

It is Drone Diffusion, not Proliferation!

A (Mostly) Positive Impact on Security in the Global South

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Abstract

The central argument is that the concept of drone proliferation is a misnomer. Drones are spreading quickly and globally, but it would be wrong to qualify *a priori* the exporting or development of drones and drone technology as illegal or even negative from the point of view of global security. Drones can be a way of addressing nationally the problem of vast remote ungoverned border areas used by insurgents and organized crime as safe-havens therefore limiting the arguments for a problematic use or abuse of drone strikes overseas by the US. In any event, given the nature of this double usage technology the risks of its misuse cannot be avoided. It would be much better to focus efforts not on limiting the diffusion of military drones, but rather on trying to develop in a multilateral setting, global parameters of usage of military drones by states, and counter-measures against its misuse by non-states actors, as well as banning fully autonomous killing machines.

Resumo

É Difusão, não é Proliferação de Drones! Um Impacto (Sobretudo) Positivo na Segurança do Sul Global

O argumento central é que o conceito de proliferação de drones é um termo inadequado. Os drones estão a difundir-se rápida e globalmente, sendo errado qualificar *a priori* a sua exportação ou desenvolvimento (mesmo os armados) como algo de ilegal ou negativo para a segurança global. Os drones podem ser uma forma de abordar nacionalmente o problema das vastas áreas fronteiriças remotas e desgovernadas usadas por insurgentes e pelo crime organizado como refúgios seguros, contrariando a argumentação que legitima o uso ou mesmo o abuso de ataques com drones por parte dos EUA e outros países. Em qualquer caso, dada a natureza desta tecnologia de dupla utilização, os riscos do seu uso indevido não podem ser evitados.

Seria muito melhor concentrar esforços não na limitação da difusão mas na criação de um regime global que defina o emprego de drones militares por parte dos Estados, em desenvolver contramedidas contra seu uso indevido por atores não-estatais, bem como a proibição de máquinas de matar totalmente autónomas.

The central argument of this article is that the concept of drone proliferation is a misnomer. Not because the global spread of drones is not a significant reality, but because it would be wrong to qualify *a priori* the exporting or developing of drones and drone technology as wrong or illegal. Although some Western countries have considered themselves bounded by a multilateral agreement restraining exports of missile technology (Missile Technology Control Regime – MTCR) – that since 1987 regulates nuclear-capable missiles and related technologies, the key point is that there is no international regime that limits drone exports as is the case for weapons of extreme destructive power like nuclear weapons, and those that are actually banned like chemical and biological weapons. Any similar limitations for drone exports or development would not be accepted by many countries in the Global South not least by emerging powers like China, India, and Brazil. Moreover, as I will try to show it is far from clear that the spread of drones, even armed drones is necessarily negative.

In any event, given the nature of this double usage technology the risks of its misuse cannot be avoided by limiting state-to-state diffusion of military drones. In so far as certain drone uses have negative consequences, then the same rules limiting these abuses should apply to all powers starting with the US, not just to emerging powers and other small and medium power. This is a point in which I agree with Sarah Kreps and Micah Zenko (who tend, however, to be much more skeptical than me about the negative consequences of what they term drone proliferation), for the United States to have any significant influence in this respect, it must lead by example¹.

Consequently I would argue that as difficult and unlikely as this might seem in the current global context, namely with Trump as president, it would be much better to focus efforts not on limiting the diffusion of military drones, but rather on trying to develop in a multilateral setting global parameters of usage of military drones by states, developing counter-measures against its misuse by non-states actors, as well as banning fully autonomous killing machines.

But before moving forward in providing arguments for my claim and pointing some of its wider implications, some clarifications and caveats are necessary.

Concepts and Caveats

I use the notion of military drones primarily to refer to the use by the armed forces of remotely piloted planes with reconnaissance, surveillance and, more rarely, strike capabilities or “air drones”. Of course, there are also and increasingly land and sea drones, but their development has been slower and their impact in global security more limited and still less clear, and I will not address them in this text.

1 See Kreps and Zenko (2014a, 2014b).

Consequently when I use the word drones in this text it should be understood as primarily referring to “air drones”.

Drones and their diffusion have an important role, as the series of articles in this journal illustrate and I will try to argue, in some of the most important and topical issues in global security. I would highlight: (1) American preponderance and its possible erosion as part of a trend towards a multipolar world; (2) the search for more effective responses by the conventional military forces of states to transnational terrorism and irregular warfare by non-state actors; and (3) the effectiveness and legitimacy of target assassination, signature attacks and state surveillance within and across states borders.

Drones are arguably already a significant part of wider trends regarding these very important topics, but they are often confused and conflated with them. Two examples are: (1) the confusion of air drones with the wider robotic and information revolution and its impact in warfare and global security that goes well beyond air drones; (2) the complex multidimensional challenges of responding to terrorists and insurgents finding safe havens in vast and remote ungoverned spaces not effectively controlled by any state that again goes well beyond the use of drones to deal with them or not.

It would be wrong to confuse drones with these wider trends in global security of which they are a more or less important part, but only a part. It is important to make clear that this text does not aim to do so, despite the fact that given its goal as well as its limited scope and length, the main focus of this analysis will be on the diffusion of drones and its impact in global security.

A final generic caveat is that it would be wrong to argue that drones, or, in fact, any military technology, can by itself fundamentally change global politics or even global security in a clear-cut way. True, the history of warfare and of some of its most significant transformations are closely linked with the history of technology applied to armed conflict; but while it would be a mistake to ignore the potential transformative impact of certain military technologies in the conduct of warfare and potentially even of global security and politics, it would be equally misguided to think of them in isolation of wider trends and the different options on how best to use them in different social and institutional contexts. As van Creveld (1991, p. 1) puts it in a seminal study “war is completely permeated by technology” [but it would be wrong to ignore] “that behind military hardware there is hardware in general, and behind that [...] a certain kind of know-how, as a way of looking at the world and coping with its problems”.

Why is Drone Diffusion Inevitable?

The central problem addressed by this text is the question often mislabeled as drone proliferation. Drone diffusion is the best way to qualify the phenomenon of

the spread of a military technology aimed at surveillance and armed strikes by remotely piloted planes and other military uses of robots. I will pay a particular attention to non-Western powers importing, developing and deploying drones because this is where drones may have a greater transformative impact on the current global order.

Why do I argue that drone diffusion is here to stay? Because it is a military technology of proven efficacy and relatively inexpensive when compared with equivalent military tools, not least manned airplanes. Drones provide solutions to some of the key problems of global security, such as how to respond effectively, in terms of intelligence and strike capability, at a relatively low cost to transnational and national insurgents that profit from safe-havens in vast, remote and often ungoverned spaces.

Moreover, I believe the argument about the fundamental illegitimacy of remotely piloted warplanes is weak. They basically perform the same functions as manned planes, just with much greater effectiveness and lower costs. This may indeed lower the threshold for the use of force, and this may in turn lead to the abusive use of drones² that should be questioned, but what does not logically follow is that their diffusion is a negative thing². As I will try to show in this text the opposite may well be the case: drone diffusion, namely in the Global South, may provide a partial remedy for drone abuse by a single hegemonic global drone power, which is in effect what the United States has been until now.

I am aware of the basic objection about the fundamental illegitimacy of a strike safely from afar by pilots that are not in harm's way. But drone pilots are not immune to the effects of warfare, and even if their potential trauma is not an issue I can develop here, it is important to underline that the idea that drones provide a carefree approach to armed conflict is mistaken. Also the potential negative impact of drone strikes in killing innocent civilians is also not something that is or could be expunged from the debate, just because these planes are remotely piloted, this is evidently very much part of the debate about drones. Last but not least the argument now raised about drones had, significantly, already been present in much the same format regarding the NATO bombing campaign against Serbia during the Kosovo crisis of 1999 or even in the first Iraq War of 1991, because Western manned warplanes had such a technological edge that they could strike from a safe distance and were basically invulnerable to attack after anti-aerial defenses that in any event already been largely disabled. However, as Lawrence Freedman (2000, p. 645) underlined then, "armies historically do not seek to fight fair, they have always sought to win with as little casualties as possible".

2 See the exhaustive collection of legal problems regarding drone abuses in Knuckey (2015).

In fact this argument echoes debates that go all the way back to the Middle Ages about, the then novel and many argued unchivalrous nature of the use of arrows against knights, as opposed to cavalry charges and close range hand-to-hand combat. But melees, as the name indicates, have never been a particularly effective way of fighting. In fact, it can be argued that the entire history of the development of military technology going back to pre-historic times and the initial development of weapons as tools to hunt can be seen as an effort to deal effectively with threats from as safe a distance as possible.

To speak of drone proliferation is *a priori* to point to the spread of military drones as inevitably negative and illegitimate. And yet even the legitimacy of a non-proliferation regime as currently applied by the Non-Proliferation Treaty to the exceptionally destructive nuclear weapons is questioned by emerging powers, outside of the nuclear great power club, like Brazil, who see it as in large measure an attempt by *statu quo* nuclear powers to crystalize their position of power without keeping their end of the bargain, namely disarming gradually. This is why when Brazil gave up its military nuclear program for a number of reasons, it made a point of doing so outside of the existing regime, of which it has been critical ever since³.

In any event, what is clear is that Brazil, as well as India, China or Iran do not accept the idea that they should not have access to a new effective military technology like drones or that doing so would affect negatively global security. Why these emerging powers are keen to import, develop, deploy, and eventually export military drones and the impact of this will be in global security is open to debate, of course, but it is relevant in terms of global political trends to underline this basic fact: they refuse the notion of the need or legitimacy of global drone non-proliferation regime. Furthermore, this attitude makes success in limiting drone diffusion between states unlikely and any such initiative potentially counterproductive in terms of global politics.

The use of the notion of proliferation regarding military technologies like drones arguably undermines the rationale for using an exceptional concept and exceptional norms for exceptional regimes regarding exceptionally destructive military technologies. Whatever the misgivings about the military use of drones this would not seem to be the case. Diffusion is the more appropriate way to conceptualize this problem and to better understand it from a non-Western-centric point of view.

The effectiveness of drones for specific military missions is only part of the reason why containing drone diffusion is such a difficult proposition. Drones are the highest growth sector in aerospace industry. This will increase the pressure for countries with a significant weapons manufacturing and aerospace industries or with the

3 See Mallea, Spektor and Wheeler (2015).

ambition of catching-up in these high-value high-tech sectors to develop their own drones. This is evidently the case of China, which is predicted by some to soon dominate drone exports, given the relative price advantage of Chinese drones compared American or Israeli drones, and the absence of restrictions limiting the range of potential drone importing countries (Rajagopalan, 2015).

A similar concern is present even in the case of Europe, where the lack of investment in the development of drones has led the main European weapons contractors – EADS, European Aeronautic Defense/Airbus, Dassault and Finmeccanica – to express concern in a statement arguing for the need to urgently address the growing gap with competitors like Israel and the United States, via a joint European development program (Clark, 2013).

Israel has been, alongside the United States, in the vanguard of research and development of military drones. But Tel Aviv has been much less restrictive than Washington in its export policy. Israel is in fact the biggest drone exporter in the world. Between 2010 and 2014 Israel delivered 165 drones across the globe, the United States delivered 132, and Italy delivered 37. And since 1985 Israel has accounted for more than half – 60.7% to be precise – of drone exports. China according to the same report so far is responsible for less than 1% of total exports, but significantly it is moving fast and aggressively into this market. Also it is important to note that while discussions of drones are mostly linked to armed drone strikes, they only make so far a small portion of export trade or 2.5%. The United States initiated this trend by exporting armed drones to the Britain in 2007. In 2014 China became the second country to openly export armed drones, specifically to Nigeria, selling five to help in the Nigerian campaign against the Boko-Haram insurgency, and apparently had done so covertly to Pakistan in 2013, engaged in its counterinsurgency against the local Taliban (Arnett, 2015).

These numbers regarding drone exports may be less than entirely reliable, but still give an idea of order of magnitude regarding drone diffusion. The key strategically significant aspect of this process of drone diffusion is that the clients of Israeli and Chinese drones include a number of emerging and non-western powers like India, Nigeria and Brazil, who are in turn often also developing their own models. And all expectations are that this market, small as it currently is, will be growing very fast with analysts predicting a doubling or even a quadrupling of demand for military drones over the next decade (Meyer, 2013; Frost and Sullivan, 2017).

It is also important to underline that for Israel drone exports are important in helping sustain economically their massive development of this strategic new industry. Shmuel Falik, who markets drones for Israeli state-owned drone-making IAI is very open about this: “We exist because of the international market... We’re too big for Israel, to our delight” (Goldenberg, 2013). Still Israel has been careful not to spread this new technology in its immediate vicinity with the exception of

Turkey and has primarily export surveillance drones. Drones are another example of the Israeli strategy of maintaining a technological edge relative to its regional rivals but also of building up strategic partnerships with major regional powers outside of its immediate region. In any event this means Israel has necessarily been far less concerned than the United States regarding the potential disruptive impact of drone diffusion in global security, and a major force driving the diffusion of advanced military drones.

The case of Israel is important in terms of evaluating trends regarding drone diffusion and its impact. With a growing number of powers investing in the development of military drones, they are likely to be strongly tempted to similarly engage in lucrative exports – if that was not one of the key objectives to begin with – and they will be even less constrained than Israel by a close security partnership with the United States. The diffusion of drones therefore seems to be a growing and unstoppable trend, also given the fact that they are relatively cheaper than an equivalent manned plane.

These two trends come together most evidently in the case of China. This is one of the reasons analysts are predicting that China will be the major exporter of drones in the short term seeking to claim as big a share of what is predicted to be a 10 billion dollars market by mid-2020s. So far and from what is known, alongside Nigeria and Iraq, that have used them in combat, Chinese armed drones have been sold to Saudi Arabia, Egypt and the United Arab Emirates as well as to the Somali army and this is considered an incomplete list, after all they cost just 1 million dollars, a quarter of comparable US drones, that would in any case often not be available for export (Dillow, 2016).

The US has been extremely guarded in its drone exports, severely limiting the export of especially armed drones even to close allies. This strategy has clearly failed to stop drone diffusion. The technological edge of the West in this respect has had the strategic effect of increasing the pressure upon non-Western countries to follow suit, if they wanted to keep up, if they wanted to emerge as significant players in global security and the global weapons market. The best evidence for the failure of the attempts to stop military drone diffusion and the importance of this growing market for drone exports is that it has forced the United States to rethink its very strict restrictions on drone exports. This will probably help American weapons sales abroad, but more importantly to our point is contributing to the normalization of this growing trend for drone diffusion, even if the United States has tentatively tried to follow suit by also publicizing in 2015 a set of guidelines for its exports in terms of best practices in drone use (McLeary and Mehta, 2015).

But why drone diffusion is not necessarily bad news? This is a point developed in the following section.

Drones as Part of the Solution for a Global Security Problem by Better Controlling Vast Remote Border Areas

Aren't emerging drone nations a major disturbing factor of global security by upsetting the global power distribution? The answer is no, at least not yet⁴.

Drones as well as other weapons system can cover under the same generic name very different actual capabilities and levels of technological development. To say that more than 80 countries have or are developing some kind of drones for some kind of military use therefore actually means little.

Most of these countries are still very much in the experimental stage of developing or deploying surveillance, not armed drones. And the much smaller number of countries that are using more or less advanced versions of drones in actual military operations, are doing so primarily in a reconnaissance and surveillance role within their own, often vast territory, not for military strikes, and in any of these cases, not outside their borders.

Brazil is a good example of this. The main threat to be addressed by Brazilian drones is neither territorial disputes with neighbors nor even armed insurgency, but rather organized transnational criminal networks. Brazilian drone imports and drone development, moreover are tacitly justified in terms of affirming Brazil's status as an emerging power, and explicitly in terms of the need to increase surveillance and control over vast borders and often lightly populated territories, that are traditionally under-monitored. But as is also normal in Brazil, investment in drones as well as in other defense equipment is also justified as part of an effort to promote knowledge transfer and improve national industrial capacity, not least because of their dual use, namely in agro-business, a massive sector of the Brazilian export economy. Even more specifically, the need to invest in the future competitiveness of the significant Brazilian sector of aerospace production, of which Embraer is the paradigmatic example, is also part of the equation, with the latter's military wing Avibras being in charge of developing the main model of Brazilian military surveillance drone in partnership with the Israeli company Elbit. This *Falcão*, or Brazilian hawk drone aircraft, is tailored to conduct reconnaissance missions and surveillance of Brazil vast borders with an autonomy of 16 hours, and a payload of up to 150 kilos of equipment (Andrade, 2013). It should be noted that as is recognized by Geraldo Branco, head of the Ministry of Defense's Sensitive Technologies Division "the manufacturing of drones is still incipient". But what is important is that even Brazil, a relatively peaceful democratic emerging power has "several companies" with the active encouragement of the state aiming at "reaching a high degree of technological capacity in this area" even if "few units have been commercialized" so far (quoted in Castro, 2014).

4 On this, see for instance Joshi and Stein (2013).

If even Brazil is engaged actively in this trend of diffusion of drone technology for both military and civilian use, what can be expected of other emerging powers in less benign neighborhoods? The answer is that a similar logic but with a much greater sense of urgency, especially in those countries of the Global South, and there are many, including India and China, facing the need to counter effectively active insurgencies and/or transnational terrorist groups active within their vast territories while minimizing public outcries at potential abuses when using use of force in counterinsurgency or counterterrorism – from the Naxalite insurgency in India to Uighur separatists in China.

Brazil also helps to illustrate that drones have also become important not just for their actual usage, but also because they have come to be seen as a must have new military technology, the absence of which from a country's arsenal becomes a noticeable gap. Drones, as has been the case with other weapons in the past, are also a status symbol. But it would be wrong to underestimate how profitable commercially they can be, and how useful operationally they have been.

At the same time is noticeable that among the limited if growing number of states with armed drones, actually only a few have actually used them for aerial strikes⁵. This small club is unquestionable led by the United States that alone conducted more than 1000 drone strikes while all other states combined do not reach a tenth of that. There have been a limited number of strikes by armed drones by Britain, Israel but also Pakistan, Nigeria and Iraq. What is crucial to note here is that the non-Western states that have made use of armed drones did so to strike insurgents within their own borders, in remote regions of their country they have difficulty controlling. The understandable concerns that armed drones diffusion would be destabilizing and would lead to a spread of the American style of drone of warfare (Knuckey 2015), does not seem to have been fulfilled so far. Armed drones as well as surveillance drones have been used to improve the control of each state's territory.

Furthermore, only a very limited number of states, only emerging or re-emerging great powers – China or Russia – are even likely to aim for and seriously attempt to try to emulate the global reach of US drones, investing in the global support system that it requires. China has recently, for instance, reached an agreement with Argentina for a satellite tracking station that might signal this type of ambition for the future. Most powers, however, probably even most emerging powers, will most likely be satisfied for some time with domestic or, at the most, a regional reach for drones in their neighborhood. Most countries would have no strategic reasons for a very costly and challenging global military drone system or a provocative use of drones in their neighborhood. The immediate risk might be the temptation to strike

5 For data on this see New America Foundation – International Security Program, World of Drones: Military. Available at <http://securitydata.newamerica.net/world-drones.html>.

insurgents seeking refuge in neighboring states. Concerning as this might be, it is hardly a novelty brought by drones, which are probably less intrusive and less provocative than cross-border counterinsurgency raids that have existed for many decades in the past.

As for non-state actors the main threat seems to come less from state sponsored diffusion than from the military use of drones originally design for civilian use. Hezbollah has apparently acquired a limited number of Iranian armed drones. Hamas seems to be improvising with double use civilian materials, and this is definitely the case for the Taliban that have used commercial drones to provide reconnaissance or even live guidance to their ongoing attacks (Gramer, 2017). But while the latter use seems to have been relatively successful, it is unclear that Hezbollah had any for its Iranian supplied drones.

These two facts have important implications for evaluating the impact of drone diffusions in the international system, because it seems to show that the use of military drones, even for military strikes, does not seem to pose a particular challenge to global security so far.

The main impact of drones in global security for the moment seems most likely to come from a relatively conservative use of drones, mostly for surveillance of remote and vast border territories, and strikes against insurgents in those areas, in fact reducing the justification for a US global strike strategy using drones and partly addressing, in so far as military tools can, the major challenge posed by the use of ungoverned spaces as safe-havens by criminal organizations, insurgents and terrorists.

There is then the very real risk of the use of drones by non-state actors, terrorist and insurgent groups. But this has already happened and is likely to continue to happen via the unconventional use of commercial civilian drones, widely sold in a globalized market, whose diffusion is therefore already extremely widespread and very difficult to stop. The greatest threat would come from its potential use to overcome a traditional practical obstacle to the use of weapons of mass destruction by terrorists – that a conventional explosion is not the best way to spread weaponized chemicals or other similarly deadly materials. But research into active countermeasures against unauthorized drone uses, as well as active preventive intelligence activities and other early warning systems against the diffusion of materials that might be used for weapons of mass destruction, would seem to be the most logical and practical response to these threats. In fact, the US military is actively developing countermeasures to drones.

Drones may offer the possibility of faster and cheaper catching up than more conventional aerial military capabilities. If this is the case, drone diffusion might marginally accelerate the trend towards a multipolar world. But whether or not this is a good thing is an open question. It is not evident that US unipolarity, very evident

in the case on its prolonged monopoly in the use of armed drone strikes, has been unequivocally good, also in terms of drone usage, feeding a pertinent discussion about a moral hazard of over use of drones. But whatever the verdict on the latter, drones seem most effective in less conventional uses, not in conventional conflicts with other states which may have their own drones and will have sophisticated air defenses that are or can be adapted to deal with drone threats. There is, therefore, no clear evidence that drone diffusion increases the likelihood of inter-state conflict or even of greater use of armed drones. As far as they improve surveillance capabilities they may even make the latter less likely and have – as a few others also have argued (Whittle, 2017) – in stabilizing effect in global security.

Of the Relative Efficacy and Legitimacy of Drones in Dealing with Insurgents in Ungoverned Territories

Military drone technology has been in use for decades since the Second World War. But the sudden massive leap in their capabilities of surveillance and a new capability of targeted armed strike came into being after 9/11. This rapid, massive development and expansion of military drones, much against the reservations of existing bureaucracies, is undeniably linked to drones providing a solution to the major problem of how to retaliate effectively against transnational terrorist organization making use of safe havens in largely ungoverned foreign territories via long distance unnamed targeted killing. And few would dispute that the systematic military use of drones has had a significant impact in diminishing the operational capability of Al-Qaeda core. Evidently drones have not solved the problem of jihadi terrorism and insurgencies, but in part because this has led jihadi groups to adapt, the most radical example being the attempt by Daesh to establish a jihadi state of its own.

Actionable intelligence is crucial in effective counterinsurgency and counterterrorism. Drones, especially sophisticated armed drones are ideally fitted for addressing this need very effectively. This is why they have impacted global security significantly and are likely to continue to do so. Even if military drones have so far had only a minor impact in the global distribution of power – this may grow if they become a major part of existing arsenals. And drones are unlikely to have an impact in the likelihood of conflict between states. In fact, the opposite is more logical with drones providing better border surveillance as a possible additional deterrent against open or even covert inter-state aggression or proxy wars.

In so far as the problem of transnational terrorism and insurgent safe-havens in remote ungoverned areas is unlikely to go away anytime soon, and alternative solutions have hardly become any more appealing and cost effective in the meantime, surveillance and armed drones as a tool of state security are probably here to stay.

Do drones and drone diffusion not have a clearly negative role regarding the respect for the law of armed conflict? The legitimacy of drone usage is not free of controversy or justified criticism. This is particularly true regarding so-called signature strikes that impose a broad generic deadly label violating the principles of distinction between civilian and military as well as of proportionality. But these are questions and controversies within the existing law of armed conflict they are not a fundamental challenges to it. Certain drone strikes may be violating the basic principles of proportionality and the obligation of due diligence in distinguishing civilians from combatants, but this would be an argument to do away with certain uses of drones, first and foremost signature strikes, not with surveillance drones or even armed drones *per se*.

The use by drones of so-called “intelligent weapons” is a misnomer. It tends to ignore the fact that these weapons, while potentially significantly more capable of discriminating targets and reducing collateral civilian victims of the use of military force, are only as “intelligent” and their deadly strikes and only as “targeted” as the quality of the intelligence available.

Moreover, arguing that drones can be effective says nothing about how wise politically and strategically a specific campaign of targeted killing or even certain usages of surveillance is in any given context. It is, of course, concerning if the extreme ease in the use of drones in the absence of alternatives, means that tactics is driving strategy in this regard. But this would seem to be an additional argument about the abuse of a drone quasi-monopoly by the United States, not an argument against all drone uses or drone diffusion.

I can accept that the diffusion of military drones has the potential to multiply some of these challenges, all the more so if the United States continues to use and legitimize tactics such as signature strikes. But I would underline again that military drone diffusion has been used primarily for securing border areas against insurgents or organized criminals. Drone diffusion not only does not necessarily lead to greater violation of the norm of non-intervention, it may on the contrary contribute to reinforcing it. States facing insurgencies or transnational terrorist within their vast difficult to control territories can in the future argue that they, not the United States, should use their own drones for surveillance and strikes against armed groups.

In so far as armed strikes and surveillance within a state border by that state also poses problems – for instance, the risk of an escalation of state surveillance by authoritarian regimes – this is not so much a threat to global security or international law as one to domestic law and human rights. And it is as such that the problem should be addressed. In any event these problems preexist the use of drones. While drones may allow an escalation of state surveillance and violence domestically, the challenges posed by how to deal lawfully and proportionately

with armed insurgency preexisted drones. Insurgents cannot be confused with ordinary criminals that might be handled by normal policy and criminal system and may even be potentially attenuated by drone diffusion. It can even be argued that drones offer the possibility of attenuating these problems by allowing more targeted attacks based on better intelligence provided by prolonged surveillance. This is not to say that drone diffusion is ideal or that it provides a “silver bullet” solution to the problem of the best military response to the challenges of insurgency and transnational terrorism. I do not believe such a simple solution exists, not least because other non-military dimensions are also needed. But in terms of the relative merits of different specific military tools, which should always be used with care and alongside other tools, drones do provide some relative advantages. To demonize all drone usage, will make it harder to distinguish the truly abusive and even criminal usages of drones.

Lastly, the “Terminator scenario” (i.e. of fully autonomous drones) would present a fundamental challenge to the law of armed conflict, to the existing international order and even more widely to human politics. Fully autonomous killing machines would clearly not be in accordance with existing laws of war, because they do not represent a legitimate authority. Who would be held legally accountable, the commander who activated them, the political leadership, the manufacturer? This would be a real problem even in the absence of a machine take-over of the world, a film scenario that according to some of the brightest minds in the planet nevertheless does pose a real threat to humankind. Yet it is difficult to argue that state drone diffusion *per se* would make this scenario significantly more likely.

Drones and drone diffusion may actually have contributed to furthering this debate by giving it added urgency. Not all drone exports are going to non-democratic regimes as we have seen. And even non-democratic regimes with drones would have no interest in losing control of this or any other weapon systems to anyone or any “thing”. In fact, if anything, historically authoritarian regimes have been obsessively concerned with exercising strict control over their military and their weapons systems.

The real risk may if or when it becomes obvious that autonomous systems would be significantly more effective militarily. Arguably Israel would be an interesting test-case of this, given how advanced it is in this field, and how much at risk of violent attack it has been. But the best solution for this problem would seem to be not an unrealistic ban on drone diffusion, but rather a cooperative development of a new international regime, based on an absolute universal ban on fully autonomous weapons systems of any kind.

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