

## **Automated warfare, weapons modernization, and nuclear war risk**

*Text of a presentation by Andrew Lichterman, Western States Legal Foundation, delivered at an NGO side event on autonomous weapons and nuclear weapons organized by the International Network of Engineers and Scientists for Global Responsibility, the International Association of Lawyers Against Nuclear Arms, and the International Peace Bureau during the 2015 Nuclear Nonproliferation Treaty Review Conference, New York, April 28, 2015.*

When I was invited originally to be part of this panel, the topic was the automation of warfare. Since then the topic has broadened out a bit, and I was asked to talk more generally about developments in nuclear and conventional weapons. So I will talk a bit about both, in part because thinking about these two different pieces of the arms control and disarmament spectrum reveals a bit about the obstacles to disarmament progress in this moment, and where we need to go from here.

My starting point will be that context matters. Discussions about arms control and disarmament often become narrowly focused on weapons systems and their interactions, and on technical and legal issues surrounding existing or proposed arms control and disarmament mechanisms. This is particularly so in times when there is no broad, mobilized disarmament movement, a condition that has prevailed from the end of the Cold War to now.

I want to start with a couple of quotes about the relationship between war, weapons, and the broader social context. John Ellis, in *The Social History of the Machine Gun*, observed that

“If one is unable to regard war as a function of particular forms of social and political organization and particular stages of historical development, one will not be able to conceive of even the possibility of a world without war.”<sup>i</sup>

Unfortunately, understanding the relationship between war, military hardware and institutions, and that broader context is not an easy task. As E.P. Thompson wrote at the height of the Cold War,

“What if the object [of analysis] is *irrational*? What if events are being willed by no single causative historical logic (‘the increasingly aggressive military posture of world imperialism,’ etc.)—a logic which then may be analyzed in terms of origins, intentions, or goals, contradictions or conjunctures—but are simply the product of messy inertia? This inertia may have drifted down to us as a collocation of fragmented forces (political and military formations, ideological imperatives, weapons technologies)....”<sup>ii</sup>

So I will make an attempt at sketching the particular messy mix of technologies, ideologies, and institutional interests that has drifted down to us today. I will do so from the perspective of what we need to do to create the movements we need to create the conditions where real progress towards disarmament might become possible.

In this connection, we must remember an obvious point that often is obscured in day to day disarmament discourse. The purpose of our work is not to regulate how people are killed, but

to stop the killing. Meeting here in the United Nations, it also is worthwhile remembering that this also was the central purpose of the UN Charter, the treaty with the most signatories of all.

We must recognize first that we are now past the Post-Cold War moment. However we may have evaluated the opportunities presented by the end of the Cold War and its attendant forms of arms racing, nuclear confrontation, and war crises, we are facing a different world.

The collapse of the Soviet Union was just the beginning of the long unraveling of the settlement that followed the last round of great power wars. As has happened in the past, the global economic crisis of 2008 and after has accelerated the disintegration of a previous, settled order of things. We are seeing struggles for control by the elites of the most powerful countries over regions that during the Cold War period were firmly within the sphere of influence, or even within the borders, of one or another superpower. All of this is raising the danger once again of confrontations between nuclear-armed militaries that could far too easily spiral out of control.

So how does Thompson's messy and irrational mix of factors play out today?

There are two broad imperatives driving the development of military technology. The first is the rule of the many by the few. The second is competition among the most powerful governments and militaries with the adversaries they see as their main competitors. Both of these strands have long been present. But the first, the rule of the many by the few, dominated post-Cold War military development in the United States. The wars fought by the U.S. in the post-Cold War period entailed quick domination of inferior militaries lacking in effective air power and air defenses, followed by long wars of occupation, plus a variety of more or less covert counter-insurgency campaigns. And for reasons ranging from its global presence and geopolitical agenda to its roles as the world's biggest military spender and arms merchant, the U.S. is the trend-setter in military technologies, to which all others react.

The project of the rule of the many by the few shapes military technologies several ways. It has meant that those who rule in the U.S. often want to use military force without the consent (and sometimes without the knowledge) of their own population. A 1999 RAND study for the U.S. Air Force (USAF) stated that

“Most U.S. military operations for the foreseeable future will be undertaken with limited or less-than-majority American public support.

Technological advances that expand the USAF's effectiveness will help it play an important role overcoming possible domestic constraints on the use of force such as casualty sensitivity.”

Among the “examples of technological advances that might provide the USAF with capabilities that will help overcome or alleviate U.S. domestic constraints” identified by the RAND study were “[h]ighly effective unmanned weapons, such as cheap standoff munitions and space-based assets, that pose no risk of U.S. casualties.”<sup>iii</sup>

In addition to the capacity to evade democracy, the kinds of wars the U.S. fought during the post-Cold War period required projection of force over long distances and the control of large areas and populations with relatively small numbers of troops (the eternal military dilemma of empire). The most visible response to this combination of requirements was drones and the globe-girdling communication and surveillance networks that they both extend and depend upon. These in turn were built on foundations of the Cold War sensing and surveillance infrastructure in space and at bases around the world, and provided an additional rationale for their modernization. Most of the unmanned air vehicles deployed were relatively cheap, and also relatively vulnerable, suitable for use against adversaries lacking significant air defenses.

It is noteworthy that this period saw an accelerated polarization of wealth and widespread discontent within the US sparked by the economic crisis of 2008 and after, making it likely that some of the technologies and techniques for the control of populations would be applied at home. This has been facilitated by the ideology of a global “long war” on terror in which the “battlespace” included “the homeland.”

The U.S. wars and confrontations with regional powers led to the continuation and modernization of strategically significant weapons systems that originated in the Cold War. The purported—and often exaggerated—threat of acquisition of nuclear, chemical, or biological weapons by U.S. adversaries both served as a stalking horse for other geopolitical agendas and as a rationale to keep high-tech weapons programs alive. The best known examples of this have been the continued development and deployment of ballistic missile defenses, and programs to develop “prompt global strike” systems.

Perhaps even more threatening, because more numerous and already deployed and tested in warfare has been the general advance of powerful, long-range, precise, conventional weapons and stealthy delivery platforms, together with advances in surveillance, coordination, targeting. As antagonisms among the leading nuclear-armed states have slowly ramped up, Russia and China have moved to match the U.S. in some areas (such as China’s hypersonic vehicle efforts) and to counter them in others. One result, but not the only one, has been the slow resumption of nuclear arms racing, in the form of nuclear weapons “modernization” programs.

The danger today is that the new technologies that have been developed in years of continuous conventional wars will combine with nuclear arsenals, still of civilization destroying size, that have come down to us from the cold war. Stealthy, precision-stand-off weapons and delivery platforms face sophisticated air defenses and increasingly capable missile defenses. Both offense and defense use electronic warfare measures and now cyberwarfare to jam sensor systems and target the weaknesses of data-dependent systems. With the increased dependence of militaries, and particularly of the U.S., on satellites for a wide range of military functions, we also can expect intensified military competition in space.

The speed and complexity of the interactions of all these technologies and the immense volumes of data involved accelerate the trend towards automating elements of decision making, even where human beings remain formally in the loop. This, again, has been a problem since the depths of the Cold War, but it is a problem that has continued to grow. These systems contribute to new imponderables in confrontations between countries that also have nuclear arms. And it is escalation of this kind of warfare which, should it get out of hand, would lead to nuclear war. All

of this increases the danger of miscalculation in a crisis, amidst a global context that is generating crises involving nuclear-armed countries at an accelerating pace.

What might we expect regarding the possibility of controlling these emerging military technologies and preventing the resumption not only of arms racing, but of catastrophic wars?

Eliminating use of drones and other systems in which increased levels of automation allows control of more territory with fewer people, and that reduces exposure to danger of personnel in high-tech militaries is likely to be difficult. They have not so far proved easy to distinguish from other widely accepted weapons systems and delivery platforms according to conventional criteria, such as being particularly indiscriminate or causing unnecessary suffering. The visceral reaction on the part of many to such system likely stems in part from the fact that weapons like drones are prototypic weapons of the rule of the many by the few. But that also is a reason that they are likely to be very hard to control.

Such weapons will have continued appeal to ruling elites for use at home and abroad in a starkly two-tier global economy and society in which discontent only is likely to grow as it runs up against ecological limits. A 2014 RAND report manifests the kind of viewpoint likely to impede efforts to control unmanned air vehicles. After reciting the virtues of UAV's in much the same way as the 1999 RAND report quoted earlier, it stated that

“The challenge for the United States will be to craft policies that address the potential risks of proliferation while being able to continue its own acquisition of armed UAVs and potential sales to allies and partners....

The RAND report goes on to say that

“Armed UAVs in this light are actually more like aircraft where the potential dangers are more case specific and strong pressures for sales exist from the military services as well as industry.”<sup>iv</sup>

One might think that the national security establishments of the most powerful states are more likely to engage in arms control where they see arms racing leading to greater danger and uncertainty *for them*. This might suggest that the nuclear armed states, finding themselves once more in a heightened level of confrontation with one another, might be motivated to pursue renewed efforts to control nuclear arms, and perhaps other weapons systems that might interact in ways that will make war crises harder to control. But the new era of acute nuclear tensions may pose more complex challenges for arms control than the Cold War on both the political and technical front, with more nuclear-armed states and more strategically relevant weapons systems, all interacting in complicated ways. And further, with the political classes in several of the leading nuclear-armed states having failed to take the dangers presented by their own nuclear arsenals seriously for a quarter of a century, there is little sign of a return to meaningful arms control negotiations, much less to meaningful progress towards disarmament.

It is important for us in this room to think about who we are, and to reflect anew about our obligations in a moment like this. Some of us are professionals who have the privilege to think about these issues for a living. All of us are privileged enough to take the time to be here, and to have some time to read and write and think about issues beyond how we will feed and

house and clothe ourselves and our families. It will not be enough just to continue on, doing what we have been doing, deploying the set of professional skills and knowledge in the way we became accustomed in a context now receding rapidly into the past.

Professionals in our culture mostly suggest technical fixes or concentrate on effects without talking about causes.

It is not enough to talk about reducing the risk of accidental launches in time when, once again, the greater danger is that the rulers of one nuclear-armed state will miscalculate the interests and fears of another, pushing some geopolitical gambit to the point where economic pressures, covert actions, low-level warfare and displays of high-tech force escalate into general war.

It is not enough to describe the terrible effects of nuclear weapons in a world where most people have no idea why the civilization-destroying arsenals of the nuclear-armed states constitute a rapidly rising danger once again. The kind of connection we need to make, for example, between global warming and nuclear weapons is not that both have disastrous climate *effects*. It is that climate change is *caused* by a way of life dependent on exponential growth, and that the intensifying chaos and competition resulting from declining resources and eroding ecosystems will raise the risk of conflict and war, including war among nuclear-armed states.

If we are to create the broad movements that might make disarmament possible, we must be able to explain that nuclear weapons themselves are neither a Cold War anachronism nor an inexplicable aberration. They are not an effect without a cause, but rather the ultimate expression of a system heedless of our place in nature, and in which the few profit from endless competition and conflict, while all the world bears the risk.

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<sup>i</sup> John Ellis, *The Social History of the Machine Gun*, (London: Croom Helm Ltd, 1975) pp. 9-10

<sup>ii</sup> Edward Thompson, "Notes on Exterminism, the Last Stage of Civilization," *New Left Review* 121, May/June 1980, p.7.

<sup>iii</sup> D. L. Byman, M. C. Waxman, E. V. Larson, *Air Power as a Coercive Instrument*, Rand Corporation, 1999, p. 132.

<sup>iv</sup> Lynn E. Davis, Michael J. McNerney, James Chow, Thomas Hamilton, Sarah Harting, and Daniel Byman, "Armed and Dangerous? UAVs and U.S. Security," RAND Corporation, 2014, pp.15-16.