017) – Kathryn Watson, “Fight against ISIS has shifted to ‘annihilation tactics’, Mattis says”, May 28 2017, <https://www.cbsnews.com/news/fight-against-isis-has-shifted-to-annihilation-tactics-mattis-says/>

World Bank Group (2018) – World Bank Group. “Iraq Reconstruction & Investment Part 2: Damage and Needs Assessment of Affected Governorates.” World Bank Publications, January 2018, <http://documents1.worldbank.org/curated/en/600181520000498420/pdf/123631-REVISED-Iraq-Reconstruction-and-Investment-Part-2-Damage-and-Needs-Assessment-of-Affected-Governorates.pdf>