

MEANS OF WARFARE

Interview with Terence Taylor*

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How do you see the role of technology and weapons in times of war?

As a general proposition, the science and technology associated with the production of weapons, munitions and various forms of delivery means do not provoke armed conflicts. Political, historical, economic and many other reasons lead to armed conflicts, but not weapons and technology as such. However, technology and arms can influence or even determine the course of an armed conflict, affect combatants and civilians, have an impact on the environment and even determine the outcome of the war. They therefore have a huge influence.

However, with regard to the latest war in Iraq, was not the question of arms said to be the origin of a military campaign?

There was a potential capability, particularly in relation to weapons of mass destruction, which was a pivotal factor in the decisions made by those countries that decided to go to war against Iraq in 2003. This was not a new issue; it had arisen at the end of the 1991 Gulf War and the questions surrounding Iraqi weapons of mass destruction had not been resolved. However, that Iraq might

* The interview was conducted on 22 November 2005 by Toni Pfanner, Editor-in-Chief of the *International Review of the Red Cross*.

have been able to develop weapons of mass destruction in order to promote the objectives of the then regime of Saddam Hussein was a major factor. In that sense, the type of weapon and the scale of its impact linked to a particular situation were decisive factors.

Has the global threat scenario in relation to arms altered in recent years?

The issue of weapons of mass destruction is more prominent; in particular, the new developments in relation to them are a major factor of the global threat scenario. If you go back to the Cold War, some would argue that nuclear weapons and particularly strategic ones were a major factor in preventing a military confrontation between the great powers of that period and nuclear deterrence was working on both sides.

In the present situation, the new development is the potential for weapons of this kind, be they nuclear, biological or chemical, getting into the hands of non-State groups. Science and technology have moved to a stage where small groups can avail themselves of technologies that can kill very large numbers of people, potentially tens of thousands of people. I am talking about a potential rather than an actual capability. This is a new feature of the international security landscape, starting from the mid-1990s onwards. It naturally produces a great deal of uncertainty in how to respond to this phenomenon, and in particular to transnational terrorism.

Therefore, it is not so much the weapons as such, but their potential use by different players that has changed. In other words, did the development of these weapons make them more dangerous or more difficult to control?

What is worrying many governments around the world, in particular governments like those of the United States and European powers, was what one leading political scientist, Joseph Nye from Harvard University, called the “democratization of violence.” The advances in science and technology, without being specifically related to weapons development as such, gives potential to individuals and groups to make dangerous weapons, for example a biological weapon which could potentially kill many thousands of people. That is the big change. The possible war or war-like situation is different from the classic State-to-State type of armed conflict and the response to the new threat needs to be different.

Is technical progress really making it much easier to get to such materials in order to launch attacks?

As a general proposition that is correct. However, I do not want to give the impression that it is presently easy for a small State or a non-State group to, for example, build a nuclear weapon — one that actually involves a nuclear explosion, not a radiological weapon. It is certainly easier to do so, but still involves quite high-level capabilities and the acquisition, in particular, of weapons-grade fissile material, which is very difficult to get. In the large-scale

dismantling process that is going on in the countries of the former Soviet Union, an illegal transfer or a theft is conceivable. However, it is in the biological and chemical areas that the developments are very worrying and where it is possible for small groups to build a weapon that can be delivered. Even though it is still quite difficult, it has become a lot easier than it used to be.

According to the Lugar Report on weapons of mass destruction, the main threat assessment of many of the experts in the field has been the potential use of radiological weapons, and you have alluded to it. Is there a military use for these weapons?

This is a weapon with high explosive content, RDX or some other similar explosive, packed around with radioactive material. There is no nuclear explosion, but the conventional explosion spreads radioactive material over a wide area. Through a car bomb, the centre of a city could be contaminated. It would be hugely difficult or, depending on the radioactive material, even impossible to clean up and re-occupy the terrain again. You can imagine the effects of such an attack in a major financial centre like New York City, London or Zurich, or in any urban conglomeration whatsoever. This scenario would not kill many thousands of people, even though some persons could die because of the high explosive content and some could be contaminated if a lot of radioactive material falls on them. It is more a weapon of mass *disruption* rather than a weapon of mass *destruction*. Nonetheless, it could be very, very disruptive and that is something that one has to really worry about.

Is there a real distinction to be made between weapons of mass destruction and other weapons, between conventional and non-conventional weapons?

There are two levels to this question: one has to distinguish between the political and the technical level. At the political level, the term “weapon of mass destruction” was coined in the 1940s and is a product of the political exchanges between the major powers of that period. It became customary to use that term, and it found its way into the formal legal negotiations in the late 1940s. It encapsulated specifically nuclear, biological and chemical weapons. At that time, chemical and biological weapons were already subject to the 1925 Geneva Protocol and only nuclear weapons were not subject to any international regulation. In the political sense, the term was used to describe weapons, which ought to be specifically regulated by international law.

However, from a technical viewpoint, the term does not describe the scale of the number of victims or of the catastrophic damage that these types of weapons could inflict, because those three weapons can deliver very different scales of casualties or destruction. Nuclear weapons are the ones that usually fit the term of weapons of mass destruction without any disagreement. Biological weapons do not cause massive material destruction, but could kill potentially many thousands, maybe hundreds of thousands or even millions of people. Biological weapons would thus fulfil the description because of the massive

casualties involved. But chemical weapons might not fulfil the description as they have a more local effect, and can cause hundreds of victims only if very large quantities of chemicals are used.

Could conventional weapons be as destructive as weapons of mass destruction?

In terms of their effects, chemical weapons, in particular, may not be very different from many large-scale conventional weapons. But for political and legal reasons, they have been placed under the category of weapons of mass destruction. The trend in conventional weapons is towards more precise targeting with high explosive warheads of more lethality at the point of impact. Generally speaking, collateral casualties and damage may be less – but only of course if the intended military target is struck.

Should conventional weapons be individually regulated, or do you think that it is more important to reinforce the general principles governing the conduct of hostilities?

Maybe here I could be accused of being too traditional, but I believe there's still enormous work to be done in promoting the existing laws of armed conflict, whether in relation to means of warfare, to conduct on the battlefield or maybe more obviously to the treatment of prisoners. Dissemination of the existing law is of overall importance.

When is there a need for specific regulations?

When one looks back over history, the norms that are the most successful are the ones that have arisen from the bottom up. An obvious historical example is the public revulsion against the use of chemical weapons in the First World War, resulting in the 1925 Geneva Protocol. I think that it is the people on the battlefield, with a vested interest in having some form of regulation, who are best placed to judge which norms offer effective regulation. This is still true, but requires progressive action as new technologies and new capabilities come into play, such as anti-personnel lasers and fuel-air explosives.

Should mainly military people therefore be involved in the process?

We need to engage military people, people at the sharp end of the process, in order to try and develop effective and new regulation. A good example of this is anti-personnel landmines. There was a critical mass of military people around the world who realized that these kinds of weapons were unacceptable and expressed the opinion that they ought to be banned. Through “networks of networks” involving the whole of civil society, we eventually arrived at the Ottawa Convention banning anti-personnel landmines altogether. Not all States are parties to the treaty, certain important ones have yet to join, but it is a model for the future showing how one can proceed on arms issues relatively quickly and effectively.

It may be argued that humanitarian agencies and civil society do not have the expertise in the military field, and even less so where weapons are concerned, to take part in the debate. Do you think that weapons are a “domaine réservé” of States and military establishments?

Different scenarios apply according to the type of weapons involved. In the case of weapons of mass destruction, there is a natural conjunction between civil society, the military and political players. As in the case of misuse of life sciences, the question of weapons of mass destruction requires an overall response, which can only be successful with the full engagement of civil society. In fact, their role may be even more important in relation to the misuse of life sciences as a weapon by a State or by a non-State group.

Similarly, in the case of chemical weapons, the risks lie within a multibillion-dollar industry and the industry has to be involved. There has to be interaction between the governments and their militaries as well as civil society in order to have even a remote chance of being able to prevent these weapons from being used and then being able to respond, should they be used.

The challenge is rather different with a kind of weapon that is more easily identifiable, like nuclear weapons. To a large extent, the dual-use aspect of these weapons is confined to the use of nuclear energy. But even there, with the pressure from global warming and the search for alternative sources, nuclear energy is almost certainly going to become more widespread. There will be more nuclear power stations around the world, and preventing nuclear materials from getting into the wrong hands will become more difficult.

With regard to conventional weapons, there are clearly issues that are primarily of humanitarian concern. An example would be the remnants of war – that is to say unexploded munitions and mines left on the battlefield that can cause death and injury to civilian inhabitants and prevent them from having access to land for agricultural purposes, inhibiting free movement and commerce.

In the field of conventional weapons, new kinds of weapons are appearing which are designed to be non-lethal, in other words to incapacitate rather than to kill. According to the former Vice-Chairman of the American Joint Chiefs of Staff, electromagnetic and pulse-power, lasers, chemical systems, ultrasound and infrasound will be used in future wars to stop enemies.

It is probably better and less euphemistic to describe “non-lethal weapons” as “low lethality weapons.” The drive behind those weapons is to deal with what is generally described as counter-insurgency operations, such as the range of operations going on in Iraq now. They look very much like conventional armed conflicts, with sometimes large-scale action involving combat aircraft. At the same time, they include operations dealing with insurgents and terrorists, and even hostage situations. Such operations often take place in the middle of built-up areas with large civilian populations. There is a desire to develop and use a

less than lethal kind of weaponry to minimize collateral casualties. On the one hand, anti-personnel laser-blinding weapons, for example, illustrate the kind of advances meant to limit casualties. On the other hand, the same weapon can be used to blind soldiers and civilians deliberately. In the end, it was declared unacceptable and was banned through the efforts of the ICRC, which I think was a good thing. These new developments of so-called non-lethal weapons do need attention from those of us who are concerned about the laws of armed conflict.

During the Cold War, the arms race between the US and Russia determined arms control measures. Do you believe the new political setting can explain the current deadlock in the disarmament negotiations held in Geneva?

It probably has more to do with the technological advances. In the classic Cold War period, we were looking at large weapons like intermediate-range or intercontinental ballistic missiles, which are recognizable and accountable. The Chemical Weapons Convention, which was finally negotiated by 1993 and came into force in 1997, represents a new advance in terms of arms control. There were no specific military organizations in the lead, but many players, including a multibillion-dollar global industry, became involved in a verification system. This opens a new chapter in the development of arms control treaties and, in particular, verification. Shortly after the collapse of the Soviet Union and the Warsaw Pact, it was possible to put through a very detailed and far-reaching verification regime for the Chemical Weapons Convention. It would not be possible to do that now. The Verification Protocol for the Biological Weapons Convention that was under negotiation for more than a decade did not come to fruition.

What could the options be to stop the proliferation of weapons of mass destruction aside from arms control measures?

I think the Nuclear Non-Proliferation Treaty remains immensely important; it has more members than any security treaty ever and is still generally supported. The Chemical Weapons Convention likewise is global in its scope, reinforces a global norm already in place, together with the 1925 Geneva Protocol, as does the Biological Weapons Convention. Though these treaties are tremendously important, we do have to be creative and innovative in ways of underpinning them in order to make sure that they are enforced.

Even in the absence of stringent verification mechanisms?

Scholars like Anne-Marie Slaughter and international civil servants such as Jean-François Rischard are two proponents of the idea, already mentioned, of “networks of networks” to underpin and build norms. This is a bottom-up effort in that it engages the community, which has a vested interest in responsible behaviour and developing a culture of responsibility. If you were to take the Biological Weapons Convention, what is required now is a real effort to engage private industry, the academic community in the life sciences and government research institutes in an effort of awareness and norm building to

help prevent the life sciences from being misused. This effort should be aimed at enhancing public safety and security by helping to prevent the misuse of biotechnology by government and non-governmental groups and the potential use of weapons that could kill many thousands of people. One important way to minimize the risks is to promote awareness of the dangers through a code of conduct and associated training and education activities.

Will industry cooperate?

Industry should have a genuine interest in the success of this endeavour. Its business is damaged if somebody misuses science. Its members will be subject to rigorous legislation, which may be perhaps a rather blunt instrument and not something they would engage in voluntarily. Measures and restrictions may be imposed on them, which will inhibit scientific advances. In the life sciences area, this can be hugely damaging, because the best defence is found in the advances of science itself. Those advances have to be safeguarded, but at the same time the risks must be understood and explicit steps taken to manage them. This can be done through commitment to a charter or a code of conduct, and by building norms rather like the Hippocratic Oath: it is not a legally binding thing in itself, but it can build norms that eventually find their way into national and international legislation.

Private efforts like those of the ICRC and its call on scientists and industry to assume their responsibilities in preventing the hostile use of biological agents are fine examples of how one should progress. There are other ideas in this respect, for example in my own case through the promotion of an International Council for the Life Sciences with a charter. The project is focused on engaging private industry and other critical stakeholders in addressing the opportunities and risks emerging from advances in the life sciences, especially with regard to the threat of biological weapons and bioterrorism. All these awareness and norm-building efforts are much more important and effective now than they might have been ten or fifteen years ago.

What about non-State players in armed conflicts? How can you possibly bind them in?

A welcome side effect of these initiatives is to isolate people who are not sticking to these ethical principles. You do not expect terrorists to obey the law: their whole purpose is to do the opposite, to overturn the law, so you would not expect members of al Qaida, for example, to follow the kinds of norms that we have been discussing. I think the purpose of codes, charters and ultimately international law is precisely to single out and make clear what constitutes unacceptable behaviour and illegal acts. The players define themselves by their behaviour. Responsible persons would want to be on the inside of such a charter or code, not on the outside, in order to show they are behaving responsibly and believe in managing the risks, notably through cooperation between themselves and with governments.

Are private initiatives replacing international regulations?

I do think that these initiatives lead to better regulation by States. To take the life sciences as an example, I think so because biosafety and biosecurity overlap. For instance, there is no global standard for the containment of laboratories.

The World Health Organization (WHO) has elaborated guidelines. But there are limits to what the WHO can do. It is an intergovernmental public health organization, not a security organization. That is why States need help from the outside by private efforts and organizations, by the ICRC and others.

These initiatives are building up cooperation. Another way to create treaty-like international legal obligations, linked to the powers held by the Security Council under the UN Charter, is to have an Article 25 decision of the Council ordering States to amend their domestic legislation to prevent threats to international peace and security from surfacing. The two resolutions 1373 (2001) and 1540 (2004) seem to rely on the stick rather than the carrot.

I think the Security Council resolutions are neither a stick nor a carrot. They are vitally important elements in encouraging UN Member States to strengthen their national legislation in order to help prevent the proliferation of technologies, as well as to help prevent more accurately the misuse of technologies that could be used to produce weapons of mass destruction. This is the top-down effort. However, this will not work on its own. It requires a multinational and multi-level effort in order to make the world safe and secure against the increasing risks that we are being faced with. There is a safety and security argument, which overlaps here. I think it is useful to combine carrots and sticks.

Enforcement measures are therefore also necessary?

Yes, and there is a question which certainly exercises my mind, but which has more to do with *jus ad bellum* than with *jus in bello*. It will not be something the ICRC will be engaging in. It is the decision whether and when to carry out military attacks related to arms possession or developments. What's more challenging with the developments in sciences and technologies, very challenging for governments now, is the possibility that States may feel compelled to carry out some form of anticipatory self-defence against perhaps either a State or a non-State armed group that has a weapons' potential to kill many thousands, if there is knowledge of those groups. The intelligence has to be good and this will always be a matter of debate. But in the light of the current scientific and technical developments, thinking is required about the rules of anticipatory self-defence. It is a very sensitive issue to talk about the rules of *jus ad bellum*, and many would be reluctant to disturb them and would be inclined to keep them as rigorous as they are now. Nevertheless, it is something that has to be thought about.

Even for a very developed country, it is very difficult to contain and to confront huge natural catastrophes and to bring relief to people in need. However, this is probably easier especially when compared with scenarios of the use of weapons of mass destruction.

In the United States and to a lesser extent in Europe, and even less elsewhere in the world, efforts are under way to plan for response should the worst case happen and one of these weapons be used. There certainly needs to be planning for this. I have my doubts about how realistic and complete it is. Countries that have suffered major catastrophic attacks have taken vigorous action in the hope of preventing further ones – but elsewhere vulnerabilities remain.

What is urgently needed is some kind of risk analysis and risk assessment. Concerning the possible use of a biological weapon, for example, there are widely varying views as to what the real risks are. There are many countries faced with disease arising from natural causes that they live with every day and that kill many people. To talk to them about biological weapons is somewhat challenging. One might get a better resonance in a developed country where infectious diseases are less of a concern. There are thus differing views of the risks involved. I think it is presently easier to engage civil society in the United States against hurricanes or against the tsunami in the Pacific Basin, or to motivate people against the possibility of the avian flu transforming into a human pandemic. These kinds of events are rooted in natural causes, which motivate a response more easily.

Is that because nobody wants to know about such a scenario, because they are too afraid of it?

I can only guess that they think, “Well, it’s not us.” People do not see themselves as being a target of a nuclear, biological or chemical weapon in this way. They may fear that it is their countries or their infrastructures that may be used by terrorist groups in order to develop or acquire the materials necessary. But again, there are differing perceptions of the risks as far as each individual country is concerned and this is the most challenging part of trying to develop an effective response to the use of these kinds of weapons.

Targeting the city: Debates and silences about the aerial bombing of World War II

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Abstract

The article goes back to the early discussions of the morality of city bombing which took place before and during World War II and attempts to analyze both the moral argumentation and its historical context from the 1940s until today. The development of the doctrine of “collateral damage” which recognized that attacking enemy factories was permissible even if it cost the lives and homes of civilians was soon widened beyond its original notion. After the war, the dropping of the atomic bombs became an issue in its own right, to be considered separately from the earlier recourse to conventional bombing — even when conventional bombing achieved equally destructive results. Twin inhibitions have reigned in the issue of what force against civilians was justified: the reluctance of German commentators to seem apologetic for the Third Reich, and the difficulty in the U.S. of seeming to cast any aspersions on those who fought “the good war.”



The moral issues in context

For many years the debates on the atomic bombing of Hiroshima and Nagasaki obscured debate on the “conventional” bombings during and even before the Second World War. A certain tacit consensus prevailed, namely that the German bombings of Madrid in the autumn of 1936, of Guernica, of Warsaw and of Rotterdam, the London Blitz, and the bombing of Coventry, which gutted St. Michael’s Cathedral and destroyed the centre of the city, were acts of

wanton terror designed primarily to terrorize populations, whereas the subsequent more destructive Allied attacks on Italian, German, and then Japanese urban centres (including the massive 1945 assault on Tokyo that may have taken 100,000-125,000 lives), waged with hundreds of planes that could carry far heavier bomb loads, were legitimate military actions (with Dresden perhaps an exception). The heavy attacks on northern French cities and towns in 1944, far more destructive than the German air raids in 1940, have also been largely accepted as a legitimate part of the war effort.

To be sure, the German attacks were condemned, because even if the German war effort might be deemed legitimate (though usually considered such only by Germans!), the Luftwaffe's bombings often seemed gratuitous and excessive, designed just to terrorize and demoralize civilian populations. The attack on the Basque city served little military purpose, and victory was already at hand when Warsaw and Rotterdam were bombed. But what about the Allied air raids? Even if they were possibly as violent as the German attacks, they were often defended as a necessary means to a worthy end. In short, for a long time most post-war debate about the means used was subordinated to consideration of the ends to be attained: Allied victory was a worthy end that justified the very means condemned when used in the service of an Axis victory — an unworthy end.

What has happened, of course, is that the said debate, which has seemed to be quiescent for so long, has now resurfaced. This article is concerned with both the context of the debate and the issues involved. By the very nature of the subject, it must include an analysis of moral questions as well as an historical account.

Actually the discussion about means is a two-fold debate though often a rather muddled one. War is an evil and is recognized as such, but there are lesser and greater evils, and there has been general agreement in the West that the evil of war should be kept to a minimum. This imposes limitations on recourse to war (*jus ad bellum*) and on the waging of a war once it is deemed necessary (*jus in bello*). The concept of "necessity" is usually the licence for resorting to war and employing means in warfare that are harmful — but necessity remains a subjective standard. And even necessity has in some cases been ruled out by international agreement as an excuse for bringing harm to civilians, although such agreements are often not honoured.

War involves a means-end calculation in several ways. Just war doctrine suggests both that recourse to war, and the conduct of a war already decided upon, must meet certain criteria. Waging war cleanly will nevertheless cause death and destruction and so recourse to war — codified as *jus ad bellum* — must be a last resort, undertaken only if the good achieved can outweigh the harm that will ensue. In the second sphere, war is limited by imposing constraints on the conduct of hostilities, that is, by observing *jus in bello*. At the heart of these constraints are two major moral priorities: first, preservation of the distinction between civilians and military combatants; second — and again, as in the case of recourse to war — the invocation of proportionality as a standard to be met: the harm done should not be disproportionate to the good supposedly achieved. An

aggrieved State should not go to war lightly and, once engaged in war, it should not employ a level of violence disproportionate to the provocation. Conversely many military men, such as General Sherman, have cogently argued that harsh measures used in waging war make war more unlikely.

However, many measures in war also ran foul of the other underlying moral priority laid down for the conduct of war: the distinction to be made between combatants and civilians and by extension the distinction between combatants not yet disarmed, and those rendered harmless by capture or injury. In brief: do not kill civilians and do not murder prisoners of war or the wounded. The question of killing soldiers clearly bent on mass retreat is more of a grey zone. (The American air attacks on the disabled and fleeing columns of the Iraqi army in the 1991 Gulf War caused some qualms here, but not such as to become a major theme of discussion in the United States. Americans do not really believe themselves capable of war crimes. When they do occur, they remain the exception that proves the rule.) Intentional destruction of civilian property has also been condemned, but far less intensely.

Although the distinction between civilian and combatant has often been erased, it has been recognized since Antiquity. Thucydides narrates how the morality of the Greek armies degenerated in the Peloponnesian War. The Melian Dialogue and the repression of Mitylene suggest that male civilians were deemed to be at least potential soldiers; but remember, too, how shocking the Thracian attack on Mycalessus appeared, where soldiers “sacked the houses and temples and butchered the inhabitants, sparing neither youth nor age, but killing all they fell in with, one after the other, children and women, and even beasts of burden. (...) in particular they attacked a boys’ school, the largest that there was in the place, into which the children had just gone, and massacred them all.”¹ Tacitus’ *Annals* are filled with such accounts, and slaughter after overcoming a besieged city remained commonplace way into the Thirty Years War of the seventeenth century. Still, it was generally recognized as wrong in some fundamental way, and that recognition lay at the basis of what was claimed to be “natural law” or developed as “international law.” Eighteenth-century theory and practice in Europe attempted to re-impose the firewall between civilians and combatants, though not without some military men complaining that this just increased the likelihood of war.

The issue has become more difficult in modern times, however, in that modern weapons technology has once again tended to erase the distinction between civilians and soldiers. But the blurring has occurred, so to speak, on both sides. On the one hand, the new weaponry has made it harder to limit casualties and destruction. The use of submarines and torpedoes in World War I presented this argument in particularly cogent form. For a submarine to give notice of attack would render it highly vulnerable and far less effective. In this situation the Allies did not contest the fact that it would be impractical for a submarine to surface, ask the passengers or crew of a vessel to take to the lifeboats, and only then destroy or capture it; they simply said that attacks without

1 Thucydides, *The Peloponnesian Wars*, Vol. XXI, p. 29.

warning on ships carrying civilians were unlawful. On the other, there is the German retort that the Allied blockade — formally contrary to the rules of war, which allowed a close blockade at a harbour entrance but not the interdiction of distant shipping routes — also killed civilians never had quite the same force, since the effects were indirect and hard to visualize as an immediate consequence.² (The same disjunction of cause and effect has also attended the debate on economic sanctions against Iraq or other offending governments: are sanctions that affect a population as a whole justified against dictatorial regimes that supposedly keep their populations in thrall?) By 1918, moreover, it was evident from the emerging implications of aerial warfare, especially with the Zeppelin raids over London, that the question of harm to civilians had to be considered.

In view of the issues raised by aerial bombing in general, debate has often centred not on the degree to which military necessity might justify harm done to civilians, but on the question whether military necessity really came into play. In other words, even if the issue of taking civilian casualties in one's stride were suspended, might not victory be possible without such cruelties. Debate on use of the Hiroshima bomb, and even more so the Nagasaki bomb, has usually focused on the question of their necessity to end the war. Was either needed to compel the Japanese to surrender? At least, did those advocating the use of the bomb believe it was needed to bring about their surrender without a great loss of American lives?³ Was the second bomb equally necessary? Might a greater interval between them have been allowed?

But a major reason that civilians have become (or became) a target is of course that modern technology makes civilians instrumental in warfare. The growing dependence of warfare on society as a whole — especially the role of labour in arming a nation — rendered the civilian-combatant distinction questionable. Modern warfare was so dependent upon war production at sites far away from the fighting that the concept of a front line tended to seem irrelevant. Surely a belligerent nation was entitled to destroy the industrial capacity of its adversary, since that seemed such an integral part of the military effort. But was it entitled to attack the civilians who worked in such production facilities? As is well-known, the doctrine of "collateral damage" was first put forward among British air strategists to cope with this issue. Civilian casualties had to be accepted as a by-product of attacks on a physical plant used for war production or even related civilian production.

2 Geoffrey Best, *Humanity in Warfare: The Modern History of the International Law of Armed Conflicts*, Methuen, London, 1983.

3 Barton J. Bernstein has sorted out much of the argumentation in many essays. Of course, quantitative issues then intrude. How many lives would have had to be saved? The Stimson-Bundy claim was that the atomic bomb was believed to forestall an invasion of Honshu, planned for 1946, and which might have cost "a million lives." The argument was refined, for the first invasion planned for the autumn of 1945 would probably have taken place in Kyushu, a smaller island, with a smaller estimated number of casualties. On the other hand, when those objecting to the bomb have suggested that no invasion was really necessary, defenders of the bomb's use suggest that a blockade of Japan would probably have cost more Japanese lives than did the bomb itself. See McGeorge Bundy's reflective weighing of the issues in *Danger and Survival: Choices about the Bomb in the First Fifty Years*, Random House, New York, 1988.

No earlier dilemma had required the same splitting of hairs. In the Peninsular War of the early nineteenth century and the Franco-Prussian War of 1870-71, the issue of non-uniformed guerrillas had arisen. The Prussian military insisted that such guerrillas or “franc-tireurs” lost any protection to which captured combatants were entitled as prisoners of war, and could be executed out of hand. Subsequent conferences in Geneva and The Hague attempted not to shield the irregular soldier as such, but to establish guidelines for differentiating legitimate militia forces from the “franc-tireur,” essentially by insisting on some visible insignia and the open, not concealed, carrying of weapons.⁴ The “franc-tireurs” were not civilians; they were more akin to spies, who also did not announce their presence and thus could rightfully be executed on discovery. Not surprisingly, hard-bitten commanders in such wars often took action without undue precision. And in 1914 the fear of “franc-tireurs” led to massive German atrocities in Belgium. In World War II, however, a guerrilla fighter became a partisan, deserving of recognition as a combatant in the eyes of his British or American allies, but meriting execution in the eyes of the occupying force. Since some German commanders resorted to civilian reprisals as well as executions of captured partisans (Field Marshall Kesselring in Italy was a notable example of such action on a western front), this issue soon eclipsed even the fate of partisans. After World War II, new guidelines drafted in 1949 extended similar protection to resistance fighters, and in recent decades even paramilitary fighters have asked for similar recognition.

Nonetheless, reprisal policy remains at the heart of guerrilla war because it seems to emerge from that “necessity” which, despite all the conventions, continues to be the underlying justification of violence. Guerrilla warfare, as practised by World War II partisans and perfected in post-war colonial struggles, deliberately involved the civilian base and drew on its resources. It was a war either to recruit (by conviction or coercion) civilian support for the partisan cause or to make such support too costly. The theory of guerrilla warfare, which French authorities zealously studied from Chinese and Viet Minh writings, basically urged that the distinction between the people and the army be erased.⁵

It is the co-involvement of civilians that unites the issue of guerrilla or partisan warfare with that of aerial bombardment. Still, there were differences. After all, partisans acted with putative intent to kill or wound. They took to the field or to the forest. But what were the rights and wrongs of bombing civilians — and their families — who merely took to the factories? Bombing did not introduce this issue: bombardment had originated with shelling, and the British had made famous the idea in 1806 of “Copenhagening,” i.e. the naval bombardment of a neutral city. By the end of World War I, however, the possibilities of bombing were recognized and doctrines for its use had to be developed. Another Hague

4 Best, *op. cit.* (note 2), pp. 190-200.

5 Besides Best, see Herfried Münkler (ed.), *Der Partisan: Theorie, Strategie, Gestalt*, Westdeutscher Verlag, Opladen, 1990, for a series of essays on theories of revolutionary and partisan war.

Conference in 1923 contributed Draft Rules for aerial bombardment that would have prohibited the bombardment of civilian populations “not in the immediate neighbourhood (...) of land forces.” They incurred objections and were never ratified, although clearly on the table as guidelines whose rejection had to be argued for. Neville Chamberlain in 1938 and American air force generals through much of the war seemed to express sympathy with a sense of restraint (although by 1944 American practice seemed as ruthless as that of the British). British advocates of the new weapon, however, did not want to be trammelled. Air Marshall Hugh Trenchard’s championing of the new war aim, and finally Arthur (“Bomber”) Harris’s conviction that precisely the bombing of civilian centres could win the war for Britain prevailed over earlier hesitations. In 1928, Trenchard argued that one might seek to “terrorise munitions workers (men and women) into absenting themselves from work” but that the indiscriminate bombing of a city for the sole purpose of terrorizing the civilian population was “illegitimate.”⁶ This distinction proved far too tenuous to retain as a maxim of strategy. Early in the war, the British moved on to define, along Trenchard’s lines, the idea of collateral damage. But collateral damage was the up-to-date version of what the medieval just-war doctrine of Scholasticism had sanctioned as “double effect.” If despite care to minimize civilian casualties — and such care was necessary to render the procedure acceptable — civilians were still injured or killed in order to secure a legitimate military end (there was no dissent that wiping out enemy industrial capacity was a legitimate objective), this was acceptable within the more general injunction to observe proportionality.⁷

Proportionality, it should be stressed, remained a criterion that had to be met to justify both the recourse to war and the conduct of war. It linked *jus ad bellum* and *jus in bello*. But what guidance did it actually provide, especially when the results were not so clearly decisive as proponents such as Harris or Lord Cherwell promised. There is no scope here for a survey of the statements and the strategies of the air wars. It is general knowledge that by 1945 Churchill himself had some doubts, and that until a few years ago Arthur Harris was deprived of the honours bestowed on the air warriors themselves. Long before, however, two judgments became commonly accepted: first, that the Americans somehow had clung to precision bombing as a strategy and were less morally obtuse than the British, at least in Europe; second, that the bombing was not really effective in achieving its goals.

Both these statements can be contested, however. It is true that with the important exception of General Hap Arnold and his junior officer Curtis (“Bomb them back to the Stone Age”) LeMay, transferred to oversee the

6 Best, *op. cit.* (note 2), p. 274; Charles Webster and Noble Frankland, *The Strategic Air Offensive against Germany, 1939-1945*, 4 vols., Her Majesty’s Stationery Office, London, 1961, Vol. IV, pp. 71-76.

7 Stephen A. Garrett, *Ethics and Airpower in World War II: The British Bombing of German Cities*, St. Martin’s, New York, 1993, pp. 142-144; Tami Davis Biddle, *Rhetoric and Reality in Air Warfare: The Evolution of British and American Ideas about Strategic Bombing, 1914-1945*, Princeton University Press, Princeton, 2002; also Michael Walzer, *Just and Unjust Wars: A Moral Argument with Historical Illustrations*, Basic Books, New York, 1977.

bombing of Japan in 1944–45, American military doctrine did not argue that civilian bombing as such might produce a rapid end to the conflict. The US clung to shrouding large-scale bombing with particular industrial or strategic objectives. Nonetheless, American bombers did participate in the Dresden raids and continued bombing targets until almost the last weeks of the war, when it was clear that they could play little strategic role. In theory, disruption of rail communication could justify almost any attack, but in fact the prevailing emotion seems to have been that no target should remain spared. The argument was an implicit one of potential resistance. It no longer claimed that civilian morale would collapse. It simply postulated that the more destruction there was, the sooner the collapse would come. Americans, too, studied how to achieve the felicitous result of firestorms of the kind that ravaged Hamburg. And Americans, of course, pursued an air war on Japan that was directed against cities as targetable units. The US chose weapons — incendiary bombs — designed to start widespread devastation of urban areas, aware that both civilians and artistic monuments must fall victim to this destruction.

The issue of efficacy was raised by the famous results of the United States Strategic Bombing Survey, whose members — especially John Kenneth Galbraith — argued that bombing had achieved far less of an impact than had been claimed. The report pointed out Germany's industrial production continued to increase until the autumn of 1944, that railroads and even factory buildings were quickly repaired, and that morale was not seriously impaired. The Survey's minimizing judgments were long accepted and cited by domestic opponents of President Johnson's and Nixon's resort to heavy bombing of North Vietnam. More recent assessments such as Richard Overy's view, however, have challenged the Survey's early dismissal of air-war efficacy. According to Overy, the Allied attacks produced a downward spiral of industrial collapse for the Third Reich, above all when bombing concentrated on strategic industrial targets. Germany relied on synthetic oil from hydrogenation for three-quarters of her consumption, and the "oil offensive" cost Germany 90 per cent of her synthetic production between May and September 1944.⁸ Destroying railway lines precluded adequate fuel transportation and thus limited use of German fighter defences, which rendered Allied bombing all the more effective, thus destroying more fuel supplies, etc. We cannot test the counter-hypothesis, namely what would German production have achieved without the bombing? German production declined only from the second half of 1944, and part of the downturn admittedly followed after Romanian oil sources were finally overrun by Soviet troops and the Reich was fighting huge battles on two fronts.

Still, one can agree that to think of bombing as counter-productive (which some of its critics tended to claim) seems as simplistic a conclusion as to believe that it alone could have defeated the Third Reich, as Bomber Harris

8 The various reports of the US Strategic Bombing Survey became available as from October 1945; see John K. Galbraith, *A Life in Our Times: Memoirs*, Houghton Mifflin, Boston, 1981; Richard Overy, *Why the Allies Won*, Norton, New York, 1995, pp. 230-232.

insisted. Intuitively, it does seem incredible to think that the massive and continuous attacks on a densely populated country did not cut into transport and production as well as wearing down industrial workers whose nights were spent taking whatever shelter was provided. It was a costly strategy: airmen were not easily replaced and 140,000 British and Americans died in the attacks, while 21,000 planes were lost. It had costs in the Pacific theatre, too, though less in terms of bombers succumbing to defending fighters, for Japan was largely denuded of defence, than in terms of the lives and efforts needed to capture the outlying island bases from which the planes could reach the home islands. Even so, with less tonnage bombing took its terrible toll, even before the Americans used their two nuclear weapons.

Perhaps it is useful to separate the arguments for bombing used before D-Day from those afterward. Between 1940 and 1942, Britain was unable to bring any counterforce to bear outside North Africa except by air. Military “necessity” usually remains a highly subjective factor. But Churchill believed, in my opinion correctly, that it was important for the UK to inflict damage on the foe at a time when his country had been forced out of the continent, its troops in Africa remained hard pressed and it stood, until June 1941, without a major ally. Once Russia entered the war, bombing enabled the British to claim that they, too, were making a positive contribution to the defeat of Hitler. As Overy points out, however, Churchill’s turn to bombing in 1942 was provoked by Stalin’s taunts about Allied inaction with respect to a second front, and it came at a point when it seemed a wasteful diversion of airpower from a better use.⁹ Dresden, too, was probably attacked largely because the Soviets complained that Britain and the US were not contributing their fair share in the winter of 1945 to the forthcoming land battles within Germany.

In the early days, however, the arguments for bombing were not officially developed in terms of morale and retaliation. They followed the more tortuous course of reasoning about the scale of civilian casualties permissible to set back Germany’s war industry. Although Harris and others thought terror as such was permissible because it must surely weaken the enemy’s will, the Allies did not officially accept such a justification. Nonetheless, the earlier notions of collateral damage themselves proved sufficiently elastic — any industrial or transport capacity contributed to the German and Japanese war effort. How much devastation was permissible? In targeting Sodom and Gomorrah for incendiary attacks, even God was willing to allow innocent victims. Once the tide had turned, violence was ingrained and the capacity to inflict damage — but largely indiscriminate damage — had been vastly enhanced. Only Hitler and Goebbels were frank enough to declare that the V-1 and V-2 attacks in the latter stages of the war were indeed designed to wreak terror, hence their V designation for “*Vergeltung*,” meaning reprisal or retaliation. But they could not win that battle.

9 Overy, *op. cit.* (note 8), pp. 103-04.

The German debate and the issue of taboos

In retrospect, what has been striking about the post-war German discussion of these issues is the relative absence of political reproach except in extreme right-wing circles, at least until a few years ago. Dresden, for all the implicit reproach in the discussion about it, never became a Hiroshima. Of course, the fatalities, despite propagandistic inflation, were lower: 35,000, not 70,000-100,000.¹⁰ The reasons for this reticence are not hard to find: West Germany remained dependent on the British and Americans for its post-war security against the Warsaw Pact alliance. Also, to raise the subject of German suffering seemed, for many “good” post-war Germans, to be tainted by neo-Nazi politics; it might be acceptable for the Japanese to play the role of unique victims because of the atom bomb, but that had indeed been a new and terrible weapon. And even the Japanese did not harp on the equally destructive conventional air raid on Tokyo in April 1945.

Still, debate was renewed a few years ago and along two separate tracks. First of all, the issue of German victims re-emerged, most sensationally in a book by Jörg Friedrich, “*Der Brand: Deutschland im Bombenkrieg 1940-1945*” (The Fire: Germany in the Bombing Campaign). The Friedrich book, appeared at a moment many writers were opening issues of German suffering in the war and asking whether post-war German culture had “repressed” any sustained discussions of Germans’ status as victims. as was claimed most notably by the late literary scholar and novelist W. G. Sebald in his Zurich lectures, published under the title “Air War and Literature.” In the same connection Günter Grass published his novel “*Im Krebsgang*” (Crabwalk), which gradually circled around and then told the story of the sinking of a German liner in the Baltic that was evacuating 9,000 refugees fleeing the Soviet invasion.¹¹ None of these authors could be suspected of neo-Nazi tendencies: Friedrich had written about German war crimes; Grass was a maverick leftist whose subject was the maiming or survival of ordinary people caught up in a German history they perhaps should have earlier resisted but didn’t; Sebald had written melancholy tales of

10 The death toll in Dresden quickly became a politicized estimate. For a while it was rounded off to 100,000, then totals of 135,000, gradually rising to a quarter million, were given credence by David Irving in *The Destruction of Dresden* (1963), who finally seemed to settle for a hundred thousand. It suited the Communist regime to accept such an approximate tally, but more careful estimates revised the number downward. At the entrance to the restored Zwinger, one of Dresden’s architectural treasures, the East German plaque still stands with its take on the history of the Second World War: “destruction of the inner city of Dresden,” by Anglo-American air forces in February 1945, “liberation” of Dresden from the fascists by the armies of the Soviet Union in May 1945, and reconstruction of the Baroque masterpiece by the German workers’ and peasant State. For the first scholarly re-evaluation of the death toll see Götz Bergander, *Der Luftkrieg in Dresden* (1977), who estimated it at 40,000, and for the most recent evaluation (between 25 and 40,000) see Frederick Taylor, *Dresden: Tuesday, February 13, 1945* (Harper Collins, New York, 2004) with its discussion of how casualty figures became inflated, pp. 443-48. On Hamburg, see Martin Caidin’s graphic account, *The Night Hamburg Died*, Ballantine, New York, 1960.

11 Jörg Friedrich, *Der Brand: Deutschland im Bombenkrieg 1940-1945*, Propyläen Verlag, Munich, 2002, forthcoming shortly in English from Columbia University Press; W. G. Sebald, “Air War and Literature” (“Luftkrieg und Literatur”, 2001), now included in his *On the Natural History of Destruction*, transl. Anthea Bell, Random House, New York, 2003; Günter Grass, *Im Krebsgang*, Steidl, Göttingen, 2002.

German-Jewish refugees and their inability to work through the impact of persecution in their later lives. Obviously all were moved by the numbers (half a million killed in the air war; 9,000 on the ill-fated ship) and needed to let the dead finally speak out.

Friedrich's book is an attempt to describe the aerial war from the viewpoint of those bombed, which it does in unsparing detail. It has broken through what was a virtual taboo about open discussion of the approximately half a million German civilian deaths in the Anglo-American air raids of 1940-45 and the destruction of cities and cultural treasures. Let us separate the book from the problem or problems it raises. At the emotional core of his account Friedrich stresses the horrors of incendiary bombing: death by burning in melting asphalt, by incineration in cellars, by asphyxiation through carbon monoxide and deprivation of oxygen. There is no shortage of accounts of large explosive bombs and of bomb-blast effects on the human body; he also gives due credit to guidance systems and the marking of targets by flares. But the incendiary bomb, dropped in thousands, remains the real technological protagonist, burning its way through the roofs of Gothic and Renaissance landmarks as well as private housing. He describes the shrivelled or carbonized remnants of victims being brought in baskets for burial, the destruction of families, the efforts at civil defence and the dispersal of children (a measure which the population hated). He points out that as much destruction followed during the final year of the war as in all the previous years before: devastating raids not only on railroads or in return visits to towns smashed repeatedly before, but also on cities ranging from Dresden to Würzburg and Potsdam whose destruction seemed called for mainly because they had until then been spared.

Although the book focuses primarily on British bombing, American readers will recall the devastating accounts of the Tokyo raid of 9/10 March 1945 and the toll as our B-29s roamed virtually unopposed over Japanese cities as from November 1944, dropping incendiary weapons on wooden housing with sometimes even greater human costs. Billy Mitchell, the American pioneer of naval bombing, had recognized this as early as the 1920s, when he described the Japanese cities as "the greatest aerial targets the world has ever seen..."¹²

The Friedrich book offended many Germans (and *a fortiori* Anglo-American readers) by its inflammatory language which borrowed the rhetoric used for the "final solution," including the terminology of the Holocaust.¹³ But I

12 Cited in: Richard Rhodes, *Downfall: The End of the Imperial Japanese Empire*, Random House, New York, 1999, p. 48.

13 See the excellent reviews submitted to the H-German network by Joerg Arnold, 3 November 2003, and Douglas Pfeifer, 4 November 2003, which appropriately address, I believe, the strengths and weaknesses of this work — Pfeiffer's with more emphasis on the military and political issues, Arnold's with greater emphasis on the moral and conceptual problems. Others have also indicated the deficiencies of the book as a scholarly source. See for instance Horst Boogs' summary list of errors in his contribution to *Ein Volk von Opfern? Die neue Debatte um den Bombenkrieg 1940-45*, Rowohlt, Berlin, 2003. Obviously many issues are contentious in this debate. The most parochial issues are those that concern historians as such. To what extent can the historian merely report or dissect the differing positions without engaging his own sense of moral judgment. Second, what sort of rhetoric is legitimate in an historical account?

wonder whether we Anglo-American readers, for whom the Second World War remains above all the most righteous military cause, do not seek to evade the questioning the book provokes by pointing to the admittedly charged language. (And so, too, may those German readers who fear the apologetics implicit in the work.) Yes Friedrich resorts to the images we usually associate with Holocaust literature... but children and adults did end up incinerated. Discursive fastidiousness should not serve as a defence mechanism to draw too much comfort from the flaws that are documented.

Sebald's thesis of literary repression is also flawed. In the early post-war period, as Volker Hage's collection shows, German accounts of bombing and urban destruction did appear.¹⁴ But they were not backed up in major essays or novels. No German dialogue on those issues came into being, such as that generated by Germans themselves on their own war crimes and genocide. As Pfeiffer rightly notes, there was in fact extensive though often specialized literature on the latter subjects. Rather than an outright taboo, there has been an inhibition against producing or citing material about German suffering as such. Yes, we have had surveys of the air war — the ones written by the victors and the important scholarly work carried out at the Freiburg centre for military history.¹⁵ But such works rarely dwell on the experience of being bombed. Commentators have also raised the question why non-neo-Nazi Germans could not write this history so graphically before or let themselves discuss it more openly. The answer put forward by Hans Ulrich Wehler and others is that they

If a particular vocabulary becomes associated with what is agreed to be the most abominable atrocity (such as the antiseptic language used by the Nazis in carrying out the "final solution") is it illegitimate to use that language for other situations? Is "tasteless" a category that makes sense for historical writing? Saul Friedlaender sought to take up this issue from the other side when he questioned Nazi kitsch — the deliberate effort to evoke the aesthetic dimensions of fascism and Nazism. See *Reflections of Nazism: An Essay on Kitsch and Death*, Harper & Row, New York, 1984. We know the phenomenon from films (Hans-Jürgen Syberberg's *Hitler: Ein Film aus Deutschland*, 1977, and Liliana Cavani's *The Night Porter*, 1974), novels (Michel Tournier, *Le Roi des aulnes*, 1970; US title, *The Ogre*), Friedrich's book suggests that the historian cannot rest content with a history of lived experience, no matter how important it may be to convey that experience. Television, cinema and the preoccupation of society with the testimony of victims have suggested to us that history is sterile without the evocation of experience, but history cannot be merely the excavation of experience — old pictures, sad songs, diary extracts, and the like. To rely on these is our version of a pathetic fallacy. It is appropriate and indeed, I think, often a duty to convey testimony. But doing justice to the witness is not the same as writing history. It may be the beginning or the end of historical reflection, but it is a different sort of exercise. There can be no history perhaps without memory, but neither can there be history that does not discipline memory.

- 14 Volker Hage, *Zeugen der Zerstörung: Die Literaten und der Luftkrieg*, S. Fischer, Frankfurt, 2003. Such accounts include: Gerd Ledig, *Vergeltung* (1956), in English as *Payback*, translation by Shaun Whiteside, Granta, London, 2003 — review at H-German (see note 13 above), 5 November 2003, by Julia Torrie; and Hans Erich Nossak, *Der Untergang* (originally published in 1948, reissued by Suhrkamp, Frankfurt/M, 1976); also an extensive essay on Nossak by Scott Denham, likewise at H-German, 7 November 2003.
- 15 Klaus Maier and Horst Boog in Militärgeschichtliches Forschungsamt (ed.), *Das Deutsche Reich und der Zweite Weltkrieg*, Vol. 7, H. Boog et al., *Das Deutsche Reich in der Defensive*, Deutsche Verlags-Anstalt, Stuttgart, 2001; Olaf Groehler's *Bombenkrieg gegen Deutschland*, Akademie Verlag, Berlin, 1990, from the German viewpoint. From the Allied viewpoint, Charles Webster and Noble Frankland, *The Strategic Air Offensive against Germany, 1939-1945*, 4 vols., Her Majesty's Stationery Office, London, 1961; Wesley Frank Craven and James Lea Cate, eds., *The Army Air Forces in World War II*, 7 vols., Chicago, 1951; also among others Denis Richards, *RAF Bomber Command in the Second World War*, Penguin, London, 1994; and Max Hastings, *Bomber Command*, Pan Books, London and Sydney, 1981.

were acutely aware that their regime bore the responsibility for the war and had killed on an even larger scale, committing outright murder in which each and every death inflicted was intentional. Some Germans, I believe, were silent not merely because they could not reconcile themselves to the deaths, but because they really did understand where the chain of murderous warfare began. “[As young survivors, we took] no oaths of revenge against the Allied bombers. In a certain sense we felt a solidarity with them; they would destroy that system that we ourselves [...] had erected but which we did not have the strength to overthrow,” Peter Wapnewski writes.¹⁶ Even Friedrich, who is outraged by the suffering inflicted, states: “The destruction of the cities helped the cause of eliminating Himmler and his adherents, who had taken hostage these places, this history and this humanity, all Germany and all Europe.” But it was Germany, too, which had taken these hostages, “...whether through violence, approval, or anger, out of equanimity or impotence. A different Germany was nothing but hypothetical — a would- or might-have-been.” He goes on to say, however, that it is also hypothetical to ask whether the conflagration might have been unnecessary: “Did Hildesheim have to be destroyed for its railroad station? Was this the reason, was there really any reason? Did those who set the fires intentionally and in anger want to win at any price, or was this the price that had to be paid for their victory? Certainly this was their effort. If this represents no tragedy as part of the Allies’ history, was their total success the same for the history of the Germans?”¹⁷

Critical historians, have simply labelled the book demagogic and flawed. In effect, this is a strategy of compartmentalization, which I do not share. Friedrich raises serious issues that we cannot seriously deal with if we merely object to inflammatory language or lack of balance. Friedrich does understand that after the 1940 defeat in the West, there seemed no choice for the British but to strike at the enemy with whatever weapons were available if they were not to come to terms. Did not morale, as Churchill sensed, require inflicting some damage on an enemy that threatened to invade and was laying waste to London? Could any democratic statesman set on resistance not have followed this strategy? Yet was there not a point at which it changed — as Arthur Harris said it should — from a purposeful pursuit of targets, whether railroads or industry, to moral bombing? Nor is this change surprising. As Friedrich understands, the air war became one of *Vergeltung* or retribution in which the British went far beyond the level of destruction they themselves had suffered (just as the American *Vergeltung* against Japan vastly exceeded the toll taken at Pearl Harbour that was so often cited as justification). Retribution fuelled the air war as much as did strategy. Peter Wapnewski’s recollection notwithstanding, many Germans impatiently awaited the retaliatory “V” weapons that Goebbels promised.

16 In Lothar Kettenacker (ed.), *Ein Volk von Opfern: Die neue Debatte um den Bombenkrieg 1940-45*, Rowolt, Berlin, 2003, p. 122 (author’s translation).

17 Friedrich, *op. cit.* (note 11), pp. 217-18 (authors translation).

The contentious issue is not military success alone. As mentioned above, the American Strategic Bombing Survey's critique of the efficacy of bombing, no longer seems tenable. By the summer and autumn of 1944, the war machine was largely incapacitated. Air defences were faltering, production began to fall sharply. Surely, argue their historian defenders, the tons of explosives that rained down from the air brought about that collapse. To which critics can respond, first, that other factors including military setback on the ground played a large role and, second, while so-called precision bombing was not precise, the Allies did not have to embrace city bombing so indiscriminately. I personally think that the bombing can be credited with another success: the demonstrated hopelessness of the Nazi defence had something to do with the fact that after World War II there was no real revanchist movement, no defiant nationalism. But then again, defeat without immolation might also have achieved an equal post-war success. No, the issue remains the price of success; that is always debated, and must be debated by historians as well as by those who were directly involved.

The non-existent Anglo-American debate and the issue of reprisal

What is striking about these debates is, I believe, first of all the fact that they did not resonate more strongly in Germany. For all the cries about the German proclivity to victimization, the bombing issue has hardly become a major or hotly discussed political subject. It has not stirred up public sympathy or awareness like the Hiroshima attack has done in Japan. German civic culture abandoned the *tu quoque* attitude it still largely maintained throughout the 1950s. Yes, for a long while there were many stories of victimization — especially among refugees from East Prussia, the territories taken over by post-1945 Poland, and the Sudetenland. Friedrich's book can be seen as a continuation of this strand of self-pitying and often right-wing apologetics, but non-Germans are in fact willing to listen to this narrative with a sympathy that was excluded in Germany until very recently, except on the far right. Vaclav Havel's expression of regret at the expulsions of Germans from the Sudetenland was a conspicuous case in point. Nonetheless, Friedrich's book and the related series of memoirs and commentaries in the press did not unleash any widespread attempts to claim a moral equivalence of German war crimes and Allied bombing. I believe this reticence is due to a deep-seated recognition that one cannot indulge in a sort of moral bookkeeping that offsets one series of atrocities against what might be considered another. The recent VE Day celebration on 8 May 2005 demonstrates even more clearly that the Germans are willing to forswear any political exploitation of the air-war issue. A few years ago, they often tended to say that their country could not celebrate 8 May as a day of liberation since it simultaneously marked a catastrophic national defeat. At this most recent commemoration, in Moscow and elsewhere, this reserved stance had completely changed: Germans participated as Germans who could welcome unreservedly the results of 8 May 1945.

The political culture that allows conventional national feeling to be overcome in this way is not one that will sustain the undercurrents generated by Jörg Friedrich. Jürgen Habermas could be proud: constitutional patriotism has prevailed even in the united Germany.

But equally striking, to my mind, is the absence of discussion in the United States, if not in Great Britain. American political culture allows, I think, far less tolerant examination of earlier failings in World War II — or at least not yet. True, Americans have engaged in national expiation with regard to Indians, the slavery, lynching and segregation of African-Americans, and the internment of West-Coast Japanese-Americans during World War II. But the “good war” is still too fresh in their memory or too necessary a perception to be subjected to the same emotional scrutiny. The fierce controversy over the Enola Gay exhibition in 1995, however flawed the explanatory material might have been, revealed the great resistance to this sort of scrutiny.¹⁸ In fact, Hiroshima and Nagasaki can be questioned and discussed, but the conventional air war remains beyond widespread popular re-evaluation. The recent histories of America’s bombers, especially Stephen Ambrose’s history of B-24 Liberator raids, are cast in the heroic mould. Thomas Childers’ moving study, which evidently inspired Ambrose (though he never acknowledged it), of his uncle’s B-24 war, *Wings of Morning*, likewise did not seek to question the rationale for bombing raids up to and including April 1945.¹⁹ Childers, however, was explicitly writing a book about subjective experience — the very dangerous one that ordinary Americans undertook on orders — and he has promised a counterpart volume on experience of the war from the ground. But no one has suggested that if American soldiers are supposed to resist immoral orders or commanders are punishable for giving them, any aspect of the air war should come within that moral category.

What the air-war discussions — German, British and American alike — reveal is that much of the discussion about the legitimacy or “just war” justification of massive aerial bombardment was beside the point. In large-scale national wars, even in cases where societies were under totalitarian control and citizens were not thought to have any influence over their rulers, reprisal became an accepted course of action. As a British Liberal MP wrote in 1942, “I am all for the bombing of working class areas of German cities. I am Cromwellian — I believe in ‘slaying in the name of the Lord’, because I do not believe you will ever bring home to the civil population of Germany the horrors of war until they have been tested in this way.”²⁰ Of course, bombing for pedagogical purposes is not meant to imply that five-year-olds deserve that lesson. Rather it presumes that

18 See Philip Nobile (ed.), *Judgment at the Smithsonian: Smithsonian Script by the Curators at the National Air and Space Museum*, Marlowe & Company, New York, 1995. The afterword by Barton J. Bernstein is a valuable summary of the debates since 1945.

19 Thomas Childers, *Wings of Morning: The Story of the Last American Bomber Shot down over Germany in World War II*, Addison Wesley, Reading, MA, 1995; Stephen E. Ambrose, *The Wild Blue: The Men and Boys who Flew the B-24s over Germany*, Simon & Schuster, New York, 2001.

20 Geoffrey Shakespeare to Archibald Sinclair, cited in Hastings, *op. cit.* (note 15), p. 147

German parents need to learn it by watching their innocent infants die. But even without this degree of righteous anger, we tend to accept reprisal. Potential reprisal certainly became an acceptable recourse during the Cold War, when massive retaliation rested on “mutual assured deterrence,” and the second-strike or counter-city strategy was largely accepted until the 1980s, when the consensus about nuclear deterrence started unravelling.

Still, for most of us, such reprisal must be stochastic or actuarial. What remains unacceptable is the targeting of individual civilians. What is acceptable is reprisal with the statistical certainty that a given percentage of civilians must be killed thereby. In the final analysis, those of us who would accept the air war say that under certain conditions it may be necessary to burn babies. Even if we are not explicitly targeting babies, we are all familiar enough with statistics to know that our historically mediated choice will kill those whom no theory of a society at war can plausibly claim to have opted for war. Vengeance is mine, supposedly sayeth the Lord. Vengeance, though, is also ours — including civilian deaths as long as the victims are not personally selected. This remains curious. Why is it more acceptable that, say, five per cent of a city of half a million will be killed (25,000) so long as we do not specify which five per cent, whereas shooting 50 hostages out of hand is unacceptable? Nonetheless, it is. The issue is not quite that of randomness, for the terrorist does not know which teenagers will for instance be discoing in the Jerusalem café, or who will already be at work in the World Trade Centre. He or she inflicts death as in a lottery. Is distance the issue? Is whoever kills close up deemed more responsible than he who slays from far away? No matter what the source of these scruples, and whether due to bombing, blockade, radiation or the like, the unspecified death is more acceptable than the specified death. But is it more ethically acceptable to treat life and death as a lottery than to inflict death on specified groups of people. And why is it more acceptable to condone, as a means of warfare, the heavy bombing of cities and towns with the statistical certainty of innocent victims, but to condemn the terrorism that purposely kills innocent civilians as a pawn in a political response.

There are two possible answers, and neither is very satisfactory. Terrorism is specifically intended to kill innocents; in city bombing their death is merely accepted. The historian, of course, is not an ethicist. But how robust a distinction does this really amount to? The second is that evil regimes hold their own citizens hostage and are as responsible for the death of “innocents” as are those who seek to defeat them. The Germans started the war, or their Führer did. Well, this sounds good, but it doesn’t diminish the complicity of the bombers. At what age did one become a Nazi or even a supporter? Surely not younger than 4 or 5 or 6 or...or...or. Readers expect historians (legitimately, I think) to take a surrogate responsibility for approval or disapproval of their protagonists’ hard choices. To say that Friedrich’s “Fire” is flawed by lack of balance or inflammatory language cannot get us off the hook. As good liberals, we might plausibly argue that our statesmen and pilots could have killed fewer babies or non-combatants, and probably that is where most of us are

left after reading his book. Yet at the end I am nevertheless forced to confront inconsistencies and beliefs that I would rather avoid. *Jus in bello* remains at best an asymptotic guideline, never fully to be achieved, often to be hypocritically violated. But what other choice do we have?

Precision attack and international humanitarian law

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Abstract

This article explores the relationship between precision attack and international humanitarian law. It begins by addressing the nature of precision attack, including precision technologies, the combat environment in which it occurs, attacker tactics, and the targeting process. Modern precision attack's greatest impact on international humanitarian law lies in four areas: indiscriminate attack; proportionality; precautions in attack; perfidy and protected status. The author concludes that precision warfare has both positive and negative implications for the interpretation and application of international humanitarian law on the twenty-first-century battlefield.

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Precision is often heralded as a panacea of modern warfare. Given the military technology available to today's high-tech forces, it sometimes seems that collateral damage to civilian objects and incidental injury to civilians could only possibly result from an attacker's failure to take the "precautions in attack" required by international humanitarian law (IHL).¹ At the very least, should there not be a rebuttable presumption that insufficient precautions are the cause of such injury and damage, a presumption the attacker would bear the burden of rebutting?

Although the law has not yet arrived at this point, some of those who assess the conduct of hostilities, both formally and informally, seem to be moving in that direction. Somewhat ironically, this tendency has been fuelled by efforts of the armed forces to convince domestic and international audiences that they fight very "discriminate" wars.² When a missile can be seen to navigate

a city street on CNN, it is hard to accept footage of civilian casualties as merely the unavoidable consequence of a lawful attack.

This article explores the realities and myths of twenty-first-century precision operations and their normative significance.³ What is precision? Which aspects of international humanitarian law bear on precision attack? How might improvements in precision technologies affect the nature of armed conflict, and how might such changes influence the application and interpretation of international humanitarian law by belligerents? Hopefully, the article will clarify some of the prevailing misperceptions about precision, while identifying both positive and negative aspects of precision warfare that merit further inquiry.

Precision warfare

Precision is often wrongly characterized as a weapon's capacity to strike the precise point at which it is aimed (known as the "aimpoint").⁴ In fact, this ability is correctly labelled "accuracy." It is measured in terms of circular error probable (CEP), the radius of a circle within which one-half of the weapons will fall.⁵

Accuracy is a key element of precision, but the terms are not synonymous. Rather, precision refers to "the ability of joint forces to locate, surveil, discern, and track objectives or targets; select, organize, and use the correct systems; generate desired effects; assess results; and reengage with decisive speed and overwhelming operational tempo as required, throughout the full range of military operations."⁶ It encompasses the ability to locate and identify a target, strike it accurately in a timely fashion, and determine whether desired effects have been achieved or restrike is needed.

Precision strikes therefore require more than accurate weapon systems.⁷ Robust command, control, communications, computers, intelligence, surveillance,

1 Specifically, those set forth in Article 57 of Additional Protocol I (hereinafter AP I) to the Geneva Conventions of 12 August 1949, relating to the Protection of Victims of International Armed Conflicts, 12 December 1977, reprinted in *The Laws of Armed Conflict*, Dietrich Schindler & Jiri Toman (eds.), Martinus Nijhoff, Dordrecht, The Netherlands, 2004, p. 711. On precautions in attack, see discussion below.

2 See discussion in Michael N. Schmitt, "The conduct of hostilities during Operation Iraqi Freedom: An international humanitarian law assessment," *Yearbook of International Humanitarian Law* (forthcoming), and the Human Rights Watch response thereto.

3 With particular emphasis on precision's optimal environment, air warfare.

4 "A precise point associated with a target and assigned for a specific weapon impact to achieve the intended objective and level of destruction. May be defined descriptively (e.g. vent in center of roof), by grid reference, or geolocation," Joint Chiefs of Staff, "Joint doctrine for targeting," Joint Publication 3-60, 17 January 2002, at GL-4.

5 Or one-half of the projectiles carried within a single weapon, such as a cluster bomb unit.

6 Joint Chiefs of Staff, Joint Vision 2020, June 2000, available at <www.dtic.mil/futurejointwarfare/> (visited 22 August 2005).

7 A weapon system is a "combination of one or more weapons with all related equipment, materials, services, personnel, and means of delivery and deployment (if applicable) required for self-sufficiency." When considering precision, it is more useful to think in terms of weapon systems, for the accuracy of a weapon in a particular attack may depend as much on the capabilities of the platform from which it is launched as the technical parameters of the weapon itself.

and reconnaissance (C4ISR), for instance, can be as determinative of success as the weapon employed.⁸ The failed Operation Iraqi Freedom decapitation campaign and the two mistaken attacks against an ICRC warehouse in Afghanistan during Operation Enduring Freedom exemplify this reality.⁹ The weapons were delivered very accurately. But “perishable” (transitory) intelligence frustrated repeated attempts to kill members of the Iraqi leadership, while target misidentification and subsequent poor communication among Coalition forces contributed to the accidental bombings of ICRC facilities.

The technologies available to conduct a precision attack vary widely from military to military. They can be grouped broadly into two categories. Some technologies allow greater battlespace transparency, thereby enhancing the attacker’s ability to detect, identify and fix a potential target, as well as assess the mission’s results. Others facilitate the attack itself by enabling the attacker to penetrate (or neutralize) enemy defences, enhancing command and control, and improving accuracy and other weapon characteristics such as penetrability. Although it is beyond the scope of this short survey to describe the many systems that foster precision in modern warfare, it may prove enlightening to describe a few.

In the first category, the E-8C Joint Surveillance Target Attack Radar System (JSTARS) has proved particularly useful against ground targets. A battle management, command and control, intelligence, surveillance and reconnaissance aircraft, the JSTARS provides ground and air commanders with information supporting attacks against enemy ground forces. Its radar can survey an area of 50,000 square kilometres and detect potential targets out to 250 kilometres.

A counterpart of the JSTARS is the RC135 V/W Rivet Joint, which monitors the electronic spectrum. It offers communications and electronics intelligence capabilities in near real time by detecting, identifying and geolocating electromagnetic signals (e.g. leadership communications). The information it gathers is quickly transmitted to users who can then immediately target the source of the emissions.

Unmanned aerial vehicles (UAVs) have garnered great attention in recent conflicts. The RQ-1 Predator provides surveillance, reconnaissance and target

8 Intelligence is “the *product* resulting from the collection, processing, integration, analysis, evaluation, and interpretation of available information concerning foreign countries or areas.” Surveillance is the “*systematic observation* of aerospace, surface, or subsurface areas, places, persons, or things, by visual, aural, electronic, photographic, or other means.” Reconnaissance is “a *mission* undertaken to obtain, by visual observation or other detection methods, information about the activities and resources of an enemy or potential enemy, or to secure data concerning the meteorological, hydrographic, or geographic characteristics of a particular area.” Department of Defense Dictionary of Military and Associated Terms, Joint Publication 1-02, as amended through 9 May 2005, available at <www.dtic.mil/doctrine/jel/doddict/> (hereinafter DoD Dictionary, visited 22 August 2005).

9 The decapitation campaign is described at length in Human Rights Watch, *Off Target: The Conduct of the War and Civilian Casualties in Iraq*, December 2003, at pp. 78–79, available at <www.hrw.org/reports/2003/usa1203/> (visited 22 August 2005). For the strikes on ICRC facilities, see Sean D. Murphy, “Contemporary practice of the United States relating to international law,” *American Journal of International Law*, Vol. 96, 2002, p. 247.

acquisition services using a TV camera, an infrared camera, and a synthetic aperture radar (for looking through smoke, clouds or haze). Some Predators (the MQ-1) have been armed with Hellfire missiles to allow them to attack the targets they identify. In 2002, for example, the CIA used a Predator to strike a car carrying Qaed Senyan al-Harhi, al Qaeda's senior operative in Yemen.¹⁰ A second type of UAV, the Global Hawk, operates at high level to boost survivability and enlarge coverage. It contains synthetic aperture radar, a ground moving target indicator and high-resolution electro-optical and infrared sensors. The Global Hawk can travel to an interest area over 1,000 miles away and remain on station for 24 hours.

It is in the area of transparency that the most significant future advances are likely. Indeed, the Defense Advanced Research Project Agency (DARPA), the US governmental organization with responsibility for the development of future military technologies, has adopted "detection, precision ID, tracking, and destruction of elusive surface targets" as one of eight "strategic thrusts" (areas of emphasis).¹¹ A project typifying such research involves improving connectivity of individual sensors to maximize the unique benefits of each. The DARPA offers the example of a Predator using video to track a vehicle when it disappears under jungle canopy. The network would automatically switch to foliage-penetrating radar that can monitor the vehicle; 3D LADAR (laser detection and ranging) sensors would then generate a detailed three-dimensional image that can be compared to computerized geometric models of weapon systems to ensure the target is what it appears. DARPA is working on a number of other projects in this field, ranging from ground and airborne seismic, acoustic, electromagnetic, optical and chemical sensors that can locate and map underground facilities to a "space surveillance telescope" to search space for small objects (allowing them to be neutralized).

The DARPA has placed less emphasis on developing technologies involved in the attack proper. In great part, this is because current systems fielded by high-tech forces are, as demonstrated in recent operations like Operation Iraqi Freedom, survivable and accurate.¹² That said, DARPA's efforts in the field of networking will certainly enhance the responsiveness of current systems by improving command and control, facilitating coordination between attackers and increasingly linking sensors and "shooters."

Two technologies already in the field have made (and will continue to make) a dramatic impact on attack effectiveness. The first is stealth technology, particularly the US F-117 Nighthawk and the B-2 Spirit.¹³ Non-stealth bombers

10 Anthony Dworkin, "The Yemen strike," 14 November 2002, available at <www.crimesofwar.org/onnews/news-yemen.html> (visited 22 August 2005).

11 Defense Advanced Research Project Agency, *Bridging the Gap*, February 2005, ch. 3.

12 Indeed, of the eight DARPA strategic thrusts, none bears directly on this capability.

13 Weapons systems and weapons are described on a number of websites. In particular, see those of the US Air Force, available at <<http://www.af.mil/factsheets/>> (visited 22 August 2005); Global Security, available at <<http://www.globalsecurity.org/military/systems/index.html>> (visited 22 August 2005); and Federation of American Scientists, available at <<http://www.fas.org/main/home.jsp>> (visited 22 August 2005).

usually require escorts when penetrating enemy airspace: air-to-air fighters to defend them against interceptors; defence suppression escorts that attack surface-to-air missile sites and anti-aircraft artillery; and jamming aircraft to block electromagnetic assets. By contrast, stealth aircraft reach their targets alone and undetected, thereby allowing them to locate their aimpoint and release their guided weapons under relatively benign circumstances. This dramatically enhances precision.

More significant is the Joint Direct Attack Munition (JDAM). The weapon's concept is quite simple. Guidance tail kits are attached to existing unguided free-fall bombs, rendering them guided. With the tail kit's global positioning system (satellite) and inertial navigation system guidance, these bombs can achieve an unclassified circular error probable of approximately 20 feet from as far away as 15 miles (an upgrade will improve accuracy).

While other systems, particularly laser-guided ones, might be more accurate, the JDAM is noteworthy in two regards. First, at roughly US\$20,000 a copy, it is cheap. Second, most aircraft can be readily modified to carry the JDAM. It is unsurprising, then, that JDAMs are assuming an increasing share of the fight.¹⁴ The lighter version will allow aircraft to carry more weapons per sortie. Given its affordability and versatility, JDAMs bring precision warfare within the reach of many air forces.

Beyond technology, numerous factors influence the level of achievable precision. One is the environment in which the attack is carried out. Many weapon systems are undeliverable (or degraded) during night time or in poor weather. Features of the target area may also detract from precision. For instance, smoke can obscure visual target identification and fires may foil the use of infrared equipment. Heavy defences along the ingress and egress routes and in the target area can distract the attacker or cause the platform launching the weapon to be unstable as it takes defensive manoeuvres. Finally, the nature of the conflict may be such that it is difficult to reliably identify the enemy. Operation Iraqi Freedom, where Iraqi forces donned civilian attire and used civilians and civilian objects as shields (or bases of operations), is the paradigmatic example in contemporary warfare.

Like enemy tactics, those adopted by the attacker bear on precision. The issue of launching weapons from altitude became a *cause célèbre* for critics of NATO's bombing campaign against the former Federal Republic of Yugoslavia. Although much of the criticism evidenced misunderstanding of modern weaponry, launch altitude and range do affect accuracy. For instance, unguided weapons are less accurate the higher the altitude or the greater the distance from the target, whereas guided weapons often become more accurate

14 During Operation Iraqi Freedom, US forces dropped 5,086 JDAM GBU 31s (2,000 pound), 768 JDAM GBU 32s (1,000 pound), and 675 JDAM GBU 35s (1,000 pound penetrator). A 500 pound variant has been developed and is being employed by the F-16 Falcon and the F-15 Eagle. Figures contained in US Central Command Air Forces, Assessment and Analysis Division, *Operation Iraqi Freedom: By the Numbers*, 30 April 2003, p. 11, available at <www.globalsecurity.org/military/library/report/2003/uscentaf_oif_report_30apr2003.pdf> (visited 22 August 2005).

because they have longer to home in on their aimpoint. There has similarly been criticism of firing weapons from “beyond visual range” (BVR). Doing so forfeits any advantages derived from actually seeing the target (VID or “visual ID”), but improves precision through launch in a lower threat environment. Even the rules of engagement (ROE) may affect precision.¹⁵ As an example, rules of engagement may require “positive identification” (PID) before engaging a target or mandate the use of certain weapons systems against particular targets, such as those in an urban area.¹⁶

A major influence on precision operations is the type of targeting involved.¹⁷ Targets are either “planned” or “immediate.” Planned targets are those known to exist in the operational area and are attacked in accordance with an air tasking order (ATO), mission-type order, or fire support plan.¹⁸ They may either be “scheduled” or “on-call.” The former are targets to be attacked at a specific time according to a set schedule. By contrast, the latter are known to exist, but are included in the air tasking order only in response to evolving situations.

Immediate targets are not identified (or selected for attack) soon enough to be included in the normal targeting process. Such targets are either “unplanned” or “unanticipated.” Unplanned immediate targets are known, but are not detected, located or selected for attack in time for inclusion in the targeting cycle. Unanticipated immediate targets are those of which the attacker was unaware but, once detected, are targeted because their destruction, damage or neutralization contributes to campaign objectives.

Targets in any of the four categories may be “time-sensitive.” They require immediate attack “because they pose (or will soon pose) a danger to friendly forces or are highly lucrative, fleeting targets of opportunity.” Some are “fleeting” because they are mobile (as in the case of the Iraqi leadership) or because the enemy may employ CC&D (camouflage, concealment, and deception) techniques to conceal them.

15 The United States defines rules of engagement as “directives issued by competent military authority that delineate the circumstances and limitations under which United States forces will initiate and/or continue combat engagement with other forces encountered.” DoD Dictionary, *op. cit.* (note 8). ROE are derived from policy, legal and operational concerns.

16 For example, the 2003 Combined Forces Land Component Commander (Iraq) ROE Card provided: “Positive identification (PID) is required prior to engagement. PID is a reasonable certainty that the proposed target is a legitimate military target. If no PID, contact your next higher commander for decision.” *Operational Law Handbook*, US Army Judge Advocate General’s Legal Center and School, Vol. 101, 2004.

17 See “Joint doctrine for targeting,” *op. cit.*, ch. 1.

18 An ATO is defined as “a method used to task and disseminate to components, subordinate units, and command and control agencies projected sorties, capabilities and/or forces to targets and specific missions. Normally provides specific instructions to include call signs, targets, controlling agencies, etc., as well as general instructions.” A mission-type order is a directive “to a unit to perform a mission without specifying how it is to be accomplished.” Fire support consists of “fires that directly support land, maritime, amphibious, and special operations forces to engage enemy forces, combat formations, and facilities in pursuit of tactical and operational objectives.” DoD Dictionary, *op. cit.* (note 8).

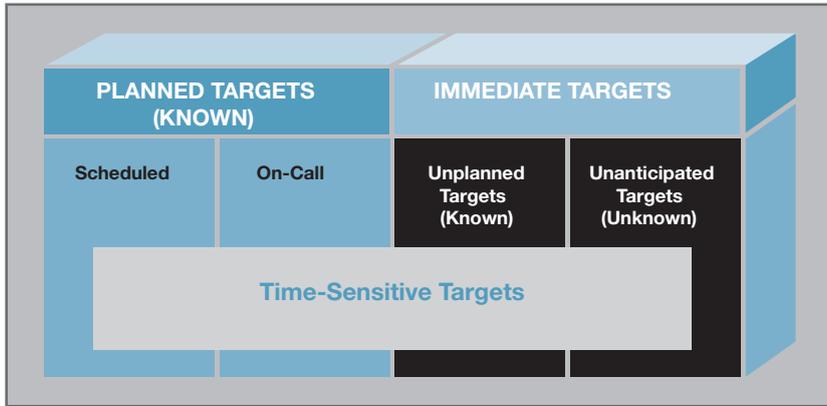


Figure 1: Target Categories¹⁹

The ability to engage in precision attack against a particular target is always situational. However, as a general matter, planned targets are more conducive to precision attack than unplanned. Within these categories, scheduled targets and unplanned targets are preferable to on-call and unanticipated targets respectively. Obviously, the more time-sensitive a target, the less the opportunity to assess the target or plan the attack, and the fewer the attack options (systems, tactics, etc.) that will be available.

To disable the enemy by striking at these targets, an increasing number of militaries have adopted effects-based targeting processes and doctrines.²⁰ Effects-based targeting — which was made possible by precision technologies such as advanced intelligence, surveillance and reconnaissance (ISR), accurate weaponry, and stealth — involves deconstructing enemy systems to identify those components thereof the attack on which will best yield a defined effect that supports the campaign objectives.²¹ Consider, for example, misuse of a media facility to direct military operations. The desired effect is neutralization of the offending transmissions, not destruction of the facility. This being so, it may be more effective to temporarily shut down the station by dropping carbon filaments on the power lines that feed it electricity, rather than bombing the facility itself, particularly if the attacking commander envisages using it for his or her own

19 “Joint doctrine for targeting,” *op. cit.* (note 4), Figure I-2.

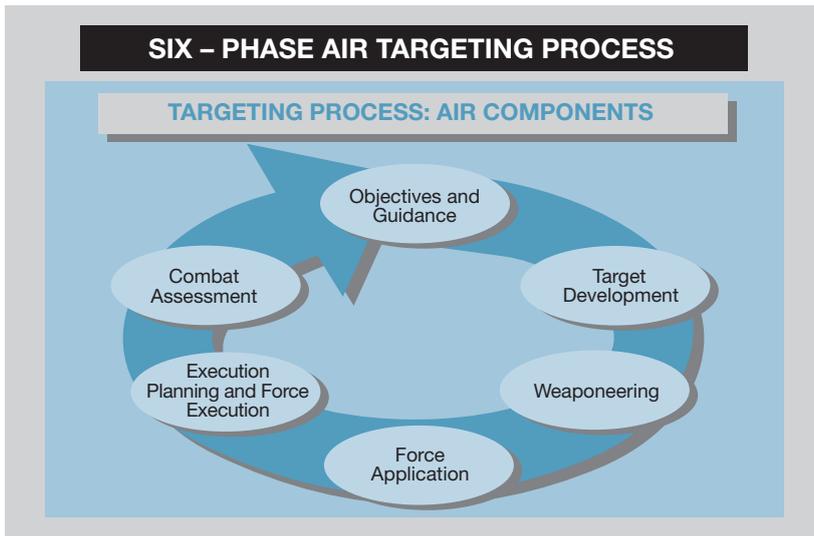
20 On effects-based operations, see Brigadier General David A. Deptula, *Effects-based Operations: Change in the Nature of War*, Aerospace Education Foundation 2001; Department of Defense, “Effects-based operations briefing,” 19 March 2003 (hereinafter EBO Brief), available at <www.defenselink.mil/news/Mar2003/g030318-D-9085.html> (visited 22 August 2005). On EBO and law, see Michael N. Schmitt, “Aerial effects-based operations and the law of armed conflict,” paper presented at a conference to mark the launch of the UK *Manual of the Law of Armed Conflict*, Oxford University, Oxford, July 2004. The articles presented will appear in a compilation to be edited by Steven Haines and published by Oxford University Press in 2005.

21 Effects-based operations are defined as “actions taken against enemy systems designed to achieve specific effects that contribute directly to desired military and political outcomes.” US Air Force, “Air Force basic doctrine,” Air Force Doctrine Document 1, 17 November, 2003, p. 98.

purposes during post-conflict reconstruction. Therefore, in the context of effects-based operations, precision is the relative ability to understand the enemy system and conduct effective and accurate attacks against its key components.²²

Ultimately, precision depends most on the effectiveness with which the targeting process is executed.

Figure 2: Targeting Process²³



This six-phase process commences with the commander setting campaign objectives and issuing corresponding guidance to his or her forces. Once received, target development can begin. During this phase, the enemy's military, political and economic systems, their subcomponents and their interrelationships are studied. The value of potential targets is analysed to determine the relative need to strike them, and international humanitarian law and rules of engagement factors are considered.

In the weaponeering phase, the weapon to be used is tentatively selected, bearing in mind factors such as availability, desired probability of damage (Pd),²⁴ likely weapons usage as the conflict continues, and potential incidental

22 Effects may be direct (the first-order result of the attack, e.g. destruction from weapon blast) or indirect (second or greater order results, e.g. negative impact on enemy morale). Whether direct or indirect, effects may cumulate or cascade. Cumulative effects are those that compound over time. For instance, enemy morale degrades the longer adversaries are subjected to attack. By contrast, cascading effects are indirect effects that ripple through the enemy's target system, usually from a higher to a lower level of command. For instance, neutralization of a command and control facility can sow confusion among subordinate units.

23 "Joint doctrine for targeting," *op. cit.* (note 4), Figure C-3.

24 "Probability of damage (Pd) is used to express the statistical probability (percentage or decimal) that specified damage criteria can be met assuming the probability of arrival." United States Air Force, "Intelligence targeting guide," AF Pamphlet 14-210, 1 February 1998, pp. 59–60.

injury and collateral damage. Force application, during which a weapons system (launch platform and weapon) is matched to a particular aimpoint, follows.

These four phases provide the basis for execution planning, i.e. designing the mission that will carry out the strike. Mission planners assess how the target will be identified during the attack, determine the precise location of the target, and decide upon attack tactics. Following execution of the attack, a combat assessment of the strike is conducted to determine whether reattack or attack on other targets is required.

Improvements in technologies, doctrine and tactics continue to heighten the quality of the targeting process. Unsurprisingly, the result is a growing resort to precision attack. During Operation Desert Storm in 1991, only 8.8% of attacks employed precision munitions.²⁵ By Operation Allied Force in 1999, this figure had grown to approximately one-third of all munitions dropped.²⁶ Two years later, in Operation Enduring Freedom in Afghanistan, the percentage was 65%, with slight growth to 68% by Operation Iraqi Freedom in 2003.²⁷

The increasing prevalence of precision operations in modern conflict has a number of implications vis-à-vis the conduct of hostilities, some of which have particular relevance to the interpretation and application of international humanitarian law principles. First and foremost, the more precise the strike, the more likely the right target will be hit. Furthermore, increased accuracy allows the use of a smaller charge to achieve the desired probability of damage, thereby risking less collateral damage and incidental injury. Precision also limits the need for restrikes (with their chance of civilian harm) against a target. At the same time, though, greater precision enables targets to be attacked that previously were off-limits due to likely excessive collateral damage or incidental injury. This is particularly true with regard to urban and dual-use targets.²⁸ To the extent that such attacks are seldom free of collateral damage and incidental injury, opening additional targets to attack results in a net increase in potential harm to the civilian population.

On the other hand, the emphasis on achieving effects rather than simply attrition of the enemy reduces the number of targets to be struck, which means fewer occasions when collateral damage or incidental injury may be caused. Because the number of missions to achieve a desired result drops, more platforms are available to strike other targets. The air campaign can thus be prosecuted more quickly and enemy defeat will theoretically ensue sooner, a positive result from the perspective of the civilian population's well-being.

25 William M. Arkin *et al.*, *On Impact: Modern Warfare and the Environment, a Case Study of the Gulf War*, Greenpeace, June 1991, p. 78. For an excellent summary of the precision aspects of the campaign, see Department of Defense, Report to Congress, "Kosovo/Operation Allied Force after-action report," 31 January 2000.

26 NATO, "Kosovo one year on," 30 October 2000, available at <www.nato.int/kosovo/repo2000/conduct.htm> (visited 22 August 2005); Herman L. Gilster, *Desert Storm: War, Time, and Substitution Revisited*, Airpower, spring 1996, p. 8; Michael Kelley, "The American way of war," *Atlantic Monthly*, June 2002, p. 16.

27 *By the Numbers*, *op. cit.* (note 14).

28 A dual-use target is a target with both civilian and military functions, such as a factory that makes both civilian and military products or an airfield from which both civilian and military aircraft fly.

Finally, greater precision means the enemy is more vulnerable. It is inevitable that enemy forces will seek out methods and means of warfare to counter such vulnerabilities. As will be discussed, some “curative” measures have run counter to the underlying principles of international humanitarian law.

Humanitarian law and precision

Precision warfare intersects (or has the potential to interact) with international humanitarian law in four key areas: the prohibition of indiscriminate attacks; the principle of proportionality; the requirement to take precautions in attack; and perfidy and other misuses of protected status. At times precision enhances the prospect of compliance with international humanitarian law; however, it can also be an incentive to reinterpret or to violate the law.

Indiscriminate attack

The express prohibition on indiscriminate attacks is found in Article 51.4 of Additional Protocol I:

“Indiscriminate attacks are prohibited. Indiscriminate attacks are:
(a) those which are not directed at a specific military objective;
(b) those which employ a method or means of combat which cannot be directed at a specific military objective; or
(c) those which employ a method or means of combat the effects of which cannot be limited as required by this Protocol;
and consequently, in each such case, are of a nature to strike military objectives and civilians or civilian objects without distinction.”

Thus, by subparagraph (a), international humanitarian law forbids the indiscriminate use of a weapon, whereas subparagraphs (b) and (c) prohibit indiscriminate weapons. Customary international humanitarian law unquestionably includes similar prohibitions.²⁹

Under subparagraph (a), an attacker must aim at a military objective. In other words he or she may not fire, regardless of where the weapon will strike, into an area containing both military objectives and civilians (or civilian objects). A classic case is the Iraqi SCUD missile attacks directed at densely populated areas in Israel during the 1991 Gulf War. Although the areas contained military objectives, the Iraqis made no effort to target the latter as such.³⁰

This violation is theoretically distinct from directly attacking civilians or civilian objects, in violation of Articles 48, 51.2, and 52.1 of Additional Protocol I and customary international humanitarian law.³¹ Here, the requisite

29 See e.g. Jean-Marie Henckaerts and Louise Doswald-Beck, *Customary International Humanitarian Law* (hereinafter *CIHL*), Cambridge University Press, Cambridge, 2005, chapters 3 & 20.

30 Their intent was not to hit Israeli military objectives, but rather to draw Israel into the conflict and thereby disrupt a coalition that included a number of Arab States.

31 See discussion below.

mens rea is not intent to harm civilians, but instead “reckless disregard” of such consequences.³² In practice, though, the two prohibitions often merge. For instance, the International Criminal Tribunal for the former Yugoslavia (Trial Chamber) found in *Galic* that “attacks which strike civilians or civilian objects without distinction, may qualify as direct attacks against civilians.”³³ The International Criminal Court Statute’s approach to criminal responsibility is consistent. Article 30 provides that with regard to the consequence of an action, intent and knowledge are construed as awareness “that [a consequence] will occur in the ordinary course of events.”³⁴

Precision has only an evidential relationship to the prohibition on using discriminate weapons indiscriminately. Specifically, the greater the precision capabilities of an attacker, the more compelling the characterization of an attack striking civilians or civilian objects as reckless. For instance, assume there is a military objective in a populated area. It will be difficult to suggest that a weapon falling within its circular error probable was fired indiscriminately if there is no additional evidence of reckless disregard. Instead, the issue would more likely be styled as one of proportionality (see discussion below). On the other hand, if the weapon falls well outside its circular error probable, then it is reasonable to initially conclude that the attack was not directed at the military objective in question. Thus, as a factual matter, those employing precision weapons will have greater difficulty shielding themselves from allegations of indiscriminate attack than those who do not. Similarly, those with advanced ISR will have a much more difficult time convincing others that an attack striking civilians and civilian objects was a case of mistaken identity rather than an indiscriminate act of recklessness (or intent).

Criticism levelled about recent air campaigns evidences this phenomenon. For instance, the use of cluster bomb units near populated areas is regularly condemned as reckless (as well as indiscriminate *per se*). Similarly, during Operation Allied Force, recklessness, either in execution (e.g. by relying on unreliable information) or in tactics (e.g. by attacking from high altitude), was alleged on multiple occasions.³⁵ Charges of recklessness surfaced again during

32 Yoram Dinstein, *The Conduct of Hostilities under the Law of International Armed Conflict*, Cambridge University Press, Cambridge, 2004, p. 117.

33 ICTY, *Prosecutor v. Stanislav Galic*, Case No. IT-98-29-T, (Trial Chamber), 5 December, 2003, para. 57. Similarly, in reviewing the NATO bombing campaign against Yugoslavia, the group that authored the ICTY Final Report to the Prosecutor cited recklessness as the applicable standard when it urged against issuance of indictments. Office of the Prosecutor, International Criminal Tribunal for the Former Yugoslavia, “Final Report to the Prosecutor by the Committee established to review the NATO bombing campaign against the Federal Republic of Yugoslavia,” 13 June 2000, reprinted in *International Legal Materials*, Vol. 39, 2000, p. 1258.

34 Statute of the International Criminal Court (Rome Statute), 17 July 1998, Art. 30, reprinted in Schindler, *op. cit.* (note 1), p. 1309.

35 In the attacks against the Grdelic Gorge bridge, the Djakovic convoy, Dubrava Prison, and Korisa. See for example, Human Rights Watch, “Civilian deaths in the NATO air campaign,” February 2000, available at <www.hrw.org/reports/2000/nato/index.htm#TopOfPag> (visited 22 August 2005); Amnesty International, “‘Collateral damage’ or unlawful killings? Violations of the laws of war by NATO during Operation Allied Force,” June 2000, available at <www.amnesty.org/ailib/intcam/kosovo/docs/natorep_all.doc> (visited 22 August 2005).

Operation Iraqi Freedom, particularly with regard to the decapitation campaign and the use of artillery in populated areas.³⁶ Such incidents are a far cry from the paradigmatic indiscriminate SCUD attacks of the 1990-91 Gulf War.

The second form of indiscriminate attack cited in Article 51.4 is use of an indiscriminate weapon. In 1996, the International Court of Justice labelled the prohibition on such weapons as “cardinal.”³⁷ Indiscriminate weapons either cannot be aimed reliably at a military objective (e.g. the German V2 rockets — V for *Vergeltung*, i.e. retaliation — of World War II)³⁸ or have effects that cannot be controlled (e.g. a biological weapon containing a contagion that spreads uncontrollably from combatants to civilians). Precision is directly relevant to the former, for whether a system can be “aimed” sufficiently depends on the state of military technology.

Consider aerial bombing during World War II. Bombs dropped by a B-17 had a circular error probability of approximately 3,300 feet; to achieve a high probability of damage against a point target required roughly 1,500 sorties dropping 9,000 bombs.³⁹ Since even modern unguided bombs have CEPs that are a fraction of this figure, today a weapon system with a circular error probability of over 3,000 feet would surely be deemed indiscriminate. As precision increases, the interpretation of the Article 51.4 phrase “not directed at a specific military objective” will become ever more demanding.

Proportionality

The second major area of international humanitarian law likely to be affected by the growing prevalence of precision warfare is proportionality. That principle, codified in Articles 51.5(b) and 57.2(a)(iii) of Additional Protocol I and undeniably an aspect of customary international humanitarian law, prohibits as indiscriminate “an attack which may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated.”⁴⁰ A breach constitutes a war crime under the Statute of the International Criminal Court.⁴¹ It is important to understand that the proportionality principle

36 *Off Target*, *op. cit.* (note 9).

37 *Advisory Opinion on the Legality of the Threat or Use of Nuclear Weapons*, ICJ Reports 1996, para 78.

38 This is the example cited in the ICRC’s official commentary on Additional Protocol I: *Commentary on the Additional Protocols of 8 June 1977 to the Geneva Conventions of 12 August 1949*, Yves Sandoz, Christophe Swinarski & Bruno Zimmermann (eds.), ICRC, Geneva, 1987, para. 1958, (hereinafter *Commentary*).

39 EBO Brief, *op. cit.* (note 20). To take another example, during Operation Cobra, the breakout from Normandy, US air forces dropped 14,600 500-pound bombs on one German division, destroying 66 tanks and 11 heavy guns. During Desert Storm, the US dropped 9,800 precision-guided munitions, destroying 2,500 tanks, heavy artillery pieces, and armoured personnel carriers – a ratio of bombs to equipment destroyed that was 50 times that of Operation Cobra. Robert A. Pape, “Hit or miss: What precision air weapons do precisely,” *Foreign Affairs*, September/October 2004, p. 163.

40 *CIHL*, *op. cit.* (note 29), Rule 14; *Nuclear Weapons* case, *op. cit.* (note 37), at 587 (Dissenting opinion of Judge Higgins). Article 57(2)(a)(iii) & (b) restates the prohibition in the context of precautions in attack.

41 ICC Statute, *op. cit.* (note 34), at Art. 8(2)(b)(iv). The Statute modifies “excessive” with the adjective “clearly” and “military advantage” with “overall,” thereby emphasizing both the need for clarity and the importance of avoiding assessments of individual attacks in total isolation.

is a restriction on attacks that is additional to the principle limiting them to combatants and military objectives.

The principle of proportionality is often misapplied. For instance, in some cases the mere quantum of collateral damage and incidental injury causes critics to condemn a strike as disproportionate. However, the extent of harm and damage is relevant only in relation to the military advantage reasonably expected as the attack was launched. The standard is “excessive” (a comparative concept), not “extensive” (an absolute concept).

Quite aside from instances of misapplication, challenges of interpretation exist in both theory and practice. How certain must one be of the resulting collateral damage and incidental injury before it is “expected”? What does the phrase “concrete and direct” mean in practice? How “military” must the advantage be to count? Most importantly, how does one compare dissimilar values (civilian harm and military gain) at all, let alone over time in different combat situations and across cultures?

Precision influences these persistent issues only to the extent that it makes damage more or less likely, thereby affecting the proportionality calculation (however interpreted). Various factors contribute to collateral damage and incidental injury — incomplete or incorrect knowledge about the target, failure to anticipate how civilians will be affected, inaccuracy, an inability to precisely measure the force applied to ensure no more than necessary is used, and restriking a target because it cannot be reliably determined whether it has been sufficiently neutralized. Precision improves the “quality” of attack in each of these regards. The ISR upon which precision depends offers greater understanding of the target, the likely effect of the strike on the civilian population, and the need for restrike. Precision’s accuracy component obviously addresses inaccuracy and, as noted, the more accurate a strike the less the explosive force needed to achieve the desired probability of damage. Finally, the greater a strike’s precision, the more sure the military advantage anticipated, thereby eliminating some of the uncertainty inherent in proportionality calculations. So, strictly speaking, while there is no direct relationship between precision and the proportionality principle as a matter of law, there is a very real *de facto* nexus.

Furthermore, comparing dissimilar values necessitates subjective evaluations. In practice (not law), the subjective understanding of excessiveness is influenced by the precision capabilities at hand. In other words, the more capable one is of avoiding collateral damage and incidental injury, the more critically the attack will be assessed, both by one’s own forces and others. As an example, during Operation Iraqi Freedom, US forces engaged in computer modelling to “determine the weapon, fuze, attack angle, and time of day that will ensure maximum effect on the target with minimum civilian casualties.”⁴² When the model estimate exceeded 30 civilian casualties, Secretary

42 *Off Target*, *op. cit.* (note 9), p. 19.

of Defense approval was required for the mission.⁴³ While there is no legal requirement for higher-level approval as collateral damage or incidental injury grows, the United States recognized that American precision capabilities meant it would be judged harshly for causing harm to civilians and their property.

An issue peripherally related to proportionality and precision involves the use of civilians or civilian objects as shields, a practice known as “counter-targeting.”⁴⁴ During Operation Iraqi Freedom, Iraqi forces compelled civilians, including women and children, to act as human shields. In addition they took advantage of the presence of civilians, for example by driving their vehicles next to civilian cars when Coalition attack helicopters appeared.⁴⁵ Does the fact that the enemy is violating international humanitarian law relieve the attacker from including the shields in the proportionality calculation?⁴⁶ If so, the target may be attackable with a weapon of less precision than would be the case if harm to the shields counts as incidental injury.

43 Bradley Graham, “US moved early for air supremacy,” *Washington Post*, 20 July, 2003, p. 26. Twenty such targets were struck; *Off Target, op. cit.* (note 9), at 20. According to Human Rights Watch, this procedure “worked well” in most cases and the “aerial bombardment resulted in minimal adverse effects to the civilian population”; *ibid.*

44 Counter-targeting is “preventing or degrading detection, characterization, destruction, and post-strike assessment.” Defense Intelligence Agency, “Saddam’s use of human shields and deceptive sanctuaries: Special briefing for the Pentagon Press Corps,” 26 February 2003, available at <www.defenselink.mil/news/Feb2003/g030226-D-9085M.html> (visited 22 August 2005).

45 Todd S. Purdum, “Night time ambush in Iraqi city,” *New York Times*, 5 April 2003, p. 1; Dexter Filkins, “In the field choosing targets: Iraqi fighters or civilians? Hard decision for copters,” *New York Times*, 31 March 2003, p. 5. Civilian objects were also used in counter-targeting. Iraqi forces located military equipment and troops in or near civilian buildings. These included specially protected locations such as al-Nasiriyya Surgical Hospital, the Baghdad Red Crescent Maternity Hospital, the Imam Ali Mosque in al-Najaf, and the Abu Hanifa Mosque as bases for operations. *Off Target, op. cit.* (note 9), pp. 72–73. During the battle for Fallujah, insurgents used 60 of the 100 mosques and 3 medical facilities in the city in this manner. Marine Expeditionary Force & Multi-National Corps-Iraq, “Telling the Fallujah story to the world,” Briefing Slides, 20 November 2004 (on file with author). Although no express provision banning the use of civilian objects as shields exists in IHL, such actions violate Additional Protocol I’s Article 58 obligations for Parties to conflict to “endeavour to remove the civilian population, individual civilians and civilian objects under their control from the vicinity of military objects; avoid locating military objectives within or near densely populated areas; [and] take the other necessary precautions to protect the civilian population, individual civilians and civilian objects under their control against the dangers resulting from military operations,” albeit only “to the maximum extent feasible.” See also *CIHL, op. cit.* (note 29), ch. 6. Iraqi use of specially protected objects also clearly violated other provisions of IHL. The First Geneva Convention stipulates in Article 19 that “responsible authorities shall ensure that ... medical establishments and units are, as far as possible, situated in such a manner that attacks against military objectives cannot imperil their safety.” Convention for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field, 12 August 1949, reprinted in Schindler, *op. cit.* (note 1), p. 459, (hereinafter GC I). Additional Protocol I is completely unambiguous: it states in Art. 12.4 that “[u]nder no circumstances shall medical units be used in an attempt to shield military objectives from attack,” while Art. 53(b) confers similar protection on “historic monuments, works of art or places of worship which constitute the cultural or spiritual heritage of peoples,” *ibid.* See also Hague Regulations respecting the Laws and Customs of War on Land, Annex to Convention (IV) respecting the Laws and Customs of War on Land, 18 October 1907, Art. 27, reprinted in Schindler, *ibid.*, p. 55, (hereinafter HVR).

46 Article 51.7 of AP I forbids the use of “[t]he presence or movements of the civilian population or individual civilians ... to render certain points or areas immune from military operations, in particular in attempts to shield military objectives from attacks or to shield, favour or impede military operations,” a prohibition that is unquestionably customary. On the customary nature of the prohibition, see *CIHL, op. cit.* (note 29), Rule 97. See also ICC Statute, *op. cit.* (note 34), Art. 8.2(b)(xxiii).

The answer depends on whether the shields are voluntarily or involuntarily being used.⁴⁷ Voluntary human shields are directly participating in hostilities by attempting to defend a valid military objective. Indeed, in practical terms, they may be a more effective defence than actual weaponry, for high-tech forces can easily counter many ground-based defences, but few democracies can accept the negative political fallout from civilian deaths broadcast globally in near real-time. As codified in Article 51.3 of Additional Protocol I, civilians enjoy protection under international humanitarian law from attack “unless and for such time as they take a direct part in hostilities.”⁴⁸ It would be absurdly incongruent to suggest that they can be directly targeted, but also count in proportionality calculations. In such cases, therefore, the use of less precise weapon systems causing more incidental injury would be justified, except if voluntary shields qualified as protected civilians.

On the other hand, if civilians have been forced to act as shields or if the enemy is intentionally taking advantage of the proximity of civilian objects to avoid attack, the civilians and civilian objects retain their protected status and continue to factor into the proportionality analysis. Article 51.8 of Additional Protocol I directly addresses the issue: “Any violation of these prohibitions [including the prohibition on shielding] shall not release the Parties to the conflict from their legal obligations with respect to the civilian population and civilians...” This is a position adopted by a number of States, including the United States, in their guidance to military forces.⁴⁹

Precautions in attack

The one area where precision does have direct legal valence is with regard to precautions in attack. Article 57 of Additional Protocol I sets forth the requirements:

- “2. With respect to attacks, the following precautions shall be taken:
- (a) those who plan or decide upon an attack shall:
- (i) do everything feasible to verify that the objectives to be attacked are neither civilians nor civilian objects and are not subject to special protection

47 For a discussion of this point, see Michael N. Schmitt, “Targeting and humanitarian law: Current issues,” *Israel Yearbook on Human Rights*, Vol. 59, 2003, p. 59.

48 See generally, Michael N. Schmitt, “Humanitarian law and direct participation in hostilities by private contractors or civilian employees,” *Chicago Journal of International Law*, Vol. 5, 2005, p. 511; Michael N. Schmitt, “‘Direct participation in hostilities’ and 21st century armed conflict,” in Horst Fischer *et al.* (eds.), *Crisis Management and Humanitarian Protection: Festschrift für Dieter Fleck*, Berlin, 2004, pp. 505–529.

49 According to the United States Air Force manual *Air Force Operations and the Law*, “standards of conduct should apply equally to the attacker and defender. In other words, that the responsibility to minimize collateral injury to the civilian population not directly involved in the war effort remains one shared by the attacker and the defender; and that the nation that uses its civilian population to shield its own military forces violates the law of war at the peril of the civilians behind whom it hides. ...At the same time, however, targeters and judge advocates should consider the necessity of hitting the particular target, the expected results versus expected collateral damage, and ways to minimize civilian casualties, if possible.” *Air Force Operations and the Law*, Department of the Air Force, Judge Advocate General’s Department, 2002, p. 293. See also the discussion in “Joint doctrine for targeting,” *op. cit.* (note 4), at A-2 – A-3, and USAF “Intelligence targeting guide,” *op. cit.* (note 24), at A4.2.1.2.

but are military objectives within the meaning of paragraph 2 of Article 52 and that it is not prohibited by the provisions of this Protocol to attack them; (ii) take all feasible precautions in the choice of means and methods of attack with a view to avoiding, and in any event to minimizing, incidental loss of civilian life, injury to civilians and damage to civilian objects; (iii) refrain from deciding to launch any attack which may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated;

(...)

3. When a choice is possible between several military objectives for obtaining a similar military advantage, the objective to be selected shall be that the attack on which may be expected to cause the least danger to civilian lives and to civilian objects.”

Note that the wording is contextual: “everything feasible,” “all feasible precautions,” “may be expected,” “becomes apparent,” and “unless circumstances do not permit.” The technology available to an attacker determines whether an action is feasible, reasonably expected, or apparent, as well as when choice is possible. In other words, belligerents bear different legal burdens of care determined by the precision assets they possess, a fact the ICRC highlighted in its official commentary on the Article.⁵⁰

This begs the question of whether States must acquire precision systems — both ISR assets and weapons systems — that permit them to engage in precision attacks. They do not. Although there may be a moral obligation to purchase precision technology within a State’s financial means, whether it does so is a matter of national policy, even where affordable technology would save many civilians and avoid extensive damage to civilian objects. The sole limitation on a State’s acquisition discretion is that it may not field weaponry that is inherently indiscriminate.⁵¹

With regard to the specific precautionary obligations in attack, the feasibility of target verification depends on ISR assets, which are, as discussed above, central to precision capabilities. Some States (and organizations such as NATO) possess extensive ISR assets. Must they employ them all before attacking? For instance, if a satellite could image a potential target, must an attacker acquire satellite imagery?

Not necessarily. The ICRC commentary on the provision states that interpretation of the standard must “be a matter of common sense and good faith. The person launching an offensive must take the necessary identification measures in good time in order to spare the population as far as possible.”⁵² The equally

50 “Some belligerents might have information owing to a modern reconnaissance device, while other belligerents might not have this type of equipment.” *Commentary, op. cit.* (note 38), para. 2199.

51 A standard that is, as noted, evolving along with technological advances in precision.

52 *Commentary, op. cit.* (note 38), para. 2198.

authentic French text, “tout ce qui est pratiquement possible” supports this explanation. This is also the position taken by the United Kingdom in its declaration upon ratification of Protocol I: “military commanders and others responsible for planning, deciding upon or executing attacks necessarily have to reach decisions on the basis of their assessment of the information from all sources which is reasonably available to them at the relevant time.”⁵³

As with much of humanitarian law, the Article 57.2(a)(i) standard is contextual. In other words, what would a reasonable attacker do in the same or similar circumstances? Decisional factors might include such matters as the time necessary to gather and process the additional information, the extent to which it would clarify any uncertainty, competing demands on the ISR system in question, and risk to it and its operators.

The commentary specifically cites precision warfare when discussing the requirement to exercise all feasible precautions in the choice of methods (tactics) or means (weapon system) of warfare.⁵⁴ As with doing everything feasible to verify a target, the requirement to resort to precision attack is not absolute, not even when precision is immediately available to the commander and would lessen collateral damage and incidental injury. There is no foundation to claims, for example, of the “emergence of a customary norm on the use of precision weaponry in urban settings”⁵⁵ or that States which possess precision-weapons must always use them.⁵⁶

Instead, “common sense and good faith” must prevail. A wise commander considers his or her weapons inventory in light of the possible length and intensity of the conflict before deciding on the weapon to be employed in particular strikes. The commander will at the same time estimate the relative gain in precision offered by the options available. For instance, Joint Direct Attack Munitions are somewhat less accurate than laser-guided munitions, all other things being equal. However, they are also more plentiful. Thus, the commander will limit laser-guided munitions to attacks in which they would significantly decrease collateral damage or incidental injury, especially if uncertain as to the length of the conflict. Doing so may even be more humane. As an example, if fighting in population centres is expected, it makes sense to retain the most precise weapons for urban settings in which targets are intermingled with civilians and civilian objects.

53 United Kingdom, Reservations and Declaration Made on Ratification, Corrected Letter of 18 June 1998, para. I (c), reprinted in Schindler, *op. cit.* (note 1), pp. 815-816.

54 *Commentary, op. cit.* (note 38), para. 2200.

55 Stuart W. Belt, “Missiles over Kosovo: Emergence, *lex lata*, of a customary norm requiring the use of precision munitions in urban areas,” *Naval Law Review*, Vol. 47, 2000, p. 174. Interestingly, he applies, in the present author’s view, the wrong provision of the law of international armed conflict to arrive at an incorrect legal principle. He asserts that the duty applies in the context of the principle of proportionality, whereas the better position is that if such a duty exists (it does not), it would derive from obligations regarding the selection of means of warfare (precautions in attack).

56 See Danielle L. Infeld, “Precision guided munitions demonstrated their pinpoint accuracy in Desert Storm: But is a country obligated to use precision technology to minimize collateral civilian injury and damage,” *George Washington Journal of International Law and Economics*, Vol. 26, 1992, p. 109, arguing against such a notion.

Finally, may cost be considered when deciding what weapon to employ? In other words, at a certain point does the additional cost outweigh the relative reduction in collateral damage and incidental injury so that it is no longer “feasible” to employ the costlier precision option? There is no basis in international humanitarian law for factoring expense into feasibility assessments. Once a belligerent purchases equipment and supplies it to its forces in the field, it must be used if it is available, makes good military sense and will minimize civilian impact.

Common sense also applies to selection of attack tactics (methods). One point of contention in this regard involves steps taken to protect the attacking force. For instance, some have claimed that an accidental attack on an Albanian refugee column during Operation Allied Force and the bombing of marked ICRC warehouses in Afghanistan could have been averted had the pilots flown low enough to see the targets.⁵⁷

Survival of the military personnel and equipment is an appropriate consideration when assessing the military advantage of an attack in the proportionality context. After all, an attack in which the personnel or equipment are lost is self-evidently not as advantageous as one in which they survive to fight again. But here the question is different. May an attacker adopt tactics, such as BVR (beyond visual range) attack or launching weapons from high altitude, that enhance the survivability of its forces if doing so also heightens the likelihood of collateral damage and incidental injury?

Some States have, as a general matter, accepted this possibility. For example, the United Kingdom stated in its declaration on ratification of Additional Protocol I that feasibility is “that which is practicable or practically possible, taking into account all circumstances ruling at the time, including humanitarian and military considerations.”⁵⁸ This is a reasoned approach. While there is no express legal requirement for members of the armed forces to place themselves or their subordinates at risk in order to avoid harm to civilians and civilian property, neither is it permissible to adopt tactics without regard to their impact on the civilian population. Rather, feasibility must be interpreted by balancing humanitarian and military considerations. It is reasonable to require military forces to assume some degree of risk to avoid collateral damage and incidental injury. They do so regularly. By this analysis, the greater the anticipated collateral damage or incidental injury, the greater the risk they can reasonably be asked to shoulder.

A.P.V. Rogers has addressed this very point with the wisdom of an experienced military officer:

“The law does not demand that there be no casualties in armed conflict. However, the law, political expediency and public sentiment combine to

57 For example, Human Rights Watch addressed the Djakovica Road incident, concluding that because “higher altitude seems to have impeded a pilot from adequately identifying a target,” “inadequate precautions were taken to avoid civilian casualties.” “Civilian deaths,” *op. cit.* (note 35).

58 Declaration, *op. cit.* (note 53), para. 1 (b). But, in contrast, the ICRC *Commentary* rejected contribution to “military success” as a component of feasibility, suggesting that it was “too broad” and expressing concern that in “invoking success...one might end up by neglecting the humanitarian obligations prescribed here.” *Commentary, op. cit.* (note 38), para. 2198 (in the context of verifying targets).

demand that casualties, whether among members of the armed forces or among the civilian population, should be reduced to the maximum extent that the exigencies of armed conflict will allow.”⁵⁹

As with so much of international humanitarian law, an imprecise rule of reason must prevail.

Lastly, precision is having a dramatic effect on the Article 57 provision requiring selection of that target causing the least collateral damage and incidental injury from among those offering a like military advantage.⁶⁰ Precision warfare is opening up many more targets to attack, both because of an ability to better identify the target and because the resultant collateral damage and incidental injury is reduced. Of particular importance is the fact that this is occurring at the same time that target modelling is allowing planners to more accurately estimate collateral damage and incidental injury. Technology has expanded the universe of strikeable targets, while precluding a commensurate increase in civilian impact.

Perfidy and protected status

Finally, precision warfare has created an asymmetry on the battlefield that is unprecedented. Today, a low-tech force facing an adversary armed with state of the art C4ISR and weaponry has difficulty simply surviving, let alone confronting its opponent. Its troops and equipment can be readily located, reliably identified, and accurately targeted on a conventional battlefield far more easily than the other side. Asymmetry in precision compels the disadvantaged side to respond asymmetrically.

Increasingly, weaker forces are adopting tactics that exploit the protection civilians and civilian objects enjoy. Some tactics merely endanger civilians; others constitute outright international humanitarian law violations. Iraq has proved to be an unfortunate laboratory for such tactics.

One of the most common is wearing civilian clothes to avoid being identified as an enemy combatant (and attacked). It is not a violation of international humanitarian law to discard one's uniform. However, those who do so lose their combatant status.⁶¹ They consequently do not qualify as prisoners

59 A.P.V. Rogers, *Law on the Battlefield*, Manchester University Press, Manchester and New York, 2nd ed., 2004, p. 108.

60 It was described in the commentary as accepted by the Conference “without much discussion.” *Commentary*, *op. cit.* (note 38), para. 2226.

61 The relevant provisions of Article 4 A of the Third Geneva Convention extend combatant status to:

“(1) Members of the armed forces of a Party to the conflict, as well as members of militias or volunteer corps forming part of such armed forces.

(2) Members of other militias and members of other volunteer corps, including those of organized resistance movements, belonging to a Party to the conflict and operating in or outside their own territory, even if this territory is occupied, provided that such militias or volunteer corps, including such organized resistance movements, fulfil the following conditions:

(a) that of being commanded by a person responsible for his subordinates;
 (b) that of having a fixed distinctive sign recognizable at a distance;
 (c) that of carrying arms openly;

of war if captured⁶² and, because only combatants have the right to “directly participate” in hostilities, they lack immunity from prosecution under domestic law for acts committed while engaged in fighting.⁶³ But albeit lawful under international humanitarian law, their wearing of civilian clothes complicates, as intended, an opponent’s ability to distinguish them from the civilian population, thereby placing the latter at increased risk of mistaken attack.

Iraqi forces also routinely feigned specially protected status to avoid being identified, for instance by misusing protective emblems. They seized ambulances for use as scout vehicles and marked the Ba’ath Party building in Basra with the ICRC emblem.⁶⁴ Use, for other than their intended purposes, of the distinctive emblems of medical and religious personnel, transports and units or of the personnel, property and activities of the International Red Cross and Red Crescent Movement is a long-standing international humanitarian law violation.⁶⁵ Iraqi forces furthermore regularly used human shields and civilian objects, a practice discussed above, in order to deter precision attacks.

In war, attacks must be conducted even at high risk against an enemy with advanced precision capabilities. One tactic adopted in Iraq for this purpose is perfidy. Article 37 of Additional Protocol I defines perfidy as follows:

“1. It is prohibited to kill, injure or capture an adversary by resort to perfidy. Acts inviting the confidence of an adversary to lead him to believe that he

(d) that of conducting their operations in accordance with the laws and customs of war.”

Geneva Convention relative to the Treatment of Prisoners of War, 12 August 1949, Art. 142, reprinted in Schindler, *op. cit.* (note 1), p. 507.

These four conditions are inherent in the meaning of “armed forces”; they also apply to the persons referred to in Article 4A(1). As noted by Michael Bothe *et al.*, “[i]t is generally assumed that these conditions were deemed, by the 1874 Brussels Conference and the 1899 and 1907 Hague Peace Conferences, to be inherent in the regular armed forces of States. Accordingly, it was considered unnecessary and redundant to spell them out in the Conventions.” Michael Bothe *et al.*, *New Rules for Victims of Armed Conflict*, Martinus Nijhoff Publishers, The Hague/Boston/London, 1982, p. 234. See also discussion in *CIHL, op. cit.* (note 29), at 15.

62 While it is not a war crime to attack the enemy, it may amount to a criminal offence (e.g. murder) under the national law of capturing forces. Lacking immunity, such persons may be prosecuted in the courts of any State with subject matter over the offence and personal jurisdiction over the offender. This point is reflected in *CIHL, op. cit.* (note 29), Rule 106.

63 “Members of the armed forces of a Party to a conflict (other than medical personnel and chaplains covered by Article 33 of the Third Convention) are combatants, that is to say, they have the right to participate directly in hostilities.” AP I, *op. cit.* (note 1), Art. 43.2. The classic article on the subject is the one by Richard R. Baxter, “So-called ‘unprivileged belligerency’: Spies, guerrillas and saboteurs,” *British Yearbook of International Law*, 1952, p. 323, reprinted in *Military Law Review*, 1975, Bicentennial Issue, p. 487.

64 Party buildings were regularly used as military supply depots and mustering points. *Off Target, op. cit.* (note 9), p. 70.

65 The prohibition dates back to the 1863 Lieber Code and also appears in the 1899 and 1907 Hague Regulations, the 1906, 1929, and 1949 Geneva Conventions, and Additional Protocol I. See: Instructions for the Government of Armies of the United States in the Field (Lieber Code), promulgated as General Orders No. 100, US Department of the Army, Art. 117, reprinted in Schindler, *op. cit.* (note 1), p. 3; Convention (II) with Respect to the Laws and Customs of War on Land, with annexed Regulations, of 29 July 1899, Art. 23(f), *ibid.*, p. 55; HIVR, *op. cit.* (note 45), Art. 23(f); Convention for the Amelioration of the Condition of the Wounded in Armies in the Field, 6 July 1906, Arts. 27–28, reprinted in Schindler, *op. cit.* (note 1), p. 385; Convention for the Amelioration of the Condition of the Wounded in Armies in the Field, 27 July 1929, Arts. 24 & 28, *ibid.*, p. 409; GC I, *op. cit.* (note 45), Arts. 39, 44, 53, 54; Convention for the Amelioration of the Condition of the Wounded, Sick, and Shipwrecked Members of Armed Forces at Sea, 12 August 1949, Arts. 41, 44, 45, reprinted in Schindler, *op. cit.* (note 1), p. 485; AP I, *ibid.*, (note 1), Art. 38.1.

is entitled to, or is obliged to accord, protection under the rules of international law applicable in armed conflict, with intent to betray that confidence, shall constitute perfidy. The following acts are examples of perfidy: (a) the feigning of an intent to negotiate under a flag of truce or of a surrender; (b) the feigning of an incapacitation by wounds or sickness; (c) the feigning of civilian, non-combatant status; and (d) the feigning of protected status by the use of signs, emblems or uniforms of the United Nations or of neutral or other States not Parties to the conflict.”⁶⁶

As noted above, Iraqi forces operated in civilian clothes to avoid being identified and killed. Although lawful *per se*, when the feigned civilian status was part of a tactic for approaching and attacking Coalition forces, it was perfidious. Suicide bombers also fall into this category because their civilian appearance is what makes it possible for them to get close enough to be deadly.⁶⁷ Other perfidious actions during Operation Iraqi Freedom included feigning surrender and using stolen ambulances in the hope that Coalition forces would become less vigilant and more vulnerable to attack.⁶⁸

Ultimately, precision advantages may become so asymmetrically deadly for a disadvantaged side that they begin to attack a centre of gravity other than the enemy’s military.⁶⁹ As has been tragically demonstrated in Iraq and elsewhere, the civilian population and civilian objects are the most likely to be targeted, for it is nearly impossible to protect them against a determined opponent.⁷⁰ Although attacking such “soft targets” is a perversely logical response to battlefield inferiority, it is nevertheless a clear and inexcusable violation of international humanitarian law’s most basic tenet, distinction. The core prohibitions are found in Articles 48, 51 and 52 of Additional Protocol I:

“Art 48: In order to ensure respect for and protection of the civilian population and civilian objects, the Parties to the conflict shall at all times distinguish

66 See also the 1907 Hague Regulations ban on “improper use of a flag of truce, of the national flag or of the military insignia and uniform of the enemy, as well as the distinctive badges of the Geneva Convention,” a prohibition that is now unquestionably customary law, HIVR, *op. cit.* (note 45), Art. 23(f); *CIHL, op. cit.* (note 29), ch. 18; International Military Tribunal (Nuremberg), Judgment and Sentences, 1946, *American Journal of International Law*, Vol. 41, 1947, p. 218. The reference is to the Geneva Convention of 1864. Convention for the Amelioration of the Condition of the Wounded in Armies in the Field, 22 August, 1864, reprinted in Schindler, *op. cit.* (note 1), p. 365.

67 This would include civilian bombers who wore civilian clothes in order to get close enough to detonate their explosives.

68 See, e.g. Glenn Collins, “Allied advances, tougher Iraqi resistance, and a hunt in the Tigris,” *New York Times*, 24 March 2003, p. 1; Brian Knowlton, “Bush tells of ‘good progress’ but says war has just begun,” *International Herald Tribune*, 24 March 2003, p. 6. The said actions are specifically banned in AP I, Art. 37.1 (a).

69 Centres of gravity consist of “[t]hose characteristics, capabilities, or sources of power from which a military force derives its freedom of action, physical strength, or will to fight.” DoD Dictionary, *op. cit.* (note 8).

70 There may be many purposes for attacking civilians: disrupting a coalition, as in Iraqi targeting of Israeli cities in 1991; intimidating non-governmental and intergovernmental organizations, as in the attacks on the UN and ICRC headquarters in Iraq; making the conflict appear too costly to belligerent States and citizens, as in the Iraqi kidnapping and murder of foreign hostages; or targeting one’s own population to deter cooperation with the enemy, as in attacks against Iraqi security forces and law officials.

between the civilian population and combatants and between civilian objects and military objectives and accordingly shall direct their operations only against military objectives.

Art 51, paragraph 2: The civilian population as such, as well as individual civilians, shall not be the object of attack. Acts or threats of violence the primary purpose of which is to spread terror among the civilian population are prohibited.

Art 52, paragraph 1: Civilian objects shall not be the object of attack or of reprisals.”

They are undoubtedly customary in nature, and distinction has been cited as a “cardinal” principle of international humanitarian law by the International Court of Justice.⁷¹

Conclusion

There is no doubt that precision operations have opened up new possibilities for avoiding the harm to civilians and their property that is the inevitable result of armed conflict. In that sense, advances in precision represent a positive trend. Further, as weaponry becomes more precise, interpretation of international humanitarian law is becoming increasingly demanding for an attacker. So long as such interpretations do not depart from the law or ignore the realities of military necessity, this too is to be welcomed.

However, when the allure of precision creates exaggerated expectations of its possibilities such that those beyond the battlefield impose unreasonable demands on the military or postulate norms that go beyond treaty or custom, international humanitarian law is weakened. *Lex ferenda* must be clearly distinguished from *lex lata*. Moreover, to be respected, international humanitarian law must continue to rationally balance humanitarian concerns with military necessity. The balancing may shift along with developments in the nature of warfare, but must remain at the heart of international humanitarian law.

Finally, the international humanitarian law community must be sensitive to the fact that when precision capabilities are possessed unequally on the battlefield, the resulting asymmetry may lead the disadvantaged side to resort to tactics that violate the most basic principles of international humanitarian law. This is not to suggest that high-tech forces should abandon their precision technologies to make war more humane. Obviously, any such suggestion is absurd. Rather, it is a call for the community to redouble its efforts to safeguard the principles of international humanitarian law in the face of the likelihood that others will seek to justify their abandonment.

71 See for example, *CIHL*, *op. cit.* (note 29), ch. 2; *Nuclear Weapons case*, *op. cit.* (note 37), para. 78.

Complicity and beyond: International law and the transfer of small arms and light weapons

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Abstract

Momentum is growing around a proposed treaty governing the international transfer of small arms and light weapons. Those promoting the new instrument emphasize the existing obligations of States, under the law of State responsibility, not to aid or assist another State in violating international law. This article explores the extent to which the prohibition of “complicity” is a sufficient basis for requiring States to consider the end-use of the weapons they transfer. It offers suggestions for strengthening the effectiveness of the current draft treaty in a way that places respect for international humanitarian law and human rights at its core.



Small arms and light weapons¹ that fall into the wrong hands often become tools of oppression, used to commit violations of human rights and international humanitarian law. They frequently exacerbate situations of regional instability and armed conflict and hinder post-conflict reconstruction. According to recent figures put forward by the Conventional Arms Branch of the United Nations Department for Disarmament Affairs, there are over 600 million small arms and

* Elements of this article derive from work the author carried out for the Centre for Humanitarian Dialogue as background for the publication “Missing Pieces: Directions for reducing gun violence through the UN process on small arms control”, released in July 2005, and available at <<http://www.hdcentre.org>>. The author wishes to thank the Centre for permission to publish text from this original work. She also wishes to thank David Petrasek, personally, for the opportunity to explore the issues discussed, as well as Rory Macmillan for his valuable comments and suggestions.

light weapons in circulation worldwide. “Of 49 major conflicts in the 1990s, 47 were waged with small arms as the weapons of choice. Small arms are responsible for over half a million deaths per year, including 300,000 in armed conflict and 200,000 more from homicides and suicides.”²

The small arms problem has many interrelated and interdependent facets, from the conditions that create demand for these weapons to the abuses they facilitate and their rampant availability. Controlling cross-border transfers of weapons is a particular challenge for the international community because it cannot be fully addressed without the concerted action of all States. It is a typical collective action problem, where lower regulatory standards or lesser regulatory capacity of a few States can usurp the best intentions of the rest. Too easily, small arms find their way to those who abuse them because States have not sufficiently controlled what leaves their territory and to whom it goes.

Increasingly, attention is being given to the nexus between the availability of small arms and the perpetration of violent acts on a large scale. This has led some States to include end-use criteria based on human rights and humanitarian law in their arms transfer laws and policies. This development is a positive step in the fight against the misuse of small arms. The trend, however, is not followed by all major arms-exporting nations, and the international law standards used to assess whether or not a transfer should be authorized are by no means interpreted uniformly or consistently. The lack of comprehensiveness and uniformity results in a permissive environment for the continued transfer of weapons to recipients likely to use them in violation of international law.

Momentum is growing in support of a proposed international instrument that would codify the notion that States must prevent weapons from leaving their territory when there is a known risk that their end-use will involve serious violations of international law.³ Building on the message of “no weapons for abuse”, the proposal seeks to prohibit States from becoming accomplices in the violent behaviour of others, whether they are other States,

1 “Small arms are weapons designed for personal use, while light weapons are designed for use by several persons serving as a crew. Examples of small arms include revolvers and self-loading pistols, rifles, sub-machine guns, assault rifles and light machine-guns. Light weapons include heavy machine-guns, some types of grenade launchers, portable anti-aircraft and anti-tank guns, and portable launchers of anti-aircraft missile systems. Most small arms and light weapons would not be lethal without their ammunition. Ammunition and explosives thus form an integral part of small arms and light weapons used in conflicts. They include cartridges (rounds) for small arms, shells and missiles for light weapons, anti-personnel and anti-tank hand grenades, landmines, explosives, and mobile containers with missiles or shells for single-action anti-aircraft and anti-tank systems” (description taken from the *Report of the United Nations Conference on the Illicit Trade in Small Arms and Light Weapons in All its Aspects*, New York, 9–11 July 2001, <<http://disarmament.un.org:8080/cab/smallarms/>> (last visited 25 July 2005). In this article, the expression “small arms” is used as shorthand to refer to small arms and light weapons.

2 United Nations Department for Disarmament Affairs, Conventional Arms Branch, “Small Arms and Light Weapons”, available online: <<http://disarmament.un.org:8080/cab/salw.html>> (last visited 25 July 2005).

3 See calls for the adoption of an Arms Trade Treaty, Control Arms Campaign, <<http://www.controlarms.org>> (last visited 2 September 2005).

armed non-State Parties, corporations or individuals. Those promoting the new treaty argue that its underlying principle is rooted in the law of State responsibility. This article explores that argument and discusses some inherent limitations in applying the law of inter-State relations to the problem of arms transfers. It seeks to clarify the legal basis for adopting a global agreement on international arms transfers and to home in on the norms of international law that best support this initiative.

The first section of the article explores the notion of “complicity” under the law of State responsibility, a notion that is conceptually at the heart of the principle expounded by the promoters of the proposed treaty. The conclusion reached is that while it may provide a sound doctrinal grounding for that treaty, the prohibition alone of complicity in inter-State relations offers an insufficient basis for preventing States from licensing weapons transfers to abusers of human rights and humanitarian law. In a second section, primary rules of international law are considered. This enquiry into human rights law, international humanitarian law and international criminal law yields a more complete picture of the legal regime applicable to States and individuals that supply weapons for abuse. The third section is devoted to current regional and international initiatives that lend weight to the proposed treaty, while the fourth and final section of the article offers some thoughts on how to transform the current draft version of the treaty into a compelling and effective legally binding instrument.

Complicity under the law of State responsibility

International law limits the transfer of small arms in a number of ways. One of these is the specific prohibition on the use — and derivatively on the transfer — of certain weapons by virtue of principles of international humanitarian law.⁴ Another is the prohibition of transfers to specific States or parties as dictated by mandatory embargoes imposed by the United Nations Security Council. A less obvious but no less important limitation is contingent upon the end-use of the weapons. In situations where there are no prohibitions affecting the transferred weapons, where the country of destination is not subject to an arms embargo, and where compliance with national licensing requirements is such that the transaction is in line with domestic law, international law may nonetheless prohibit a State from transferring weapons because of the way in which the weapons will be used in the recipient State. Under the law of State responsibility, if the decision to transfer weapons facilitates the commission of an internationally wrongful act, such as the perpetration of a war crime or the abusive behaviour of a police force, then the transferring State may be held responsible for making such violations possible.

The rule prohibiting the complicit behaviour of States is a “secondary” or “derivative” form of responsibility, which targets States that aid or assist others

4 These principles prohibit the use of weapons that are incapable of distinguishing between combatants and civilians or those that are of a nature to cause superfluous injury or unnecessary suffering.

in violating international law. The International Law Commission's Draft Articles on State Responsibility⁵ represent the first attempt to codify "complicity" in connection with the law regulating inter-State relations.⁶ Articles 16 and 41(2) both prohibit aiding and assisting States in violating international law. Article 16 is more often quoted in the literature on arms transfers because it covers aid and assistance in the context of any violation of international law. Article 41(2) has a narrower application but it contains a powerful basis for arguing that where the most egregious violations of international law are being perpetrated, States face an absolute prohibition against transferring weapons to those responsible for the violations.

Article 16

Article 16 reads as follows:

"A State which aids or assists another State in the commission of an internationally wrongful act by the latter is internationally responsible for doing so if: (a) That State does so with the knowledge of the circumstances of the internationally wrongful act; and (b) The act would be internationally wrongful if committed by that State."

Broadly speaking, what this would mean in the context of small arms transfers is that a State transferring weapons to another State which uses them to commit internationally wrongful acts (acts which the transferring State knew about) may be held responsible for doing so if it amounts to providing aid or assistance. According to the International Law Commission's Commentary, responsibility under Article 16 is limited in three ways.⁷

The first limitation, which is contained in the text of the provision, is that the aiding State must have knowledge of the circumstances that make the conduct of the assisted State unlawful. The Commentary explains that in providing material or financial assistance, "a State does not normally assume the risk that its assistance or aid may be used to" violate international law.⁸ "Knowledge" as a standard of proof applicable to States can be assessed in light of public statements and official policies of the relevant organs of the State. Today, information about the human rights and humanitarian law record of States is widely available, whether through international organizations, non-governmental organizations or the media. There may frequently, then, be occasions when

5 The Draft Articles were commended by the General Assembly and annexed to Resolution 56/83, "Responsibility of States for internationally wrongful acts", UN Doc. A/RES/56/83, 12 December 2001 (hereinafter Draft Articles).

6 For a thorough analysis of the State practice that led to the codification of complicity, see John Quigley, "Complicity in international law: A new direction in the law of State responsibility", *British Yearbook of International Law*, Vol. 57, 1986, p. 77.

7 James Crawford, *The International Law Commission's Articles on State Responsibility: Introduction, Text and Commentaries*, Cambridge University Press, Cambridge, 2002, p. 149, paras. 3–6 (hereinafter *Commentary*).

8 *Ibid.*, para. 4.

constructive knowledge (i.e. that can be expected from exercise of reasonable care) or objective (actual, direct) knowledge contingent on the circumstances prevailing in each case would be an acceptable interpretation of this standard of proof. As such, where the information needed in order to assess whether or not a State is using weapons in an abusive manner is widespread, then the exporting State ought to have knowledge of that information. Proliferation of information about a State's abuse of weapons could satisfy the knowledge requirement of a transferring State when it comes to determining its responsibility for supplying the weapons that aid or assist in the commission of an internationally wrongful act under Article 16.

A second and related limitation to the attribution of State responsibility under Article 16 concerns the requirement that the aid or assistance (here, the supply of weapons) be given with a view to facilitating the commission of the wrongful act. According to the Commentary, "[t]his limits the application of Article 16 to those cases where the aid or assistance given is clearly linked to the subsequent wrongful conduct."⁹ The Commentary then goes on to say that a State is only responsible if "the relevant State organ intended, by the aid or assistance given, to facilitate the occurrence of the wrongful conduct..."¹⁰ The intent requirement being introduced here is surprising since the Draft Articles claim to be neutral on the question of "wrongful intent", focusing instead on the objective conduct of States and leaving the mental element to be defined by the primary obligations at issue.¹¹ Moreover, a previous draft version of Article 16 was not interpreted as requiring intent to facilitate the commission of the wrongful conduct. In fact, nothing in the wording of the provision suggests such a condition.¹² Perhaps an interpretation that seems close to the heart of the matter is that the second limitation is really about ensuring that supplying the weapons contributed materially to the wrongful act. In order for the complicit State to be found responsible, there must be a causal relationship between the act of aiding or assisting and the ensuing violation of international law.

In the context of transfers of small arms, imposing a requirement of intent would be particularly unfortunate since it would ignore the lucrative aspect of arms deals. States that transfer weapons are often driven by commercial reasons, which include facilitating money-making deals for important

9 *Ibid.*, p. 149, para. 5.

10 *Ibid.* (emphasis added).

11 See *ibid.*, p. 81, para. 3, and p. 84, para. 10.

12 "Further credence is given to questioning whether there really is an intent requirement by reviewing a recent report of the ILC. In the report, the ILC takes note of government suggestions to get rid of the intent requirement entirely. (...) In response to these suggestions, the Special Rapporteur insinuates that requiring intent within the Article is not obligatory and may be misplaced: 'It is very doubtful whether under existing international law a State takes the risk that aid or assistance will be used for purposes which happen to be unlawful; hence some requirement of knowledge, or at least notice, seems inevitable. It is for consideration whether Article 16 currently strikes the right balance...'" (Kate Nahapetian, "Confronting State complicity in international law", *UCLA Journal of International Law and Foreign Affairs*, Vol. 7, 2002, p. 108, citing "Fourth report on State responsibility", Report by Special Rapporteur James Crawford, Fifty-Third Session, UN Doc. A/CN.4/517/Add. 1, 3 April 2000, p. 3).

domestic manufacturers.¹³ In the post-Cold war setting, rarely will weapons transfers be motivated by purely political considerations, making it difficult to establish that a transferring State had the intent to facilitate the commission of, for instance, human rights violations. One author suggests that, as a rule, whenever an organ of the international community (Security Council, General Assembly, International Court of Justice, Human Rights Commission) establishes that a State threatens the international peace, assistance to the perpetrator is not only a violation of the Charter but also an act of complicity.¹⁴ In such cases intention should be presumed because the wrongful behaviour is a matter of common knowledge.¹⁵ Another author recently argued that where violations of international humanitarian law are at issue, ongoing assistance to a known violator should be presumed to be given with a view to facilitating further violations and, as a consequence, such assistance can trigger the application of the rules of State responsibility.¹⁶

Finally, responsibility under Article 16 is limited by the condition that the obligation breached must be equally opposable to both the violating and complicit States. In the case of weapons transfers, this third requirement is of little consequence. The categories of wrongful conduct that are relevant to small arms and light weapons include serious violations of human rights and grave breaches of international humanitarian law, as well as violations of the prohibition against the use of force and interference in the domestic affairs of a State, all of which are prohibited by norms of international law opposable to all States in the international community.

Article 41(2)

While the Draft Articles do not recognize the existence of “State crimes” as a special category of wrongful acts, they nonetheless reflect the fact that certain violations of international law attract particular consequences because of their gravity. The drafters refer to these violations as “serious breaches of obligations arising under peremptory norms of general international law”, specifying that in order to be considered “serious”, such breaches must involve a gross or systematic failure by the responsible State to fulfil the obligations.¹⁷

Today, the norms that are widely accepted as peremptory in nature include the prohibitions of aggression, genocide, slavery, racial discrimination and

13 “A State, which enjoys substantial military sales to an abusive regime and continues those sales, is motivated significantly by economic interests. Regardless of the motivation, however, the effect on the people at the receiving end of the human rights abuses is the same. Article 16 should be designed to prevent human rights and international law abuses, regardless of the assisting State’s intentions” (Nahapetian, *ibid.*, p. 127).

14 Bernhard Graefrath, “Complicity in the law of international responsibility”, *Revue belge de droit international*, Vol. 2, 1996, p. 377.

15 *Ibid.*

16 Marco Sassòli, “State responsibility for violations of international humanitarian law”, *International Review of the Red Cross*, Vol. 84, No. 846, 2002, p. 413.

17 Draft Articles, *op. cit.* (note 5), Article 40 (2).

apartheid, crimes against humanity, torture, and the right to self-determination.¹⁸ By virtue of its interpretation of the International Court of Justice's dictum in the Nuclear Weapons Advisory Opinion,¹⁹ the International Law Commission also includes the basic rules of international humanitarian law in the category of peremptory norms.²⁰ This characterization was confirmed by the International Court of Justice (ICJ) in its 2004 Advisory Opinion on the Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territories.²¹

Article 41(2) of the Draft Articles lays down the consequences for third States of a serious breach as defined in Article 40(2). It states:

“No State shall recognize as lawful a situation created by a serious breach (...), nor render aid or assistance in maintaining that situation.”

The first of the two duties of abstention incumbent upon States is one of non-recognition, which includes both acts of formal recognition and acts that imply recognition.²² Recognition involves accepting the legitimacy of the situation. Transferring weapons could theoretically qualify as an act implying recognition to the extent that the goods legitimize the power of the violating State. It is more likely, however, that transferring weapons would breach the second obligation codified in Article 41(2), namely the obligation not to aid or assist the responsible State in maintaining the unlawful situation.

According to the Commentary, this second prohibition goes beyond Article 16 by including conduct “after the fact” which maintains the situation created by the violation, regardless of whether or not the breach itself is a continuing one.²³ Whereas for less serious internationally wrongful acts, a finding of complicity rests on an established nexus between the aid or assistance and the ensuing violation, it is sufficient where peremptory norms are concerned for the aiding State to have contributed to maintaining the illegal situation. This is directly relevant to the transfer of small arms, given the obvious connection between the availability of weapons and a State's ability to sustain a situation created by its wrongful conduct. The Commentary also mentions that the requirement of knowledge has been left out of Article 41(2) because “it is hardly

18 See *Commentary, op. cit.* (note 7), p. 188, para. 5, and pp. 246–247, paras. 4–5, citing ICJ, *East Timor (Portugal v. Australia)*, Judgment, *ICJ Reports 1995*, para. 29.

19 ICJ, *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, *ICJ Reports 1996*, para. 79.

20 *Commentary, op. cit.* (note 7), p. 246, para. 5.

21 Advisory Opinion of 9 July 2004, reprinted in *International Law Materials*, Vol. 43, 2004, p. 1009. Interestingly, in the context of this opinion the Court appears to suggest that grave breaches of international humanitarian law yield consequences for third States regardless of any analysis of intensity. The Court merely refers to “the character and the importance of the rights and obligations involved” rather than to the extent to which the violations involve *gross* or *systematic failures* to respect these rights or fulfil these obligations (*ibid.*, para. 159). For a discussion of this apparent widening of the scope of Draft Article 41, see Andrea Bianchi, “Dismantling the wall: the ICJ's Advisory Opinion and its likely impact on international law”, *German Yearbook of International Law*, Vol. 47, 2004, pp. 39–40.

22 See *Commentary, op. cit.* (note 7), p. 250, para. 5.

23 *Ibid.*, p. 252, para. 12. The examples given by the *Commentary* are those of the illegal situations created by the *apartheid* regime in South Africa and by Portuguese colonial rule, both of which led the Security Council to prohibit any aid or assistance to these States (S/RES/418, 4 November 1977 and S/RES/569, 26 July 1985; S/RES/218, 23 November 1965).

conceivable that a State would not have notice of the commission of a serious breach by another State.”²⁴

Inadequacy of the notion of complicity

As we have seen above, the Draft Articles provide a theoretical basis for the notion of holding States responsible for transferring small arms to other States that use them for illegal purposes, particularly where such purposes involve breaches of obligations arising under peremptory norms of international law. Yet the rules governing complicity under the law of State responsibility suffer from two important limitations. First, they can only cover State-to-State arms transfers and second, their practical usefulness for claiming that States have an affirmative duty to enact tighter controls on arms transfers is questionable.

There does not appear to be any basis to invoke the rules of State responsibility to prevent a State from supplying weapons to non-State Parties who use them in an abusive manner. While it is likely that this type of transaction will be caught by the customary law prohibition against intervening in the internal affairs of another State, the question remains both relevant and controversial.²⁵ One region, the European Union (EU), prohibits all transfers of small arms to non-State Parties.²⁶ Other States, most notably the United States, maintain that the right to transfer weapons to sub-State Parties should be preserved as an instrument of foreign policy.²⁷ In response to a Canadian initiative in favour of a global convention prohibiting small arms transfers to non-State Parties, a number of non-governmental organizations made the point that an outright prohibition would ignore the inherent right of self-defence of people who are fighting oppressive regimes.²⁸ Given that some States will continue to license weapons

24 *Commentary, ibid.*, p. 252, para. 11.

25 In a case opposing Nicaragua to the United States, the International Court of Justice had this to say about United States' arms transfers to the *contras*: “the support given by the United States (...) to the military and paramilitary activities of the *contras* in Nicaragua, by financial support, training, supply of weapons, intelligence and logistic support, constitutes a clear breach of the principle of non-intervention.” (*Military and Paramilitary Activities in and against Nicaragua (Nicaragua v. United States of America)*, Merits, *ICJ Reports 1986*, para. 242).

26 Under Article 3(b) of the legally binding Joint Action on Small Arms and Light Weapons agreement, “[t]he sale of military-style small arms to sub-State or non-State groups is not permitted and the European Union Member States have renounced this form of military assistance as an instrument in their foreign and security policy”, Joint Action of 17 December 1998 adopted by the Council on the basis of Article J.3 of the Treaty on European Union on the European Union's contribution to combating the destabilising accumulation and spread of small arms and light weapons, 1999/34/CFS, available online: <<http://projects.sipri.se/expcon/eusmja.htm>> (last visited on 25 July 2005). The Joint Action provisions do not cover pistols, shotguns and other types of rifles used in internal conflicts.

27 David Capie, “Armed groups, weapons availability and misuse: An overview of the issues and options for action”, background paper for a meeting organized by the Centre for Humanitarian Dialogue in advance of the Sixth Meeting of the Human Security Network, Bamako, Mali, 25 May 2004, p.11, available online: <<http://www.hdcentre.org/index.php?aid=64>> (last visited on 25 July 2005).

28 *Ibid.* The Canadian proposal was circulated in 1998 in the form of a discussion paper entitled “A proposed global convention prohibiting the international transfer of military small arms and light weapons to non-State actors”, available online: <http://www.nisat.org/export_laws-regs%20linked/canada/discusion_papera_proposed.htm> (last visited on 25 July 2005).

transfers to non-State Parties, it is desirable to ensure that the international standards advanced in the context of a proposed treaty apply to all transfers, regardless of the recipient's State or non-State character. The Draft Articles and the notion of complicity therein are, alone, insufficient to support such an approach.

For our purposes, the other inadequacy of the notion of complicity concerns the lack of guidance it offers regarding the specific steps required to control the undesirable flow of small arms to abusers of the weapons. As a practical matter, to be effective requires more than holding States responsible after the fact, even where such responsibility can be established under the criteria of Articles 16 and 41(2). For the small arms victim of an abusive security force, there is little comfort in knowing that the State that supplied the tools of their oppression may bear secondary responsibility under international law. Effective control of small arms transfers begins with the adoption of measures implemented by States in advance, such as establishing and operating a licensing regime that includes end-use criteria grounded in international law and provides for sanctions against individuals operating outside the regime.

Beyond complicity

A key entry point for introducing notions of human rights and humanitarian law is the authority of the State to license companies that manufacture small arms and light weapons and persons that export, import, transport, insure and finance arms deals. While licensing may not solve the variety of problems associated with the illicit trade in small arms, it is nonetheless an important way in which States can begin to implement their commitment to the protection of those fundamental rights that are constantly being flouted with the assistance of these weapons. This section explores how the scrutiny that is needed for a credible and effective licensing process can be supported by the primary obligations of States under international law. The relevant areas of international law include obligations deriving from international humanitarian law, obligations associated with international human rights law and recent developments in the field of international criminal law.

Obligation to “ensure respect” for international humanitarian law

A distinguishing feature of international humanitarian law is the customary obligation incumbent upon States not only to respect the law but also to ensure its respect by other contracting States, as laid down in Article 1 common to the four Geneva Conventions.²⁹ In a judgment delivered in January 2000, the

29 “The High Contracting Parties undertake to respect and to ensure respect for the present Convention in all circumstances” (Geneva Convention for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field, 12 August 1949 (hereinafter GC I); Geneva Convention for the Amelioration of the Condition of the Wounded, Sick and Shipwrecked Members of Armed Forces at Sea, 12 August 1949 (hereinafter GC II); Geneva Convention relative to the Treatment of Prisoners of War, 12 August 1949

Trial Chamber of the International Criminal Tribunal for the former Yugoslavia (ICTY) had this to say about compliance with humanitarian norms:

“As a consequence of their absolute character, these norms of international humanitarian law do not pose synallagmatic obligations, i.e. obligations of a State vis-à-vis another State. Rather (...) they lay down obligations towards the international community as a whole, with the consequence that each and every member of the international community has a ‘legal interest’ in their observance and consequently a legal entitlement to demand respect for such obligations.”³⁰

There is still some debate as to how exactly States are expected to implement their obligation to “ensure respect” for international humanitarian law. However, what is clear is that, in the face of serious violations of the Geneva Conventions or of Additional Protocol I, States are under a duty to act in order to bring the violations to an end. This obligation is codified in Article 89 of Additional Protocol I³¹ and echoed in Article 41(1) of the Draft Articles, which stipulates that “States shall cooperate to bring to an end through lawful means any serious breach” of an obligation arising under a peremptory norm of international law. This duty to act or to cooperate generally finds expression in the behaviour of States within the United Nations. In response to violations of humanitarian principles, the General Assembly, the Security Council or the Commission on Human Rights will call on perpetrators to abide by the rules; offer the good offices of the Secretary-General; dispatch observer missions; launch peacekeeping operations; etc.³² All of these measures fall “within the purview of a collective willingness to ensure respect for international humanitarian law in cases where serious violations occur.”³³

In the framework of the United Nations, imposing arms embargoes is one of the ways in which the international community is increasingly responding to the existence or impending threat of violent conflict involving violations of

(hereinafter GC III); Geneva Convention relative to the Protection of Civilian Persons in Time of War (hereinafter GC IV)). This provision is reiterated in Article 1(4) of the Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts, 8 June 1977 (hereinafter AP I). The obligation to respect and ensure respect applies to international conflicts and to non-international conflicts to the extent that the latter are covered by common Article 3. While conflicts of a non-international character as defined by the Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of Non-International Armed Conflicts, 8 June 1977 (hereinafter AP II) are not explicitly covered by the obligation to respect and to ensure respect, they can nonetheless be considered as indirectly falling within the purview of the provision, insofar as the Second Additional Protocol is merely an elaboration of common Article 3, a fact stated in its Article 1(1). See Laurence Boisson de Chazournes & Luigi Condorelli, “Common Article 1 of the Geneva Conventions revisited: Protecting collective interests”, *International Review of the Red Cross*, Vol. 82, No. 837, 2000, p. 69.

30 ICTY, *Prosecutor v. Zoran Kupreskic and others*, Case No. IT-95-16-T, Judgement (Trial Chamber), 14 January 2000, para. 519.

31 “In situations of serious violations of the Conventions or of this Protocol, the High Contracting Parties undertake to act, jointly or individually, in co-operation with the United Nations and in conformity with the United Nations Charter”

32 Boisson de Chazournes & Condorelli, *op. cit.* (note 29), pp. 78–79.

33 *Ibid.*, p. 79.

international humanitarian law.³⁴ Whether the UN Security Council calls upon States to halt the flow of arms to a conflict zone without pronouncing a mandatory embargo³⁵ or decides that all States shall take the necessary measures to prevent the direct or indirect supply, sale or transfer of arms to a party, its action recognizes that weapons transfers into conflict zones are rarely innocent. There are currently mandatory territorial arms embargoes in force against the States of Ivory Coast,³⁶ Liberia³⁷ and Somalia.³⁸ Non-State Parties are also subject to arms embargoes. At the moment, every State in the international community is prohibited from transferring arms to groups in the Democratic Republic of Congo,³⁹ Liberia,⁴⁰ Rwanda,⁴¹ Sierra Leone⁴² and Sudan,⁴³ as well as to Al-Qaeda and associated persons.⁴⁴ Under Article 41 of the United Nations Charter, States

- 34 Embargoes are also imposed by regional organizations, most notably by the European Union (EU) and the Organization for Security and Co-operation in Europe (OSCE). In October 2004, there were EU arms embargoes against ten States: Afghanistan, Bosnia-Herzegovina, Burma (Myanmar), China, Democratic Republic of Congo, Liberia, Sierra Leone, Somalia, Sudan and Zimbabwe (<<http://www.sipri.org/contents/armstrad/embargoes.html#tab>> (last visited 28 July 2005)). In 1993, the OSCE imposed a politically binding embargo on Armenia and Azerbaijan, aimed at "all deliveries of weapons and munitions to forces engaged in combat in the Nagorno-Karabakh area". *Decisions based on the Interim Report on Nagorno-Karabakh*, available online: <<http://projects.sipri.se/expcon/csceazbarm.htm>> (last visited 25 July 2005). An important expression of political will, such embargoes do not carry the weight of their UN counterpart if only because "they are, by their very nature, regional in scope and can be thus undermined by countries outside the arrangement who may not subscribe to the same political view" (Basic, International Alert, and Saferworld, *Combating the Illicit Trade in Small Arms and Light Weapons: Enhancing Controls on Legal Transfers*, Briefing 6, p. 11, available online: <http://www.saferworld.org.uk/iac/btb_brf6.pdf> (last visited 28 July 2005)).
- 35 In a recent resolution on the situation in Burundi, the Security Council expressed "its deep concern over the illicit flow of arms provided to armed groups and movements, in particular those which are not parties to the peace process under the Arusha Agreement" and called upon "all States to halt such flow" (S/RES/1545, 21 May 2004, at para. 18).
- 36 S/RES/1572, 15 November 2004 (for a period of 12 months); S/RES/1584, 1 February 2005 (reaffirming the embargo).
- 37 S/RES/1521, 22 December 2003 (for a period of 12 months); S/RES/1579, 21 December 2004 (renewed for a period of 12 months).
- 38 S/RES/733, 23 January 1992; most recently reaffirmed in S/RES/1519, 15 December 2003; S/RES/1558, 17 August 2004; and S/RES/1587, 15 March 2005.
- 39 S/RES/1493, 28 July 2003, targeting "all foreign and Congolese armed groups and militias operating in the territory of North and South Kivu and of Ituri, and to groups not party to the Global and All-inclusive agreement, in the Democratic Republic of Congo" (for a period of 12 months); S/RES/1552, 27 July 2004 (renewed for a period of 12 months, expiring on 31 July 2005). In its latest resolution, the Security Council decided that the embargo now applies "to any recipient in the territory", S/RES/1597, 3 May 2005.
- 40 S/RES/1521, 22 December 2003, targeting the LURD (Liberians United for Reconciliation and Democracy) and the Movement for Democracy in Liberia (MODEL), as well as "all former and current militias and armed groups" (for a period of 12 months); S/RES/1579, 21 December 2004 (renewed for a period of 12 months).
- 41 S/RES/1011, 16 August 1995, targeting "non-governmental forces" inside Rwanda and persons in neighbouring States that intend to use arms and related matériel in Rwanda.
- 42 S/RES/1171, 5 June 1998, targeting "non-governmental forces in Sierra Leone".
- 43 S/RES/1556, 30 July 2004, targeting "all non-governmental entities and individuals, including the Janjaweed, operating in the States of North Darfur, South Darfur and West Darfur"; S/RES/1591, 29 March 2005, extending the measures "to all parties to the N'djamena Ceasefire Agreement and any other belligerents in the States of North Darfur, South Darfur and West Darfur".
- 44 S/RES/1390, 28 January 2002 (for a period of 12 months); S/RES/1455, 17 January 2003 (decision to improve the implementation of the measures over a further period of 12 months); S/RES/1526, 30 January 2004 (decision to improve the implementation of the measures over a further period of 18 months).

have a legal obligation to abide by embargoes enacted by the Security Council and a duty to implement measures to ensure that persons within their jurisdiction also comply with those embargoes.⁴⁵

While the legal basis for imposing and enforcing arms embargoes falls outside the realm of international humanitarian law, a quick glance at the parties currently embargoed reveals that this type of response on the part of the international community is closely related to the perpetration of serious violations of the laws of war. In the past two years, with the Security Council becoming more active on the question of child soldiers, arms embargoes have been threatened against parties that recruit children into their ranks.⁴⁶ This suggests that beyond the general association of small arms with violations of international humanitarian law, a specific link is being authoritatively established between the availability of small arms and violations of the rights of children in armed conflict. One may reasonably conclude that embargoes in such circumstances are a reflection of States' Common Article 1 obligation to ensure respect for international humanitarian law.

For political reasons, arms embargoes do not follow a consistent pattern of imposition and, when they are pronounced, considerable difficulties plague their implementation and enforcement. Respecting arms embargoes involves an exporting State refraining from selling arms, but it also includes restricting companies and individuals within the exporting State's jurisdiction from doing so. Such restrictions are typically borne out in the exporting State's arms export licensing regime, although they can also be included in legislation specifically prohibiting transfers to a particular country or party. Hence the relevance of discussing the adoption of international standards for licensing arms transfers and the importance of placing respect for international humanitarian law at the heart of the discussion.

In a 1999 study on arms availability, the International Committee of the Red Cross (ICRC) recommended the development of national and international codes of conduct limiting arms transfers according to indicators of the level of respect for international humanitarian law by the recipient State.⁴⁷ On the basis of Common Article 1, the ICRC suggested that licensing States should assess the extent to which recipient States are formally committed to respecting norms of international humanitarian law. Does the recipient State

45 Article 41 of the United Nations Charter confers upon the Security Council the power to call for a "complete or partial interruption of economic relations (...) and the severance of diplomatic relations" in response to a threat to or breach of the peace or an act of aggression. It is within the discretion of each State to decide the type of responsibility (administrative offence v. criminal offence) that attaches to a violation of the embargo by a private party. In a resolution on the situation in Africa adopted in 1998, the Security Council encouraged Member States to adopt measures making the violation of mandatory arms embargoes a criminal offence (see S/RES/1196, 16 September 1998, para. 2).

46 See S/RES/1379, 20 November 2001; S/RES/1460, 30 January 2003; S/RES/1539, 22 April 2004; S/RES/1612, 26 July 2005. See also "Children and armed conflict", Report of the Secretary-General, UN Doc. A/59/695 — S/2005/72, 9 February 2005, para. 57.

47 *Arms Availability and the Situation of Civilians in Armed Conflict*, International Committee of the Red Cross, Geneva, 1999, p. 65.

disseminate the laws of war to its armed forces?⁴⁸ Has the recipient State enacted enforcement measures for the repression of grave breaches?⁴⁹ Such implementation measures form part of a recipient State's "due diligence" obligation to prevent and punish violations of international humanitarian law within its territory or by parties for which it is responsible. This obligation is particularly relevant to situations of internal armed conflict where many violations are perpetrated by individuals over whom the State has no direct control.

Ensuring respect for international humanitarian law would therefore mean that States from which weapons are to be transferred would have to deny a licence not only when they are destined for States that are responsible for serious violations of the law but also for States that fail to diligently implement preventive and enforcement measures within their jurisdiction. The obligation for all States to ensure respect for the laws of war constitutes a strong basis for arguing that States must enact tighter licensing regimes for arms transfers — a strength that goes beyond the more limited notion of complicity.

Human rights: A duty to cooperate in their protection and fulfilment

In human rights law, the unfortunate paradox is that while human rights are said to be universal, their violations are limited by territoriality as well as by citizenship. The responsibility of States toward individuals outside their jurisdiction is vague and weak.⁵⁰ "Territoriality of law conflicts with the postulated universality of human rights because individuals cannot hold a State other than their own responsible for violating their rights; it is their State that should hold another responsible. This, however, seldom happens."⁵¹

The notion that States should be obliged to investigate the end-use of the weapons they authorize for international transfer has been compared to their obligation to ensure that persons who are removed, expelled or extradited from their jurisdiction will not face persecution.⁵² The similarity between the duty of 'non-refoulement' under refugee law⁵³ and the law regulating international arms transfers lies in action at home ('refoulement' of a refugee or licensing the

48 The obligation to disseminate IHL is set out in GC I, Article 47; GC II, Article 48; GC III, Article 127; GC IV, Article 144; AP I, Articles 83 and 87(2); and AP II, Article 19.

49 The obligation to prosecute grave breaches is set out in GC I, Article 49; GC II, Article 50; GC III, Article 129; GC IV, Article 146; and AP I, Articles 11(4), 85 and 86.

50 For a discussion of transnational human rights focusing primarily on economic, social and cultural rights, see *Duties Sans Frontières*, International Council on Human Rights Policy, Versoix, Switzerland, 2003.

51 Mark Gibney, Katarina Tomasevski & Jens Vedsted-Hansen, "Transnational State responsibility for violations of human rights", *Harvard Human Rights Journal*, Vol. 12, 1999, p. 267.

52 "If a government may not return or expel a person to a State in which his or her life or freedom will be at risk on grounds of race, religion, nationality, membership of a social group or political opinion, nor may it sanction the transfer of arms to a country in which the risk arises of serious violations of human rights or humanitarian law." (Susan Marks & Andrew Clapham, *International Human Rights*, Oxford University Press, Oxford, 2005, p. 13).

53 Geneva Convention relating to the Status of Refugees, 28 July 1951, Article 33 (1): "No Contracting State shall expel or return ("refouler") a refugee in any manner whatsoever to the frontiers of territories where his life or freedom would be threatened on account of his race, religion, nationality, membership of a particular social group or political opinion."

transfer of weapons) being prescribed on the basis of an expected violation of human rights abroad. In practice, the difficulty with this analogy is in establishing causation. Whereas the act of returning a person to another State is a *sine qua non* cause of their eventual persecution, it is very difficult to show that supplying weapons to human rights abusers will be the direct and decisive cause of ensuing violations.

This causation problem is highlighted in the 1995 decision of the European Commission of Human Rights not to admit the claim of an Iraqi national against the State of Italy, in *Tugar v. Italy*.⁵⁴ The plaintiff argued that Italy had failed to protect his right to life under the European Convention because the State had not enacted an effective arms transfer licensing system. Mr Tugar had suffered a life-threatening injury as a result of stepping on an anti-personnel mine that had been supplied to Iraq by an Italian arms manufacturer. Counsel for the plaintiff drew a parallel with the expulsion cases, citing the *Soering* judgment of the European Court of Human Rights,⁵⁵ and maintained that the Italian authorities had exposed the plaintiff to the risk of “indiscriminate” use of mines by Iraq. In dismissing the claim, the Commission stated that:

“the applicant’s injury can not be seen as a direct consequence of the failure of the Italian authorities to legislate on arms transfers. There is no immediate relationship between the mere supply, even if not properly regulated, of weapons and the possible ‘indiscriminate’ use thereof in a third country, the latter’s action constituting the direct and decisive cause of the accident which the applicant suffered.”⁵⁶

The *Tugar* decision illustrates the difficulties that are inherent in attempting to link a State’s affirmative duty in the realm of arms licensing to a right of action for victims beyond its borders. Clearly, more work is needed to flesh out the positive obligation of States to cooperate in the transnational protection and fulfilment of human rights. The adoption of a treaty on arms transfers whereby States recognize some responsibility in preventing the perpetration of serious human rights violations outside their jurisdiction would go some of the way toward making international law relevant to small arms victims. However, without such a treaty, there appears to be little in international human rights law that can be interpreted as imposing an obligation for States to investigate the end-use of the weapons they allow out of their territory. This does not mean that international human rights law is irrelevant to the development of the law in this area. Indeed, it may shed considerable light on the assessment of recipient States’ behaviour, which will be useful in developing standards for such licensing regimes as may be required.

Under international human rights law, States are not only responsible for the actions of their agents. They also have a duty to prevent and punish patterns

54 EComHR, *Tugar v. Italy*, Application No. 2869/93, 18 October 1995.

55 ECHR, *Soering v. United Kingdom*, Judgment, 7 July 1989, Series A, Vol. 161.

56 EComHR, *Tugar v. Italy*, *op. cit.* (note 54), p. 3.

of abuse committed by private persons operating within their jurisdiction, whether or not they are acting under the control of the State. Failing to take the necessary steps to protect individuals from acts of violence perpetrated by non-State parties may render the State as guilty as if its officials had committed the violation.⁵⁷ In some cases, the obligation to protect individuals from violations perpetrated by private parties is part and parcel of the State's obligation not to commit the violation itself. This is the case for the prohibition of torture, which is particularly sweeping due to the importance it has been accorded by the international community.⁵⁸ The failure to adopt the necessary measures to prevent acts of torture from being carried out on one's territory may amount to more than a violation of the "due diligence" standard and be treated as a breach of the international norm itself.

In order that international standards for licensing arms transfers take into account the due diligence obligation of recipient States, it may be useful for the drafters of a treaty on arms transfers to follow the approach proposed by the ICRC in the field of international humanitarian law. This would involve enumerating a number of objective criteria that would serve as human rights benchmarks in deciding whether or not licences should be granted. For instance, authorization might be given for the export of guns to a police force that operates in accordance with the UN Basic Principles on the Use of Force and Firearms by Law Enforcement Officials.⁵⁹ Conversely, failure to implement these basic principles could form the basis for refusing to grant a licence.

International criminal law: The individual responsibility of arms traffickers

The picture that is unfolding of the international obligations of States in the field of arms transfers would not be complete without mentioning international criminal law. Even when governments enact adequate controls over private

57 See "Prevention of human rights violations committed with small arms and light weapons", Preliminary Report submitted by Barbara Frey, Special Rapporteur, in accordance with Sub-Commission decision 2002/25, Economic and Social Council, UN Doc. E/CN.4/Sub.2/2003/29, 25 June 2003, pp. 12–13. The Special Rapporteur discusses the case law of the Inter-American Court of Human Rights and the European Court of Human Rights, concluding that: "under the due diligence standard for determining State liability, therefore, a State may have an affirmative duty under the human rights instruments to ensure that small arms are not used by armed individuals and groups to commit human rights violations." For the latest version of the Special Rapporteur's "Draft principles on the prevention of human rights violations committed with small arms", see UN Doc. E/CN.4/Sub.2/2005/35, 16 June 2005.

58 In a 1998 judgment, the Trial Chamber of the ICTY wrote: "States are obliged not only to prohibit and punish torture, but also to forestall its occurrence: it is insufficient merely to intervene after the infliction of torture, when the physical or moral integrity of human beings has already been irremediably harmed. Consequently, States are bound to put in place all those measures that may pre-empt the perpetration of torture. (...) international rules prohibit not only torture but also (i) the failure to adopt the national measures necessary for implementing the prohibition and (ii) the maintenance in force or passage of laws which are contrary to the prohibition." (ICTY, *Prosecutor v. Anto Furundzija*, Case No. IT-95-17/1-T, Judgment (Trial Chamber), 10 December 1998, para. 148).

59 Adopted by the Eighth United Nations Congress on the Prevention of Crime and the Treatment of Offenders, Havana, Cuba, 27 August – 7 September 1990, available online: <<http://www.smallarmsnet.org/docs/saun17.pdf>> (last visited 28 July 2005).

arms traffickers, there continue to be individuals who act beyond the reach of national law. Logically and practically, a commitment to human rights and humanitarian norms in the licensing process should be accompanied by measures of enforcement against the middlemen who facilitate circumventions of licensing schemes. In fulfilling their Common Article 1 obligation to ensure respect for international humanitarian law, States have a duty to repress grave breaches of the laws of war. It is therefore relevant to enquire into the nature of the international criminal responsibility that attaches to the act of supplying weapons to persons responsible for committing war crimes, crimes against humanity or genocide.

Here, we return to the notion of “complicity”, but this time as it applies to the individual criminal responsibility of the traffickers concerned. Under international criminal law, the activities of arms traffickers are most likely to be caught by rules that prohibit supplying material assistance to the perpetrator of a crime. Although the test for individual accomplice liability differs from that used to establish the complicity of States, the underlying sentiment is the same. This test was set out in 1997 by the Trial Chamber of the ICTY in the *Tadic* case:

“First, there is a requirement of intent, which involves awareness of the act of participation coupled with a conscious decision to participate by planning, instigating, ordering, committing, or otherwise *aiding and abetting* in the commission of a crime. Second, the prosecution must prove that there was participation in that the conduct of the accused contributed to the commission of the illegal act.”⁶⁰

The notion of “aiding and abetting” was further defined by the same Chamber in a 1998 decision:

“[T]he legal ingredients of aiding and abetting in international criminal law [are as follows]: the *actus reus* consists of *practical assistance*, encouragement, or moral support which has a substantial effect on the perpetration of the crime. The *mens rea* required is the knowledge that these acts assist in the commission of the offence. This notion of aiding and abetting is to be distinguished from the notion of common design, where the *actus reus* consists of participation in a joint criminal enterprise and the *mens rea* required is intent to participate.”⁶¹

The “aiding and abetting” provision of the Statute of the International Criminal Court (ICC) establishes criminal responsibility if a person aids, abets or otherwise assists in the commission or the attempted commission of a crime, including by providing the means for its commission.⁶² In other words, supplying the weapons used to commit or attempt to commit one of the crimes for which the ICC has jurisdiction is sufficient to give rise to responsibility

60 ICTY, *Prosecutor v. Dusko Tadic*, Case No. IT-94-1, Judgement (Trial Chamber), 7 May 1997, para. 674 (emphasis added).

61 *Furundzija*, *op. cit.* (note 58), para. 249 (emphasis added).

62 Rome Statute of the International Criminal Court, 17 July 1998, Article 25(3)(c) (emphasis added).

as an accomplice.⁶³ In terms of the *actus reus* (objective element), there is no requirement that the means have contributed to the ensuing crime; nor is there a requirement that the means have had a substantial effect on the crime. Clearly, the Rome Statute defines the crime of complicity in a wider manner than its *ad hoc* counterparts since “a direct and substantial assistance is not necessary and (...) the act of assistance need not be a *condition sine qua non* of the crime.”⁶⁴ Nevertheless, the *culpa* (subjective element) remains higher than what is provided for in the context of State responsibility, for the obvious reason that the consequences of a finding of guilt are far greater for individuals whose liberty is at stake. Mere knowledge is not enough; the accomplice must intend to facilitate the perpetration of the crime.

None of the Statutes of the current international tribunals (ICTY, International Criminal Tribunal for Rwanda (ICTR), Special Court for Sierra Leone (SCSL) and ICC) specifically identify, for the purpose of establishing criminal liability for “aiding” in the commission of a crime, the provision of weapons or other concrete military assistance as constituting practical assistance. However, there are indications of a growing trend toward interpreting them as such.

In a 1998 decision, the Trial Chamber of the ICTR stated that the elements of the crime of complicity in genocide included “procuring means, such as weapons, instruments or any other means, used to commit genocide, with the accomplice knowing that such means would be used for such a purpose.”⁶⁵ In 2003, the Prosecutor of the SCSL indicted Charles Taylor, charging the former head of State of having “aided and abetted” abuses perpetrated by Sierra Leonean rebels through the provision of financing, training, weapons, and other support and encouragement.⁶⁶

Reflecting on who might be criminally liable for complicity in Sierra Leone, a leading expert in the field of international criminal law writes:

“Given the intense publicity about war crimes and other atrocities in Sierra Leone, made known not only in specialized documents such as those issued by the United Nations and international non-governmental organizations but also by the popular media, a court ought to have little difficulty in concluding that diamond traders, airline pilots and executives, small arms suppliers and so on have knowledge of their contribution to the conflict and to the offences being committed.”⁶⁷

63 Andrew Clapham, “On complicity”, in M. Henzelin & R. Roth (eds), *Le Droit pénal à l'épreuve de l'internationalisation*, Bruylant, Brussels, 2002, p. 254.

64 Kai Ambos, “Article 25”, in Otto Triffterer (ed.), *Commentary on the Rome Statute of the International Criminal Court*, Nomos, Baden-Baden, 1999, p. 483.

65 ICTR, *Prosecutor v. Jean-Paul Akayesu*, Case No. ICTR-96-4-T, Judgement (Trial Chamber), 2 September 1998, para. 537 (emphasis added).

66 SCSL, *Prosecutor v. Charles Ghankay Taylor*, Case No. SCSL-03-I, Indictment, 7 March 2003, para. 26 (emphasis added).

67 William Schabas, “Enforcing international humanitarian law: Catching the accomplices”, *International Review of the Red Cross*, Vol. 83, No. 842, 2001, p. 451, quoted in Clapham, “On complicity”, *op. cit.* (note 63), p. 256.

This hypothesis appears to be supported by the SCSL's Chief of Investigations, Alan White, who, in an interview with Human Rights Watch, stated: "If a person is the principal supplier of arms and also knows that the weapons will be misused, then this person certainly would have individual criminal responsibility and would be prosecuted [by the Court]."⁶⁸

Although international criminal law provides an avenue for prosecuting private arms traffickers, for the time being this avenue remains largely unexplored.⁶⁹ Practically speaking, individuals who carry out brokering activities still have a lot of leeway to divert weapons to illicit destinations.⁷⁰ The prospect of being charged with complicity to an international crime still appears too remote for most brokers to think twice before diverting weapons to embargoed destinations or parties, or to known human rights abusers. To a large extent, their activities remain unregulated and even where regulations exist, there are important gaps or loopholes that make it possible for this lucrative business to flourish.⁷¹ Many States are reluctant to extend their jurisdiction to nationals having taken up residence abroad or to illicit brokering activities carried out by nationals abroad. Moreover, the political weight of certain arms brokering circles is not to be underestimated in terms of its ability to hinder any process aimed at curbing the business. However, the wind may be changing as momentum grows among various segments of the international community for tighter regulation of brokering activities.⁷²

68 Quoted in Lisa Misol, "Weapons and war crimes: The complicity of arms suppliers", *Human Rights Watch World Report 2004: Human Rights and Armed Conflict*, available online: <http://hrw.org/wr2k4/13.htm#_Toc58744962> (last visited 28 July 2005).

69 Potentially paving the way for reversing this trend, a court in the Netherlands is currently holding hearings in a trial involving a Dutch national, Frans van Anraat, who is accused of helping former Iraqi leader Saddam Hussein to commit war crimes and genocide by providing him with materials for chemical weapons. See BBC News, 18 March 2005, available online: <http://news.bbc.co.uk/2/hi/middle_east/4360137.stm> (last visited 28 July 2005).

70 In national and regional regulatory instruments, "brokers" and "brokering activities" are defined in a variety of different ways. In its Model Convention on the Registration of Arms Brokers and Suppression of Unlicensed Arms Brokering, the Fund for Peace defines "brokering activities" at Article 1(2) as: "...acting as a broker, including the importing, exporting, purchasing, selling, transferring, supplying or delivering of arms or arms services, or any action taken to facilitate any of those activities, including transporting, freight forwarding, mediating, insuring or financing" (available online: <http://www.fundforpeace.org/publications/reports/model_convention.pdf> (last visited 25 July 2005).

71 The *Small Arms Survey 2004* enumerates the following loopholes in existing controls: unregulated activities (aside from importing and exporting, much of what arms brokers do is intangible and therefore difficult to regulate); lax control on weapons stock; third-party brokering (deals are arranged without the weapons entering the territory in which the intermediary activity occurs); offshore financing; easily circumvented documentation requirements; ease of transport (transport agents exploit the difficulties in enforcing customs controls, particularly in countries with long borders and limited resources, *Small Arms Survey 2004: Rights at Risk*, Oxford University Press, Oxford, 2004, pp. 143–146 (hereinafter *Small Arms Survey 2004*)). For an analysis of loopholes in the arms export controls of the United Kingdom, see "Out of control: The loopholes in UK controls on the arms trade", Oxfam GB, 1998, pp. 3–12, available online: <http://www.oxfam.org.uk/what_we_do/issues/conflict_disasters/downloads/control.rtf> (last visited 28 July 2005).

72 In January 2004, the UN General Assembly adopted Resolution 58/241 on the illicit trade in small arms and light weapons in all its aspects, by which, *inter alia*, it requested the Secretary-General "to hold broad-based consultations (...) with all Member States, interested regional and subregional organizations, international agencies and experts in the field, on further steps to enhance international

Paving the way to a global agreement on arms transfers

In July 2001, the United Nations convened an international conference with a view to encouraging the development of national, regional and international strategies that tackle the many problems associated with small arms and light weapons. The Programme of Action endorsed by the United Nations only indirectly refers to the issue of government-authorized transfers, choosing instead to focus on what it calls the “illicit trade in small arms”. Nevertheless, in one provision the Programme of Action does refer to the obligation of States to assess applications for export authorizations “according to strict national regulations and procedures that cover all small arms and light weapons and are consistent with the existing responsibilities of States under relevant international law.”⁷³ Also included is a commitment on the part of participating States to develop adequate legislation regulating brokering activities.⁷⁴ A number of recent regional initiatives, mostly of a politically binding nature, have echoed this commitment.⁷⁵

Earlier in 2001, on 31 May, the General Assembly adopted the UN Firearms Protocol,⁷⁶ an international instrument aimed at improving cooperation in clamping down on the illegal manufacturing of and trade in firearms.⁷⁷ The Protocol is the third to complement the November 2000 UN Convention against Transnational Organized Crime⁷⁸ — the other two are aimed at stopping the smuggling of migrants and the trafficking in persons, particularly women and children. It calls on signatories to mark each legally produced, exported, and imported weapon with identifying information and to set up proper licensing and authorization procedures for the commercial export of firearms. States

cooperation in preventing, combating and eradicating illicit brokering in small arms and light weapons (...) and requested him to report to the General Assembly at its fifty-ninth session on the outcome of his consultations” (UN Doc. A/58/241, 9 January 2004). See the background paper prepared by the Department for Disarmament Affairs, “Broad-based consultations on further steps to enhance international cooperation in preventing, combating and eradicating illicit brokering in small arms and light weapons” (GA Resolution 58/241), available online: <<http://disarmament.un.org:8080/cab/brokering/Consultations-paper.pdf>> (last visited 29 July 2005) (hereinafter Background Paper of the Department of Disarmament Affairs). In his report entitled “In larger freedom: Towards development, security and human rights for all”, the Secretary-General urged the international community to expedite negotiations on a legally binding instrument to combat illicit brokering in small arms and light weapons (UN Doc. A/59/2005, 21 March 2005, para. 120).

73 See “Programme of action to prevent, combat and eradicate the illicit trade in small arms and light weapons in all of its aspects”, Part II, Article 11 (in *Report of the United Nations Conference on the Illicit Trade in Small Arms and Light Weapons in All Its Aspects*, New York, 9–20 July 2001, UN Doc. A/CONF.192/15) (hereinafter UN Programme of Action).

74 UN Programme of Action, *ibid.*, Part II, Articles 14 and 39.

75 For a review of these initiatives, see Background Paper of the Department for Disarmament Affairs, *op. cit.* (note 72), pp. 2–6.

76 Protocol against the Illicit Manufacturing of and Trafficking in Firearms, Their Parts and Components and Ammunition, supplementing the United Nations Convention against Transnational Organized Crime, UN Doc. A/RES/55/255, 8 June 2001. At 15 July 2005, there were forty-two (42) States Parties.

77 Article 3(a) defines “firearms” as “any portable barrelled weapon that expels, is designed to expel or may be readily converted to expel a shot, bullet or projectile by the action of an explosive, excluding antique firearms or their replicas”.

78 Adopted by the General Assembly on 15 November 2000; see UN Doc. A/RES/55/25, 8 January 2001.

Parties are to pass legislation criminalizing any illicit manufacturing and trafficking of firearms, establish an effective export control system, and share information as well as technical experience and training with each other to enable cooperation in preventing illegal shipments of firearms. Signatories are also expected to keep records for at least 10 years on their marking and transfer activities so that it will be possible to trace the movement of firearms across borders.

The Protocol, which came into force on 3 July 2005, focuses on organized crime and does not apply to State-authorized sales. However, on the question of arms brokering, it represents a useful step to the extent that it requires the registration of brokers operating within the territory of States Parties as well as the licensing or authorization of brokering activities. Moreover, all information relating to brokers must be shared. To date, the Protocol remains the first legally-binding international agreement on small arms to have been successfully negotiated.

At a regional level, a number of initiatives (model regulations, handbooks, best practice guidelines, etc.) call upon States to consider the risk that transferred weapons will be used in violation of international law when deciding whether or not to grant arms exporting and brokering licences.⁷⁹ Other regional initiatives adopt a tougher stance. Two of these are well on their way to imposing legally binding measures for their Member States and, as such, merit some exploration here. The first is the European Union Code of Conduct for Arms Exports, which, along with the EU Council Common Position on Arms Brokering, represents the most important attempt at introducing human rights and humanitarian criteria into the arms export and brokering licensing process of European Member States. The second is the West Africa Moratorium on Importation, Exportation, and Manufacture of Small Arms and Light Weapons, which is unique in its attempt at keeping small arms out of an entire region and, through its shortcomings, illustrates the need for global standards rooted in international law.

European Union Code of Conduct

Adopted by the Council of the European Union in 1998, the Code of Conduct for Arms Exports⁸⁰ — though only politically binding — is by far the most

79 The most recent initiatives include: the Model Brokering Regulations for the Control of Brokers of Firearms, their Parts and Components and Ammunition, adopted by the Organization of American States in the context of the Inter-American Drug Abuse Control Commission, Thirty-Fourth Regular Session, 17–20 November 2003, Montreal, Canada, OEA/Ser.L/XIV.2.34 (CICAD/doc1271/03), 13 November 2003; the Great Lakes and Horn of Africa Best Practice Guidelines for the Import, Export and Transit of Small Arms and Light Weapons, adopted at the 3rd Ministerial Review Conference of the Nairobi Declaration, 20–21 June 2005; the Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies: Guidelines & Procedures, including the Initial Elements (as amended and updated in December 2003 and July 2004), see also note 99 below; and the 2003 OSCE *Handbook of Best Practice Guides*, a comprehensive manual providing a set of best practice guides relating to all stages of a gun's life and aiming at enhancing the implementation of the 2000 OSCE *Document on Small Arms and Light Weapons*.

80 European Union Code of Conduct for Arms Exports, adopted by the Council of the European Union on 8 June 1998, available online: <http://europa.eu.int/comm/external_relations/cfsp/sanctions/codeofconduct.pdf> (last visited 25 July 2005) (hereinafter EU Code). “Support for the principles of the EU Code has been declared by third countries — notably the EU Associated States of Eastern and Central Europe, Cyprus, the

comprehensive international arms export control regime in force today.⁸¹ Currently under review as to its content and legal status,⁸² the EU Code is noteworthy for setting forth eight criteria for the issuance of export licensing. These are divided into two categories: conditions under which the denial of licences is mandatory,⁸³ and elements that must be taken into consideration when deciding whether or not to issue a licence.⁸⁴

Application of the EU Code by Member States has been anything but uniform, given the distinct political and economic agendas pursued by individual States and the wide margin of interpretation left by both the operative provisions⁸⁵ and the criteria. This has triggered significant criticism, mainly on the part of

European Free Trade Area (EFTA), members of the European Economic Area and Canada. It is also referred to in the EU-US and EU-Canada Small Arms Declarations of December 1999. In November 2000, the second Consolidated Report of the EU Code recorded that Malta and Turkey had also pledged to subscribe to the principles of the EU Code, which would guide them in their national export policies." (*Undermining Global Security: the European Union's Arms Exports*, Amnesty International, 1 February 2004, pp. 2-3, available online: <<http://web.amnesty.org/library/index/ENGA300032004>> (last visited 25 July 2005).

- 81 For a recent account of the history of the EU Code of Conduct, see Sibylle Bauer & Mark Bromley, *The European Union Code of Conduct on Arms Exports: Improving the Annual Report*, SIPRI Policy Paper No. 8, November 2004, pp. 2-4 available online: <<http://editors.sipri.se/pubs/policypaper8.pdf>> (last visited 25 July 2005).
- 82 In its latest report, COARM (Working Party on Conventional Arms Exports, whose mandate is to make recommendations to the Council in the field of conventional arms exports in the framework of the Common Foreign and Security Policy) announced that it had "conducted in depth discussions in order to bring forward the review of the Code which it decided to undertake in December 2003." It further stated that it expected the Code to be "significantly reinforced by including several new elements in the text, most notably: brokering, transit/transshipment, licensed production overseas, intangible transfer of software and technology, end-user certification and national reporting." However, no agreement has yet to be reached to transform the Code into a legally binding instrument. (COARM, *Sixth Annual Report according to Operative Provision 8 of the European Union Code of Conduct on Arms Exports*, of which the General Affairs and External Relations Council took note on 22 November 2004, *Official Journal C 316*, 21/12/2004, p. 1, available online: <[http://europa.eu.int/eur-lex/lex/LexUriServ/LexUriServ.do?uri=CEL_EX:52004XG1221\(01\):EN:HTML](http://europa.eu.int/eur-lex/lex/LexUriServ/LexUriServ.do?uri=CEL_EX:52004XG1221(01):EN:HTML)> (last visited 31 July 2005).
- 83 Respect for the international commitments of Member States, such as obligations arising under UN embargoes and treaties (Criterion 1); respect for human rights in the country of destination (Criterion 2); not contributing to a situation of armed conflict or aggravating existing tensions or conflicts in the country of destination (Criterion 3); respect for the prohibition on aggression: transfers are prohibited where there exists a *clear risk* that the export would be used aggressively against another country or to assert by force a territorial claim (Criterion 4).
- 84 The national security of Member States as well as that of friendly and allied countries (Criterion 5); the behaviour of the recipient country toward the international community, with particular consideration being given to its support or encouragement of terrorism and international organized crime; its compliance with its international commitments, in particular on the non-use of force, including under international humanitarian law applicable to international and non-international conflicts; its commitment to non-proliferation and other areas of arms control and disarmament, in particular the signature, ratification and implementation of relevant arms control and disarmament conventions (Criterion 6); the risk that the equipment be diverted within the buyer country or re-exported under undesirable conditions (Criterion 7); the compatibility of arms exports with the technical and economic capacity of the recipient country: reports from the UNDP, World Bank, IMF and OECD are to be taken into account in assessing the likelihood that the proposed export would seriously hamper the sustainable development of the recipient country (Criterion 8).
- 85 The operative provisions outline reporting procedures as well as intergovernmental denial notification and consultation mechanisms where governments hold different views regarding the application of the EU Code criteria to licence requests. With the adoption of a User's Guide in January 2004, which has been recently revised and is soon to be published, it is expected that procedures will be improved and clarified.

international NGOs⁸⁶ and Members of the European Parliament.⁸⁷ An analysis of the criteria agreed upon by EU Member States yields two general observations.

The first observation concerns the standard of proof chosen by the EU and how it relates to our earlier discussion of the prohibition of complicity under the law of State responsibility.⁸⁸ Under Criteria 2 and 4 of the EU Code, licence applications should be refused where there exists a clear risk that the exported goods will be used in violation of international law. This standard appears more objective than “knowledge”, despite the high threshold conveyed by the use of the adjective “clear”. This suggests that the EU has gone further than the Draft Articles by prohibiting transfers regardless of whether or not the supplying State actually or constructively knows the circumstances of a violation of international law or, indeed, facilitates the commission of such a violation. It is not merely a matter of refraining from cooperating in the violations of others. Indeed, the serious nature of the conduct at issue entails a positive obligation on the part of States to enquire into the end-use of the weapons they allow out of their territory. The wording chosen by the EU Member States arguably reflects an evolution in the law applicable to small arms transfers by placing potential victims of these weapons at the centre of the licensing process.

The second observation concerns what may be the most significant weakness in the criteria put forward by the EU Code. Despite the fact that respect for international humanitarian law is incumbent upon all States, it is only mentioned in Criterion 6 as an element to be taken into account by Member States, whereas respect for human rights law forms the basis of a mandatory criterion (Criterion 2).⁸⁹ What’s more, the reference to international humanitarian law in Criterion 6 is ambiguous. It could be read as associating the obligation to respect the laws of international and non-international armed conflict with the non-use of force. This absurd association was certainly not intended by the drafters of the EU Code but the choice of language bears mention because, apart from anything else, it reveals a perception that respect for the laws of war or *jus in bello* is somehow subsidiary to respect for *jus ad bellum*.

86 See, *inter alia*, Amnesty International’s report documenting specific cases of questionable arms transfers since the adoption of the Code, *Undermining Global Security: the European Union’s Arms Exports*, *op. cit.* (note 80); *Taking Control: The Case for a More Effective European Union Code of Conduct on Arms Exports*, report by European Union non-governmental organizations, Saferworld, September 2004, available online: <<http://www.saferworld.co.uk/publications/Taking%20control.pdf>> (last visited 25 July 2005); “Comments of the International Committee of the Red Cross (ICRC) on Criterion Six of the EU Code of Conduct on Arms Exports”, ICRC, September 2004 (unpublished: copy on file with the author).

87 See, *inter alia*, yearly European Parliament Reports on the Code of Conduct, available online: <<http://www.sipri.org/contents/expcon/euparl.html>> (last visited 25 July 2005).

88 See section above on “Complicity under the law of State responsibility”.

89 Criterion Six reads: “Member States will take into account *inter alia* the record of the buyer country with regard to:

- a) its support or encouragement of terrorism and international organised crime;
- b) its compliance with its international commitments, in particular on the non-use of force, including under international humanitarian law applicable to international and non-international conflicts;
- c) its commitment to non-proliferation and other areas of arms control and disarmament, in particular the signature, ratification and implementation of relevant arms control and disarmament conventions referred to in sub-para b) of Criterion One.”

The discrepancy in the importance the EU Code appears to be giving to respect for human rights and humanitarian law is not unusual. Arms transfer documents adopted by States and regional organizations more commonly refer to the recipient's respect for human rights and the risk of weapons being used for internal repression than to the recipient's respect for international humanitarian law. Commenting on this fact, the ICRC recently stated:

“[I]n our experience, it is a common misperception that a separate humanitarian law criterion is unnecessary when a reference to human rights already exists, because the reference to human rights is believed to implicitly cover humanitarian law as well. While some violations of humanitarian law would be covered by a requirement to consider the risk of human rights violations, many serious violations of humanitarian law would fall outside such a provision. This includes violations related to the conduct of hostilities, which are particularly relevant to the use of weapons.”⁹⁰

While commitments relating to the non-use of force and respect for human rights are particularly important for States to consider in the licensing process, humanitarian law commitments are also (distinct and) relevant, especially when the weapons transferred constitute military equipment.

The ICRC has urged EU Member States to amend the Code: a separate and explicit criterion should be included prohibiting weapons transfers if they are likely to be used to violate international humanitarian law.⁹¹ The ICRC has also reiterated its plea⁹² for a set of indicators that could assist States in assessing the likelihood of weapons being used in violation of international humanitarian law, arguing that “[a] strict criterion on paper cannot effectively prevent weapons from falling into the hands of those likely to use them to commit abuses, unless all Member States consistently apply it.”⁹³ These indicators point to the “due diligence” obligation of States to take measures to prevent and punish breaches of IHL, reinforcing the notion that the duty to ensure respect for

90 ICRC, Report to the Second Biennial Meeting of States to Consider the Implementation of the United Nations Programme of Action to Prevent, Combat and Eradicate the Illicit Trade in Small Arms and Light Weapons in All Its Aspects, New York, 11–15 July 2005, pp. 3–5, available online: <[http://www.icrc.org/Web/eng/siteeng0.nsf/htmlall/arms-weapons-united-nations-120705/\\$File/ICRC_002_arms_120705.pdf](http://www.icrc.org/Web/eng/siteeng0.nsf/htmlall/arms-weapons-united-nations-120705/$File/ICRC_002_arms_120705.pdf)> (last visited 29 July 2005).

91 The ICRC has meanwhile announced that its advocacy efforts were successful: “The new EU Code is expected to contain an express requirement not to authorize exports when there is a clear risk that the military equipment to be exported might be used in the commission of serious violations of humanitarian law.” *Ibid.*, p. 3.

92 See above, text accompanying note 47.

93 The indicators proposed by the ICRC include: 1. whether the recipient has ratified humanitarian law instruments or made other formal engagements to apply the rules of international humanitarian law; 2. whether the recipient has trained its armed forces in the application of international humanitarian law; 3. whether the recipient has taken the measures necessary for the repression of serious violations of international humanitarian law; 4. whether a recipient (which is, or has been, engaged in an armed conflict) has taken measures to cause breaches of international humanitarian law to cease and to punish those responsible for serious violations; 5. whether stable authority structures capable of ensuring respect for international humanitarian law exist in the area under control of the recipient (“Comments of the ICRC on Criterion Six”, *op. cit.* (note 86); reiterated more recently in “Report to the Second Biennial Meeting of States”, *op. cit.* (note 90), Annex 2).

international humanitarian law should be at the heart of any attempt to codify limitations on arms transfers.

In June 2003, the EU Member States adopted a Common Position on arms brokering⁹⁴ whereby they are now required to “take all the necessary measures to control brokering activities taking place within their territory.”⁹⁵ Brokering activities are defined as “activities of persons and entities negotiating or arranging transactions that may involve the transfer of items on the EU Common List of Military Equipment or who buy, sell or arrange the transfer of such items that are in their ownership from a third country to another third country”. With this definition, the EU captures activities that are central to the transfer of small arms and that had, until then, remained unregulated in most Member States.⁹⁶ The Common Position explicitly links the licensing of brokering transactions to the arms export licensing process at Article 3(1), when it states: “Member States will assess applications for a licence or written authorization for specific brokering transactions against the provisions of the European Union Code of Conduct on Arms Exports”. In other words, the criteria laid down by the Code of Conduct for licensing small arms exports also apply to the licensing of brokering activities.

The EU Code of Conduct for Arms Exports and the EU Council Common Position on arms brokering represent important, welcome attempts to make States more responsible for transfers of arms from within their territories — particularly to the extent that account must be taken of the likely consequences of transfers to human rights and humanitarian law abusers. It may be hoped that the EU will continue to offer leadership in this area as the law evolves.

The Economic Community of West African States Moratorium

In response to the particularly severe nature of the problem of small arms proliferation in West Africa, the Economic Community of West African States (ECOWAS)⁹⁷ decided in 1998 to embargo itself voluntarily, so to speak. The regional organization concluded a politically binding agreement proclaiming a moratorium on “the importation, exportation and manufacture of light weapons in ECOWAS Member States,”⁹⁸ with exemptions being permitted for reasons of security. The Moratorium was intended to pave the way for the development of

94 EU Council Common Position 2003/468/CFSP of 23 June 2003 on the control of arms brokering, available online: <<http://europa.eu.int/eur-lex/lex/LexUriServ/LexUriServ.do?uri=CELEX:32003E0468:EN:NOT>> (last visited 31 July 2005) (hereinafter EU Common Position).

95 EU Common Position, *Ibid.*, Article 2(1). For an overview of the EU Common Position, see Holger Anders, *Controlling Arms Brokering: Next Steps for EU Member States*, Groupe de recherche et d’information sur la paix et la sécurité, in cooperation with IANSA (International Action Network on Small Arms), Pax Christi Vlaanderen, Pax Christi Netherlands, Brussels, January 2004.

96 Anders, *ibid.*, p. 6.

97 ECOWAS currently comprises 15 West African States: Benin, Burkina Faso, Cape Verde, Côte d’Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, and Togo.

98 Declaration of a Moratorium on Importation, Exportation and Manufacture of Light Weapons in West Africa, 21st Ordinary Summit of the Authority of Heads of State and Government, Abuja, 30-31 October 1998, available online: <<http://www.grip.org/bdg/g1649.html>>. Initially adopted for a period of three

a region-wide strategy on arms proliferation, in particular, and disarmament in general. Strongly supported by the international community, the Moratorium was publicly adhered to by a number of States outside the region, thereby broadening the scope of its effects. Member States of the Wassenaar Arrangement (a grouping of the world's largest arms exporting nations),⁹⁹ the EU and the Organization for Security and Co-operation in Europe (OSCE)¹⁰⁰ have all pledged their commitment to the Moratorium and some have made substantial financial contributions to assist in its implementation.¹⁰¹ Between 1999 and 2004, the United Nations Programme for Coordination and Assistance for Security and Development (PCASED) was active in the region, building internal capacity, advising on legislative reform and enforcing border controls to sustain implementation efforts. Since early 2005, PCASED has been replaced by the ECOWAS Small Arms Project (ECOSAP), which focuses on providing technical advice on the implementation of small arms control and reports directly to ECOWAS.¹⁰²

Despite the enthusiasm that the Moratorium has elicited, its track record in effectively curbing the proliferation of small arms and light weapons in West Africa is disappointing. Aside from the problems associated with lack of political will, weakness of national security institutions and violations by some ECOWAS Member States,¹⁰³ the Moratorium faces built-in obstacles. The ban it proclaims may be far-reaching, encompassing private companies and governments, but it lacks enforceable sanctions and the exemption procedure does not include an oversight mechanism to ensure that those weapons that may be imported are used as intended. The projected conversion of the Moratorium into a legally binding

years, the Moratorium was extended for a further three years in 2001. ECOWAS is planning to strengthen the Moratorium and to replace it with a mandatory convention. In December 2004, the Council of the European Union adopted a Decision offering "a financial contribution and technical assistance to set up the Light Weapons Unit within the ECOWAS Technical Secretariat and convert the Moratorium into a Convention on small arms and light weapons between the ECOWAS Member States." (Council Decision 2004/833/CFSP of 2 December 2004 implementing Joint Action 2002/589/CFSP with a view to a European Union contribution to ECOWAS in the framework of the Moratorium on Small Arms and Light Weapons, Article 1(2), *Official Journal L* 359, 04/12/2004, pp. 65-67, available online: <http://europa.eu.int/smartapi/cgi/sga_doc?smartapi!celexdoc!prod!CELEXnumdoc&lg=EN&numdoc=32004D0833&model=lex> (last visited 25 July 2005)).

99 The Wassenaar Arrangement promotes transparency and greater responsibility in transfers of conventional arms and dual-use goods and technologies. Participating States are: Argentina, Australia, Austria, Belgium, Bulgaria, Canada, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Poland, Portugal, the Republic of Korea, Romania, the Russian Federation, Slovakia, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom and the United States.

100 The OSCE is the largest regional security organization in the world with 55 participating States from Europe, Central Asia and North America.

101 According to the *Small Arms Survey 2004*, a number of EU governments (including France and the UK), as well as Canada, have been among the financial supporters of the Moratorium; *op. cit.* (note 71), p. 112. On 2 December 2004, the EU Council adopted a Decision pledging financial support and technical assistance to the implementation of the Moratorium, see *op. cit.* (note 98).

102 Biting the Bullet Project, *International Action on Small Arms 2005, Examining Implementation of the UN Programme of Action*, p. 47, available online: <<http://www.iansa.org/documents/2005/red-book/red-book-2005.pdf>> (last visited on 11 September 2005).

103 See "Report of the Secretary-General on ways to combat subregional and cross-border problems in West Africa", UN Doc. S/2004/200, 12 March 2004, para. 11.

agreement will go some of the way to addressing the obstacles to enforcement.¹⁰⁴ However, the new instrument will remain weak if it fails to oblige Member States to take into account the humanitarian impact of legally transferred weapons.

Currently, Member States must ask permission from the ECOWAS Secretariat to derogate from the Moratorium, and they may do so only to fulfil “legitimate national security needs or international peace operations requirements.”¹⁰⁵ Such exemptions appear to have been liberally granted, with the result that the Moratorium has had little effect on authorized weapons transfers toward West Africa.¹⁰⁶ This is problematic when one considers the number of legally imported small arms and light weapons that are finding their way into the wrong hands.¹⁰⁷ At a minimum, a legally binding Moratorium ought to provide for a monitoring body that would track the end-use of weapons imported under an exemption.

The fact that numerous obstacles stand in the way of its enforcement should not detract from the importance of the ECOWAS Moratorium as an initiative in a constructive direction. It symbolizes the recognition that controlling arms supply is a necessary step in order to guarantee stability in the region and ensure the security of the people of West Africa.

The Draft Framework Convention

In October 2003, the International Action Network on Small Arms (IANSA), Amnesty International and Oxfam International launched the Control Arms campaign, which promotes the adoption of an international treaty on arms transfers. The Draft Framework Convention (Arms Trade Treaty — ATT)¹⁰⁸ proposed is now officially backed by the government of the United Kingdom¹⁰⁹

104 In early 2005, UN Secretary-General Kofi Annan recommended that the Security Council take action to support the Moratorium by naming violators and by prosecuting those responsible for trafficking in human beings and natural resources. He also urged ECOWAS members to convert the agreement into a legally-binding instrument “at the earliest opportunity” (UN News Centre, “Annan urges West Africa to make regional arms moratorium permanent”, 15 February 2005, available online: <<http://www.un.org/apps/news/story.asp?NewsID=13351&Cr=west&Cr1=africa>> (last visited 25 July 2005)).

105 Article 9 of the Code of Conduct for the Implementation of the Moratorium, 22nd Ordinary Summit of the Authority of Heads of State and Government, Lomé (Togo), 10 December 1999. Requests are circulated to Member States, who may object to the decision to grant an exemption. If an objection is circulated, then requests are submitted to the ECOWAS Mediation and Security Council. For the text of the Code of Conduct, see *The Making of a Moratorium on Small Arms*, UN Regional Centre for Peace and Disarmament in Africa, April 2000, pp. 49 ff., available online: <http://www.nisat.org/publications/moratorium/the_making_of_a_moratorium.pdf> (last visited 31 July 2005).

106 For facts and figures, see *Small Arms Survey 2004*, *op. cit.* (note 71), pp. 112–114.

107 See Eric Berman, “The provision of lethal military equipment: French, UK, and US peacekeeping policies towards Africa”, *Security Dialogue*, Vol. 34, No. 2, 2003, p. 195.

108 For the latest working draft of the Framework Convention, see Draft Framework Convention on International Arms Transfers, Control Arms Campaign, 25 May 2004, available online: <http://www.controlarms.org/the_issues/ATT_0504.pdf> (last visited 25 July 2005) (hereinafter Draft Framework Convention).

109 The Foreign Secretary, Jack Straw, publicly confirmed the UK government’s commitment to work for an international Arms Trade Treaty and to “use its unique position, as the president of the G8 this July, to do everything in its power to get an international treaty on political agenda...”. See Amnesty International press release, “Campaigners welcome Straw commitment on Arms Trade Treaty and urge swift action”, 15 March 2005, available online: <http://www.controlarms.org/latest_news/straw.htm> (last visited 25 July 2005)

and also benefits from the support of a growing number of States as well as numerous non-governmental organizations.¹¹⁰ This section offers some observations on the Draft Framework Convention in light of our discussion of international law limitations on small arms transfers.

Article 3 of the current version of the Draft Framework Convention is the key provision embodying the principle of “no weapons for abuse”. It is titled “Limitations Based on Use” and reads as follows:

“A Contracting Party shall not authorise international transfers of arms in circumstances in which it has knowledge or ought reasonably to have knowledge that transfers of arms of the kind under consideration are likely to be:

- a. used in breach of the United Nations Charter or corresponding rules of customary international law, in particular those on the prohibition on the threat or use of force in international relations;
- b. used in the commission of serious violations of human rights;
- c. used in the commission of serious violations of international humanitarian law applicable in international or non-international armed conflict;
- d. used in the commission of genocide or crimes against humanity;
- e. diverted and used in the commission of any of the acts referred to in the preceding sub-paragraphs of this Article.”

Underlying principle of international law

The commentary appended to the draft document explains that “[t]he responsibility of the Contracting Party of export to prohibit arms transfers under [draft Article 3] flows from the obligation not to participate in the internationally wrongful acts of another State.”¹¹¹ It further states that the principle underlying Article 3 of the Draft Framework Convention is rooted in Article 16 of the Draft Articles on State Responsibility. The drafters’ decision to limit the legal basis to Article 16, on the one hand, and to rely entirely on the language of State responsibility, on the other hand, raises two issues.

First, were reference also made to Article 41(2) of the Draft Articles, the drafters might strengthen their case. When the most egregious violations of international law are at issue, the threshold of application of the law of State responsibility is considerably lower than for situations covered by Article 16. The prohibition codified in Article 41(2) can be invoked without having to establish that the transferring State “knew” the circumstances of the wrongful conduct. Moreover, it covers acts of aid or assistance that do not materially contribute to the wrongful conduct, as long as these helped to maintain the illegal situation.

110 “Thirteen more governments announce support for Arms Trade Treaty”, Control Arms Campaign, 15 July 2005, available online: <http://www.controlarms.org/latest_news/thirteen-governments.htm> (last visited 25 July 2005).

111 Draft Framework Convention, *op. cit.* (note 107), p. 5, para. 9.

Second, by relying solely on the law of inter-State relations, the drafters run the risk of limiting the application of the envisaged instrument to State-to-State arms transfers. More importantly, they may be missing an opportunity to incorporate primary obligations of international law. As discussed earlier in this article, the prohibition of complicit behaviour under the law of State responsibility is a helpful starting point, but it cannot be made to encompass a positive obligation for States to investigate the end-use of the weapons they transfer. A more compelling commentary to Article 3 of the Draft Framework Convention might therefore place more emphasis on the international law obligation of States to prevent threats to the security and peace of the international community, to ensure respect for international humanitarian law, and to cooperate in the protection and fulfilment of human rights.

Standard of proof

Article 3 of the Draft Framework Convention states that the transferring State must have actual knowledge or constructive knowledge of the “likely” misuse of the weapons it licenses for export. It does not, however, specify indicators that can be used to determine when knowledge or awareness should be imputed. Providing specific indicators might reduce the risk that States that lack diligence or turn a blind eye to abusive behaviour on account of a lucrative deal will not be caught by the prohibition.

An alternative to “ought to have knowledge” is the use of an objective standard such as the “clear risk” standard chosen by the EU Code of Conduct. This standard would also be strengthened were it substantiated with indicators. It could be stipulated that the “likelihood” of weapons being used to perpetrate violations of international law will be assessed in light of statements made by the appropriate UN bodies or will depend on the adoption and effective implementation by the recipient State of certain measures concerning, for instance, use of force by law enforcement officials or the repression of violations of international humanitarian law.

Licensing of brokering activities

The Draft Framework Convention does not address brokering activities. The appended commentary explains that in choosing to focus on the obligation of States in respect of arms transfers, the drafters have proceeded “on the basis that important related issues such as brokering, licensed production and end-use monitoring will be addressed in subsequent instruments.”¹¹²

The question of regulating brokers and their activities (core and related) is complex and multifaceted. Still, it appears desirable to enshrine in a future convention on arms exports, such as the Draft Framework Convention purports to be, the principle that those facilitating cross-border arms deals ought to be

112 *Ibid.*, p. 4, para. 1.

licensed and that licensing practices in this field are only really effective if they are universally accepted. Criteria that will be agreed upon internationally for regulating arms exports could just as easily be applied to the issuance of brokering licences — the avenue chosen by the EU in its Common Position.¹¹³ It also appears to be the position favoured by a number of participants who gathered in Oslo in 2003 at the initiative of the governments of the Netherlands and Norway to discuss common approaches towards ensuring effective controls on brokering activities.¹¹⁴

According to the Small Arms Survey, criteria for the licensing of brokering activities at the national level tend to follow closely those established by export controls and are usually considered as belonging to broader export controls.¹¹⁵ It is also common practice for States to make the national interest a criterion for licensing, and to refuse licences for brokering transfers that might endanger national economic policy, foreign policy, or security interests.¹¹⁶

Enforcement

The effectiveness of the Draft Framework Convention would be reinforced if it included a number of enforcement measures, most notably the obligation for States to criminalize serious violations, such as the conduct of an unlicensed broker; the conduct of a State official who issues a licence knowing that the transfer or brokering activity fails to meet the criteria; or the conduct of an arms manufacturer that circumvents domestic export controls.

Another important aspect of successful enforcement depends upon the establishment and funding of some kind of oversight body to monitor and report on the implementation of the treaty, since States will often have divergent interpretations of what constitutes a serious violation of international law. No matter how many indicators are codified in an eventual treaty, there will always be room for disagreement. The infamous case of Belgium, which in 2002 agreed to sell machine-guns to the government of Nepal on account of its status as a “fragile democracy” when other European governments had refused to do so, serves as a reminder of the difficulty of translating the criteria into reality.

An international body or agency may also offer a neutral forum for States that seek to argue their right to self-defence in order to import weapons despite their poor human rights record or their involvement in an armed conflict. The absence of this type of mechanism is currently one of the built-in problems of the ECOWAS Moratorium.¹¹⁷

113 EU Common Position, *op. cit.* (note 94), Article 3(1).

114 Dutch-Norwegian Initiative on Further Steps to Enhance International Co-operation in Preventing, Combating and Eradicating Illicit Brokering in Small Arms and Light Weapons, Oslo, 23–24 April 2003, Conference Report, p. 11, available online: <<http://www.nisat.org/Brokering/Conference%20Report%20fulltext.pdf>> (last visited 28 July 2005).

115 *Small Arms Survey 2004*, *op. cit.* (note 71), p. 157.

116 *Ibid.*

117 See note 104 above, and accompanying text.

Conclusion

The obligations of arms-exporting States toward the victims of small arms and light weapons beyond their borders are not merely moral. When serious violations of international law are threatened or perpetrated, States have a legal duty to act in a lawful manner in order to bring such violations to an end. One of the ways this can be done is by ensuring that the export and transit of weapons from their territory are tightly controlled by a licensing regime that gives due regard to the level of respect for international law in the countries of destination. Granting a licence when it is clear that the weapons will be used to commit serious violations of human rights or humanitarian law can result in a finding of responsibility for aiding another State in the commission of an internationally wrongful act. This is all the more the case where the violations are gross and systematic and are prohibited by an obligation arising under a peremptory norm of international law, grave breaches of international humanitarian law being the obvious example.

While the language of complicity under the law of State responsibility is evocative and constitutes a valid platform from which to advocate stronger export controls, it fails to capture international legal obligations to prevent and enforce. A treaty regulating international arms transfers ought to build on the positive obligations of States in the realm of international humanitarian law and human rights law, while providing objective indicators for assessing the risk that transferred weapons will fall into the wrong hands. Moreover, requiring States to criminalize the behaviour of those who thwart the licensing process would reinforce the current movement toward seeing illicit small arms suppliers as subjects of international criminal law. Anchoring the proposed treaty in the entire arsenal of international rules would make it more compelling as an avenue for States to show their commitment to the potential victims of small arms and light weapons.

Use of nuclear and radiological weapons by terrorists?

Christoph Wirz and Emmanuel Egger

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Abstract

There is great concern that terrorists could obtain nuclear or radiological weapons and detonate them in a large city. The authors analyse the technical requirements for and obstacles to obtaining such weapons. What difficulties would have to be surmounted? Could these problems be solved by a terrorist organization without direct support from a State possessing nuclear weapons? The authors conclude that nuclear weapons are most likely out of reach for terrorists. However, radiological weapons may well be used by terrorists in the future. The possible consequences of such an attack are discussed.

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Introduction

Fortunately there have not been any acts of nuclear or radiological terrorism so far. But the attack with the chemical warfare agent Sarin in Tokyo (1995), the anthrax cases in the USA (2001) and the smuggling of radioactive material are causing concern. Furthermore, the attacks of 11 September 2001 clearly showed that there are groups with considerable financial and human resources as well as the will to inflict the highest possible damage.

Does the fact that there have not been any acts of nuclear terrorism mean that this is unlikely at present and not very probable in the future? What is easy will be done, what is difficult is less likely to happen. With this in mind, a study was conducted to consider the technical difficulties involved, the materials needed and the problems a terrorist group wanting to secretly implement such a project would face.¹ That comprehensive study has been used as a basis for this less technical article.

The first part concentrates on the feasibility of nuclear terrorism. It will demonstrate that the use of nuclear weapons by terrorists is very unlikely. Conversely, radiological weapons may well be within terrorists' capabilities. Possible consequences of the use of radiological weapons will therefore be discussed in detail.

Use of nuclear weapons by terrorists?

There are two imaginable ways for terrorists to get nuclear explosives. They could try to build a so-called improvised nuclear device (IND) or they could seek to steal or buy a nuclear weapon. Before discussing these two cases, we would like to give some information on the working principle of the simplest nuclear weapons.

The working principle of a nuclear weapon

In a nuclear weapon there is enough fissile material for the formation of several critical masses, but prior to detonation it is kept in a subcritical state. In other words, the fissile material is arranged in such a way that spontaneous neutrons cannot start chain reactions or only very short ones, which quickly die out.

To initiate the nuclear explosion, the fissile material is brought as quickly as possible into the state of maximum supercriticality. At the optimum moment, the chain reaction is started by an injection of neutrons from a neutron source, thereby starting a kind of race between two processes: on the one hand, in a supercritical configuration the number of neutrons and with them the amount of energy released rises exponentially; on the other hand, this energy released by the fission events causes an expansion, which tends to make the configuration subcritical again.

If the chain reaction starts before the system is near the maximum reachable overcritical state, the rise in the neutron number is less steep and the energy yield will be only a fraction of the maximum possible one. Because of spontaneous fission, new neutrons are constantly being released and the presence of neutrons that can induce such a pre-ignition cannot be ruled out.

Depending on how the initially subcritical mass is made supercritical, one can distinguish between two main types of explosive configurations: the gun-type and the implosion-type.

Gun-type

Before the explosion the fissile material is kept in a number of separate pieces, each below the critical size. Using conventional explosives, the pieces are then joined together to form a single geometrically favourable (spherical would be

1 Bernard Anet, Ernst Schmid, Christoph Wirz: "Nuclear terrorism: A threat to Switzerland?", Spiez Laboratory Internal Report, LS2000-03, 2000.

best) supercritical mass. The density of the fissile material does not change, or changes only insignificantly.

As this method is very slow, pre-ignition can drastically reduce the yield from the design yield of, say, 13 kT down to a few tons.² To have a good chance of reaching the design yield, only fissile material with a very low spontaneous fission rate is used, i.e. uranium with a high U235 content.

The nuclear weapon dropped over Hiroshima was based on the gun-type. A cylindrical plug of uranium with a diameter of approximately 10 cm and a length of approximately 16 cm was fired into a hollow cylinder of uranium. The joint weight of the two masses was 64 kg and they consisted of 80% of U235 on average. South Africa also built six gun-type bombs which each used 55 kg of 80% U235 and later dismantled them.

Implosion-type

A subcritical spherical mass of fissile material is symmetrically squeezed so that the configuration becomes supercritical. Because the critical mass is inversely proportional to the square of the density, a twofold compression turns an object of half a critical mass into one with two critical masses. Such compression can be achieved with spherical convergent shockwaves. For that purpose “lenses” of explosives with widely different velocities of detonation waves are used. The lenses must be arranged around the sphere which is to be compressed, so that the whole surface is covered.

Although this method is quick, pre-ignition can still reduce the yield from the design yield of, say, 20 kT down to 1 kT or less. Yet the chance of reaching the design yield is good, even with fissile material with a not very low spontaneous fission rate. Highly enriched uranium and plutonium (preferably with a low Pu240 content) may be used.

The bomb dropped over Nagasaki was of the implosion-type. The core of this nuclear weapon consisted of 6.2 kg plutonium (approx. 0.9% Pu240).

Can terrorists build an improvised nuclear device (IND)?

Requirements to obtain a plan

To make a working IND an accurate blueprint is required and not only a sketch of the principles. Although it is amazing how much interesting and correct information is publicly available on nuclear weapons physics and technology, especially from the Internet, this does not mean by far that the said information would be sufficient for making a nuclear explosive device. It shows on the contrary what extreme difficulties in terms of technical skills and engineering knowledge would have to be overcome.

There was talk of a Chinese bomb design sold by the Khan network (22 kT uranium implosion device) to Libya. Apart from this example, we have not heard of any blueprints being out of governmental control.

2 Yield: energy released, usually expressed in kilotons of TNT equivalent (kT); 1 kT corresponds to 10^{12} calories or 4.19×10^{12} joules.

But even if a terrorist group could get hold of such a blueprint, they would most certainly be forced to redesign. It is very unlikely that they would have the same fissile material and the same types of explosives China used 40 years ago. To adapt a plan they have to understand it, they need to know why some decisions have been taken — basically the same knowledge and expertise is required as for a completely new design. How much effort is needed to get this knowledge?

The so-called N-th Country experiment conducted by the United States government between 1964 and 1967 might give some indication. Three post-doctorate physicists with no access to classified information were given the task of developing a viable fission weapon design. They were able to use the extensive library of the Lawrence Radiation Laboratory and go to congresses on explosives. To simulate the help of an experimenter team they could describe an experiment in great detail, and then a team of experienced bomb designers would calculate and pass the result of the experiment back to them. After expending three years of manpower over two and a half calendar years, they had a design of an implosion-type weapon which they were later told was viable. Now what does viable mean? Would this bomb yield 1 kT or 20 kT? It was never built and never tested.

A terrorist group could doubtless pay physicists to do such a job. But as certain information cannot be found in the relevant literature, a few crucial experiments would have to be done. This requires access to materials that are difficult to obtain and gives rise to secrecy problems.

The difficulty of obtaining fissile material

Experts seem to agree that the most difficult challenge for a terrorist organization wanting to construct an IND would be to obtain the necessary fissile material. For a gun-type weapon, about a bare critical mass of very highly enriched uranium (see Table 1 below) is needed. For an implosion-type approximately half a bare critical mass of highly enriched uranium or of plutonium is needed.

Both the enrichment of uranium and the production of plutonium in a nuclear reactor are surely out of the question for a terrorist group; the efforts required would be much too big. Certainly, such projects could not be kept secret. So this possibility can be ruled out. Nonetheless, the option of stealing or buying stolen fissile material remains.

Most nuclear power plants worldwide use low enriched uranium (LEU). This fuel is of no use for building a bomb. There are, however, civilian research reactors, test reactors and submarine propulsion reactors which use highly enriched uranium (HEU), i.e. uranium with a U235 content higher than 20%. Moreover, part of the used civilian spent fuel is recycled, i.e. the plutonium which built up during the time in the reactor is taken out and re-used in new fuel rods. Although such civilian fissile material is not optimally suited for making a nuclear bomb and no nuclear-weapon State would ever use it, it might be used by terrorists.

To prevent the use of civilian fissile material for military purposes, the International Atomic Energy Agency (IAEA) inspects all nuclear facilities and every storage facility in the non-nuclear-weapon States which are parties to the Treaty on the Non-Proliferation of Nuclear Weapons (Non-Proliferation Treaty

- NPT). The IAEA prescribes to the operators and owners of such facilities how the fissile material must be safeguarded, and by its bookkeeping it also knows where what quantities of fissile material exist. The frequency of the inspections depends on the danger that could be caused by the material if stolen.

Information on smuggling activities may serve as a measure of the efficiency and comprehensiveness of fissile material control. The IAEA "List of confirmed incidents involving HEU or Pu" shows a peak of incidents in 1994. All the material on this list combined would be well below the amount necessary for a nuclear weapon. Although this is comforting, the percentage of smugglers caught is not known, nor whether the drop since 1994 is real. Maybe the smugglers have learned and are now more sophisticated.

The difficulty of manufacturing the IND

Even if fissile material and blueprints exist, the making of an IND would still be a demanding technical project. Above all because of the large quantities of fissile material, it is a life-threatening undertaking for the potential manufacturers.

Although the obstacles to manufacturing a gun-type IND are clearly smaller than those for an implosion-type, they must not be neglected. To make the uranium parts of the IND, metallurgical experts and equipment are required. The following are some of the practical obstacles they would have to overcome:

- uranium ignites spontaneously in the air at 150-175° C;
- uranium is chemically toxic and radioactive. Highly enriched uranium exhibits more than 100 times as many disintegrations per time unit as natural uranium;
- when cooling down from its melting point (at 1132.2° C) to room temperature, uranium undergoes two phase transitions. The density thereby increases by more than 8.5%. A change of 8.5% in density results in a change of approximately 18% in the critical mass;
- it is not possible to check whether or not the two subcritical masses fit together;
- reflector materials and isostatic presses suitable to form reflectors are subject to export controls.

The following example may serve to demonstrate the difficulties of compression and consequently those of building an implosion-type improvised nuclear device. In order to squeeze one litre of water into a volume of half a litre or less, huge pressure would be needed and the slightest asymmetry would cause a jet, not compression. As the binding forces between the atoms of a solid are small compared to the forces required, solids (e.g. uranium or plutonium) in this pressure region behave like liquids and thus according to the laws of hydrodynamics.

The difficulty of acquiring the necessary expertise, the technical requirements (which in several fields verge on the unfeasible), the lack of available materials and the lack of experience in working with these materials are the reasons why the making of an implosion-type IND with relevant compression could hardly be accomplished by a subnational group.

To sum up, it takes much more than knowledge of the workings of nuclear weapons and access to fissile material to successfully manufacture a usable weapon.

Can terrorists acquire a nuclear weapon by stealing (or buying a stolen) one?

Clearly, international security depends on the seriousness with which the States with nuclear weapons take their responsibilities. Nuclear weapons are located at well protected and guarded weapons emplacements or in nuclear weapons storage facilities. A theft would involve many risks and great efforts in terms of personnel, finances and organization. Without the support of insiders and local knowledge, such a theft is inconceivable. Up to now there have not been any confirmed or even credible reports of such a theft.

Several different types of safety and security systems exist, ensuring that under no circumstances can an unwanted nuclear explosion take place. These are some of them:

- inertial switches and acceleration sensors allow priming only after a threshold level has been reached;
- certain types require a high energy electrical impulse;
- environmental sensing devices monitor the trajectory and switch on only at a distinct ratio of the longitudinal to lateral acceleration;
- a barometric switch activates the electric circuit only at a distinct height above ground;
- a so-called permissive-action link (PAL) is needed, consisting for instance of several number codes with up to 12 digits and allowing a limited number of tries. The code has to be entered by more than one person, i.e. each person concerned knows only part of the entire code.

It is also known that since the 1970s, security systems for nuclear weapons exist in the USA that will destroy critical components or render them useless if someone handles the weapon improperly or tries to open it. Similar safety and security systems are also incorporated in Russian nuclear weapons. If the nuclear weapon is not completely destroyed when it is opened, and the fissile material can be removed, the quantity will not be sufficient for a primitive design; to obtain enough, several weapons would have to be stolen.

These safety and security systems also ensure that the successful use of a stolen weapon would be very unlikely.

Use of radiological weapons by terrorists?

Definition: What is a radiological weapon?

A radiological weapon (or radiological dispersion device, RDD) is any device that is designed to spread radioactive material into the environment, either to kill, or to deny the use of an area. Sometimes, when high explosives are used

to disperse the radioactive material, radiological weapons are called “dirty bombs.”

A radiological weapon is not a nuclear weapon. Even if uranium or plutonium is spread by a radiological bomb, the blast effect is due only to the high explosive; no nuclear fission occurs, as it would in a nuclear bomb. The blast effect of a radiological bomb is therefore the same as the blast effect of a conventional bomb using the same amount of explosive.

Radiation effects on humans

The “dose” is the term used to describe the amount of radiation a person receives. The dose rate is measured in units of thousands of a Sievert (Sv), called the milliSievert (abbreviated mSv).³

Basically we can distinguish between acute effects with the symptoms of radiation sickness and possible death shortly after the irradiation, and long-term radiation effects with an increased probability of cancer mortality many years after the irradiation. The threshold value for the appearance of acute radiation damage is around a whole-body dose of 1,000 mSv. For a population of all ages and both genders, the number of cancer deaths resulting from a chronic irradiation is estimated at 5% to 6% per Sv.⁴ For this effect, no threshold value is known.

How difficult is it to build a radiological weapon?

To build a radiological weapon, terrorists would need to have access to a sufficient quantity of radioactive material. Radioactive sources are used in medical, industrial, agricultural and research applications. They can be found in hospitals, medical and industrial irradiation facilities, universities and even homes. However, not all of these sources would be suitable for use in an RDD. Most are far too weak to cause extensive damage. Furthermore, many radioactive sources are in metallic form and would not be dispersed very effectively by high explosives. Nonetheless, we cannot completely rule out that terrorists could get their hands on the appropriate material and in sufficient quantities to contaminate a large area.

Safely manipulating a strong radioactive source requires knowledge of radioactive materials and radiation protection. For terrorists or “suicide bombers” we may assume that safety considerations and long-term cancer risks are not their primary concern.

With regard to technical feasibility, we must therefore conclude that the construction of a radiological weapon is quite possible. In all cases it requires advanced know-how and planning, a very targeted approach and considerable

3 1 mSv is the same as 100 mrem.

4 “Report of the United Nations Scientific Committee on the effects of atomic radiation to the General Assembly,” generally referred as UNSCEAR 2000 Report.

expenditure. Nevertheless, there is no fundamental obstacle to hinder terrorists from building a radiological weapon.

In order to prevent the use of radioactive sources in radiological weapons, the International Conference on Security of Radioactive Sources, held in Vienna, Austria, in 2003, addressed these concerns and called for international initiatives. As a direct result the IAEA “Code of Conduct on the Safety and Security of Radioactive Sources” was revised in 2003, its supporting “Guidance on the Import and Export of Radioactive Sources” was developed and approved in 2004 and the “Safety Guide on Categorization of Radioactive Sources” was completed recently. More than 70 countries have already expressed their intention to follow the guidance given in the “Code of Conduct on the Safety and Security of Radioactive Sources”.

The G-8 at its meeting in Evian in 2003 expressed its full political support for the IAEA actions and for the Code of Conduct and encouraged all States working to increase the safety and security of radioactive sources. At Sea Island in 2004, the G-8 gave its support to the “Guidance on the Import and Export of High-Risk Radioactive Sources,” which was developed under the auspices of the IAEA and was subsequently endorsed by the General Conference in September 2004. UN Security Council Resolution 1540, in its preamble, recognized that most States have taken effective preventive measures in accordance with the recommendations given in the Code of Conduct. These measures at the international level aim at ensuring the security of radioactive sources and reduce the probability of one falling into the hands of terrorists.

Possible scenarios for the use of a radiological weapon

Enclosed radiation source

A gamma-emitting source generates a locally limited radiation field with rapidly decreasing intensity as distance from the source increases. A strong gamma-emitting source could be hidden in high-profile areas, such as highly populous urban sites or government facilities, which could expose a large number of people to intense radioactivity over a short period of time. It is unlikely that people exposed to such a source would suffer an acute radiation syndrome. However, on discovery panic reactions are to be expected among all persons who have spent time close to it. In the long term, persons irradiated by it could be subject to a very small, probably statistically non-detectable increased risk of cancer. Once discovered, the source can be shielded and removed relatively easily.

An alternative option would be the use of such a source to irradiate a limited number of people over a long period of time. In this case, those persons could suffer from acute radiation syndrome and could even die as a consequence of the irradiation. However, the number of victims of such an attack would be very limited.

Contamination of food

Food or beverages could be contaminated by adding radioactive substances, for example in production plants, during transport or at the retail shop. The

main danger in this case is an internal contamination of the consumer. Even a selective and weak contamination of only a small number of items would have a considerable effect on the public and cause great economic damage.

Contamination of drinking water

Because of their high dilution in the huge amount of water, the addition of soluble radioactive substances, even in large quantities, to drinking water in water supply and distribution systems is not expected to result in a contamination that would be dangerous for the consumer. However, the low tolerance values for drinking water may be exceeded and require costly mitigation measures.

Explosive device with radioactive material

The detonation of an explosive device to which radioactive substances have been added produces both local and extensive contamination. Such a device is generally called a “dirty bomb”. The local contamination is caused by ejected radioactive material. The large area of contamination results from the propagation and deposition of aerosols produced by the explosion. The inhalation of radioactive aerosols results in internal irradiation of the people concerned. Injured people may be contaminated. It is very probable that contaminated casualties will be transferred to hospitals, hence contaminating them too. In this case decontamination may be difficult, time-consuming and expensive.

Air contamination by means of aerosols

With suitable technical equipment, an easily respirable aerosol is produced. The spraying of a solution of radionuclides in a major public building would result in the breathing of contaminated air by the people there. In addition, the deposition of aerosols would cause a surface contamination both of the people and of the floor of the building. Such an attack may give rise to fears of cancer for the persons concerned and lead to closure of the building for the time required for decontamination, subsequent economic loss and high decontamination costs.

Consequences of the use of a radiological weapon

After the use of a radiological weapon a certain area will be contaminated with radioactive substances, especially in the last two scenarios mentioned above. The size of this area will depend on the means used to disperse the radioactive material, the quantity of radioactive material, the weather conditions and much more.

Typically, radioactive contamination in an affected area decreases with the distance from ground zero. Contamination also decreases with time. First, weather conditions continuously remove radioactivity from the contaminated area, and second, there is also the natural decay of the radionuclides.

Mathematical models have shown that in the event of a dirty bomb attack we could expect a maximum dose rate of about 10 mSv/h at the explosion site. This value depends, of course, on the hypothetical parameters, such as activity, meteorological conditions and the amount of explosives. A person would have

to spend one hundred hours in this core area to have a 5% likelihood of developing symptoms of acute radiation sickness. This makes it practically impossible for the affected inhabitants, services or passers-by to accumulate a radiation dose high enough for them to suffer radiation sickness or death.

The radioactivity emitted by a radiological weapon is therefore unlikely to present a serious or acute health hazard. But measures to avert or reduce long-term radiation-induced damage of the affected population (a possible rise in cancer and leukaemia risks) might prove to be necessary. The International Commission on Radiological Protection (ICRP) recommends that measures be taken if the expected dose resulting from all known sources of radiation to the concerned population exceeds 10 mSv/year.⁵

In principle, depending on the degree of contamination, the following measures may be ordered to protect the population:

- recommendation to all persons who were outside during the attack to shower and change their clothes;
- temporary limits on time spent outside;
- temporary stays in a basement or shelter;
- limits on the consumption of certain agricultural products;
- ban on harvesting, putting livestock out to pasture, hunting and fishing;
- temporary evacuation, or
- definitive relocation of the affected population.

Staying inside a house offers a safety factor of approximately 10, i.e. when the ambient dose rate measured outside is 1 mSv/h, it is 0.1 mSv/h inside. Evacuation can be ordered for a short period of time only, to allow the civil protection organizations to survey and decontaminate the affected area undisturbed. Evacuation is also a possibility when a building provides inadequate protection or conditions in it are too restrictive to be tolerable.

If it should prove impossible or too costly to decontaminate an area, the relocation of the population and the closing of the area may be considered. In the event of radioactive contamination these measures may diminish or even totally eliminate health hazards. The risk of radiation-induced cancer could be reduced to such a degree that no demonstrable rise in cancer incidence would be expected. From the point of view of health hazards alone, the necessary measures could be launched without undue haste, since a delay of several days would make hardly any difference. Possibly contamination would be so weak as to make all measures superfluous.

In the event of high-level contamination it might be necessary to decontaminate the affected persons, buildings and streets, i.e. clean them of radioactive material. A change of clothes and a thorough shower are usually sufficient to decontaminate a person. Decontaminating streets, squares and buildings is considerably more complicated; they must be sprayed with plenty of water and scrubbed, sometimes even vacuumed. Depending on the type

5 *Protection of the Public in Situations of Prolonged Radiation Exposures*, ICRP Publication 82, 2000.

of contamination and the surface, this procedure eliminates 10% to 90% of the radioactivity — several repeat operations may be required to have any significant effect. Certain radioactive substances may combine with asphalt or concrete, thus rendering the above procedure ineffective. In these cases it may be necessary to remove cladding from buildings or street surfaces and dispose of it as radioactive waste. For areas that cannot be decontaminated — such as gardens or parks — the topsoil has to be removed to a depth of 20–30 cm, requiring the disposal of great amounts of radioactive waste.

The army, the protection and support units and private companies would probably be deployed to cope with such a large-scale task. After successful decontamination the population could return home after a few days or months. A failed effort might require demolition and reconstruction of affected buildings and/or the relocation of the population.

The trust of the population that the authorities are doing the right things will be undermined by the large number of — partly contradictory — recommendations and laws on radiation protection. A United States survey shows that about 40% of the people would not follow official instructions, and would in any case attempt to flee the site as fast as possible.⁶ In the USA, in the year 2004, six laws setting different dose limits could apply to RDD clean-up.⁷ Whilst experts and politicians debate on unresolved arguments, public confidence will further be undermined. This will delay remediation, thus increasing the RDD impact and costs, and will eventually lead to unnecessary expensive remedial actions undertaken only to regain public confidence.

In a densely populated area, thorough decontamination of even a relatively small zone would be likely to generate immense costs. Local companies would probably have to temporarily shut down; many inhabitants might move out. Apart from these more or less direct costs, the uncertainty and shock suffered by large parts of the population would give rise to considerable general costs. Although the health risk might be marginal, the affected town or even region would lose much of its attraction for inhabitants, companies and tourists. In the worst case, this could result in costs of several hundred billion US\$.

Conclusions

The hurdles for terrorists to get a nuclear weapon are extremely high. The probability of terrorist use of such a weapon is therefore extremely low. To build nuclear weapons is a difficult task, even for countries. Iraq tried it 15 years ago with a project on the scale of US\$ 10 billion and 7,000 employees, and did not succeed. Moreover, the Non-Proliferation Treaty, the main pillar of nuclear non-

6 Roz D. Lasker: *Redefining Readiness: Terrorism Planning through the Eyes of the Public*, Center for the Advancement of Collaborative Strategies in Health, New York Academy of Medicine, 14 September 2004.

7 D. Elcock, G.A. Klemic, A.L. Taboas: “Establishing remediation levels in response to a radiological dispersal event” (or ‘dirty bomb’), *Environ. Sci. & Technol.*, Vol. 38, No. 9, pp. 2505–2512.

proliferation, has been strengthened and safeguards have been improved since. For NPT members it would now be very difficult to develop nuclear weapons without causing suspicion, especially for those countries with the International Atomic Energy Agency (IAEA) 1997 Additional Safeguards Protocol in force. The secret development of a nuclear weapon by a sub-state group is even more unlikely.

The usual tools against nuclear proliferation impede nuclear terrorism. Consequently a stronger commitment to strengthening the NPT, the reduction of warheads and the reduction of critical fissile material would further reduce the risk of nuclear terrorism.

In contrast to the nuclear weapon case, we conclude from our study that there are in principle no insurmountable obstacles to the acquisition and use of radiological weapons by a well-organized terrorist group, even though such an action remains high-tech and thus very difficult. Experts estimate the probability of such an attack occurring within the next 10 years at 40%.⁸ Most countries do not have comprehensive programmes for the management of an RDD attack. These would include public education, first responder preparedness and standards defining the levels of contamination we can live with if that attack were to occur. Should the experts' estimate be correct, contingency action is urgently needed to prevent panic and mitigate the possible consequences of such an event.

8 Richard G. Lugar: *The Lugar Survey on Proliferation: Threats and Responses*, June 2005, available at <<http://lugar.senate.gov/reports/NPSurvey.pdf>> (visited on 12 September 2005).

Annex — Some Basic Terms of Nuclear Physics

The most important terms required for an understanding of the principles and mechanisms of nuclear and radiological weapons are explained below.

Isotopes

Atomic nuclei consist of protons and neutrons. The number of protons determines the element concerned. A nucleus of uranium, for instance, consists of 92 protons and a nucleus of plutonium consists of 94. The nuclei of an element can have different numbers of neutrons; one then speaks of different isotopes of this element.

Radioactivity, half-life

Radioactive atomic nuclei have the property to emit, without any external influence, a particle; in this way they are converted into a different nucleus. In the event of an alpha-decay, the atomic nucleus emits an alpha-particle, consisting of two protons and two neutrons; the nucleus thus loses the corresponding amount of mass. In the event of a beta-decay, the nucleus emits an electron, a so-called beta-particle; its mass, however, remains almost constant. Both alpha- and beta-decays can be accompanied by so-called gamma-radiation, which is a high energetic electromagnetic radiation. A sheet of paper or several cubic metres of air will stop alpha-radiation. Beta-radiation will be stopped by a thin book, whereas gamma-rays will even go through walls.

The temporal behaviour of radioactive decay is characterized by the half-life, which is the time needed to reduce the amount of radioactive material by a factor of 2.

Spontaneous fission

Spontaneous fission is understood as the radioactive decay in which an atomic nucleus splits, without any external influence, into two or very seldom three fragments. At the same time, some neutrons, gamma-radiation and energy (in the form of kinetic energy of the particles) are released.

Induced fission/chain reaction

Neutrons may hit nuclei and thereby be captured. But the neutrons captured by certain heavy isotopes may also cause the nuclei to split; this is induced fission.

With each fission, neutrons which can induce further fission events are released. A so-called chain reaction builds up. Fissile material is composed of isotopes that can be split by neutrons of any energy and can sustain a fission chain reaction.

Critical mass

The critical mass of an assembly of fissile material is the amount needed for a sustained nuclear chain reaction. In a larger assembly, the reaction increases at an exponential rate; this is termed supercritical.

The critical mass is not a constant. The smallest critical mass results for fissile material in the form of a sphere, since its ratio of surface to volume is minimal. The critical mass can be reduced if the neutrons escaping from the fissile material are reflected back. Furthermore, the critical mass is inversely proportional to the square of the density. Table 1 gives critical masses for the plutonium-239 isotope and different mixtures of uranium isotopes.

		Critical mass (kg)
Pu ²³⁹ (densest phase)		~ 10
U ²³⁵		~ 48
U ²³⁵ (94%)	U ²³⁸ (6%)	~ 52
U ²³⁵ (80%)	U ²³⁸ (20%)	~ 70
U ²³⁵ (50%)	U ²³⁸ (50%)	~ 160
U ²³⁵ (20%)	U ²³⁸ (80%)	~ 800

Table 1: Bare critical masses (no reflector) of different fissile material spheres

The International Committee of the Red Cross and nuclear weapons: From Hiroshima to the dawn of the 21st century

François Bugnion*

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Abstract

Nuclear weapons raise fundamental questions which go to the very heart of international humanitarian law and of Red Cross assistance activities. Sixty years after Hiroshima and Nagasaki, the author describes the attempts of the International Committee of the Red Cross to deal with these weapons.

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The tragedies of Hiroshima and Nagasaki, which brought the Second World War to an end, were also the culmination of an escalating series of bombing raids on cities. While it was Germany that had taken the initiative, with its bombing of Warsaw, Rotterdam, London and Coventry, the Allies were soon in a position to strike back with interest. But above all, these tragedies propelled the world into a new era: humanity had acquired the means to bring about its own annihilation.

The atom bomb represented a complete break from previous weapons, even the most deadly. Owing to its practically unlimited destructive capacity, the instantaneous nature of its power to annihilate, the near impossibility of protecting oneself against its pernicious effects and the long-term consequences of ionizing radiation, the atom bomb constituted a cataclysm without equal in the

* The article reflects the views of the author alone and not necessarily those of the ICRC.

history of mankind, creating a deeper rift with the past than had been engendered by any other material event recorded in human memory.

Precluding any discrimination between military objectives and civilian objects, causing atrocious suffering to those stricken by its effects, and impeding any possibility of bringing aid to the victims of the cataclysm they cause, nuclear weapons called into question the very foundations of the law of war and of the assistance activities conducted by the Red Cross.¹

The action taken by the Japanese Red Cross and the International Committee of the Red Cross²

On 6 August 1945, at 8.15 a.m., a flash a thousand times brighter than the sun set the sky afire over Hiroshima. It was immediately followed by a wave of incandescent heat and, a few moments later, a hurricane which swept away everything in its path. The terrifying heat released by the atom bomb turned the centre of the city into a gigantic inferno, which in turn generated a violent wind followed by black rain. The fire spread from neighborhood to neighborhood and burned itself out in the mid-afternoon, when there was nothing left to burn. By that time the entire city was gone.

Immediately below the epicenter of the explosion, and within a radius of one kilometer, everything was obliterated, and even the foundations of the buildings that had stood there could no longer be perceived. All that remained was, on one of the channels of the river Ota, the gutted shell of the Hiroshima Prefecture Industrial Promotion Hall, dominated by the metal framework of an enormous glass dome. This structure was to become the symbol of the cataclysm. All around, for a radius of four or five kilometers, houses had been reduced to rubble, trees uprooted, vehicles hurled over long distances, and train rails twisted as if by a supernatural force. In all, 90% of buildings were destroyed or badly damaged. Windows were shattered as far as 27 kilometers from the point of impact. The Japanese Red Cross hospital in Hiroshima was miraculously spared, although the doors, windows and part of the roof were destroyed by the blast.

About 80,000 people were killed in the explosion, and almost as many suffered severe injuries.³ During the weeks and months that followed many were to die

1 In accordance with the practice of more than a century, in this article the expression “International Red Cross,” or simply “Red Cross,” is used to designate the International Red Cross and Red Crescent Movement, especially when those expressions relate to periods when they were the only ones used.

2 Cf. François Bugnion, Remembering Hiroshima, *International Review of the Red Cross*, No. 306, May–June 1995, pp. 307–313.

3 There are major divergences as regards the number of victims of the disaster. The report of the US Commission on the effects of strategic bombing gives the figures of 80,000 killed and as many injured (*The United States Strategic Bombing Survey: The Effects of Atomic Bombs on Hiroshima and Nagasaki*, Chairman’s Office, 30 June 1946, United States Government Printing Office, Washington, 1946, p. 3). A survey carried out by the Hiroshima City Council up to 10 August 1946 arrived at the following figures for a civilian population of 320,081 on the day of the explosion: 118,661 killed, 30,524 seriously injured, 48,606 slightly injured, and 3,677 missing (*Hiroshima and Nagasaki: The Physical, Medical and Social Effects of the Atomic Bombings*, The Committee for the Compilation of Material Damage caused by the

in terrible agony from the burns they had sustained, or from the effects of radiation: internal bleeding, cancer, leukemia. Three days later another bomb destroyed the city of Nagasaki, with consequences just as horrifying as those in Hiroshima.

The day after the disaster several medical teams from the Japanese Red Cross Society arrived in Hiroshima from neighboring towns. Two of these teams helped the staff at the Japanese Red Cross hospital, while the others worked in improvised dispensaries set up in tents in different parts of the devastated city. A total of 792 staff members and volunteer workers from the Japanese Red Cross Society treated some 31,000 patients during the three weeks following the cataclysm.⁴

Relief operations were, however, seriously hampered by the scale of the catastrophe and the number of victims it claimed, the shortage of staff and appropriate equipment and supplies, the incurable nature of some of the wounds, and uncertainty as to the treatment required. There were no medicines; in the appalling hygiene conditions resulting from the heat and the lack of drinking water, wounds became infected and disease began to spread. In addition, many of the relief workers who came in to help the victims in the hours and days that followed were themselves affected by the radiation.

On 29 August an ICRC delegate, Fritz Bilfinger, was able to reach Hiroshima. He was the first neutral witness to arrive on the scene of the disaster, and the telegram he sent the next day to the delegation conveys the full extent of the tragedy:

“Visited Hiroshima thirtieth, conditions appalling stop city wiped out, eighty percent all hospitals destroyed or seriously damaged; inspected two emergency hospitals, conditions beyond description full stop effect of bomb mysteriously serious stop many victims, apparently recovering, suddenly suffer fatal relapse due to decomposition of white blood cells and other internal injuries, now dying in great numbers stop estimated still over one hundred thousand wounded in emergency hospitals located surroundings, sadly lacking bandaging materials, medicines stop please solemnly appeal to allied high command consider immediate air-drop relief action over centre city stop required substantial quantities bandages, surgical pads, ointments for burns, sulfamides, also blood plasma and transfusion equipment stop immediate action highly desirable, also dispatch medical investigation commission stop report follows, confirm receipt.”⁵

The head of the ICRC delegation, Dr Marcel Junod, immediately contacted the Japanese authorities and the High Command of the occupation forces

Atomic Bombs in Hiroshima and Nagasaki, translated by Eisei Ishikawa and David L. Swain, Basic Book Publishers, New York, 1981, p. 113). See also: Kenjiro Yokoro and Nanao Kamada, “The public health effects of the use of nuclear weapons,” in *War and Public Health*, Barry S. Levy and Victor W. Sidel, eds, Oxford University Press, Oxford, 1997, pp. 65–83. On 30 October 1961, the Soviets exploded a 50-megaton bomb, the equivalent of 50 million tonnes of TNT, at Novaia Zemlya. This bomb, the biggest ever tested, was 2,500 times more powerful than the one which destroyed Hiroshima.

4 According to information kindly supplied to the author of this article by the Japanese Red Cross on 5 June 1995.

5 Fritz Bilfinger, telegram of 30 August 1945, copy, ICRC Archives, file No. G. 8/76.

which were beginning to deploy in the archipelago. He in his turn traveled to Hiroshima accompanied by an American commission of inquiry and a professor of radiology from the University of Tokyo, taking with him 20 tons of medicines and dressing materials donated by the American authorities.

What he saw confirmed in every respect the apocalyptic scene depicted in Fritz Bilfinger's telegram: the obliteration of most of the city, where "nothing but silence and desolation" remained, the extremely serious and, in many cases, fatal nature of the injuries caused by burns and radiation, the overcrowding in the makeshift hospitals, the lack of medical materials and medicines, the helplessness of medical staff, also decimated and having to cope with entirely new types of lesions for which there was no treatment, and, finally, the despondency of the survivors of a disaster which, with lightning speed, had wiped out their city.⁶ In the face of such a disaster, humanitarian action appeared derisory.⁷

The appeal of 5 September 1945

The International Committee of the Red Cross did not wait for its delegates' reports before taking a stand on the new means of mass destruction that humankind had just acquired. In a circular sent on 5 September 1945 — less than a month after Hiroshima — to the National Societies on the end of hostilities and the future tasks of the Red Cross, the ICRC was already questioning the lawfulness of atomic weapons and calling on States to reach an agreement banning their use.

"There can be no doubt that war, an anachronism in a civilized world, has taken on a character so devastating and so widespread [...] that the thoughts and labours of all should be turned to the paramount task of making impossible the resort to arms. The Red Cross, nevertheless, is compelled, in time of war, to pursue its traditional efforts in the field of international law, which is to rise in defence of humanity and of the demands that it makes. At a moment when peace seems, at last, to have returned, it may appear ill-timed to take up such a task, but that should not deflect the Red Cross from this fundamental duty. As the destructive forces of war increase, so much the more imperative does it become to protest against this overthrow of human values and to turn the light of man's conscience, frail though it be, to pierce the darkness.

It is indeed questionable whether the latest developments of the technique of warfare leave any possibility for international law to cover a firm and sound order of society. Already the First World War, and still more the long disaster of the past six years, demonstrate that the conditions which prompted

6 Marcel Junod, *Warrior Without Weapons*, ICRC, Geneva, 1982, pp. 286–300 (first edition in English, Jonathan Cape, London, 1951); Marcel Junod, *The Hiroshima Disaster*, extract from the *International Review of the Red Cross*, Nos 230 and 231, September–October 1982, pp. 265–280 and November–December 1982, pp. 329–344.

7 For the action taken by delegates Fritz Bilfinger and Marcel Junod, see Marcel Junod, *Warrior Without Weapons*, *op. cit.* (note 6), pp. 272–285 and 301–307; Marcel Junod, *The Hiroshima Disaster*, *op. cit.* (note 6), François Bugnion, "Remembering Hiroshima," *International Review of the Red Cross*, No. 306, May–June 1995, pp. 307–313.

the framing of international law in its model form in the Geneva and Hague Conventions, have undergone far-reaching change. It is clear that developments in aviation and the increasingly destructive effects of bombing have made practically inapplicable the distinctions hitherto drawn, whereby certain classes of people had by right a special protection (for instance, the civil population in contrast to the armed forces). The inevitable development of weapons, and so of warfare as a whole, has a greater significance by reason of the exploitation of the discoveries in nuclear physics, which permit the producing of arms of a potency hitherto unknown.

It would be useless to attempt a forecast for this new weapon, or even to express an opinion on the prospect that the Powers would relinquish it altogether. The question arises whether they would, perhaps, keep it in lasting and unflinching reserve as a supreme safeguard against war and as a means of preserving a just order. This hope is not, perhaps, entirely vain as, during this six years struggle, there has been no recourse to the chemical or bacteriological means of warfare as outlawed by the Powers in 1925. It is as well to remember this fact at a time when there have been so many infringements of law and so many reprisals have been taken.”⁸

This stand did not prevent the ensuing race for strategic weapons. Nevertheless, less than a month after the destruction of Hiroshima, through the voice of the International Committee, the Red Cross unequivocally stated its position on the legal and ethical implications of the destructive power which mankind had just acquired.⁹

The 1949 Diplomatic Conference

Even before the end of the Second World War, the International Committee of the Red Cross had begun work on the revision of the 1929 Geneva Conventions and the drafting of a new convention for the protection of civilian persons in time of war, which had been so cruelly lacking during the six-year conflict.

The question of a general limitation on aerial bombardment was not on the agenda of the 1949 Diplomatic Conference, which only marginally broached the issue.¹⁰ That did not prevent the Soviet delegation from submitting, in

8 “The end of hostilities and the future tasks of the Red Cross,” Circular Letter No. 370 to the Central Committees of the Red Cross Societies, 5 September 1945, *Report of the International Committee of the Red Cross on its Activities during the Second World War*, ICRC, Geneva, May 1948, Vol. I, pp. 688–690.

9 The 17th International Conference of the Red Cross, meeting in Stockholm in August 1948, unanimously endorsed the International Committee’s stand on atomic weapons. See Resolution XXIV, *Seventeenth International Red Cross Conference, Stockholm, 1948, Report*, Swedish Red Cross, Stockholm, 1948, pp. 78 and 94.

10 *Final Record of the Diplomatic Conférence of Geneva of 1949*, Federal Political Department, Bern, 1949, Vol. II-A, pp. 761–762 and 802–805; Vol. II-B, pp. 495–508; Vol. III, pp. 180–181 (hereinafter *Final Record 1949*); Paul de La Pradelle, *La Conférence diplomatique et les Nouvelles Conventions de Genève du 12 août 1949*, Les éditions internationales, Paris, 1951, pp. 35–42 and 67–69; René-Jean Wilhelm, “Les Conventions de Genève et la guerre aérienne”, (The Geneva Conventions and War from the Air), *Revue internationale de la Croix-Rouge*, English Supplement, Vol. VII, No. 3, March 1954, pp. 55–56.

Committee III, a draft resolution declaring that the use of atomic, bacteriological or chemical weapons was incompatible with the basic principles of international law, calling on States that were not bound by the Geneva Protocol of 17 July 1925 prohibiting the use of chemical and bacteriological weapons to adhere to it, and urging States immediately to adopt a convention banning atomic weapons as a means of mass extermination of the population.¹¹ The Committee, and subsequently the Conference in plenary, declared the Soviet proposal inadmissible.¹²

This led to a paradoxical result: while the Diplomatic Conference had revised in the most minute detail all the rules affording protection to victims of war, the most grave uncertainty hung over the validity of the principle of the immunity of the civilian population which underlies the major part of humanitarian rules, and in particular the Fourth Convention which the Conference had just adopted.¹³ The same uncertainty hung over the crucial issue of the lawfulness of nuclear weapons. Four years after Hiroshima, the rules governing aerial bombardment were still the same as those adopted by the Second International Peace Conference in The Hague in 1907, which prohibited the discharge of projectiles from balloons.

While welcoming the results of the Diplomatic Conference, which had enabled it to achieve its main objectives, the International Committee of the Red Cross could not but be concerned about the discrepancy between the precise and detailed rules which the 1949 Conference had adopted with a view to protecting wounded, sick or shipwrecked members of armed forces, prisoners of war and civilian persons in the power of the enemy on the one hand, and the chaotic state of the rules protecting the entire civilian population from the effects of hostilities on the other.

In an appeal launched on 5 April 1950, the ICRC expressed its concern over the development of weapons of mass destruction:

“Today (...) the International Committee feels obliged to underline the extreme gravity of the situation. Up to the Second World War it was still to some extent possible to keep pace with the destructive power of armaments. The civilian population, nominally sheltered by International Law against attack during war, still enjoyed a certain degree of protection, but because of the power of the arms used, was increasingly struck down side by side with combatants. Within the radius affected by the atomic bomb, protection is no longer feasible. The use of this arm is less a development of the methods

11 *Final Record 1949*, Vol. II-A, p. 762; Vol. III, p. 181; La Pradelle, *op. cit.* (note 10), p. 36. The head of the Soviet delegation, General Slavin, presented the Soviet proposal and stressed that the basic flaw in the draft Convention for the protection of civilian persons lay in the fact that it did not contain a sufficient guarantee of the protection of the civilian population against the effects of modern warfare (*Final Record 1949*, Vol. II-A, pp. 761–762; La Pradelle, *ibid.*, p. 37).

12 *Final Record 1949*, Vol. II-A, pp. 804–805, Vol. II-B, pp. 495–508; La Pradelle, *op. cit.* (note 10), p. 39.

13 Geneva Convention Relative to the Protection of Civilian Persons in Time of War, of 12 August 1949, *Final Record 1949*, Vol. I, pp. 297–341.

of warfare than the institution of an entirely new conception of war, first exemplified by mass bombardments and later by the employment of rocket bombs. However condemned — and rightly so — by successive treaties, war still presupposed certain restrictive rules; above all did it presuppose discrimination between combatants and non-combatants. With atomic bombs and non-directed missiles, discrimination becomes impossible. Such arms will not spare hospitals, prisoner of war camps and civilians. Their inevitable consequence is extermination, pure and simple. Furthermore, the suffering caused by the atomic bomb is out of proportion to strategic necessity; many of its victims die as a result of burns after weeks of agony, or are stricken for life with painful infirmities. Finally, its effects, immediate and lasting, prevent access to the wounded and their treatment.

In these conditions, the mere assumption that atomic weapons may be used, for whatever reason, is enough to make illusory any attempt to protect non-combatants by legal texts. Law, written or unwritten, is powerless when confronted with the total destruction the use of this arm implies. The International Committee of the Red Cross, which watches particularly over the Conventions that protect the victims of war, must declare that the foundations on which its mission is based will disappear, if deliberate attack on persons whose right to protection is unchallenged is once countenanced.

The International Committee of the Red Cross hereby requests the Governments signatory to the 1949 Geneva Conventions, to take, as a logical complement to the said Conventions — and to the Geneva Protocol of 1925 — all steps to reach an agreement on the prohibition of atomic weapons, and in a general way, of all non-directed missiles. The International Committee, once again, must keep itself apart from all political and military considerations. But if, in a strictly humanitarian capacity, it can aid in solving the problem, it is prepared, in accordance with the principles of the Red Cross, to devote itself to this task.”¹⁴

The concerns of the International Committee were shared by the Red Cross as a whole. The International Conference of the Red Cross regularly stated its position on the threat that weapons of mass destruction posed to non-combatants and, ultimately, to the future of humanity.¹⁵

The political and strategic issues at stake in this matter, however, were beyond the sphere of competence of the Red Cross, so the Conference had to confine itself to expressing its deep concern, appealing to belligerents to renounce any use of weapons of mass destruction, and inviting governments to reach agreement on their prohibition.

14 “Arme atomique et armes aveugles” (Atomic weapons and non-directed missiles), *Revue internationale de la Croix-Rouge*, English supplement, Vol. III, No. 4, April 1950, pp. 70–73.

15 Resolution XXIV of the 17th Conference (Stockholm, 1948); Resolution XVIII of the 18th Conference (Toronto, 1952); Resolution XVIII of the 19th Conference (New Delhi, 1957); Resolution XXVIII of the 20th Conference (Vienna, 1965); Resolution XIV of the 21st Conference (Istanbul, 1969); Resolution XIV of the 22nd Conference (Teheran, 1973); Resolution XII of the 23rd Conference (Bucharest 1977); Resolution XIII of the 24th Conference (Manila, 1981).

The Draft Rules for the limitation of the dangers incurred by the civilian population in time of war

In 1954 the ICRC convened a Conference of Experts charged with examining the legal problems relating to protection of the civilian population and other victims of armed conflict against the dangers of aerial warfare and against the use of weapons of mass destruction,¹⁶ and drew up Draft Rules for the limitation of the dangers incurred by the civilian population in time of war.¹⁷

In fact this was a draft convention aimed at restoring the principle of the immunity of the civilian population, defining military objectives, the only ones against which attacks could be directed, laying down the precautions to be taken in planning attacks, prohibiting area bombing and the use of weapons whose harmful effects, in particular the dissemination of incendiary, chemical, bacteriological, radioactive or other agents, could escape from the control of those who employed them and thus endanger the civilian population. Article 14, para. 1, provided:

“Without prejudice to the present or future prohibition of certain specific weapons, the use is prohibited of weapons whose harmful effects — resulting in particular from the dissemination of incendiary, chemical, bacteriological, radioactive or other agents — could spread to an unforeseen degree or escape, either in space or in time, from the control of those who employ them, thus endangering the civilian population.”¹⁸

The Draft Rules were submitted to the 19th International Conference of the Red Cross, meeting in New Delhi in October and November 1957. The issue of atomic weapons was naturally a focus for controversy. The delegations from socialist countries criticized the lack of clarity of the ICRC draft and demanded an unequivocal ban on nuclear and thermonuclear weapons.¹⁹ The Western powers, for their part, denounced the unrealistic nature of a ban on the use of atomic weapons which was not accompanied by general disarmament and effective verification measures. Finally the Conference asked the International Committee to transmit the Draft Rules to the governments for study.²⁰ The project was scuttled.

Since the governments did not want detailed regulation, all the International Committee could do was to start over again, taking up the question of the protection of the civilian population on the level of the most basic principles. This

16 *Revue internationale de la Croix-Rouge*, English Supplement, Vol. VII, No. 4, April 1954, pp. 108–110.

17 *Draft Rules for the Limitation of the Dangers Incurred by the Civilian Population in Time of War*, second ed., ICRC, Geneva, April 1958 (first edition: September 1956).

18 *Ibid.*, pp. 12 and 99–111; Dietrich Schindler and Jiri Toman, eds, *The Laws of Armed Conflicts: A Collection of Conventions, Resolutions and Other Documents*, fourth edition, Martinus Nijhoff Publishers, Leiden & Boston, 2004, p. 342.

19 Nuclear weapons operate by atomic fission, that is, a process which disintegrates the atomic nucleus of a heavy metal such as uranium or plutonium. Thermonuclear weapons operate by atomic fusion, that is, the combination of two light atoms, deuterium and tritium, which are both isotopes of hydrogen. In both cases a chain reaction takes place, resulting in the release of vast amounts of energy.

20 Resolution XIII, *XIXth International Conference of the Red Cross, New Delhi, October–November 1957*, *Proceedings*, pp. 153–154; *XIXth International Conference of the Red Cross, New Delhi, October–November 1957, Final Record concerning the Draft Rules for the Limitation of the Dangers Incurred by the Civilian Population in Time of War*, ICRC, Geneva, April 1958, cyclostyled.

is what it did in a report, a rather timid affair, submitted to the 20th International Conference of the Red Cross held in Vienna in October 1965.²¹

The Conference adopted without opposition a resolution requesting the ICRC to pursue its efforts in this regard, solemnly declaring that the parties to conflict should comply at least with the following principles:

- “- the right of the parties to a conflict to adopt means of injuring the enemy is not unlimited;
- it is prohibited to launch attacks against the civilian population as such;
- distinction must be made at all times between persons taking part in the hostilities and members of the civilian population, to the effect that the latter be spared as much as possible;
- the general principles of the Law of War apply to nuclear and similar weapons.”²²

The Diplomatic Conference on the Reaffirmation and Development of International Humanitarian Law (1974-77) and the Protocols additional to the Geneva Conventions

The protection of the civilian population against the effects of war was to be the primary concern in the proceedings of the Conferences of Government Experts convened in Geneva in 1971 and 1972, and later of the Diplomatic Conference on the Reaffirmation and Development of International Humanitarian Law, which took place in Geneva from 1974 to 1977.

The result was a set of provisions — Articles 48 to 58 of Protocol I — which reaffirm the principle of the distinction between combatants and the civilian population and between military objectives and civilian objects, reaffirm the principle of the immunity of the civilian population, and prohibit attacks directed against civilians, indiscriminate attacks, reprisals against the civilian population, and “acts or threats of violence the primary purpose of which is to spread terror among the civilian population.”²³ With the exception of the prohibition of reprisals, these provisions are taken up in Article 13 of Protocol II, which applies to non-international armed conflicts.

On the other hand, the Diplomatic Conference did not broach the issue of nuclear weapons; this subject had been excluded from the scope of the delib-

21 XXth International Conference of the Red Cross, Vienna, October 1965, *The legal protection of civilian populations against the dangers of indiscriminate warfare, Report submitted by the International Committee of the Red Cross*, ICRC, Geneva, March 1965 (Report reproduced in the *International Review of the Red Cross*, No. 59, February 1966, pp. 79–89).

22 Resolution XXVIII, *XXth International Conference of the Red Cross, Vienna, 2–9 October 1965, Report*, Austrian Red Cross, Vienna, 1965, pp. 108–109. The United Nations General Assembly was to adopt these principles – apart from the fourth – as its own in Resolution 2444 (XXIII), passed unanimously on 19 December 1968: see *Resolutions Adopted by the General Assembly during its Twenty-Third Session*, 24 September - 21 December 1968, Official Records of the General Assembly, Twenty-third Session, Supplement No. 18, Document A/7218, pp. 50–51.

23 Article 51 para. 2 Additional Protocol I. An identical provision appears in Article 13 para. 2 Additional Protocol II, which applies to non-international armed conflicts.

erations because certain States had made their participation in the proceedings conditional on the understanding that it would not be raised. Unlike the case in 1949, no attempt was made to reintroduce the issue during the deliberations.

Nevertheless, it should not be deduced from this that the proceedings of the Diplomatic Conference had no effect on the question of the lawfulness of the use of nuclear weapons. Indeed, it is quite obvious that the rules of international humanitarian law, and in particular the provisions which protect non-combatants and the civilian population against the effects of hostilities, apply to the use of nuclear weapons just as they apply to the use of any other type of weapon.²⁴ In its Advisory Opinion of 8 July 1996 concerning the legality of the threat or use of nuclear weapons, the International Court of Justice confirmed these conclusions.²⁵

The Advisory Opinion of the International Court of Justice

The United Nations General Assembly requested the International Court of Justice to hand down an Advisory Opinion on the following question:

“Is the threat or use of nuclear weapons in any circumstance permitted under international law?”²⁶

The Court delivered its opinion on 8 July 1996.²⁷ Having found neither a treaty-based rule of general scope nor a customary rule specifically proscribing the threat or use of nuclear weapons *per se*, the Court examined whether recourse to nuclear weapons must be declared illegal in the light of the principles and rules of international humanitarian law applicable in armed conflict.²⁸

The Court set out the fundamental principles of humanitarian law, in particular that of the distinction between combatants and non-combatants, the prohibition on making civilians the object of attack, and the prohibition on using weapons that are incapable of distinguishing between civilian and military targets; it also examined the prohibition on causing superfluous injury or unnecessary suffering to combatants, and thus on using weapons which uselessly

24 See *Commentary on the Additional Protocols of 8 June 1977 to the Geneva Conventions of 12 August 1949*, Yves Sandoz, Christophe Swinarski and Bruno Zimmermann, eds, ICRC and Martinus Nijhoff Publishers, Geneva, 1987, pp. 592–593.

25 “[W]hile, at the Diplomatic Conference of 1974–1977, there was no substantive debate on the nuclear issue and no specific solution concerning this question was put forward, Additional Protocol I in no way replaced the general customary rules applicable to all means and methods of combat including nuclear weapons. In particular the Court recalls that all States are bound by those rules in Additional Protocol I which, when adopted, were merely the expression of the pre-existing customary law, such as the Martens Clause, reaffirmed in the first article of Additional Protocol I. The fact that certain types of weapons were not specifically dealt with by the 1974–1977 Conference does not permit the drawing of any legal conclusions relating to the substantive issues which the use of such weapons would raise.” ICJ, *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion of 8 July 1996, *ICJ Reports 1996*, p. 259.

26 International Court of Justice, *op. cit.* (note 25), p. 228.

27 *Ibid.*, pp. 226–267.

28 *Ibid.*, pp. 256–60, paras 74–87.

29 *Ibid.*, pp. 256–257, paras 75–78; Declaration to the Effect of Prohibiting the Use of Certain Projectiles in

aggravate the suffering of disabled men or make their death inevitable.²⁹ The Court stressed that these principles had to be upheld by all States, whether or not they had ratified the treaties that contained them, since they constituted “intransgressible principles of international customary law.”³⁰ It pointed out, however, that although it was accepted that the principles and rules of humanitarian law applied to nuclear weapons, the conclusions to be drawn from that applicability were controversial.³¹

The Court nevertheless found that in view of the unique characteristics of nuclear weapons, their use seemed scarcely reconcilable with respect for the requirements of humanitarian law.³² However, taking account of the policy of deterrence to which a large number of States had adhered for many years, the Court considered that, in view of the current state of international law and of the elements of fact at its disposal, it could not reach a definitive conclusion as to the legality or illegality of the use of nuclear weapons by a State in an extreme circumstance of self-defence, in which its very survival would be at stake.³³ But it also drew attention to the fact that that, under the provisions of Article 6 of the Treaty on the Non-Proliferation of Nuclear Weapons, States had recognized the obligation to negotiate in good faith in order to achieve nuclear disarmament.³⁴

Commenting on the Advisory Opinion before the First Committee of the United Nations General Assembly on 18 October 1996, the ICRC welcomed the Court’s unequivocal reaffirmation that the principles and rules of international humanitarian law applied to nuclear weapons:

“We were pleased to see the reaffirmation of certain rules which the Court defined as ‘intransgressible’, in particular the absolute prohibition of the use of weapons that are by their nature indiscriminate as well as the prohibition of the use of weapons that cause unnecessary suffering. We also welcome the Court’s emphasis that humanitarian law applies to all weapons without exception, including new ones. In this context we would like to underline that there is no exception to the application of these rules, whatever the circumstances. International humanitarian law is itself the last barrier against

Wartime, signed at St Petersburg, 29 November–11 December 1868, *Handbook of the International Red Cross and Red Crescent Movement*, thirteenth edition, International Committee of the Red Cross and International Federation of Red Cross and Red Crescent Societies, Geneva, 1994, pp. 297–298; *The Laws of Armed Conflicts*, *op. cit.* (note 18), pp. 91–93.

30 International Court of Justice, *op. cit.* (note 25), p. 257, para. 79.

31 *Ibid.*, p. 261, para. 90.

32 “[...] [M]ethods and means of warfare, which would preclude any distinction between civilian and military targets, or which would result in unnecessary suffering to combatants, are prohibited. In view of the unique characteristics of nuclear weapons, to which the Court has referred above, the use of such weapons in fact seems scarcely reconcilable with respect for such requirements.” *Ibid.*, p. 262, para. 95.

33 “Accordingly, in view of the present state of international law viewed as a whole [...] and of the elements of fact at its disposal, the Court is led to observe that it cannot reach a definitive conclusion as to the legality or illegality of the use of nuclear weapons by a State in an extreme circumstance of self-defence, in which its very survival would be at stake.” *Ibid.*, p. 263, para. 97.

34 *Ibid.*, pp. 263–265, paras 98–103.

35 “ICRC statement to the United Nations General Assembly on the Advisory Opinion of the International

the kind of barbarity and horror that can all too easily occur in wartime, and it applies equally to all parties to a conflict at all times.

Turning now to the nature of nuclear weapons, we note that, on the basis of the scientific evidence submitted, the Court found that ‘...The destructive power of nuclear weapons cannot be contained in either space or time... the radiation released by a nuclear explosion would affect health, agriculture, natural resources and demography over a very wide area. Further, the use of nuclear weapons would be a serious danger to future generations...’ In the light of this, the ICRC finds it difficult to envisage how a use of nuclear weapons could be compatible with the rules of international humanitarian law.”³⁵

The position of the International Committee of the Red Cross

The ICRC was anxious to re-examine its position with regard to nuclear weapons following publication of the Advisory Opinion of the International Court of Justice of 8 July 1996, and defined that position by decision of its Assembly on 27 June 2002. Although its legal conviction was founded on the international law in force and the opinion of the Court, the ICRC, in accordance with its humanitarian calling, adopted a stance which also took account of broader considerations, both ethical and humanitarian. Its position is as follows:

- The principles and rules of international humanitarian law, and in particular the principles of distinction and proportionality and the prohibition on causing superfluous injury or unnecessary suffering, apply to the use of nuclear weapons. The ICRC finds it difficult to envisage how the use of nuclear weapons could be compatible with the principles and rules of international humanitarian law.
- In view of the unique characteristics of nuclear weapons, the ICRC calls on States to ensure that these weapons are not used, irrespective of whether they consider them to be lawful or not.
Nuclear weapons are characterized in particular by their destructive power, the unspeakable suffering caused by their use, the fact that it is extremely difficult to bring aid to victims, the fact that it is impossible to control their effects in space and time, the risk of escalation and proliferation which any use of nuclear weapons necessarily involves, and the dangers which such weapons entail for the environment, future generations and the survival of humanity.
- The ICRC furthermore calls on States to take every appropriate measure to limit the risk of the proliferation of nuclear weapons and to effectively combat any trade in substances or components liable to promote such proliferation.

Court of Justice on the legality of the threat or use of nuclear weapons,” *International Review of the Red Cross*, No. 316, January-February 1997, pp. 118–119.

36 (Internal) Document A 1218rev2, adopted by the ICRC Assembly on 27 June 2002; “Use of nuclear,

- Finally, the ICRC calls on States to pursue negotiations with a view to achieving a complete prohibition on nuclear weapons as well as the elimination of such weapons, as they have undertaken to do.³⁶

Conclusions

Any humanitarian action, as necessary as it may be even in the worst disasters, seems derisory in the face of the potential effects of weapons of mass destruction, and nuclear weapons in particular. The question of the lawfulness of the use of nuclear weapons and that of their possible prohibition have therefore been the subject of repeated discussions since 1945, without any success being achieved either in reaching a definitive conclusion as to their lawfulness or in negotiating a general agreement to ban them.

Some States, however, have formally renounced the possession of nuclear weapons, either in peace agreements or in regional accords. Furthermore, when the Treaty on the Non-Proliferation of Nuclear Weapons was renewed, the five permanent members of the Security Council pledged that they would not resort to the use of nuclear weapons against States party to the treaty which did not possess such weapons, except in the case of aggression committed by a State party to the treaty with the support of a State in possession of nuclear weapons.

Moreover, it is acknowledged that the principles and rules of international humanitarian law apply to nuclear weapons, as unequivocally confirmed by the International Court of Justice in its decision of 8 July 1996.

On the other hand, as the Court pointed out, opinions diverge as to the conclusions to be drawn from this, some States considering that nuclear weapons could be used in certain very specific circumstances without necessarily violating international humanitarian law, while others believe that any use of nuclear weapons would necessarily violate the provisions of international humanitarian law.

Since the destruction of Hiroshima and Nagasaki, States holding nuclear weapons have refrained from using them, although the US and Soviet strategic forces were put on maximum alert at least once during the Cold War, at the time of the Cuban missile crisis.

This restraint was due first and foremost to the knowledge that any nuclear attack against another State possessing nuclear weapons or against one of its allies would inevitably prompt reprisals against which there was no possible protection. The prospect of reciprocal annihilation was at the heart of the policy of deterrence and the balance of terror under which the world lived from the end of the Second World War to the end of the Cold War.

biological or chemical weapons: Current international law and policy statements," Information note to Presidents / Secretary Generals of National Societies, 4 March 2003, ICRC Archives, file 141.2-011.

There can be no doubt, however, that the apocalyptic proportions of the Hiroshima tragedy forced States to weigh the consequences of a nuclear war, and in this way indirectly contributed to protecting future generations from the scourge of nuclear warfare.

The meaning of Moscow: “Non-lethal” weapons and international law in the early 21st century

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Abstract

At the intersection of new weapon technologies and international humanitarian law, so-called “non-lethal” weapons have become an area of particular interest. This article analyses the relationship between “non-lethal” weapons and international law in the early 21st century by focusing on the most seminal incident to date in the short history of the “non-lethal” weapons debate, the use of an incapacitating chemical to end a terrorist attack on a Moscow theatre in October 2002. This tragic incident has shown that rapid technological change will continue to stress international law on the development and use of weaponry but in ways more politically charged, legally complicated and ethically challenging than the application of international humanitarian law in the past.

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Deciphering Moscow

In the past decade, one of the most interesting areas produced by the intersection of new weapon technologies and international humanitarian law (IHL) involves so-called “non-lethal” weapons (NLWs). The technological, military, political, legal and ethical aspects of “non-lethal” weapons have generated significant attention and controversy.¹ The growth in the size, complexity and intensity of the debate shows that this development is more than a post-Cold War fad. In reflecting on how the law has handled the emergence of technologies that proponents claim are different from “lethal” weapons, it is therefore

appropriate to take stock of “non-lethal” weapons in relation to international humanitarian law specifically and international law in general. This article analyses the relationship between “non-lethal” weapons and international law in the early twenty-first century by focusing on the most seminal incident to date in the short history of the “non-lethal” weapon debate — the use of an incapacitating chemical to end a terrorist attack on a Moscow theatre in October 2002.

The emergence of weapon technologies is often defined by historical moments when their use tangibly reveals policy, legal and ethical issues that previously were abstract. The deployment of chemical weapons on World War I battlefields still contributes to how people think about such weapons. Perceptions of biological weapons are likewise darkened by the horrors of Japanese experimentation with them in China before and during World War II. The atomic explosions that devastated Hiroshima and Nagasaki in August 1945 continue to cast a pall over nuclear weapons. At the time of writing this article, the most significant real-world event to affect the NLW debate has been the use of an incapacitating chemical in Moscow in 2002. Although most relevant to the controversies surrounding “non-lethal” chemical weapons, the Moscow incident has broader implications for the relationship between NLW developments and the rules of international law examined below.

The article begins by reviewing how the debate on NLWs and international law unfolded prior to the Moscow incident. That period found many people, including myself,^{2,3} analysing the development and use of various NLWs in terms of existing international law, especially international law on arms control and IHL. These efforts revealed disagreements between proponents and sceptics as to international law’s role in NLW development and use. In the absence of concrete events, evidence or data, the dialogue between proponents and sceptics retained an abstract quality that featured more conceptual speculation than empirical analysis.⁴

The article then describes the Moscow theatre incident and how this crisis transformed abstract features of the NLW debate into an actual life-and-death event of far-reaching importance. One of the most important effects of

- 1 The literature on NLWs is now voluminous. For one bibliography on NLWs compiled by the Air University Library at Maxwell Air Force Base, see Non-Lethal Weapons, August 2004, at <<http://www.au.af.mil/au/aul/bibs/soft/nonlethal.htm>>. Bibliography updates on NLWs are provided in the periodic Bradford Non-Lethal Weapons Research Project Reports, at <http://www.brad.ac.uk/acad/nlw/research_reports/> (last visited 22 June 2005).
- 2 David P. Fidler, “The international legal implications of ‘non-lethal’ weapons”, *Michigan Journal of International Law*, Vol. 21, 1999, pp. 51-100.
- 3 David P. Fidler, “‘Non-lethal’ weapons and international law: Three perspectives on the future”, *Medicine, Conflict and Survival*, Vol. 17, 2001, pp. 194-206.
- 4 In 1999, I argued, for example, that “[g]iven the embryonic nature of ‘non-lethal’ weapons development and integration into military forces and strategies, much of the international legal analysis unfolds in a vacuum of precedent, which gives the analysis an abstract and, at times, speculative quality.” Fidler, *op. cit.* (note 2), p. 55.

the Moscow incident was to focus attention on how the Chemical Weapons Convention (CWC)⁵ regulated the use of incapacitating chemicals for law enforcement purposes, and the article interprets this aspect of the CWC in light of what happened in Moscow. Finally, the present and future relationship between NLWs and international law is examined in light of the aftermath of Moscow.

Before Moscow: The debate on NLWs and international law

The debate about the international legal implications of NLWs only developed in the latter half of the 1990s in response to increased interest in such weapons among military forces around the world, and particularly in the United States. Before then, international law had addressed weapons designed, or claimed, to be less lethal than conventional weapons. Treaties on biological, chemical, and conventional weapons regulated “non-lethal” capabilities. The Biological and Toxin Weapons Convention (BWC) prohibited the development of “non-lethal” biological weapons, whether for anti-personnel or anti-matériel purposes.⁶ The CWC banned the development and use of chemical weapons, defined to include toxic chemicals that cause temporary incapacitation.⁷ In addition, the CWC prohibited the use of riot control agents (RCAs) as a method of warfare.⁸ States added a protocol to the UN Conventional Weapons Convention in 1995 outlawing the use of laser weapons designed to cause permanent blindness.⁹

Although these examples are of international law regulating “non-lethal” weapons capabilities, no discourse centred on such weapons existed in international law before the mid-1990s. Growth in military and, to a lesser extent, law enforcement¹⁰ interest in the latter half of the 1990s stimulated international legal analysis specifically of NLWs as a new category of weapons. (See Table 1 for descriptions of technologies.) Experts responded to claims that this weaponry was different not only technologically but also ethically from weapons that international law had long been trying to regulate through arms control treaties and IHL.

5 Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction, 13 January 1993, UNTS, Vol. 1974, p. 317 (hereinafter CWC).

6 Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction, 10 April 1972, *International Legal Materials*, Vol. 11, 1972, p. 309 (hereinafter BWC).

7 Arts. I.1 and II.2, CWC.

8 Art. I.5, CWC.

9 Protocol on Blinding Laser Weapons (Additional Protocol IV to the UN Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May be Deemed to be Excessively Injurious or to Have Indiscriminate Effects of 1980), 13 October 1995, UN Doc. CCW/CONF.I/7, 12 October 1995.

10 NLWs were, of course, familiar to law enforcement agencies by the latter half of the 1990s because police and internal security forces had long used such weapons as plastic bullets, bean-bag rounds, riot control agents, water cannons, and batons. Law enforcement involvement and interest in NLWs seemed, however, to pick up at the same time military forces began to look more seriously at deploying these weapon technologies.

Table 1. Leading NLW Technology Areas¹¹

NLW Technology	Examples
Kinetic energy	Impact munitions (foam rubber projectiles, wooden dowels, bean bags, plastic bullets, water cannons, ring airfoil projectile)
Barriers and entanglements	Devices to slow the progress of and stop vehicles or boats (e.g. nets, chains, spikes, rigid foams)
Electrical	Electro-muscular disruption technology (e.g. Taser stun guns, retractable “stun sword,” exoskeleton stun weapon, wireless electrical weapon (e.g. Close Quarters Shock Rifle), laser-induced plasma weapon
Acoustic	Acoustic generators, acoustic cannon, long-range acoustic devices
Directed energy	High power microwave, millimeter wave, lasers, pulsed energy projectile weapon
Chemical	RCAs, malodorants, anti-traction materials, obscurants, sticky foam, anti-matériel chemicals, defoliants/herbicides
Chemical/biochemical	Calmatives, convulsants, incapacitants
Biological	Anti-matériel microorganisms, anti-crop agents
Combined technologies	Flash-bang grenades, kinetic + chemical dispersal devices, optical + chemical dispersal devices
Delivery systems	“Non-lethal” munitions (e.g. mortar shells), landmines, unmanned vehicles and vessels, encapsulation/microencapsulation

The debate about the implications of NLWs for international law unfolded in a manner that heightened the debate’s controversy. Generally speaking, the main thrust of international law with respect to weapon technologies in the late nineteenth century and most of the twentieth century was to craft and apply rules governing increasingly destructive and deadly weapons.¹²

“Non-lethal” weapons did not, however, fit into this pattern. As defined by the US Department of Defense, NLWs are weapons “that are explicitly

11 Nicholas Lewer and Neil Davison, “Non-lethal technologies: An overview,” *Disarmament Forum*, 2005, pp. 37-51; Neil Davison and Nicholas Lewer, *Bradford Non-Lethal Weapons Research Project Research Report No. 7*, May 2005; and Neil Davison and Nicholas Lewer, *Bradford Non-Lethal Weapons Research Project Research Report No. 6*, October 2004.

12 This is best exemplified by the problem nuclear weapons presented for IHL — a topic addressed in 1996 in an advisory opinion by the International Court of Justice. See *Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion*, 8 July 1996, *ICJ Reports*, 1996, p. 226.

designed and primarily employed so as to incapacitate personnel or material, while minimizing fatalities, permanent injury to personnel, and undesired damage to property and the environment.”¹³ Defined in this way, “non-lethal” weapons echoed IHL’s objective of making armed conflict more humane.¹⁴ In addition, exploration of NLWs was driven to some degree by the constraints IHL imposed on military forces engaging in non-traditional operations, such as peacekeeping. This seeming convergence of interests created a context in which military forces and international humanitarian lawyers and experts could perhaps embrace these new weapon technologies together.

That embrace did not occur. “Non-lethal” weapon advocacy met with scepticism from policy analysts, international lawyers, and those involved in international humanitarian work.¹⁵ Many people wondered why such experts were challenging more humane ways of warfare and peacekeeping. Although simplistic, the question threatened to wrong-foot those not enthusiastic about NLWs. Sceptics responded by pointing to the many unanswered questions for which international law required answers before weapons could legitimately be deployed.¹⁶ Nothing epitomized the distance separating advocates and sceptics better than disagreements about the moniker “non-lethal weapons.”¹⁷ For proponents, this description encapsulated the technological and ethical distinctiveness of these weapons. For sceptics, the moniker was misleading because it gave moral status to weapons simply by virtue of their technology and not on the basis of legal and ethical analysis of why, how and where they are used.

This disagreement affected the international legal debate. Convinced that NLWs were ethically distinct weapons, proponents questioned international legal rules that might restrict development and use of NLWs and broached the need to consider changing such rules. A number of NLW advocates argued

13 Policy for Non-Lethal Weapons, US Department of Defense Directive No. 3000.3, para. C (9 July 1996). See also NATO Policy on Non-Lethal Weapons, NATO, 13 October 1999, at <<http://www.nato.int/docu/pr/1999/p991013e.htm>> (last visited 22 June 2005) (“Non-Lethal Weapons are weapons which are explicitly designed and developed to incapacitate or repel personnel, with a low probability of fatality or permanent injury, or to disable equipment, with minimal undesired damage or impact on the environment.”).

14 Jonathan D. Moreno, “Medical ethics and non-lethal weapons,” *American Journal of Bioethics*, Vol. 4, 2004, p. W1 (noting that “NLWs seem to advance one of Augustine’s requirements for just war: that only as much force be used as necessary for the task.”).

15 Well-known early critiques of NLWs include Malcolm Dando, *A New Form of Warfare: The Rise of Non-Lethal Weapons*, Brassey’s, London, 1996; Nicholas Lewer and Steven Schofield, *Non-Lethal Weapons: A Fatal Attraction?*, Zed Books, London, 1997; and Robin Coupland, “‘Non-lethal’ weapons: Precipitating a new arms race,” *British Medical Journal*, Vol. 315, 1997, p. 72.

16 For example, 1977 Additional Protocol I requires States Parties to assess the legality of any new weapons, means or methods of warfare. Additional Protocol (I) to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts, 8 June 1977, UNTS, Vol. 1125, p. 3, Art. 36. On this obligation, see Isabelle Daoust, Robin Coupland, and Rikke Ishoey, “New wars, new weapons? The obligation of States to assess the legality of means and methods of warfare,” *International Review of the Red Cross*, Vol. 84, No. 846, June 2002, pp. 345-363; Justin McClelland, “The review of weapons in accordance with Article 36 of Additional Protocol I,” *International Review of the Red Cross*, Vol. 85, No. 850, June 2003, pp. 397-415.

17 For discussion of the term “non-lethal weapons,” see Brian Rappert, *Non-Lethal Weapons as Legitimizing Forces? Technology, Politics and the Management of Conflict*, Frank Cass, London, 2003, pp. 17-34.

that treaties restricting their development should be amended.¹⁸ This position highlighted the restrictions of the BWC and the CWC on development of “non-lethal” biological and chemical weapons.

But sometimes the proponents’ views hinted at more radical ideas, such as rethinking the moral framework that had historically guided international law on armed conflict and replacing it with one that recognized new military and ethical contexts made possible by NLW technologies.¹⁹ This radical perspective can be sensed in the potential impact of “non-lethal” weapons on the traditional international humanitarian law rule prohibiting the use of weapons intentionally against civilian populations.²⁰ Advocacy for NLWs raised the question whether this prohibition was ethically sustainable, given the increasing likelihood of armed conflict in urban areas. Would not the intentional use of an NLW against mixed combatant and non-combatant populations create the possibility of causing fewer civilian deaths and casualties than would result from limiting military forces to “lethal” weapons in an environment where making distinctions between combatants and non-combatants proves next to impossible and militarily disadvantageous?²¹

Convinced that “non-lethal” weapons were simply weapons without any special ethical status, sceptics applied existing international law on arms control, use of force, armed conflict, and human rights to argue that these weapons generated many serious legal and ethical questions that should not be obscured by “non-lethal” rhetoric. Moreover, sceptics insisted that development and use of NLWs must comply with existing, and future, international law.²² Opposition was strongest when proponents argued that important international legal rules should be changed or rejected to make way for NLWs. Alarm bells rang loudest with respect to “non-lethal” weapons that potentially could undermine the BWC and CWC.²³

Proponents and sceptics agreed, however, on one thing: the debate on “non-lethal” weapons and international law was mainly about future technologies, not NLWs deployable in the latter half of the 1990s and early 2000s. Although this debate covered plastic bullets, bean-bag rounds, entangling nets, caltrops, sticky foam, riot control agents, flash-bang grenades, and simi-

18 In earlier writing, I referred to these arguments as the “selective change perspective.” Fidler, *op. cit.* (note 3), pp. 199-201.

19 In earlier writing, I called this position the “radical change perspective.” *Ibid.*, pp. 201-204.

20 Robin Coupland, “‘Calmatives’ and ‘incapacitants’: Questions for international humanitarian law brought by new means and methods of warfare with new effects?,” in Davison and Lewer 2004, *op. cit.* (note 11), p. 35, p. 38 (“Another major concern in relation to ‘non-lethal’ weapons is that their proponents propose they be used by soldiers against civilians when necessary.”).

21 Jefferson D. Reynolds, “Collateral damage on the 21st century battlefield: Enemy exploitation of the law of armed conflict, and the struggle for a moral high ground,” *Air Force Law Review*, Vol. 56, 2005, p. 1, pp. 99-100 (“Perhaps most promising of all are non-lethal weapons that can be applied against enemy combatants commingled with civilians.”).

22 In earlier writing, I called this the “compliance perspective.” Fidler, *op. cit.* (note 3), pp. 198-199.

23 “Non-lethal” weapons, the CWC and the BWC,” *CBW Conventions Bulletin*, No. 61, September 2003, p. 1 (arguing that “as investment mounts in emergent ‘non lethal weapons’ (NLW) technologies, it becomes increasingly urgent that the threat they pose to the CWC and BWC regime be recognised.”).

lar technologies, such low-tech NLWs were not the most important issue for their proponents and sceptics. The existing generation had limited capabilities because they utilized mainly short-range mechanical, chemical or kinetic technologies. The debate was really about what people called the “Buck Rogers stuff;” the next generation of NLWs that would harness higher-tech kinetic, acoustical, electrical, electromagnetic, biological, chemical and other potential futuristic capabilities, such as nanotechnology.²⁴

For this reason, advocates and sceptics were largely engaging in “crystal ball” speculation in analysing how “non-lethal” weapons might affect armed conflict. Advocates believed NLWs could make battlefields less lethal; sceptics cautioned that these weapons could act as force multipliers for “lethal” weapons, making battlefields more, not less, deadly. From an international legal perspective, such speculation differed depending on the “density” of the international legal regime relevant to a given NLW technology. The most concentrated regimes banned both the development and use of certain technologies, such as the general prohibitions on biological and chemical weapons.

The less concentrated regimes did not specifically ban certain technologies but applied general rules to the development and use of weapons. For example, no treaty directly regulates the development or use of a microwave weapon. However, IHL applies general disciplines to any use of a microwave weapon, including requirements that such use must distinguish between combatants and non-combatants²⁵ and must not cause superfluous injury or unnecessary suffering to combatants.²⁶ For want of either the new technologies or empirical data on their use, discourse about NLWs in the areas where international legal regulation was less concentrated was the most speculative, often because the outcome of analysis depended on the actual intent and behaviour of soldiers.

The “crystal ball” context had, however, two effects that put the proponents on the defensive. First, the case for developing the next generation of technologies largely hinged on their “non-lethality.” Without being able to establish that a new technology was empirically “non-lethal,” the ethical force for developing such a technology was weaker. Data on the human effects of most current or proposed NLWs were non-existent, scant or not supportive of a claim for “non-lethality.”²⁷ Proponents had thus taken the debate down a

24 Center for Responsible Nanotechnology, Dangers of Molecular Manufacturing, at <<http://www.crnano.org/dangers.htm#arms>> (last visited 22 June 2005), describing possible implications of nanotech weapons.

25 Jean-Marie Henckaerts, “Study on customary international humanitarian law: A contribution to the understanding and respect for the rule of law in armed conflict,” *International Review of the Red Cross*, Vol. 87, No. 857, March 2005, p. 175, p. 198 (stating that, under customary IHL, “[t]he parties to the conflict must at all times distinguish between civilians and combatants. Attacks may only be directed against combatants. Attacks must not be directed against civilians.”).

26 *Ibid.*, p. 204 (stating that, under customary IHL, “[t]he use of means and methods of warfare which are of a nature to cause superfluous injury or unnecessary suffering is prohibited”).

27 Fidler, *op. cit.* (note 2), p. 62 (describing studies at the end of the 1990s which concluded that no existing NLWs met criteria for qualifying as “non-lethal”). For more recent descriptions of health impact issues, see Lewer and Davison, *op. cit.* (note 11), p. 48-49; Davison and Lewer 2005, *op. cit.* (note 11), p. 28.

path that required them to establish the human effects of NLW technologies. The ethical threshold they set imposed an empirical price on research and development (R&D) that had yet to be paid.²⁸

The second effect also resulted from ethical claims advocates made. If non-lethal weapons were ethically superior, some experts asked, then, ethically, do governments have an obligation to use these weapons first before resorting to “lethal” force? Proponents countered this ethical argument with a legal one: international law does not require the use of “non-lethal” force before the use of “lethal” force in armed conflict.²⁹ Although correct in terms of international law, the legal response did not answer the ethical question. How could one advocate the development of ethically superior weapons and not have an ethical obligation to use such weapons before “lethal” ones? To be sure, this question leaves out much that would be ethically relevant to the choice of weapons in armed conflict, but it brought potential ethical inconsistencies in NLW advocacy to light. Such ethical questions combined with empirical uncertainty about the human effects of NLW technologies, created difficulties for their proponents in the international legal debate.

The emergence of sustained debate about “non-lethal” weapons and international law in the latter half of the 1990s revealed that neither side had bested the other in the initial test of strength and that both were gearing up for issues that would be raised by pursuit of more high-tech NLWs. Despite increasing numbers of conferences, articles, books and reports, missing from the debate was an event that would sharpen issues and expand political and policy interest in the questions being examined by NLW proponents and sceptics.

And then, in October 2002, Chechen terrorists took over a theatre in Moscow.

During Moscow: The fog of fentanyl

The Chechen assault on the Nord-Ost Theatre in Moscow, and the crisis involving approximately 830 hostages, ended when Russian security forces pumped an incapacitating chemical, believed to be a derivative of the opiate fentanyl, into the theatre as a prelude to storming the building. Russian forces killed all the terrorists and rescued hundreds of hostages. The fentanyl, however, killed approximately 130 hostages — a fatality rate of 16%, more than twice the fatal-

28 Some NLW advocates have expressed frustration at the attention paid to the lack of empirical data on the human effects of NLWs. See Davison and Lewer 2005, *op. cit.* (note 11), p. 21 (reporting on NLW advocate John Alexander’s dismissal of “concerns over insufficient data about the human effects of NLWs.”).

29 NATO, *op. cit.* (note 13): “Neither the existence, the presence nor the potential effect of Non-Lethal Weapons shall constitute an obligation to use Non-Lethal Weapons, or impose a higher standard for, or additional restrictions on, the use of lethal force.” But see Davison and Lewer 2005, *op. cit.* (note 11), p. 27 (describing NLW legal expert David Koplow arguing that the current state of international law on this issue “was unlikely to ‘hold’ ” and predicting “that in the future NLWs would indeed raise the threshold for use of lethal force.”).

ity rate of “lethal” chemical weapons used on World War I battlefields.³⁰ The use of an incapacitating chemical to end the Moscow hostage crisis hit the debate about NLWs and international law like a thunderbolt.

Russia’s use of fentanyl had two immediate effects on that debate. The first effect was to raise the profile of the controversy surrounding incapacitating chemicals as potential NLWs. As explored below, what happened in Moscow drew new attention to the way in which the CWC addressed the use of such chemicals. Moscow made the CWC’s relationship to incapacitating chemicals more important both politically and legally, raising the stakes of this aspect of the debate on NLWs and international law.

Second, the Moscow crisis produced what I call the “fog of fentanyl” because the use of the incapacitating chemical gave both sides of the debate material they could use, clouding rather than clarifying issues in the controversy. For advocates, Moscow represented the kind of scenario that required thinking more seriously about NLWs. The combination of incapacitating fentanyl and conventional force saved most of the hostages, a result the use of conventional force alone would not have produced. The ability to bring “non-lethal” and “lethal” capabilities to bear appeared to save lives. Given the predictions about the threat terrorism poses after 11 September 2001, what happened in Moscow suggested to advocates that more vigorous pursuit of NLWs was needed with respect to non-traditional law enforcement, security, and military threats.

But Moscow also provided sceptics with evidence to support their views. The death toll from the fentanyl demonstrated that incapacitating chemicals are not “non-lethal.” Use of fentanyl in a context in which neither dosage nor exposure environment could be controlled resulted in a significant fatality rate among those exposed. These fatalities supported the sceptics’ claims that NLWs should be considered simply as weapons, the dangers of which depend on many factors that must be evaluated on a case-by-case basis and not obscured by a misleading, politically correct moniker.

Moscow intensified the sceptics’ fears that interest in incapacitating chemicals would increase, threatening the CWC. The manner in which Russian security forces killed all the incapacitated terrorists reinforced international humanitarian concerns about how NLWs might encourage military forces to violate the IHL principle of ‘hors de combat.’³¹ The fentanyl-related fatalities among the hostages raised human rights questions about the Russian government’s behaviour, particularly its lack of preparedness to deal with fentanyl-affected persons in the aftermath of the theatre’s storming.³²

30 Alexander Kelle, “Science, technology and the CBW control regimes,” *Disarmament Forum*, 2005, p. 8, p. 10. For a report on health problems suffered by the hostage survivors two years later, see Anna Rudnitskaya, “Nord-Ost tragedy goes on,” *The Moscow News*, Issue No. 41, 2004, at <<http://english.mn.ru/english/issue.php?2004-41-2>> (last visited 22 June 2005).

31 Henckaerts, *op. cit.* (note 25), p. 203 (stating that, under customary IHL, “[a]ttacking persons who are recognized as *hors de combat* is prohibited.”).

32 Independent Commission of Inquiry Must Investigate Raid on Moscow Theater: Inadequate Protection for Consequences of Gas Violates Obligation to Protect Life, Human Rights Watch, 30 October 2002, at <<http://www.hrw.org/press/2002/10/russia1030.htm>> (last visited 20 June 2005).

The “fog of fentanyl” meant that, dramatic as the Moscow incident was, the use of the incapacitating chemical did not resolve the debate about NLWs and international law. As the most significant real-world event involving an NLW beyond traditional kinetic and mechanical devices and riot control agents, the Moscow crisis heightened the debate’s importance, especially with regard to “non-lethal” chemical weapons. The next two sections look more closely at the impact of the Moscow incident on the NLW-international law debate, starting with the issue of the CWC’s regulation of incapacitating chemicals and then exploring the broader consequences of Moscow for the future relationship between these weapons and international law.

After Moscow: Incapacitating chemicals and the CWC

The impact of Moscow on the CWC

The aspect of the debate about “non-lethal” weapons and international law that has the longest history relates to “non-lethal” chemical weapons. The CWC negotiations dealt with the controversy as to whether riot control agents could be used as a method of warfare.³³ In addition, CWC negotiators addressed the use of toxic chemicals for purposes related to law enforcement.³⁴ The emergence of interest in NLWs in the latter half of the 1990s led their advocates to argue that CWC strictures on the military use of RCAs and incapacitating chemicals ought to be revisited and perhaps changed,³⁵ an argument colourfully captured by one expert who asserted that “chemicals can be our friends.”³⁶

The use of fentanyl during the Moscow crisis focused renewed attention on the CWC’s handling of incapacitating chemicals, especially Article II.9(d), which allows the use of toxic chemicals for law enforcement purposes.³⁷ This law enforcement provision had caused concern during and after the CWC’s negotiation,³⁸ but questions about its scope and potential impact on the CWC lingered until the Moscow crisis,³⁹ which made such questions unavoidable and significant in terms of the CWC and the broader debate concerning NLWs

33 Art. I.5, CWC.

34 *Ibid.*, Art. II.9(d).

35 See, e.g. *Nonlethal Technologies: Progress and Prospects*, Independent Task Force, Council on Foreign Relations, New York, 1999, at <http://www.cfr.org/pub3326/richard_l_garwin_w_winfield/nonlethal_technologies_progress_and_prospects.php#Report> (last visited 22 June 2005), arguing, in connection with chemical and biological weapons, that US security might be enhanced by modifying treaties.

36 Russell Glenn, “Separating the wheat from the chaff: Non-lethal capabilities in future urban operations”, paper presented at Jane’s 4th Annual Non-Lethal Weapons 2000 Conference, 5 December 2000.

37 Art. II.9(d), CWC, which stipulates that “‘Purposes Not Prohibited Under this Convention’ means: (...) (d) Law enforcement including domestic riot control purposes.”

38 For example, an editorial in the *Chemical Weapons Convention Bulletin* focused on the law enforcement provision in Article II.9(d) and asked “what is ‘law enforcement’? ...Whose law? What law? Enforced where? By whom?” “New weapon technologies and the loophole in the Convention,” *Chemical Weapons Convention Bulletin*, No. 23, March 1994, p. 1.

39 An editorial in the *CBW Conventions Bulletin* returned to the issue after the Moscow incident and asked “what in the context of the Convention is ‘law enforcement’?”. “‘Law enforcement’ and the CWC,” *CBW Conventions Bulletin*, No. 58, December 2002, p. 1.

and international law. Most experts agreed that what happened in Moscow fell within the CWC's law enforcement provision, and this consensus added more anxiety to controversies about how the provision should be interpreted.⁴⁰

The stakes with regard to the interpretation of the law enforcement provision were high for proponents and sceptics. For sceptics, the provision represented a potential loophole that proponents of incapacitating chemical weapons could exploit to undermine the CWC's prohibition on the military anti-personnel use of incapacitating chemicals.⁴¹ For advocates, the law enforcement provision offered room to develop the potential of incapacitating chemicals and demonstrate their utility for both law enforcement purposes and missions the military would face in twenty-first-century armed conflict. The provision was thus a platform from which an argument could be built that the CWC's prohibition on the military use of RCAs and incapacitating chemicals should be revised to reflect new "non-lethal" capabilities in the chemical field. In this sense, the law enforcement provision was a potential gateway to more robust "non-lethal" chemical capabilities for law enforcement personnel and military forces.

How the law enforcement provision would be interpreted after Moscow consequently became a policy and legal question of the highest order for the debate on NLWs and international law, and this article now turns to the interpretation of that provision and the implications of that interpretation for the future of this debate.⁴²

What toxic chemicals can be used for law enforcement purposes?

The initial interpretative question concerned the permissible range of toxic chemicals that can be used for law enforcement. Article II.9(d) clearly brings riot control agents within the range of permissible chemicals.⁴³ Some experts have claimed that any toxic chemical used for law enforcement purposes has to have the same properties as an RCA.⁴⁴ This interpretation is wrong for four reasons.

40 Another factor enhancing the importance of the meaning of the CWC's law enforcement provision was the convening in the spring of 2003, approximately six months after the Moscow incident, of the First Review Conference of the CWC. When CWC States Parties failed at that Conference to address the issues raised by the Moscow crisis, the controversy deepened.

41 The CWC does not prohibit the use of toxic chemicals for anti-matériel purposes in contexts in which the anti-matériel use of toxic chemicals does not adversely affect humans or animals. See Fidler, *op. cit.* (note 2), p. 72.

42 The interpretation of the CWC's law enforcement provision in this article is based on the author's previous analysis of this question, which was first presented to the open forum for non-governmental organizations at the CWC's First Review Conference in May 2003 and then in revised form as David P. Fidler, "Background paper on incapacitating chemical and biochemical weapons and law enforcement under the Chemical Weapons Convention", 25 May 2005, prepared for a symposium on incapacitating biochemical weapons in June 2005.

43 Art. II.7, CWC, (defining an RCA as "[a]ny chemical not listed in a Schedule, which can produce rapidly in humans sensory irritation or disabling physical effects which disappear within a short period of time following termination of exposure").

44 Abraham Chayes and Matthew Meselson, "Proposed guidelines on the status of riot control agents and other toxic chemicals under the Chemical Weapons Convention", *Chemical Weapons Convention Bulletin*, No. 35, March 1997, p. 13; Walter Krutzsch, "Non-lethal' chemicals for law enforcement?" Berlin Information and Center for Transatlantic Security Research Note 03.2, April 2003, p. 4.

First, Article II.9(d) allows countries to use toxic chemicals for capital punishment, and the chemicals used for this purpose are not RCAs.⁴⁵

Second, treaty interpretation rules do not support restricting Article II.9(d) to toxic chemicals that are RCAs. Under international law, a treaty must be interpreted “in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose.”⁴⁶

Article II.1(a) of the CWC states: “Chemical Weapons’ means the following, together or separately: (a) Toxic chemicals and their precursors, except where intended for purposes not prohibited under this Convention, as long as the types and quantities are consistent with such purposes.” Thus, “toxic chemicals” are chemical weapons except where intended for purposes not prohibited by the CWC, such as law enforcement. The law enforcement provision applies, therefore, to “toxic chemicals” as defined in Article II.2,⁴⁷ not just to riot control agents as defined in Article II.7. Article II.1(a) does not mention RCAs as a limitation on the “toxic chemicals” that can be used for purposes not prohibited under the CWC.

Third, riot control agents are defined as chemicals that are not listed on any Schedule to the CWC.⁴⁸ Toxic chemicals that can be used for purposes which are not prohibited, including law enforcement, can be listed on Schedules 2 and 3 of the CWC. The CWC’s Verification Annex makes this clear: a CWC State Party may not produce, acquire, retain, or use Schedule 1 chemicals unless, among other things, “[t]he chemicals are applied to research, medical, pharmaceutical or protective purposes.”⁴⁹ Law enforcement is not listed as a purpose for which Schedule 1 chemicals may be produced, acquired, retained, or used. As Krutzsch and Trapp observed, the Verification Annex relating to Schedule 1 chemicals is more restrictive than Article II.9, which means that “a Schedule 1 chemical cannot be used for any other purposes than those listed even if such a purpose were a peaceful one not related to the development, production or use of a chemical weapon.”⁵⁰

The Verification Annex on Schedule 1 chemicals thus means that CWC States Parties cannot produce, acquire, retain, or use Schedule 1 chemicals for law enforcement purposes. By contrast, the Verification Annex on Schedule 2 and 3 chemicals does not restrict in the same manner the purposes that are not

45 Some who have advocated restricting the range of toxic chemicals for law enforcement to those that meet the RCA definition admit that lethal doses of toxic chemicals can be used in capital punishment. Chayes and Meselson, *op. cit.* (note 44), p. 13 and Krutzsch, *op. cit.* (note 44).

46 Art. 31.1 of the Vienna Convention on the Law of Treaties, 23 May 1969, UNTS, Vol. 1155, p. 331 (hereinafter Vienna Convention).

47 Article II.2 of the CWC defines “toxic chemical” to mean: “Any chemical which through its chemical action on life processes can cause death, temporary incapacitation or permanent harm to humans or animals. This includes all such chemicals, regardless of their origin or of their method of production, and regardless of whether they are produced in facilities, in munitions or elsewhere. (For the purpose of implementing this Convention, toxic chemicals which have been identified for the application of verification measures are listed in Schedules contained in the Annex on Chemicals.)”

48 Art. II.7, CWC.

49 *Ibid.*, Verification Annex, Part VI, A.2(a).

50 Walter Krutzsch and Ralf Trapp, *A Commentary on the Chemical Weapons Convention*, Martinus Nijhoff Publishers, The Hague, 1994, p. 418.

prohibited, meaning that toxic chemicals listed on Schedules 2 or 3, which cannot be RCAs, may be employed for law enforcement purposes.

Fourth, in the Moscow incident the use of a toxic chemical that is not an RCA for law enforcement purposes provides some evidence of State practice that the CWC does not limit the range of chemicals that can be used under Article II.9(d) to RCAs. Under international law, subsequent State practice under a treaty can be taken into account when interpreting a treaty.⁵¹ The State practice generated by the Moscow incident comprises not only Russia's use of the toxic chemical but also acquiescence of other CWC States Parties to such use. As Mark Wheelis noted, "most analysts consider the Russian use of a fentanyl derivative to have been legal" under Article II.9(d).⁵² Thus, international law on treaty interpretation indicates that the CWC does not limit the range of toxic chemicals that can be used for law enforcement purposes to riot control agents.

CWC limitations on the development and use of toxic chemicals for law enforcement purposes

Even though the CWC does not restrict law enforcement use of toxic chemicals to RCAs, such use is subject to the requirement that the types and quantities of chemicals developed, produced, acquired, stockpiled, retained, transferred, or used must be consistent with such permitted purposes.⁵³ These limitations ensure that development, possession, and use of toxic chemicals for law enforcement do not undermine the CWC's prohibition on the development and use of toxic chemicals for military purposes. As with other provisions of this treaty, these disciplines must be interpreted in good faith to ascertain their ordinary meaning in light of their context and of the treaty's object and purpose.

The "types and quantities" rule requires scrutiny of the relationship between the chemical used and the law enforcement objective in question. The more difficult it is to control the effects of a chemical in a law enforcement operation, the more suspect such use is in terms of the agent being of a type or quantity consistent with a law enforcement purpose. This interpretation resonates with concerns about the deaths caused in Moscow by use of an incapacitating chemical.⁵⁴

51 Art. 31.3(b), Vienna Convention.

52 Mark Wheelis, "Will the new biology lead to new weapons?" *Arms Control Today*, July/August 2004, p. 6, p. 8. This analysis does not suggest that State practice from one incident can settle interpretative questions raised by the CWC, but the State practice generated by the Moscow hostage situation is an important instance of State practice under Article II.9(d).

53 Art. II.1(a), CWC. Krutzsch and Trapp observed that "a State Party has not only to demonstrate that there was a legitimate intent for the production or stockpiling of a certain chemical, but also that the chemical is in fact of a type consistent with that purported intent, and that its quantity corresponds to the specified purpose." Krutzsch and Trapp, *op. cit.* (note 50), p. 27.

54 "As with any chemical incapacitants, the concentration of fentanyl in any particular part of the building will have been difficult to control, the effects of any given concentration of fentanyl on any particularly susceptible individual would not have been known, and achievement of a certain separation between the incapacitating and lethal effects of the drug in other words, discriminating between making people unconscious without stopping them breathing is very difficult." Malcolm Dando, "The danger to the Chemical Weapons Convention from incapacitating chemicals, First CWC Review Conference Paper No. 4, March 2003, p. 4.

Extreme law enforcement situations

Use of incapacitating chemicals in contexts in which neither individual dosage nor the exposure conditions can be controlled is thus legitimate only in extreme situations. Extreme law enforcement situations are those in which governments confront the need to resort to potentially lethal force to resolve urgent, life-threatening situations because less violent and dangerous means of resolving the problems have failed. The Moscow crisis qualified as an extreme law enforcement situation.⁵⁵ In the absence of such an extreme situation, a government is not using an incapacitating chemical agent of a type, or in a quantity, consistent with law enforcement purposes when it can control neither dosage nor exposure conditions.

International human rights law (IHRL), as a relevant body of international law under treaty interpretation rules,⁵⁶ supports this conclusion. In extreme law enforcement situations, governments contemplating use of incapacitating chemicals confront the obligation to protect the right to life.⁵⁷ This obligation prohibits governments from arbitrarily taking the lives of persons subject to their jurisdictions,⁵⁸ and IHRL does not permit any derogation from this obligation, even in time of public emergency.⁵⁹

Human rights organizations have accused Russia of violating the right to life by failing to provide adequate medical services to rescued hostages who succumbed to the fentanyl gas.⁶⁰ The inability to control dosage or exposure environment if incapacitating chemicals are used in extreme law enforcement emergencies heightens a government's responsibility to ensure all precautions are taken to minimize harm to innocent people and to provide immediate medical attention to those exposed and perhaps adversely affected.⁶¹

Law enforcement detention of individuals

This interpretation means that the “types and quantities” restraint on use of incapacitating chemicals for non-extreme law enforcement situations requires CWC States Parties to maintain strict control over dosage and exposure envi-

55 As Human Rights Watch commented on the Moscow hostage incident, “International law does not prohibit the use of potentially lethal force in operations to liberate hostages, but it requires that such force be ‘absolutely necessary’ and that all precautions be taken in both the planning and execution of such operations to minimize the loss of civilian life.” Human Rights Watch, *op. cit.* (note 32).

56 Art. 31.3(c), Vienna Convention, (“There shall be taken into account, together with the context: . . . (c) any relevant rules of international law applicable in the relations between the parties.”).

57 Art. 3, Universal Declaration of Human Rights, G.A. Res. 217A (III), UN Doc. A/810, 1948, p. 71 (hereinafter UDHR); Art. 6, International Covenant on Civil and Political Rights, 19 Dec. 1966, UNTS, Vol. 999, p. 171 (hereinafter ICCPR).

58 Human Rights Committee, “General Comment No. 6, Article 6,” para. 3, in *Compilation of General Comments and General Recommendations Adopted by Human Rights Treaty Bodies*, UN Doc. HRI/GEN/1/Rev/1, 1994, p. 6.

59 Art. 4, ICCPR.

60 Human Rights Watch, *op. cit.* (note 32).

61 Commenting on the possible use of incapacitating chemicals for law enforcement purposes, the British government argued: “The decision to use any drug whether intended to induce a state of calm or complete unconsciousness requires knowledge of a subject’s medical history, particularly the use of any prescribed or non-prescribed medication and any relevant medical conditions. There would also be considerable responsibility in terms of immediate and post-incident aftercare.” Quoted in Lewer and Davison, *op. cit.* (note 11), p. 47.

ronment.⁶² Such control would mean that law enforcement authorities have to have physical custody of the individual in question. In keeping with rules on treaty interpretation, the “types and quantities” rule has to be interpreted in light of relevant international law applicable between States.⁶³ Thus, a law enforcement situation involving physical custody of persons brings IHRL into the analysis.⁶⁴ International law on civil and political rights directly addresses law enforcement activities.⁶⁵ A reading of the “types and quantities” rule in light of human rights law considerably limits the contexts in which law enforcement authorities could use incapacitating chemicals against detained persons.

International human rights law prohibits torture or other cruel, inhuman, or degrading treatment or punishment and permits no derogations from this prohibition.⁶⁶ Non-consensual, non-therapeutic use of an incapacitating chemical against detained individuals would constitute degrading treatment and could, depending on the severity of the chemical’s physiological effects, constitute cruel or inhuman treatment and perhaps even torture.⁶⁷ States, international organizations and non-governmental human rights organizations have long condemned the non-consensual, non-therapeutic use of psychotropic drugs and other types of chemicals against detained persons. The only contexts in which non-consensual, non-therapeutic use of an incapacitating chemical on a detained person might be compatible with IHRL are situations in which the detained person poses an immediate, violent threat to his or her own physical safety (e.g. attempting suicide) or to safety and order in the detention facility (e.g. attacking guards or participating in riots).

Thus, law enforcement purposes for which incapacitating chemicals may be legitimately used on physically detained persons are extremely limited under the CWC’s “types and quantities” rule. Key to this interpretation is the relevance of IHRL in determining the types and quantities of incapacitating chemicals that can legitimately be used for law enforcement purposes connected to the detention of individuals.

Summary: CWC limitations on development and use of toxic chemicals for law enforcement

Overall, the “types and quantities” rule significantly restrains a CWC State Party’s ability to develop and use incapacitating chemicals for law enforcement

62 “To elicit the desired level of mood alteration without causing a dangerous level of respiratory depression (i.e. calming while maintaining consciousness) requires a tight control on dose level.” *An Assessment of Non-Lethal Weapons Science and Technology*, Committee for an Assessment of Non-Lethal Weapons Science and Technology, National Academies Press, Washington, D.C., 2003, p. 27.

63 Art. 31.3(c), Vienna Convention.

64 The CWC was negotiated well after the development of IHRL, which strengthens the legitimacy of making reference to IHRL in the interpretation of the CWC’s law enforcement provision.

65 See, e.g. Arts. 6 ICCPR (no arbitrary deprivation of life and rules on imposition of the death penalty), 7 (prohibition of torture or cruel, inhuman or degrading treatment or punishment), 9-10 (rules relating to the deprivation of liberty), and 14-15 (rules on charging and prosecuting individuals for criminal offences).

66 Art. 5 UDHR; Arts. 4.2 and 7 ICCPR.

67 Detailed analysis of these IHRL issues can be found in Fidler, *op. cit.* (note 42), pp. 33-44.

purposes, whether those purposes involve groups of people or detained individuals. The legal “loophole” in Article II.9(d) is not, in fact, as dangerous as some NLW sceptics feared. The CWC, informed by IHRL, sets serious limits to a State’s development and use of incapacitating chemicals for law enforcement purposes. Bringing IHRL to bear on the interpretation of the “types and quantities” limitation conforms to the ethical objectives to which “non-lethal” weapons proponents attribute their interest in incapacitating chemicals. NLW proponents would be acting inconsistently from an ethical standpoint if they rejected the application of human rights norms to the law enforcement use of incapacitating chemicals. Thus, the positions of sceptics and proponents converge with respect to the interpretation of the “types and quantities” rule presented above.

The meaning of “law enforcement”

The second major question to arise in connection with the interpretation of Article II.9(d) in the aftermath of Moscow was the scope of the term “law enforcement.” Agreement that Russia’s use of fentanyl was for law enforcement purposes gave rise to concern and confusion about exactly how far “law enforcement” stretched with respect to the use of incapacitating chemicals. As Dando asked, “when (...) does law enforcement end and a method of warfare begin?”⁶⁸ The CWC does not define “law enforcement,” which requires again engaging in treaty interpretation. The basic question is whether “law enforcement” should be interpreted narrowly or broadly.⁶⁹ As discussed below, the choice also involves deciding whether “law enforcement” includes activities relating to international law.

Enforcement of domestic law

What is meant by “law enforcement”? The ordinary meaning of “enforcement” is to compel observance or obedience.⁷⁰ The ordinary meaning of “law” clearly has the connotation of domestic law, or the law that applies to activities within the territory, or subject to the jurisdiction, of a sovereign State. Article II.9(d) of the CWC is concerned, therefore, with the enforcement of domestic law. Article II.9(d) allows lethal doses of toxic chemicals to be used for capital punishment — a law enforcement function that takes place within a State’s jurisdiction. In addition, Article II.9(d) allows toxic chemicals to be used for “[l]aw enforcement including domestic riot control purposes.” The phrase “including domestic riot control” illustrates one kind of law enforcement activity permitted by Article II.9(d) and focuses attention on domestic law enforcement within a

68 Malcolm Dando, “Scientific and technological change and the future of the CWC: The problem of non-lethal weapons,” *Disarmament Forum*, 2002, pp. 33-34.

69 Krutzsch and Trapp spelled out this choice: “The phrase ‘law enforcement including domestic riot control’ can be interpreted as meaning that there is riot control other than domestic riot control. On the other hand, that ‘non-domestic’ riot control would have to be an internationally accepted means of ‘law enforcement.’” Krutzsch and Trapp, *op. cit.* (note 50), p. 42 n. 45.

70 *Shorter Oxford English Dictionary*, Oxford University Press, Oxford, 1993, p. 820.

State's borders or jurisdiction.⁷¹ Russia's use of fentanyl occurred within its territory in response to violent, criminal acts. Although Article II.9(d) covers the enforcement of domestic law within a State's sovereign territory, two questions linger: does Article II.9(d) support the use of toxic chemicals to enforce domestic law extrajurisdictionally, and to enforce international law?

Use of toxic chemicals in extrajurisdictional enforcement of domestic law

To analyse whether Article II.9(d) allows the use of toxic chemicals in the extrajurisdictional enforcement of domestic law, the rules of international law on this issue must be taken into account. It is clear from these rules that the CWC does not authorize such use.

Under international law, a State may enforce a law only if it has jurisdiction to prescribe the law.⁷² The rules on prescriptive jurisdiction allow a State to prescribe domestic law for persons, conduct, and activities beyond its jurisdictional boundaries. International law on jurisdiction to enforce law contains, however, stricter limits: "It is universally recognized, as a corollary of state sovereignty, that officials of one state may not exercise their functions in the territory of another state without the latter's consent."⁷³ Two fundamental principles support this position: (1) the principle of sovereignty and sovereign equality of States;⁷⁴ and (2) the principle prohibiting intervention in the domestic affairs of other States.⁷⁵ Actions to enforce criminal law cannot be undertaken in the jurisdiction of another State without that State's consent.

These rules mean that Article II.9(d) permits a State Party to use toxic chemicals for law enforcement purposes only within areas subject to its jurisdiction. Under international law on enforcement jurisdiction, Article II.9(d) cannot be interpreted as allowing a State Party to use a toxic chemical to enforce its domestic law inside areas subject to the jurisdiction of another State. Such use would be legitimate only when (1) the CWC State Party with jurisdiction permits toxic chemicals to be used; (2) the permission relates to a law enforcement purpose; and (3) the use complies with the "types and quantities" requirement.⁷⁶

71 State practice indicates frequent use of RCAs by governments within their sovereign territories. See Davison and Lewer 2004, *op. cit.* (note 11), pp. 34-35 (recording uses of RCAs around the world for crowd control).

72 American Law Institute, *Restatement (Third) of the Foreign Relations Law of the United States*, American Law Institute Publishers, St. Paul, 1986, § 431(1). Under international law, a State has prescriptive jurisdiction with respect to (1) conduct, persons, or activities wholly or in substantial part within its territory or areas subject to its jurisdiction; (2) the activities, interests, status, or relations of its nationals outside as well as within its territory and areas subject to its jurisdiction; and (3) conduct outside its territory or areas subject to its jurisdiction (a) that has or is intended to have substantial effect within its territory, and (b) by persons not its nationals that is directed against the security of the State or against a limited class of other state interests. *Ibid.* § 402. Even with such a basis, the exercise of the jurisdiction must also be reasonable. *Ibid.*, § 403.

73 *Ibid.*, p. 329.

74 Art. 2.1, UN Charter.

75 *Ibid.*, Art. 2.7.

76 US State practice reflects this interpretation. The *Commander's Handbook on the Law of Naval Operations* lists as permissible the peacetime use of an RCA "[o]f-base overseas for law enforcement purposes specifically authorized by the host government." Steven F. Day, "Legal considerations in noncombatant evacuation operations," *Naval Law Review*, Vol. 40, 1992, p. 45, p. 60.

The international legal rules on jurisdiction to enforce law demonstrate that the ordinary meaning of “law enforcement” in Article II.9(d) incorporates the enforcement of domestic law within the State’s own territory or areas subject to its jurisdiction. The ordinary meaning of “law enforcement” does not include the extrajudicial enforcement of domestic law because such enforcement depends entirely on the consent of another State.

Use of toxic chemicals to enforce international law

Whether Article II.9(d) allows the use of toxic chemicals to enforce international law is another question that has arisen.⁷⁷ Does the ordinary meaning of “law enforcement” in light of the CWC’s object and purpose include enforcement of international law?

To consider international law within the scope of “law enforcement” in Article II.9(d) would require an unconventional approach to the relationship between international law and enforcement. Whether international law is enforceable is a perennial debate that makes inclusion of that law within the ordinary meaning of “law enforcement” dubious. The decentralized and anarchic nature of international relations complicates its enforcement, hence the controversy: international law contains few centralized mechanisms under which States can compel other States to obey it. As “Oppenheim’s International Law” noted, international law suffers deficiencies in the means available for enforcement of its rules.⁷⁸ Thus, arguing that the ordinary meaning of “law enforcement” encompasses international law as well as domestic law lacks credibility, given the general relationship between enforcement and international law.

Enforcement of international law is also subject to principles regulating how States should handle disputes about violations of international law. Peaceful settlement of disputes is a generally applicable principle,⁷⁹ according to which States must settle disputes without resort to force, violence and weaponry. States can take peaceful countermeasures (e.g. economic sanctions) to try to compel another State to comply with its international legal duties. Peaceful dispute settlement does not, however, contemplate use of toxic chemicals to compel obedience to international law. In fact, nothing in international law justifies one State using toxic chemicals to compel another State to comply with international law.

Law enforcement and the right to use force in self-defence

Some may argue that a CWC State Party can use toxic chemicals, pursuant to the law enforcement provision, in the exercise of its inherent right of self-defence against an armed attack or other form of illegal aggression by State or non-State parties. In other words, a State’s use of the toxic chemicals would form part of the enforcement of international legal rules prohibiting the use of force. This

77 As Chayes and Meselson noted, the CWC “does not state explicitly what sources of law states may enforce in invoking Article II.9(d). It seems possible, therefore, that states might wish to invoke international law to justify their ‘law enforcement’ activities.” Chayes and Meselson, *op. cit.* (note 44), p. 15.

78 *Oppenheim’s International Law*, 9th ed., Longmans, London, 1992, p. 11.

79 Arts. 2.3, 2.4 and 33.1, UN Charter.

argument lacks any support in international law. Self-defence is an inherent right that States possess; it is not a “law enforcement” mechanism.⁸⁰

Furthermore, the CWC’s text, context, object and purpose point to the goal of eliminating the use of toxic chemicals in armed conflict. Allowing toxic chemicals to be used as part of the right of self-defence against aggression would make the use of chemical weapons permissible in armed conflict — the very thing the CWC prohibits. The same reasoning applies to armed conflict conducted by the armed forces of a State outside its jurisdiction, whether such operations involve UN Security Council-authorized collective security responses, humanitarian intervention or anticipatory or pre-emptive self-defence.

Extraterritorial law enforcement activities undertaken by military forces and permitted by international law

Thus, Article II.9(d) does not allow CWC States Parties to use toxic chemicals to enforce international law. International law does, however, permit certain extraterritorial law enforcement activities by military forces in both traditional and non-traditional military operations. Such activities are within the scope of Article II.9(d).

International law recognizes a number of contexts in which military forces engage in law enforcement activities in connection with traditional military operations. These contexts generally relate to the preservation of public order and safety in areas subject to the control of military forces. First, IHL acknowledges the responsibility of the occupying power “to maintain the orderly government of the territory.”⁸¹ The International Committee of the Red Cross (ICRC) observed that this provision empowers the occupying power “in its capacity as the Power responsible for public law and order.”⁸² Fulfilment of this responsibility for public order and safety would include activities such as controlling civilian crowds in order to prevent disorder in the occupied territory.

Second, IHL also allows occupying forces to ensure the security of their members and property, of the occupying administration, and of the establishments and lines of communication used by them.⁸³ This right gives occupying forces international legal permission to enact and implement penal legislation in order to protect their soldiers, administrators, buildings, lines of communication, equipment and other forms of property from problems created or threats posed by non-combatants in the occupied territory.⁸⁴

80 *Ibid.*, Art. 51.

81 Art. 64, Fourth Geneva Convention relative to the Protection of Civilian Persons in Time of War, 12 August 1949, UNTS, Vol. 75, p. 287 (hereinafter GC IV).

82 *Commentary on Geneva Convention IV Relative to the Protection of Civilian Persons in Time of War*, ICRC, Geneva, 1958, p. 337.

83 Art. 64, GC IV.

84 An example of the use of an RCA to protect the occupying power’s property is described in a report on “non-lethal” weapons sponsored by the Council on Foreign Relations. In response to civilians infiltrating a military base in Baghdad occupied by US military forces and attempting to loot property, US military personnel used various “non-lethal” weapons, including a RCA, oleoresin capsicum (OC), to clear the civilians from the compound. Independent Task Force, *Non-Lethal Weapons and Capabilities*, Washington, D.C., Council on Foreign Relations, 2004, p. 51. See also Davison and Lewer 2005, *op. cit.* (note 11), pp. 22–24 (describing use of various NLWs in US military operations in Iraq and Afghanistan).

Third, IHL recognizes that as well as the laws of the occupied territory, the occupying power may enforce laws it promulgates itself pursuant to its responsibilities under the international law of occupation.⁸⁵ Such powers would include law enforcement techniques and weapons, such as RCAs, used to control civilian crowds and to protect public order and safety.

Fourth, IHL allows military forces to regulate the behaviour of prisoners of war (POWs).⁸⁶ Military forces can enforce laws, regulations and orders against POWs⁸⁷ and may use weapons against POWs in extreme circumstances, such as attempts to escape⁸⁸ after prior warnings appropriate to the circumstances are disregarded. According to the ICRC, the detaining power may use force against POWs engaged in rebellious or mutinous behaviour: “Before resorting to weapons of war, sentries can use others which do not cause fatal injury and may even be considered as warnings — tear gas, truncheons, etc.”⁸⁹

These four contexts in which international law recognizes the legitimacy of extraterritorial law enforcement activities by military forces indicate that Article II.9(d) of the CWC includes these activities. This interpretation covers some of the circumstances in which the United States claims the ability to use RCAs in military situations, namely: (1) in areas under direct and distinct US military control, including the control of rioting POWs; and (2) in rear echelon areas outside the zone of immediate combat to secure convoys from civil disturbances.⁹⁰

The above analysis also applies to non-traditional military activities, such as peacekeeping operations, recognized as legitimate under international law. Non-traditional military operations have legitimacy under international law if they are conducted pursuant to: (1) a request for peacekeeping forces from a sovereign State; and (2) the authorization of peacekeeping operations by the UN Security Council under Chapter VII of the UN Charter.

Military forces conducting peacekeeping operations will often find themselves responsible for the security of, and public order and safety within, civilian populations; will be involved in law enforcement operations (e.g. arresting suspected war criminals, rescuing hostages); and will face threats to the security of their personnel and equipment from non-combatants.⁹¹ Indeed, the challenges military forces face in handling civilian populations

85 GC IV, Arts. 64-78.

86 Arts. 41, 82, Third Geneva Convention Relative to the Treatment of Prisoners of War, 12 August 1949, UNTS, Vol. 75, p. 135 (hereinafter GC III).

87 *Ibid.*, Art. 82.

88 *Ibid.*, Art. 42.

89 *Commentary on Geneva Convention III Relative to the Treatment of Prisoners of War*, ICRC, Geneva, 1960, p. 247.

90 Executive Order 11850, *Federal Register*, Vol. 40, 1975, p. 161, paras. (a), (d)).

91 After being unable to prevent violent mobs from attacking monasteries in Kosovo in March 2004, Germany announced its intention to equip its peacekeepers with RCAs. Davison and Lewer 2004, *op. cit.* (note 11), p. 34. In the Ivory Coast, French military forces used RCAs against rioting civilians in the wake of the French military intervention that followed an attack on French peacekeepers by the country's air force. Davison and Lewer 2005, *op. cit.* (note 11), p. 53.

during peacekeeping operations have partly fuelled military interest in “non-lethal” weapons in the last decade.⁹²

Thus, the CWC permits the use by military forces of RCAs for law enforcement purposes during non-traditional military operations sanctioned by international law. This interpretation is consistent with US claims that its military forces may lawfully use RCAs in (1) the conduct of peacetime military operations within an area of ongoing armed conflict when the United States is not a party to the conflict; (2) peacekeeping operations authorized by the receiving State, including peacekeeping operations pursuant to Chapter VI of the UN Charter; and (3) peacekeeping operations where force is authorized by the UN Security Council under Chapter VII of the UN Charter.⁹³

This interpretation does not, however, support the US position that it may use RCAs against combatant forces in the above-listed non-traditional military operations.⁹⁴ The types of law enforcement activities that international law allows military forces to undertake in traditional and non-traditional military operations relate to the interaction of military troops and non-combatants, in the form of either POWs or civilians, not the engagement of combatant forces.

The interpretation of Article II.9(d) as presented above has two implications that deserve mention. First, it means that in extreme law enforcement situations, military forces conducting extraterritorial law enforcement activities permitted by international law during traditional and non-traditional military operations might not be limited to the use of riot control agents. State practice suggests, however, that the CWC is more restrictive with regard to the use by military forces of toxic chemicals in such activities. Moreover, CWC States Parties, including the United States, have never claimed the ability to use, or actually used, toxic chemicals other than RCAs for the types of law enforcement activities permitted by international law in traditional and non-traditional military operations.^{95, 96} This more restrictive interpretation has two sources: (1) those activities are extraterritorial and do not benefit from the discretion accorded by international law to governments within their own territories; and (2) they are undertaken by military forces. The CWC’s

92 Fidler, *op. cit.* (note 2), p. 58.

93 US Senate Executive Resolution No. 75 – Relative to the Chemical Weapons Convention, *Congressional Record*, Vol. 143, p. S3373-01, 17 April 1997, § 26A.

94 *Ibid.*

95 President Bush authorized US military forces to use RCAs in Iraq in 2003 under the circumstances described in Executive Order 11850. Neil Davison and Nicholas Lewer, Bradford Non-Lethal Weapons Research Project Report No. 4, 2003, p. 13. The UK military indicated in March 2003 that it would use RCAs in Iraq solely for riot control purposes. Davison and Lewer 2004, *op. cit.* (note 11), p. 34.

96 This situation has produced incentives for trying to fit new chemical compounds, such as malodorants, within the definition of an RCA, as the United States has done. Davison and Lewer 2003, *op. cit.* (note 95), p. 10. Such an approach will not, however, work for stronger incapacitating chemicals. As a National Research Council report observed, “[t]he use of calmatives had (...) been envisioned in connection with hostage situations and for use with ‘unmanageable’ prisoners, but not for riot situations in which incapacitated individuals might be trampled or crushed in the rioting.” Committee for an Assessment of Non-Lethal Weapons Science and Technology, *op. cit.* (note 62), p. 27.

object and purpose means that heightened scrutiny, and extra safeguards, are appropriate when extraterritorial military activities involving toxic chemicals are at issue.

The second implication of the above interpretation of Article II.9(d) is that it covers many, but not all, of the uses of riot control agents which the United States claims are legal under the CWC. It does not cover two situations in which the United States believes that the use of RCAs is legally permissible: (1) contexts in which civilians are used to mask or screen attacks and civilian casualties can be reduced or avoided; and (2) rescue missions in remote areas of downed aircrew and passengers, and of escaping POWs.⁹⁷ Neither of these situations resembles those in which military forces may engage in the kinds of law enforcement activities sanctioned by international law.

The use of riot control agents against enemy combatants attempting to capture downed aircrew and passengers or escaping POWs, or against enemy combatants who are employing civilians as human shields or to mask attacks, is more akin to a method of warfare than to a law enforcement purpose. Neither of these uses fits in with the kinds of law enforcement activities that are undertaken by military forces and sanctioned by international law. Interpreting Article II.9(d) in this manner is consistent with treaty interpretation principles because it distinguishes between law enforcement purposes permitted by Article II.9(d) and methods of warfare prohibited by Article I.5.

Law enforcement and combating insurgencies

Counter-insurgency operations in Iraq have raised the question whether military forces can use RCAs or incapacitating chemicals in counter-insurgency activities. In other words, can counter-insurgency operations mounted by military forces be considered a law enforcement purpose under Article II.9(d)? The insurgency context poses conceptual problems because it falls between traditional notions of armed conflict between States and law enforcement within a State. Environments involving insurgencies and large-scale, organized civil violence have presented IHL with difficulties in the past, as evidenced by the controversies that surrounded the negotiation of Additional Protocol II on non-international armed conflict. It is therefore not surprising that the insurgency context creates problems for the interpretation of Article II.9(d).

International humanitarian law rules on non-international armed conflict apply to conflicts in the territory of a State between its armed forces and dissident armed forces or other organized armed groups which exercise such control over a part of that State's territory as to enable them to carry out sustained and concerted military operations.⁹⁸ This threshold provides a demarcation point between armed conflict and law enforcement within a State. Thus,

⁹⁷ Executive Order 11850, *op. cit.* (note 90), § (b)-(c).

⁹⁸ Art. 1, Protocol (II) Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of Non-International Armed Conflicts, 10 June 1977, UNTS, Vol. 1125, p. 609.

Additional Protocol II is a relevant source of applicable rules that should inform interpretation of Article II.9(d).

Military action taken against insurgents who exercise control over part of a State's territory and carry out sustained and concerted military operations constitutes armed conflict rather than law enforcement, and thus falls outside Article II.9(d). The CWC's prohibition of the use of chemical weapons "under any circumstance"⁹⁹ encompasses civil conflict as well as international conflict. This reasoning also suggests that use of RCAs in counter-insurgency operations would be a method of warfare prohibited by Article I.5 of the CWC. The State practice of military forces in Iraq to date supports this interpretation, because such forces have not used RCAs or incapacitating chemicals in counter-insurgency operations.

Moscow, law enforcement and the CWC

The foregoing detailed analysis of the CWC's law enforcement provision is made in response to the shock waves that the use of fentanyl to end the Moscow hostage crisis sent through the debate on NLWs and international law. Most experts agreed that Russia's use of fentanyl fell within Article II.9(d), but uncertainty and worries about this provision's meaning and application with respect to contexts beyond the scenario in Moscow urgently needed to be resolved. The interpretation of Article II.9(d) presented above answers many questions raised about this provision and addresses fears that Moscow demonstrated it to be, as some had previously argued, "a grave weakness" making the CWC vulnerable to "advancing science and technology."¹⁰⁰ Admittedly, the law enforcement provision is complex, but analysis in the wake of Moscow indicates that it does not prostrate the CWC's object and purpose before benign or malevolent manipulation of advances in science and technology. Clarification of the provision is an important development after Moscow, but, as the next section argues, the impact of Moscow on the debate about NLWs and international law goes beyond determining the meaning of the law enforcement provision in the CWC.

Beyond Moscow: Non-lethal weapons and international law today and tomorrow

Chemical and biological NLWs and international law: A sea change?

Looking beyond the impact of the Moscow crisis on the interpretation of the CWC, a shift can be detected among important opinion leaders in the United States with regard to the prudence of pursuing chemical or biological NLW capabilities. This shift can be perceived in two reports by NLW task forces sponsored by the influential

99 Art. I.1, CWC.

100 "New weapon technologies and the loophole in the Convention," *op. cit.* (note 38), p. 2.

Council on Foreign Relations (CFR), one issued before the Moscow incident and one after. In 1999, a CFR task force discussing chemical and biological capabilities argued that “[o]n occasion, U.S. security might be improved by a modification to a treaty,”¹⁰¹ which suggested a willingness on the part of opinion leaders in the United States to consider amending the CWC and/or the BWC.

Another CFR task force on non-lethal weapons reached, however, the opposite conclusion in 2004. This task force “considered the benefits that would accrue and the problems that would be posed by either a U.S. attempt to interpret the CWC or by a U.S. move to amend or to renounce the CWC in order to be able to use chemicals as nonlethal weapons against enemy combatants.”¹⁰² This analysis led the task force to conclude:

“The Task Force believes that to press for an amendment to the CWC or even to assert a right to use RCAs as a method of warfare risks impairing the legitimacy of all NLW. This would also free others to openly and legitimately conduct focused governmental R&D [research and development] that could more readily yield advanced lethal agents than improved nonlethal capabilities. (...) Accordingly, the Task Force judges that on balance the best course for the United States is to reaffirm its commitment to the CWC and the BWC and to be a leader in ensuring that other nations comply with the treaties.”¹⁰³

The shift from the 1999 report to the conclusion reached by the 2004 report indicates a growth in awareness that loosening the strictures of the CWC or the BWC for “non-lethal” weapons purposes would not only harm US national security by providing incentives for others to pursue research easily exploited for lethal purposes but also — in the words of the 2004 CFR task force — damage the legitimacy of all NLWs. The 2004 CFR task force supported development of more NLW capabilities¹⁰⁴ but concluded that keeping chemical or biological options open would undermine progress toward that goal. This task force wanted to avoid the deleterious policy and legal effects of the “fog of fentanyl” as part of the larger movement for more NLW development.

Other indications, too, support the conclusion that prospects and enthusiasm for more robust chemical capabilities are diminishing. Legal expert David Koplow has argued that amending the CWC to allow military use of “non-lethal” chemical weapons, whether RCAs or incapacitating chemicals, exists only in the realm of fantasy.¹⁰⁵ A lawyer with the US Judge Advocate General admitted that the CWC prohibited military use of calmative chemical agents, calling into question the legality of any military interest in such incapacitating weapons.¹⁰⁶

101 Independent Task Force 1999, *op. cit.* (note 35).

102 Independent Task Force 2004, *op. cit.* (note 84), p. 31.

103 *Ibid.*, p. 32.

104 *Ibid.*, p. 1.

105 Davison and Lewer 2005, *op. cit.* (note 11), p. 26 (reporting comments of NLW legal expert David Koplow at the Non-Lethal Defense Conference VI in March 2005).

106 *Ibid.* (reporting a lawyer from the US Judge Advocate General as arguing that it was “more likely than not that the Chemical Weapons Convention prohibited these types [calmatives] of weapons systems.”).

The change in position of CFR task forces does not mean that interest in, or controversy about, chemical and biological NLWs for military purposes has evaporated. Some advocates continue to push for chemical and biological NLWs, which would require changing international law.¹⁰⁷ Moreover, indications exist that military interest in incapacitating chemicals continues.¹⁰⁸ A NATO report mentioned anti-matériel biological weapons as a technology of interest,¹⁰⁹ despite the BWC's prohibition of such weapons¹¹⁰ and a prior NATO report that concluded that anti-matériel biological weapons were not permitted under the BWC.¹¹¹ Arguments are being put forward that the CWC does not regulate malodorants, meaning that military forces could use them in armed conflict.¹¹² Misgivings have been expressed that newer incapacitating chemicals will be called RCAs to provide cover for research and development under the guise of law enforcement purposes.¹¹³ In addition, concern is growing about so-called incapacitating "biochemical" weapons involving substances that might be classified as toxins under the BWC and/or as toxic chemicals under the CWC.¹¹⁴ All these observations mean that international legal vigilance on NLW chemical, biological, and biochemical weapons remains important.

Nevertheless, the shift evident among CFR opinion leaders, combined with the sustained arguments and efforts of NLW sceptics, indicates that some "sea change" has occurred with regard to chemical and biological weapons in the

107 Davison and Lewer 2005, *op. cit.* (note 11), p. 21 (reporting that, at the Non-Lethal Defense Conference VI in March 2005, NLW advocate John Alexander held that "the issue of chemical and biological weapons should be revisited for non-lethal weapons purposes arguing that international law prohibiting their development is 'out-dated.'").

108 Dando, *op. cit.* (note 54), p. 17. One non-governmental organization has accused the United States of operating a secret chemical weapons programme in violation of the CWC. "US military operates secret chemical weapons program", *Sunshine Project Aerogramme*, No. 2002/05, Sunshine Project, 24 September 2002.

109 NATO Research and Technology Organization, *Non-lethal weapons and future peace enforcement operations*, TR-SAS-040, November 2004, p. 3-6.

110 See, e.g., *Preliminary Legal Review of Proposed Chemical-Based Nonlethal Weapons*, US Department of the Navy Office of the Judge Advocate General, 30 Nov. 1997, p. 21 ("The Biological Weapons Convention and, more clearly, the domestic [US] implementing legislation, prohibit the development, production, stockpiling of biological agents for use as weapons. Biological agents are broadly defined by the statute so as to include agents used for anti-material purposes.").

111 See Committees of the North Atlantic Assembly, *Non-lethal weapons*, Lord Lyell (United Kingdom) General Rapporteur, 18 April 1997, Doc. No. STC (97)3, at § 39 (stating that "the use of biological agents to render fuels inert or destroy materials used in material equipment would not be permissible under the BWC even if the intent was non-lethal.").

112 Massimo Annati, "Military use of chemical riot control agents: A case for legal assessment", paper presented to the 3rd European Symposium on Non-Lethal Weapons, 10-12 May 2005, Ettlingen, Germany, p. 7 (arguing that malodorants are not toxic chemicals under the CWC); Jared Silberman, "Non-lethal weaponry and non-proliferation," *Notre Dame Journal of Law, Ethics and Public Policy*, Vol. 19, 2005, pp. 347-348 (US Navy lawyer arguing that "[o]ne thing that you may see on the horizon is the use of malodorants – a way to deny access to an enemy.").

113 Davison and Lewer 2005, *op. cit.* (note 11), p. 26.

114 Neil Davison, "Weapons focus: Biochemical weapons," in *Bradford Non-Lethal Weapons Research Project Report No. 5*, May 2004, pp. 27-34; Wheelis, *op. cit.* (note 52), pp. 6-13; Malcolm Dando, "The malign use of neuroscience," *Disarmament Forum*, 2005, pp. 17-24; Kathryn Nixdorff, "Assault on the immune system," *Disarmament Forum*, 2005, pp. 25-35.

debate about NLWs and international law after the Moscow crisis. Whether this sea change proves permanent or ephemeral bears watching in the next decade.

The path less regulated: Other NLW technologies and international law

As the Moscow crisis demonstrated and the latest CFR task force recognized, the chemical and biological paths to “non-lethal” weapons are fraught with intense controversy, much of which is connected to the “concentrated” manner in which international law regulates chemical and biological weapons. Other NLW technologies do not face the international legal scrutiny applied to chemical or biological agents. Nothing like the CWC or BWC exists for kinetic, acoustic, electrical, microwave and electromagnetic “non-lethal” weapon technologies; this creates a more conducive environment for research and development. The IHL and IHRL rules that apply are general in nature (e.g. no superfluous injury or unnecessary suffering from a weapon’s use; no torture or other cruel, inhuman, or degrading treatment) rather than specific to a technology. This situation facilitates technologies moving from research and development to deployment. Although concerns about some of these technologies do exist, as illustrated by controversies surrounding Taser weapons,¹¹⁵ nothing like the “fog of fentanyl” currently complicates exploration of these NLW possibilities.

Interestingly, some “non-lethal” weapon advocacy seeks to prevent further density from developing in international legal regulation of these technologies. In November 2004, NATO’s Research and Technology Organization (RTO) recommended that, “[i]n order to ensure that NATO forces retain the ability to accomplish missions, NATO nations must remain vigilant against the development of specific legal regimes which unnecessarily limit the ability to use NLW.”¹¹⁶ The RTO demonstrated no overt hostility to international law’s role vis-à-vis NLWs, for it emphasized the duty of NATO countries to review the legality of new weapons and the need to determine whether IHL adequately addresses the use of “non-lethal” weapons.¹¹⁷ The desire to prevent further development of specific international legal regulation hints, however, at a concern that the debate on NLWs and international law has created momentum for, or at least serious interest in, international legal regulation of NLW technologies that threatens future military adoption and use of such technologies.

This recommendation underscores, however, a message of sceptics: there is no such thing as a “non-lethal” weapon. The RTO essentially wants the existing rules that apply to any new weapon to apply to NLWs. In other words, treat “non-lethal” weapons as simply weapons under existing rules. Sceptics have been arguing this position all along. The Moscow crisis also supports the argument that thinking of weapons as “lethal” or “non-lethal” is empirically and ethically suspect.

115 See Davison and Lewer 2005, *op. cit.* (note 11), pp. 34-41 (reviewing controversies surrounding the Taser weapon).

116 NATO Research and Technology Organization, *op. cit.* (note 109), p. iii.

117 *Ibid.*, pp. 4-5.

At the same time, the RTO's opposition to specific regulation of NLW technologies undercuts arguments put forward by advocates about why "non-lethal" weapons are ethically different. If a new technology requires, for humanitarian or other ethical reasons, additional rules on its development or use, then the ethically appropriate course of action would be new regulation of military development and use of that technology.¹¹⁸ Arguments that NLWs are ethically distinct rely on the ethics of existing IHL and IHRL as the moral baseline, which makes advocacy for no more specific regulation of new weapon technologies to enhance the military effectiveness of weapons ethically questionable.

In fairness to the RTO, it must be said that the recommendation opposed specific international legal regulations that "unnecessarily" limit military use of NLWs. But this qualifier begs the question as to what constitutes a necessary or unnecessary limit on the militarily effective use of a weapon. The fallout from the Moscow crisis, including the interpretation of the CWC's law enforcement provision, illustrates the value of specific international legal regulation of weapon technologies. The tension between the lessons from Moscow and the desire by some advocates to prevent further international legal regulation of NLW technologies is merely another manifestation of the old tension between military utility (defined by technology) and ethical principle (embodied in humanitarian law), a tension that IHL has been addressing since at least the late nineteenth century. The future of the debate about NLWs and international law will deeply involve both advocates and sceptics in grappling with this ancient tension against the backdrop of technological developments that promise to reshape the nature and art of war.

Conclusion

Davison and Lewer reported that, at a major "non-lethal" weapon conference in March 2005, advocates complained that they were losing the "public relations battle" over NLWs because of criticism from sceptics and the media.¹¹⁹ Frustration was evident that the critics and the media "just don't get it".¹²⁰ Apparently, the critics and the media are not the only ones not "getting it." In 2004, the CFR task force on "non-lethal" weapons concluded that it "found little evidence that the value and transformational applications of nonlethal weapons are appreciated by the senior leadership of the Department of Defense. Despite success on the small scale, NLW have not entered the mainstream of defence thinking and procurement."¹²¹

The disappointment of advocates with their lack of progress reflects the difficult environment shaped by many factors, including what happened in

118 The classic example of this dynamic is the development of the prohibition on the use of blinding laser weapons.

119 Davison and Lewer 2005, *op. cit.* (note 11), p. 21.

120 *Ibid.*

121 Independent Task Force 2004, *op. cit.* (note 84), p. 8.

Moscow in October 2002. The meaning of Moscow was sobering to advocates and sceptics, requiring each side to revisit assumptions and arguments in order to gird for a difficult and complex future, particularly with regard to the role of international law. The “fog of fentanyl” presented both advocates and sceptics with a harsh reality that changed the context in which the future of “non-lethal” weapons would unfold.

The frustration of advocates at losing the public relations battle has deeper causes than a failure to market NLWs successfully. Many military leaders obviously remain sceptical of the utility of these weapons. Furthermore, as Moscow demonstrated, hard questions have to be asked of claims that weapons are “non-lethal” and are somehow ethically distinct because of their technology as opposed to their relationship with legal and ethical principles of behaviour. The arguments advocates used in the latter half of the 1990s to increase interest in “non-lethal” weapons no longer have the same traction in the current, more demanding environment. Some arguments, such as the ones advocating amendments to the CWC or BWC, have gone — even within the advocacy community — from being considered intellectually provocative to downright dangerous to the development of other technologies.

The meaning of Moscow also challenges sceptics. As analysed in detail in this article, the response to the terrorist attack at the Nord-Ost theatre forced more serious consideration of the law enforcement provision of the CWC, the importance of which that response made all too clear. Furthermore, continuing interest in many non-chemical and non-biological NLW technologies means that the debate about “non-lethal” weapons and international law will continue for years, but with respect to technologies the development and use of which are not subject to arms control treaties. Post-Moscow, the next big test will come when technological breakthroughs in more advanced kinetic, electrical, acoustic, microwave or electromagnetic technologies occur and field deployment and use generates empirical data.¹²²

What happened with respect to Moscow — recognition of space for “non-lethal” weapon use balanced by a need to apply, clarify and reinforce the parameters provided by international law — will characterize the NLW-international law relationship in the future as more advanced technologies mature. In short, the meaning of Moscow teaches that rapid technological change will continue to stress international law on the development and use of weaponry, but in ways more politically charged, legally complicated and ethically challenging than the application of international humanitarian law in the past to technologies specifically designed to kill and destroy.

122 See Steven Komarow, “Pentagon deploys array of non-lethal weapons,” *USA Today*, 24 July 2005, at <http://www.usatoday.com/news/world/iraq/2005-07-24-nonlethal-weapons_x.htm> (last visited 27 July 2005). At present, the pace at which such breakthroughs might happen is being slowed by a lack of funding. In the United States, commitments in Iraq and Afghanistan adversely affect prospects for Department of Defense support for development of NLW technologies. The research and development burden will fall, therefore, on the private sector. See Davison and Lewer 2005, *op. cit.* (note 11), p. 22.

Neurobiology: A case study of the imminent militarization of biology

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Abstract

The revolution in biology, including advances in genomics, will lead to rapid progress in the treatment of mental illness by advancing the discovery of highly specific ligands that affect specific neurological pathways. The status of brain science and its potential for military application to enhance soldier performance, to develop new weapons and to facilitate interrogation are discussed. If such applications are pursued, they will also expand the options available to torturers, dictators and terrorists. Several generic approaches to containing the malign applications of biology are shown, and it is concluded that success or failure in doing so will be significantly dependent on the active involvement of the scientific and medical communities.



The ongoing revolution in biology, symbolized by the completion of the Human Genome Project, undoubtedly has enormous potential for benefit — for example, in the development of more effective, safer medicines. However, serious concerns have been raised about the consequences of the misapplication of the new capabilities for hostile purposes. As Professor Meselson, Thomas Dudley Cabot Professor of the Natural Sciences at Harvard University, has said: “[a] world in which these capabilities are widely employed for hostile purposes would be a world in which

* An early version of this analysis was presented at the 20th Workshop of the Chemical and Biological Weapons Study Group of the Pugwash Conferences on Society and World Affairs, Geneva, 8–9 November, 2003.

the very nature of conflict had radically changed. Therein could lie unprecedented opportunities for violence, coercion, repression or subjugation...¹

When renewed concerns about biological warfare arose in the mid-1990s, there were some open publications in which initial assessments were made of the way in which traditional microbiological agents might be modified by genetic engineering,² and of how new kinds of agents might be produced in the longer term.³ Subsequently, consideration has been given to other kinds of agents, such as bioregulators, that might be misused.^{4,5} Most recently, analysis has suggested how traditional agents, modified traditional agents, and then advanced biological agents — targeted at specific physiological processes — might successively become threats over the coming decades.^{6,7}

In late 2003, the Office of Transnational Issues of the US Central Intelligence Agency issued as bleak a warning about the future of biological weapons as any academic or non-governmental organization has yet produced. The report, titled *The Darker Bioweapons Future*, argued that “[g]rowing understanding of the complex biochemical pathways that underlie life processes has the potential to enable a class of new, more virulent biological agents engineered to attack distinct biochemical pathways and elicit specific effects.”⁸ The report cited a number of specific examples of new biological weapons that might become possible, and noted that the panel of experts which had been convened to produce the report considered that “[t]he effects of some of these engineered biological agents could be worse than any disease known to man.”⁹

However, to date no open analysis has taken Meselson’s argument seriously and asked where we might end up later in the century if the militarization of biology is not prevented. Obviously it is not possible in a single paper to survey all of the areas of biology that might be subject to misuse, so here we focus on the potential for hostile manipulation of the human nervous system. We do this in part because the widespread public concerns over the misuse of microbiology have obscured other dangerous possibilities, but also because there are very clear reasons to have worries about the misuse of neuroscience by the military. No doubt, others could also have an interest in misusing the new knowledge, but

1 Matthew Meselson, “Averting the hostile exploitation of biotechnology,” *Chemical and Biological Conventions Bulletin*, Vol. 48, June 2000, pp. 16–19.

2 William Cohen, *Proliferation: Threat and Response*, Department of Defense, Washington DC, 1997.

3 Steven M. Block, “Living Nightmares: Biological Threats Enabled by Molecular Biology,” *The New Terror: Facing the Threat of Biological and Chemical Weapons*, Sidney D. Drell, Abraham D. Sofaer, George D. Wilson (eds.), Hoover Institution Press, Stanford, 1999, pp. 39–75.

4 George Poste, “Advances in biotechnology: Promise or peril,” 2002, available at <www.upmc-biosecurity.org/pages/events/2nd_symposia/transcripts/trans_post.html> (visited 24 August 2005).

5 Claire Fraser and Malcolm Dando, “Genomics and future bioweapons: The need for preventive action by the biomedical community,” *Nature Genetics*, Vol. 29, 2001, pp. 253–255.

6 James B. Petro, Theodore R. Plasse and Jack A. McNulty, “Biotechnology: Impact on biological warfare and biodefense,” *Biosecurity and Bioterrorism*, Vol. 1, 2003, pp. 161–168.

7 Mark Wheelis, “Does the ‘new biology’ mean new weapons?,” *Arms Control Today*, July/August 2004, p. 6.

8 Office of Transnational Issues, *The Darker Bioweapons Future*, Central Intelligence Agency, Washington, DC, 3 November 2003, p. 1.

9 *Ibid.*

it is unlikely that they will have the kind of resources available to the military and thus be able to lead the way to misuse. It is therefore the military that have to be the first concern and it is on the militarization of neuroscience (broadly conceived) that we concentrate here.

In the next section (“The future threat”) we assess the growing capabilities that could arise for misuse from the rapid advances in our understanding of the nervous system and the evidence that there might be those with the intention to make such use of the new knowledge. We conclude that there will be knowledge available for misuse and there will be some willing to misuse it. Then in the following section (“Implications”) we sketch out the implications both in the medium term and, more tentatively, in the longer term if such misuse cannot be prevented. We conclude that there are terrible threats to human rights and dignity on the horizon. In a final section (“Responses”) we review what responses are available to prevent neuroscience, and by implication much of the rest of biology, from becoming widely used for military purposes.

The future threat

There is no doubt that the revolution in biology has greatly changed the situation from when the development of the first means of dealing with mental illnesses with effective drugs — in the 1950s — led in turn to the initial efforts by the main Cold War adversaries to develop incapacitating chemicals.¹⁰ In particular, the elucidation of the structure of the diverse neuronal receptors for neurotransmitter chemicals¹¹ and the increasing discoveries of the functional circuits of the brain through neuroimaging techniques, promises much for good. As Andreasen has noted, we live in an age in which two huge knowledge bases will be increasingly interwoven: the map of the human genome and that of the human brain.¹²

In a report card for progress to date Andreasen shows plainly, however, that only in regard to the treatment of mood disorders can we say that we can now do a great deal better than in the 1950s. The near future will see diagnosis, understanding pathophysiology, treatment and prevention all be made more rational and effective in regard to the dementias, schizophrenia, mood, and anxiety disorders.

George Poste appears to have come to the same conclusion as Meselson. He has argued, for example, that “as we begin to understand the exquisite molecular mechanisms that regulate this remarkable structure called the human body (...) the ability to understand those circuits means simultaneously we gain the capacity to scramble them.”¹³ Pointing out the need for thinking “beyond bugs” he has referred to the “brain bomb” and noted that such capabilities imply “that you

10 Malcolm Dando, *The New Biological Weapons: Threat, Proliferation and Control*, Lynne Rienner, Boulder, 2001.

11 A form of what are generally termed ligands — small molecules that bind to proteins.

12 Nancy C. Andreasen, *Brave New Brain: Conquering Mental Illness in the Era of the Genome*, Oxford University Press, Oxford, 2001.

13 Poste, *op. cit.*, (note 4).

can engineer a series, a complete spectrum of activity from transient immobilization (...) to catastrophic effects which can be acute or chronic.¹⁴

It is certainly true that there have been enormous advances in our understanding of the human nervous system¹⁵ since it was recognized in the seventeenth century that the brain controlled our behaviour. But there are, nevertheless, well-informed sceptics who still doubt that a mechanistic understanding of the brain is likely to come about soon — even if it is a formal possibility.¹⁶

In order to assess whether the new developments will allow the creation of advanced biological agents there are clearly two basic questions to be answered: does neuroscience seem likely to gain the necessary mechanistic understanding of the brain for malign manipulation to be, at least theoretically, possible, and who might wish to take advantage of that knowledge? Our two questions are therefore the familiar ones — about capabilities (that could arise from the increasing understanding of the nervous system) and intentions (to misuse this new understanding for hostile purposes).

Capabilities

Mental illness causes an enormous worldwide burden of disease in terms of morbidity, mortality and social and economic costs.¹⁷ Rightly, great efforts are being made in medicine and biology to understand the causes of diseases like depression and to find more effective means of helping afflicted people. One important development in this effort appears to be a coming together of previously disparate approaches to understanding human behaviour; one recent book, for example, was titled *Neuropsychiatry and Behavioural Neuroscience*. This text has a chapter on the principles of neuroscience that lists regularities — predictable brain-behaviour relationships — which can be used in understanding and helping to deal with mental illnesses.¹⁸

It is not difficult to accept such ideas, for example in regard to language production and comprehension. It has been known for many years that damage to specific areas of the brain produces specific deficiencies in language capability.¹⁹

14 *Ibid.*

15 Stanley Finger, *Minds behind the Brain: A History of the Pioneers and their Discoveries*, Oxford University Press, Oxford, 2000.

16 Dai Rees and Steven Rose, (eds.), *The New Brain Sciences: Perils and Prospects*, Cambridge University Press, Cambridge, 2004.

17 World Health Organization, *Mental Health: New Understanding, New Hope*, World Health Report 2001, WHO, Geneva.

18 Jeffrey L. Cummings and Michael S. Maga, *Neuropsychiatry and Behavioural Neuroscience*, Oxford University Press, Oxford, 2003. Some thirty such regularities are discussed, and it is clear that what is being described is a mechanistic science. For example, the first several principles state: “Brain-behaviour relationships underlying neuropsychiatric syndromes are rule-governed and reproducible across individuals (...) All mental processes derive from brain processes (...) Neuro-psychiatric symptoms are manifestations of brain dysfunction (...) [which] reflect abnormalities of underlying brain function, whether produced by genetic, structural or environmental influence...”

19 Working in the nineteenth century, Broca showed that damage to what is now called Broca’s area of the cerebral cortex leads to loss of the ability to generate speech, and Wernicke demonstrated that damage to a neighbouring area, now named after him, leads to a loss of ability to understand language.

Similarly, it is clear that damage to the frontal lobes of the cerebral cortex can produce specific impairments of human behaviour.²⁰ Individuals with damage to the orbitofrontal cortex, for instance, lack social judgement, have limited insight into their own behaviour and are compromised in their ability to empathize with other people.

Yet not all human behaviour is so easily localized to specific regions of the brain. Indeed, there is every reason to believe that the biological basis of much human behaviour will be exceedingly difficult to understand even if this mechanistic paradigm is fundamentally correct. The question therefore is: what difference does the current revolution in biology make? Does it really open up radically new possibilities and capabilities for manipulation?

The principles listed in *Neuropsychiatry and Behavioural Neuroscience* include, in addition to the influence of both genetic and environmental factors, the idea that neuropsychiatric disorders typically reflect disruption of a system or circuit, and further that disturbances in transmitters or transmitter systems have specific associated neuropsychiatric symptoms. How well do such claims stand up to evidence from recent research?

Signals are conveyed within the cells of the nervous system — the neurons — by electrical means, but they are conveyed between neurons mostly by chemical means. During the last century a wide range of these so-called chemical neurotransmitters (ligands) were gradually discovered, along with the specialized receptors that they affect when released.²¹ Neurons that produce different neurotransmitters are involved in different circuits within the brain, and for those who study mental illnesses like depression a particular group of “neuromodulatory” transmitters are of particular interest. Neurons with these transmitters — dopamine, noradrenaline, serotonin, for example — are located in lower, more ancient parts of the brain and, rather than having precise limited connections to other neurons, have very diffuse connections, which suggest they have widespread effects in the body.

In 2003 the journal *Science*, as its “Breakthrough of the year” featured a study of dark energy and dark matter that gave us a firm age for the universe and a precise speed of expansion. The runner-up was the study of mental illness,²² and

20 The frontal lobes occupy about a third of the total cortical volume, are amongst the latest of our phylogenetic gains and are one of the last of the brain regions to develop in each individual. As with language, it is reasonable to suggest that they mediate characteristic human behaviours. Damage to this part of the cortex produces three behavioural syndromes. Which is manifest depends on the site of damage: an orbitofrontal syndrome, characterized by disinhibition and impulsiveness; a dorsolateral prefrontal syndrome, manifested primarily by executive dysfunction, and a medial frontal syndrome featuring apathy and akinesia.

21 When an electrical impulse reaches the end of the long projection, or axon, of a neuron, it causes the release of neurotransmitter molecules which then cross the small gap, or synaptic cleft, to the next cell and lock on to the relevant receptors on that cell. When they do this, changes take place within the affected second cell which can either enhance the likelihood of an electrical impulse being generated in that neuron (excitation) or make it less likely (inhibition). Various mechanisms clear the transmitter chemical from the synapse so that its effect is transient. Usually it is either destroyed by enzymes in the synaptic cleft, or taken back up into the secreting cell by membrane transporter proteins, and re-used.

22 Anon, “Breakthrough of the year: The runners-up,” *Science*, No. 302, 2003, pp. 2039–2040.

specifically mentioned was an article in *Science* in July of that year.²³ The article was entitled “Influence of life stress on depression: Moderation by a polymorphism on the 5-HTT gene.” A polymorphism is a slight natural variation in a particular gene, and the 5-HTT gene is the gene which encodes the transporter protein that removes serotonin (5-HT) from the synapse. In the past, many people believed that whilst a few devastating mental illnesses such as Huntington’s disease were caused by malfunctions in single genes, the vast majority were caused by the combined actions of many genes with small effects — thus making causal elucidations very difficult. However, the study on depression concluded by stating: “We speculate that some multifactorial disorders, instead of resulting from variations in many genes of small effect, may result from variations in fewer genes whose effects are conditional on exposure to environmental risks.”²⁴ In short, if one considers both the genetics and the environmental experience, some mental illnesses may soon be clearly understood with our new knowledge of the genome.

The polymorphism in the 5HTT gene concerned the structure of the promoter. This region determines how efficiently the gene is expressed, and therefore the amount of protein produced. There are two different forms (“alleles”) of the promoter — the “long” form allows more expression of the gene than the “short” form. Thus the long form would mean that there was more transporter protein, and presumably more precise synaptic action (as the serotonin would be more rapidly removed back into the pre-synaptic neuron). We each carry two copies of the gene, so it is possible to separate people into three groups on this basis. We each have either two long forms of the promoter, two short forms, or one of each. Of course, the researchers had good reasons for suspecting that this gene might be involved in depression, because one class of drugs used effectively in treating depression act by inhibiting serotonin reuptake.

The researchers conducted a study of a cohort of 1,037 children in New Zealand who had been regularly studied since birth, ninety-six per cent of whom were still being studied at age 26. Many aspects of their lives could be studied, for example stressful life events occurring between their twenty-first and twenty-sixth birthdays could be carefully catalogued for each individual. These events included employment, finance, housing, health and relationships as types of stressor. Members of the group were also assessed for the occurrence of depression over the year from their twenty-fifth birthday. The results from assessing the interaction of the different alleles of the 5-HTT gene and life stressors were very clear-cut. As the authors reported, “[i]ndividuals with one or two copies of the short allele of the 5-HTT promoter polymorphism exhibited more depressive symptoms, diagnosable depression, and suicidality in relation to stressful life events than individuals homozygous for the long allele [i.e. with

23 Avshalom Caspi *et al.*, “Influence of life stress on depression: Moderation by a polymorphism in the 5-HTT gene,” *Science*, No. 301, 2003, pp. 386-389.

24 *Ibid.*

two long forms].” The impact of life events was conclusively shown here to be moderated by the individual’s genetic constitution — a quite remarkable discovery only made possible by modern biotechnology capabilities.²⁵

It may be argued, of course, that whilst it is a breakthrough to show how such gene and environment interactions can affect behaviour, there is still a long way to go to the kind of detailed mechanistic understanding that would really allow malign manipulation of the brain and of people’s behaviour. It must be remembered, however, that the genomics revolution has not taken place in isolation. There have been associated major developments in bioinformatics, combinatorial chemistry, neuroimaging and other technologies.

This is evident from a paper published in *Science* in 2002. Again it was on the subject of the serotonin transporter gene and was titled “Serotonin transporter genetic variation and the response of the human amygdala”. The amygdala is known to be centrally involved in the processing of threatening inputs and fearful and anxious states.²⁶ If we encounter a potentially threatening situation, a rapid signalling pathway through the amygdala triggers the body’s set of reactions that ready it for action — the so-called “fight or flight” response. The 2002 study was published before the work on gene and environment interactions discussed earlier. However, a later, much larger, study involving some ninety people confirmed the 2002 results.²⁷ This study concluded in part that “heritable variation in 5-HT signalling associated with the 5-HTT (...) results in relatively heightened amygdala responsivity to salient environmental cues.” In short, if you have the short version of the promoter you are likely to have a stronger amygdala response to threatening situations. Furthermore, the authors went on to argue that if such threats occur early in life, before the full development of the higher centres’ control of the over-response of the amygdala, this could bias the system towards over-response. In line with this view, a study

25 The researchers also demonstrated a similar impact of childhood maltreatment on those carrying one or two short alleles. An analogous association has been shown in monkeys (see Christina S. Barr *et al.* “Sexual dichotomy of an interaction between early adversity and the serotonin transporter gene promoter variant in rhesus monkeys,” *Proc. Nat. Acad. Sci.*, Vol. 101, 2004, pp. 12358–12363) and in other children (see Joan Kaufman *et al.*, “Social supports and serotonin transporter gene moderate depression in maltreated children,” *Proc. Nat. Acad. Sci.*, Vol. 101, 2004, pp. 17316–17321). However, the latter report showed, too, that adequate social support could greatly reduce the risk to such maltreated children. This happy result also tends to confirm another principle that “[t]he beneficial effects of psychotherapy are mediated through changes in brain function” (see Cummings and Maga, *op. cit.*, note 18). Unfortunately, more recent work has again demonstrated the link between the serotonin transporter promoter polymorphism and suicide (see Pao-Yen Lin and Gaochuan Tsai, “Association between serotonin transporter gene promoter polymorphism and suicide: Results of a meta-analysis,” *Bio. Psychiatry*, Vol. 55, pp. 1023–1030).

26 Ahmad R. Hariri *et al.*, “Serotonin transporter genetic variation and the response of the human amygdala,” *Science*, Vol. 297, 2002, pp. 400–403. These researchers used a form of functional magnetic resonance imaging to assess subjects’ responses to frightening facial images. They divided people into two groups: those with two long alleles of the 5HTT gene and those with one or two copies of the short form of the gene. The subjects were all healthy but nevertheless there was a clear difference in the responses of the two groups. People with the short form showed greater activity in the amygdala in response to frightening stimuli than those with only the long form. The difference was located in the right amygdala, consistent with the right hemisphere’s known role in processing facial images.

27 Ahmad R. Hariri *et al.*, “A susceptibility gene for affective disorders and the response of the human amygdala,” *Arch. Gen. Psychiatry*, Vol. 62, 2005, pp. 146–152.

of people with social phobia showed that when put under stress, those with the short allele had a stronger response in the right amygdala.²⁸ It concluded: “the present results support a genetically determined link between serotonergic functions, anxiety proneness and a brain region central for emotional experience and processing.” The mechanistic details of how the system dysfunction arises are being worked out in animal models.²⁹

As this example clearly demonstrates, our understanding of the brain and human behaviour is reaching the level at which precise manipulation for beneficial reasons is becoming increasingly feasible. Yet such information might also potentially be used for malign purposes, for example to induce anxiety disorders.

Intentions

The question that remains is whether anyone would wish to misuse such information to create new biochemical weapons. As the genomics revolution proceeds, we can obviously no longer maintain a differentiation between chemical and biological weapons and have to view these as a continuous biochemical threat spectrum, with the Chemical Weapons Convention and Biological and Toxin Weapons Convention (CWC and BTWC) overlapping in their coverage of mid-spectrum agents such as toxins and bioregulators. Lethal chemical weapons such as the nerve gases which attack the acetylcholine neurotransmitter system are completely prohibited by the Chemical Weapons Convention, but it is far from clear whether all countries would agree that so-called “non-lethal” chemical weapons are outlawed as well. As was pointed out at the time the Convention was negotiated, there is an ambiguity at the heart of the text caused by the peaceful purposes exemption for so-called law enforcement chemical agents: “[i]s the Convention really to be read as allowing any non-Schedule 1 toxic chemical or precursor to be developed, produced, weaponised, stockpiled or traded, so long as it is said to be for ‘law enforcement’ purposes?”³⁰ One would hope not, because such a loophole would allow the development of new, undisclosed, chemical agents. Furthermore, whilst no such loophole exists in the Biological and Toxin Weapons Convention, it is reasonable to ask how well this weak convention — lacking both an organization and any effective verification system — will stand up to the current wave of scientific and technological change and the “opportunities” offered thereby to military and police forces around the world.

Much of the recent military interest in chemical agents that affect the brain has focused on incapacitating chemicals. An incapacitating chemical may

28 Tomas Furmark *et al.*, “Serotonin transporter polymorphism related to amygdala excitability and symptom severity in patients with social phobia,” *Neuroscience Letters*, Vol. 362, 2004, pp. 189-192.

29 See Christina S. Barr *et al.*, “Rearing conditions and rh5-HTTLPR interact to influence limbic-hypothalamic-pituitary-adrenal axis response to stress in infant macaques,” *Biol. Psychiatry*, Vol. 55, 2004, pp. 733-738. Moreover, the serotonin transporter is not the only gene for which this new imaging genomics approach is producing such results; see Ahmad R. Hariri, and Daniel R. Weinberger, “Imaging genomics,” *British Medical Bulletin*, Vol. 65, 2003, pp. 259-270.

30 Editorial, “New technologies and the loophole in the Convention,” *Chemical Weapons Convention Bulletin*, Vol. 23, 1990, pp. 1-2.

be defined as an agent “which produces a disabling condition that persists for hours to days after exposure to the agent.”³¹ Specifically, the term has come to mean those agents that are highly potent and able to produce their effects by altering the higher regulatory activity of the central nervous system. As a recent NATO technical report on future peace enforcement operations noted,³² incapacitating chemicals could act on “[t]he central nervous system by calmatives, dissociative agents, equilibrium agents.” We are obviously, therefore, not discussing traditional riot-control agents here.

There is a long history of State interest in such chemical agents. In the United Kingdom, for example, substantial studies were made at Porton Down during the 1950s and 1960s of glycollates (which bind to one subcategory of acetylcholine receptors). The US also sought an incapacitating chemical capability, and for a while produced and stockpiled the delirium-inducing glycollate BZ.³³ At that time current knowledge of the neuroreceptor sub-types in the brain was not available, so it is unlikely that any agents of adequate specificity were developed. The use of an opiate from the fentanyl family to break the Moscow theatre siege in 2002³⁴ suggests continuing Russian interest. Although some 120 people died, it might be argued that the use of such an agent facilitated the release of 700 other people.

Evidence of an ongoing US military interest in new non-lethal chemical agents is apparent. A university group known to be closely linked to the US Joint Non-Lethal Weapons Directorate, for example, produced a report in 2000 entitled *The Advantages and Limitations of Calmatives for Use as a Non-Lethal Technique*,³⁵ which listed a variety of receptor sub-types of potential interest as targets for such new agents. This finding was hardly surprising given the history of US research on such agents,³⁶ and the United States is not the only country to have recently worked on them.³⁷

The recent search for new non-lethal chemicals has taken place, of course, against a background of very rapid and intense civil research on agents affecting the brain.³⁸ Yet military interest is already directed towards the next

31 Graham Cooper and Paul Rice, (eds.), “Special issue — chemical casualties: Centrally acting incapacitants,” *Journal of the Royal Army Medical Corps*, Vol. 148 (4), 2001, pp. 388–391.

32 Research and Technology Organization, *Non-Lethal Weapons and Future Peace Enforcement Operations*, TR-SAS-040, North Atlantic Treaty Organization, November 2004.

33 Martin Furmanski and Malcolm R. Dando, “Midspectrum incapacitant programs,” in M. Wheelis, L. Rosza and M. Dando, *Deadly Cultures: Biological Weapons from 1945 to the Present*. Harvard University Press, Cambridge, 2006, pp. 236–251.

34 Robin Coupland, “Incapacitating chemical weapons: A year after the Moscow theatre siege,” *The Lancet*, Vol. 362, 2003, p. 1346.

35 Joan M. Lakoski et al., *The Advantages and Limitations of Calmatives for Use as a Non-Lethal Technique*, Applied Research Laboratory, College of Medicine, Pennsylvania State University, 2000. According to the report, the researchers identified several drug classes (e.g. alpha2-adrenoreceptor agonists) and individual drugs (...dexmedetomidine) found appropriate for immediate consideration as non-lethal [agents] involving e.g. unconsciousness or calming.

36 Malcolm R. Dando, *The Danger to the Chemical Weapons Convention from Incapacitating Chemicals*, First CWC Review Conference, Paper No. 4, University of Bradford, March 2003.

37 *A Survey of Biological and Biochemical Weapons Related Research Activities in France*, Country Study No. 2, Sunshine Project, November 2004.

38 Michael Williams et al., “Same brain, new decade: Challenges in CNS drug discovery in the postgenomic, postproteomic era,” *Annual Reports in Medicinal Chemistry*, Vol. 36, 2001 pp. 1–10.

generation of agents. A 2004 US Broad Area Announcement stated the objective as follows:³⁹

“The Joint Non-Lethal Weapons Directorate (JNLWD) is soliciting proposals for research, development, integration, and demonstration of next-generation non-lethal weapons (NLW) and capabilities...”

Amongst efforts requested were:

“Studies/Analyses to address technology-specific legal/treaty/public acceptability issues associated with: (1) extended duration incapacitation (...) and (3) precision long-range engagement of threats...”

In addition to drugs causing calming or unconsciousness, compounds on the horizon with potential as military agents include noradrenaline antagonists such as propranolol to cause selective memory loss, cholecystokinin B agonists to cause panic attacks, and substance P agonists to induce depression. The question thus is not so much when these capabilities will arise — because they certainly will — but what purposes will those with such capabilities pursue.

Implications

The above analysis sketches the current status of mechanistic neuroscience, and suggests that in the near future a sufficiently detailed understanding of brain function will be gained to allow greatly expanded intervention for benign, or malign, purposes. We have also shown that there is continuing military interest in the weapons potential of emerging agents. We now return to our original question: What will the near and mid-term future be like if the gathering momentum for the militarization of biology is not stemmed?

Present potentialities

Of course, military utility will go beyond weapons to performance-enhancing agents for use by one's own troops. Amphetamines have long been used to extend alertness, and manipulation of the sleep/wake cycle is currently used to enhance the performance of air crews (and probably special forces teams) on long missions. But as a recent National Academies report⁴⁰ noted, within a few decades we will have performance enhancement of troops which will almost certainly be produced by the use of diverse pharmaceutical compounds, and will extend to a range of physiological systems well beyond the sleep cycle. Reduction of fear and pain, and increase of aggression, hostility, physical capabilities and alertness could significantly enhance soldier performance, but might markedly

39 Broad Area Announcement, Non-Lethal Weapons Science and Technology: Applied Research and Technology Development Efforts, M67854-05-R-5009, 2004, Contracts Home Page, US Marine Corps.

40 National Research Council, *Opportunities in Biotechnology for Future Army Operations*, National Academies Press, Washington, DC, 2001.

increase the frequency of violations of humanitarian law. For example, increasing a person's aggressiveness and hostility in conflict situations is hardly likely to enhance restraint and respect for legal prohibitions on violence.

Given the kinds of operations other than war that are the increasingly common pattern of military engagement, we will also probably see soldiers armed not only with traditional lethal weapons, but also with a range of "non-lethal weapons" — acoustic, electromagnetic and chemical. Among the chemical weapons will be traditional riot control agents such as CS ("tear gas") and OC ("pepper spray"), as well as various pharmaceutical compounds that cause unconsciousness, paralysis or delirium at very low doses. Whether the traditional laws of war — for instance, protection of civilians and of soldiers "hors de combat" — will withstand these changed circumstances is unsure.⁴¹ Certainly the historical record gives little comfort, as the major military use of "non-lethal" chemical compounds has traditionally been to amplify lethal force, not to replace it. In Vietnam, for instance, the US used approximately 10,000 tons of CS. The purported use was for humanitarian purposes, for situations in which combatants and non-combatants were intermixed, or where extensive property damage would result from attacking the enemy in urban environments. However, a 1973 Army report⁴² reviewed after-action reports on the use of CS, and found no record of humanitarian use.

Currently in Iraq, the US is using acoustic beam weapons to flush snipers from cover, who are then killed.⁴³ And in the previously mentioned example of the Moscow siege, Chechen hostage-takers rendered comatose by the fentanyl derivative were shot dead.⁴⁴ It is credible that novel agents would find similar military uses, and that these "non-lethal" agents would often be used to increase the lethality of other weapons, rather than to replace them.

There is also a serious potential for misuse of pharmaceuticals during interrogation.⁴⁵ During the Cold War the CIA, for example, sought substances that would change personality and thus induce increased dependence on others.⁴⁶ The recent abuses of prisoners under interrogation by US forces in the aftermath of the second Gulf War remind us that even democratic countries with long traditions of support for humanitarian laws may act unlawfully when it appears to be vital to security. Accounts claiming forced medication with

41 David P. Fidler, "Non-lethal' weapons and international law: Three perspectives on the future," *Medicine, Conflict and Survival*, Vol. 17, 2000, pp. 194–200.

42 Paul L. Howard, *Technical Report: Operational Aspects of Agent CS*, Deseret Test Center, Fort Douglas, Utah, April 1973, DTC-FR-S700M. The principal use of CS was for terrain denial (persistent CS was applied in enormous amounts on the Ho Chi Minh Trail, and around the perimeter of isolated US firebases). The most common combat use was to drive enemy troops from cover to increase their vulnerability to lethal fire, and to break combat when US troops were ambushed.

43 Bryan Bender, "US testing nonlethal weapons arsenal for use in Iraq," *Boston Globe*, 5 August 2005.

44 John Hart, Frida Kuhlau and Jacqueline Simon, "Chemical and biological weapons developments and arms control," Chapter 16, in *SIPRI Yearbook 2003: Armaments, Disarmament and International Security*, Oxford University Press, Oxford, 2003, pp. 645–682.

45 Mark Bowden, "The dark art of interrogation," *Atlantic Monthly*, Vol. 292, October 2003, pp. 51–76.

46 Julian P. Perry-Robinson, *Disabling Chemical Weapons: A Documented Chronology of Events, 1945-2003*, Harvard Sussex Program, University of Sussex, 2003, pp. 8–9.

psychoactive drugs have come from detainees released from US custody,⁴⁷ and detainee medical records have been made available to interrogators.⁴⁸ Progress in understanding the biological basis for repression⁴⁹ may allow the selective deletion of specific memories, which could not only protect sensitive information from unfriendly interrogation but also protect interrogators from effective oversight.

Torturers in all countries will have a greatly expanded repertoire of capabilities. “Non-lethal” police devices such as electric batons and OC sprays are now widely used for torture, and there is no reason to think that future devices and chemicals will not be similarly used.⁵⁰ In the hands of the sophisticated torturer or the interrogator willing to use torture to gain information, chemical agents will offer the ability to induce at will panic, depression, psychosis, delirium and extreme pain — and to offer instant relief as well, or even euphoria.

Even greater might be the danger of such capabilities in the hands of dictators to quell dissent. In addition to expanding the ability of dictatorships to use torture to gain information during interrogations, the possibility may exist of pacifying entire populations through additives to food or water.

Of course, anything developed for the use of States is likely to become readily accessible to criminals and terrorist groups, who may be able to use them as effectively as States, but for different purposes. They may even find these weapons more suited to their purposes than to the purposes of States. States are constrained by their own laws and by their international treaty commitments; criminals and terrorist groups partake in none of these constraints. There is thus potential for them to use these weapons with disproportionate effect.

This brief review of potential misuses of pharmaceutical compounds as weapons may seem far-fetched, but our review of the state of the art suggests they are only a slight extrapolation from known neuropharmacology. The capabilities seem to be nearly upon us, and we know that the militaries and justice departments of several nations are keenly interested. As we have noted, Russia has already used an incapacitating chemical as a weapon in the 2002 Moscow hostage rescue, and the US has funded much exploratory research. Other countries are certainly interested as well. Clearly at least some, perhaps most, of the capabilities we outline above are within reach, or will be in a matter of only a few years. And equally clearly, they will be used for military purposes unless there is active intervention of governments to prevent the development of pharmaceutical weapons.

47 James Meek, “People the law forgot,” *The Guardian*, 3 December 2003, available at <<http://www.guardian.co.uk/g2/story/0,3604,1098391,00.html>> (visited 24 August 2005).

48 P. Slevin and J. Stephens, “Detainees’ medical files shared: Guantanamo interrogators’ access criticized,” *Washington Post*, 10 June 2004, A01.

49 Michael C. Anderson et al., “Neural systems underlying the suppression of unwanted memories,” *Science*, Vol. 303, 2004, pp. 232–235.

50 *The Pain Merchants: Security Equipment and Its Use in Torture and Other Ill-Treatment*. Amnesty International, London, 2 December 2003.

Future potentialities

If we look to a longer term, even more far-reaching manipulations of human beings are discernable. Work, for instance, on direct brain-computer interfaces in primates⁵¹ has shown that animals can learn to control a robotic arm through electrodes connected to individual neurons not previously used for similar purposes. In other words, they can learn to fire specific neurons at will, which can in turn control an external device. This may lead to major breakthroughs in the management of patients with permanent spinal cord injuries, but it may also ultimately allow direct mental control of military equipment, and perhaps even remote control of human beings. Already insects and rodents have been “wired” to allow investigators to remotely control their movements, overriding any endogenous intentions.⁵² Evidently such capabilities are a long way off, but it is not too soon to start anticipating the possible malign outcomes of such research.

Thus, we see the near-term future (10-20 years) possibly including militaries whose troops will go into action with chemically heightened aggressiveness and resistance to fear, pain and fatigue. Their memories of atrocities committed will be chemically erased in after-action briefings. They will be equipped with a range of weapons, including chemicals that incapacitate their opponents, who may then be executed in cold blood. Civilians will be targeted with incapacitating chemicals when they get in the way, and many will die of overdoses or secondary effects. Civilians in occupied territories will be pacified by chemicals included in food distributions (and civilians at home may also be so pacified). Enemy captives, and civilians suspected of collaboration, will be treated with psychoactive chemicals to extract information, including the use of devastatingly effective chemical torture when necessary. The chemical compounds will be rapidly metabolized and will leave no forensic trace. In this dire future scenario, many fragile democracies will have yielded to totalitarian rule, whose governments repress any dissent with brutal effectiveness, aided by chemical pacification of entire populations, use of incapacitating agents for crowd control and capture of dissident leaders, and use of chemicals for torture and interrogation of dissidents. A worldwide criminal underworld will be using similar technologies to deal with both victims and competitors. Terrorist groups worldwide will be finding frequent use for the force-amplifying effects of chemical agents.

Since the future possibilities become very difficult to discern with any confidence and cannot be defined at this point (unlike the near-term possibilities above, which we can discern with more clarity), we offer a few speculations only to hint at what is likely to be possible in the long term. We can imagine, however, that in the longer term (50 years?), soldiers could become wired for

51 Jose M. Carmena *et al.*, “Learning to control a brain-machine interface for reaching and grasping by primates,” *PLoS Biology*, Vol. 1, No. 2, 2003, pp. 1–16.

52 Ben Harder, “Scientists ‘drive’ rats by remote control,” *National Geographic News*, 1 May 2002.

rapid and direct communication with headquarters, and to control powerful military drones by their thoughts. They could be triggered remotely to enter specifically programmed behaviour patterns — evasive, suicidal, berserk, etc. Their memories and convictions would be subject to alteration and erasure.

We would like to hope that this is not the world we shall leave to our children, but we are not particularly sanguine. Human history gives ample grounds for pessimism about our ability to prevent widespread exploitation of the manipulative, hostile and malign possibilities that the emerging technologies will bring within reach.

Responses

What we are suggesting here is that the biological, medical (and legal) communities should face the near certainty that unless active steps are taken to prevent it, biology will become the next major military technology, and that neuroscience — and by implication much of the rest of modern biology — will become highly vulnerable to use or abuse in entirely unintended, but clearly foreseeable, ways. We know of no major technology with military utility that has not been vigorously exploited for hostile purposes, and there is no reason to think that the revolution in biology will not be similarly bent to military ends. Of course, anticipating such an eventuality, and dealing effectively with it, are two very different things. We see three major generic strategies for attempting to contain the malign applications of biology.

The first would be what we would describe as the “free-market” approach.⁵³ In essence, this approach accepts that the knowledge needed for benign applications is the same as for malign ones, and posits that there is essentially no way to prevent the development of the capabilities we have outlined. This approach recommends that we let the market drive the technology, and trust to self-interest to restrict the malign applications. We are sceptical that this will work; certainly it hasn’t worked that way for any previous technology, probably in large part because the development of hostile applications of new technologies is largely done by governments behind closed doors, with non-competitive funding, with little public oversight or policy advice, and with very large financial benefits to many.

Another approach would be the neo-Luddite one — to attempt to halt the biological revolution in its tracks, or at least give pause to it, before it produces any more problems for society. This too seems unworkable to us; there are simply too many constituencies dependent on and anticipating the benign applications that are promised by biology. Furthermore, stopping the progress of biology would require that all countries with an active biomedical research community and pharmaceutical industry come to the same conclusion. Obviously this is no solution, as desirable as it might be to some.

53 Robert Carlson, “The pace and proliferation of biological technologies,” *Biosecurity and Bioterrorism*, Vol. 1, 2003, pp. 203–214.

This leaves, as the only viable option for controlling the malign applications of biology, a middle road of imposed national and international regulation of biological research and of military development. This would build on long-standing norms against the hostile use of chemistry and biology and on an existing international treaty regime including the 1925 Geneva Protocol, the 1972 Biological and Toxin Weapons Convention, and the 1993 Chemical Weapons Convention. It would, however, require greatly enhanced transparency in biodefence and chemical defence, and in research in areas of concern.⁵⁴ Moreover, whilst we have concentrated here on the military because it is most likely to have the resources needed to effect the disquieting changes outlined above, it is obvious that once the process is under way many more dangers could arise. Many alliances are therefore conceivable with those who have misgivings about the potential threats to international humanitarian law and human rights in general. Yet the approach we support would require biologists themselves to become much more aware of, and concerned about, the misuses of their science. These are issues that few in the biological or medical communities have even been conscious of, at least since the anti-biological warfare activism of microbiological societies in the 1960s. A major change is therefore necessary in the culture of the biomedical sciences. Failing this, the wholesale militarization of biology will be an integral part of the continuing revolution in modern biology.

Fortunately, those concerned do not have to start from scratch. The aforesaid three treaties effectively outlaw the development, production, stockpiling or use of all biological and chemical weapons, lethal or incapacitating. Nonetheless, there are loopholes (for instance, for law enforcement), and there are ambiguities; together, these provide countries determined to develop new biochemical weapons with a legal opportunity to take at least the first steps. Given the potential of these new weapons to expand military options and the interest in them shown mainly by the most powerful States, many arms controllers fear that the international legal regime banning such weapons may crumble. Concerned scientists do not have to invent a new arms control regime, but they will need to bring their expertise to bear on strengthening the existing regime and the norms enshrined in it against the hostile use of biology and chemistry.

Biomedical scientists in particular could become active, through their professional societies or individually, in efforts to implement systems of oversight, such as the recommendations of a recent report from the US National Research Council.⁵⁵ The first tentative steps to implementation have been taken in the US by the establishment of the National Science Advisory Board for Biosecurity,⁵⁶ but the system will have to become much more intrusive and international — and will have to effectively include military laboratories — before

54 Mark Wheelis, and Malcolm R. Dando, "Back to bioweapons?", *Bulletin of the Atomic Scientists*, January/February 2003, pp. 40–46.

55 National Research Council, *Biotechnology Research in an Age of Terrorism*, National Academies Press, Washington DC, 2004.

56 See <<http://www.biosecurityboard.gov>> (visited 24 August 2005).

it will be an effective constraint.⁵⁷ Another important opportunity is offered by the current international interest in codes of conduct for bioscientists,⁵⁸ which may help to prevent the misuse of the life sciences for hostile purposes. Thoughtful input from scientific societies and national academies of science could be quite influential in the outcome of these discussions.

In the end, it is likely that whether biology becomes an offensive military technology in the coming decades will depend to a significant degree on whether scientists become actively involved in legal discussions, and on the advice they give to policy makers.⁵⁹ It is to be hoped that the issues raised in this paper will receive the attention of the scientific community that they urgently deserve, and that scientists will join the arms control, diplomatic, and humanitarian law communities to explore mechanisms to protect humanity from the fearsome potential of abuse of the technologies they are developing, while preserving the beneficial applications.

57 Elisa D. Harris and John D Steinbrunner, "Controlling dangerous pathogens," *Issues in Science and Technology Online*, spring 2003, pp. 74-78.

58 For relevant developments related to codes of conduct see: <<http://www.ex.ac.uk/codesofconduct/>> (visited 24 August 2005).

59 Robin Coupland, and Kobi-Renee Leins, "Science and prohibited weapons," *Science*, Vol. 308, 2005, p. 1841.

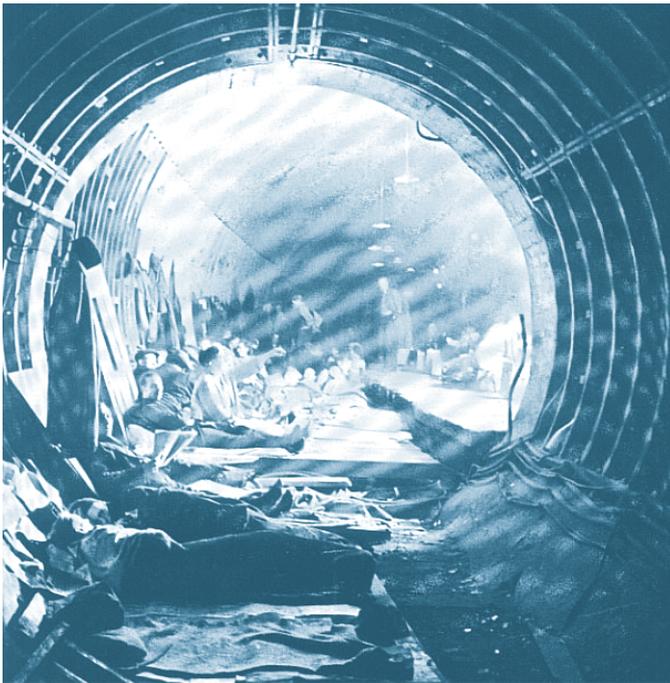
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Dresden

The city of Dresden on February 14th, 1945. It was never possible to determine the exact number of deaths. Some historians of the time estimated 400,000 deaths, which turned out to be a gross exaggeration. Today, it is generally accepted by historians and by the city of Dresden that approximately 35,000 people died, 25,000 of which have been identified.

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London

From beginning of September 1940 to May 1941, the Luftwaffe systematically bombed British cities in order to demoralize the enemy. The picture shows the underground of London transformed into a shelter during the battle for England.

Gas used during the First World War

British soldiers blinded by gas in April 1918. Non-lethal tearing agents would be sent over to get soldiers to remove their gas masks thereby making them more vulnerable to a later attack with one of the more dreaded gas such as mustard gas, or asphyxiant gases.



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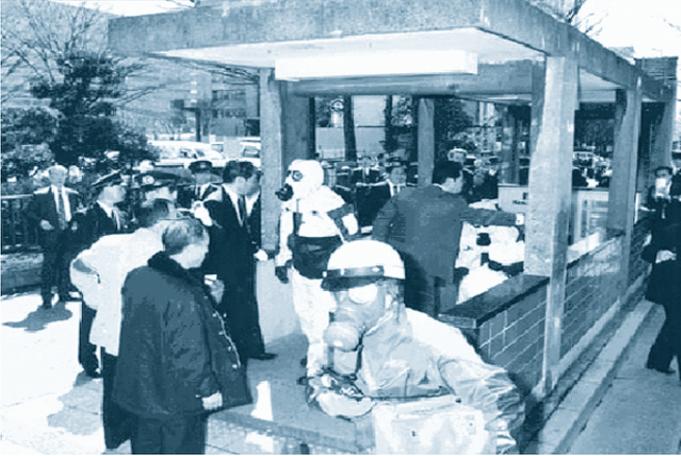
Mustard gas

Effects of mustard gas on a patient picked up by a Norwegian Red Cross ambulance during the Abyssinian war of 1935-1936.



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Sarin gas attack on Tokyo's subway system

Sarin gas attack on Tokyo's subway system in 1995 by the Japanese religious sect, Aum Shinriko.

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Military gear worn to protect against sarin

Sarin is a colorless, odourless, tasteless, human-made chemical warfare agent. The picture shows the military gear worn to protect against sarin (US Army).

NOTES AND COMMENTS

A Model Law: The Biological and Toxin Weapons Crimes Act

An Act to implement obligations under the 1972 Biological and Toxin Weapons Convention and the 1925 Geneva Protocol

Christopher B. Harland and Angela Woodward*

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Introduction

This year marks the 80th anniversary of the 1925 Geneva Protocol¹ and the 30th anniversary of the entry into force in 1975 of the 1972 Biological and Toxin Weapons Convention.² These instruments are relatively widely accepted: 133 States are party to the Protocol and 155 to the Convention. It was thus felt opportune to draft the following model legislation, not only in light of the anniversaries but also in view of the fact that domestic implementation of the Convention has been relatively weak,³ and in response to a growing number of requests to the International Committee of the Red Cross (ICRC) by States Parties for assistance in fulfilling their obligations. Interest in the implementation of these instruments has further increased as a result of the adoption of United Nations Security Council Resolution 1540 in April 2004,⁴ which requires States to adopt certain legislation regarding non-State actors and biological, chemical and nuclear weapons and calls upon States to comply with their commitments under the 1972 Convention.

The ICRC had previously issued an appeal in September 2002 entitled “Biotechnology, Weapons and Humanity.” In particular, this appeal urged all political authorities to adopt stringent national legislation, where it does not yet exist, for implementation of the 1925 Protocol and the 1972 Convention.

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It also called on scientists and industry to assume a range of responsibilities for preventing the hostile use of biological agents.

The proposed model law below is intended for States with a common law legal tradition. Our experience has shown, however, that States with different legal traditions may also find some of the provisions relevant. There are many ways in which the obligations inherent in the above international agreements may be implemented, and this model law provides but one possible approach. Some States may also feel that they do not need all the elements it contains and may wish to choose those appropriate to their needs. Efforts have been made to base it on the current legislation of States party to the 1972 Convention. The model law does not formulate internal regulations, which States may wish to develop themselves and which are necessary to fulfil their obligations as outlined in the 1972 Convention. Separate administrative measures that arise from implementation of the 1972 Convention and Resolution 1540 are likewise not covered by it.

The provisions it contains are largely taken from existing legislation of the following countries: Australia, Canada, Mauritius, New Zealand, South Africa, St. Kitts and Nevis and the United Kingdom. These common law States have enacted national laws for implementation of the 1972 Convention and/or the 1925 Protocol. Legislation by civil law States was also consulted. These instruments are available at <www.icrc.org/ihl-nat> and at <www.vertic.org> (both last visited on 14 September 2005).

The main emphasis in this model law is placed on the prohibition, backed up by penal sanctions, of the weapons and acts defined in the 1972 Convention and the 1925 Protocol. Thus Part II spells out the criminal offence of violating the terms of Article I of the 1972 Convention, including acts committed by State agents. The definitions also encompass the terms of prohibition mentioned in the other two instruments cited above. In addition, Part II sets up an optional licensing scheme.

Part III of the model law provides for measures of domestic enforcement through the powers of inspectors. Some States may already have inspector systems in place, or alternatively may use the police or other law enforcement officials. Related provisions on search and seizure and on warrants are included, as are crimes of non-co-operation with State officials. Provision is also made for possible extra-territorial application of the law.

Part IV provides for an information collection system, which States have indicated is useful in obtaining information for reporting internally and to

- 1 Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, 17 June 1925.
- 2 Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction, opened for signature on 10 April 1972, and entered into force in 1975, (1976) UNTS Vol. 1015, p. 164 (No. 14860).
- 3 For example, fewer than 10 of the 53 Commonwealth countries had, at the time of writing, enacted specific legislation covering the obligations in the Convention, although 41 of them were party to it.
- 4 UN Doc. S/RES/1540 (28 April 2004).

other States party to the Convention and/or Protocol, and now to the Committee established under Resolution 1540.

Parts V and VI provide for regulation-making powers and contain the procedural elements normally found in similar common law legislation.

This model legislation has been drawn up jointly by the ICRC and the Verification Research, Training and Information Centre (VERTIC) based in London. Each has taken primary responsibility for elements of the law that fall within its mandate and expertise: criminalization of prohibited acts, in the case of the ICRC; and inspection, verification and reporting regimes, in the case of the Verification Research, Training and Information Centre. It is hoped that the model law will provide States with a tool enabling them to increase respect for and implementation of this area of international humanitarian law. As noted, it is merely the first step in assisting States to comply with their obligations under the 1972 Convention and the 1925 Protocol.

Both the ICRC and the Verification Research, Training and Information Centre encourage States to assess their current legislation and stand ready to assist them in developing appropriate domestic legislation.

The Biological and Toxin Weapons Crimes Act

A Model Law drafted by the International Committee of the Red Cross (ICRC)
and the Verification Research, Training and Information Centre (VERTIC)

Act No. *[INSERT ACT NUMBER AND YEAR]*

Arrangement of Sections

PART I – SHORT TITLE

1. Short title

PART II – IMPLEMENTATION OF THE CONVENTION

2. Interpretation
3. Purpose
4. Publication of amendment
5. Act to bind the State
6. Prohibitions
7. Assisting and attempting
8. Licensing

PART III – ENFORCEMENT

9. Responsible authority
10. Designation of inspectors
11. Certificates
12. Entry and inspection
13. Search and seizure
14. Obstruction and false statements
15. Directions requiring security measures
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17. Punishment
18. Extra-territorial application
19. Continuing offence

PART IV – INFORMATION AND DOCUMENTS

20. Information and documents
21. Notice for disclosure of information
22. Confidential information
23. Evidence of analyst

PART V – REGULATIONS

24. Regulations

PART VI – FINAL PROVISIONS

25. Commencement
26. Saving and transitional arrangements

Schedule 1 – Text of Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction of 10 April 1972.

Schedule 2 – Text of Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare of 17 June 1925.

An Act to prohibit the development, production, manufacture, possession, stockpiling, other acquisition or retention, importation, exportation, re-exportation, transportation, transit, trans-shipment, transfer or use of certain biological agents and toxins and of biological weapons, and to implement in [COUNTRY NAME] the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction of 10 April 1972 and the Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or other Gases, and of Bacteriological Methods of Warfare of 17 June 1925 (the texts of which are set out in Schedules 1 and 2 to this Act) as amended from time to time.

PART I – SHORT TITLE

1 Short title

This Act may be cited as the *Biological and Toxin Weapons Crimes Act* [INSERT YEAR OF ADOPTION]

PART II – IMPLEMENTATION OF THE CONVENTION

2 Interpretation

In this Act

‘Convention’ means the 1972 Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction;

‘Minister’ means [INSERT MINISTER RESPONSIBLE];

‘Protocol’ means the 1925 Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare.

Terms that are not defined in the Act are accorded their Convention meaning.

3 Purpose

The purpose of this Act is to fulfil *[COUNTRY NAME]*'s obligations under the Convention and the Protocol as amended from time to time.

4 Publication of amendment

The Minister shall, as soon as practicable after any amendment to the Convention is made pursuant to the relevant Articles in the Convention, cause a copy of the amendments to be published in the *[INSERT NAME OF OFFICIAL GAZETTE]*.

5 Act to bind the State

This Act is binding on *[COUNTRY NAME]*.

6 Prohibitions

No person shall develop, produce, manufacture, possess, stockpile, otherwise acquire or retain, import, export, re-export, transport, transit, trans-ship, transfer to any recipient directly or indirectly, or use

- (a) any microbial or other biological agent, or any toxin whatever their origin or method of production, of types and in quantities that have no justification for prophylactic, protective or other peaceful purposes; or
- (b) any weapon, equipment or means of delivery designed to use such an agent or toxin for hostile purposes or in armed conflict.

7 Assisting and attempting

No person shall aid, abet, encourage, assist, counsel, procure, incite or finance the commission of, or attempt or conspire to commit, an offence under Section 6.

8 Licensing

- (1) Except as authorized under regulation of this or any other Act, no person shall develop, produce, manufacture, possess, stockpile, otherwise acquire or retain, transport, transfer or use any microbial or other biological agent, any toxin or any related equipment identified in the regulations.
- (2) Except as authorised under *[INSERT NAME OF EXPORT CONTROL ACT]* or any other Act, no person shall import, export, transit, trans-ship or re-export a microbial or other biological agent or toxin identified in the regulations made under this Act.
- (3) No person shall aid, abet, encourage, assist, counsel, procure, incite or finance the commission of, or attempt or conspire to commit, an offence under this Section.

PART III – ENFORCEMENT

9 Responsible authority

Designation

- (1) The Minister may designate any person or class of persons to be the responsible authority for the purposes of this Act.

Representatives of responsible authority

- (2) The Minister may designate persons or classes of persons to act as representatives of the responsible authority.

10 Designation of inspectors

The Minister may designate persons or classes of persons as inspectors for the purpose of the enforcement of this Act, and set conditions applicable to the person's inspection activities, after consulting any other Minister who has powers in relation to inspections for biological agents or toxins.

11 Certificates

Certificates of designation

- (1) An inspector or a representative of the responsible authority shall be given a certificate of designation, which must state the privileges and immunities applicable to the person and, in the case of an inspector, any conditions applicable under Section 10.

Production on entry

- (2) An inspector or a representative of the responsible authority shall, on entering any place under this Act, produce the certificate of designation at the request of any individual in charge of that place.

12 Entry and inspection

- (1) Subject to Subsection (5), for the purpose of ensuring compliance with this Act, an inspector may enter and inspect, at any reasonable time, any place in which the inspector believes on reasonable grounds there is
 - (a) any microbial or other biological agent, or any toxin;
 - (b) any weapon, equipment or means of delivery designed to use such an agent or toxin; or
 - (c) any information relevant to the administration of this Act.

Powers of inspectors

- (2) An inspector carrying out an inspection may
- (a) require the attendance of and question any person who the inspector considers will be able to assist in the inspection;
 - (b) examine, take samples of, detain or remove any thing referred to in Subsection (1);
 - (c) require any person to produce for inspection, or to copy, any document that the inspector believes contains any information relevant to the administration of this Act; and
 - (d) require that any individual in charge of the place take any measures that the inspector considers appropriate.

Operation of computer and copying equipment

- (3) An inspector carrying out an inspection may
- (a) use or cause to be used any computer or data processing system to examine any data contained in or available to the computer or system;
 - (b) reproduce or cause to be reproduced any record from the data, in the form of a printout or other intelligible output, and remove the printout or other output for examination or copying; and
 - (c) use or cause to be used any equipment at the place to make copies of any data or any record, book of account or other document.

Inspector may be accompanied

- (4) An inspector carrying out an inspection may be accompanied by any other person chosen by the inspector.

Warrant to enter dwelling-house

- (5) An inspector may not enter a dwelling-house except with the consent of the occupant or under the authority of a warrant issued under Subsection (6).

Authority to issue warrant

- (6) If on *ex parte* application a justice of the peace is satisfied by information on oath that
- (a) the conditions for entry described in Subsection (1) exist in relation to a dwelling-house,
 - (b) entry into the dwelling-house is necessary for any purpose relating to the administration of this Act or the regulations, and
 - (c) entry into the dwelling-house has been refused or there are reasonable grounds to believe that entry will be refused,

the justice may issue a warrant authorizing the inspector named in the warrant to enter the dwelling-house, subject to any conditions that may be specified in the warrant.

Use of force

- (7) The inspector may not use force to execute the warrant unless its use is specifically authorized in the warrant.

13 Search and seizure

Where warrant not necessary

- (1) An inspector may exercise without a warrant any of the powers conferred by virtue of this Act if the conditions for obtaining a warrant exist but, by reason of exigent circumstances, it would not be practical to obtain a warrant.

Notice of reason for seizure

- (2) An inspector who seizes and detains anything shall, as soon as practicable, advise its owner or the person having the possession, care or control of it at the time of its seizure of the reason for the seizure.

14 Obstruction and false statements

- (1) No person shall obstruct or hinder, or knowingly make any false or misleading statement either orally or in writing to, an inspector or a representative of the responsible authority engaged in carrying out duties under this Act.

Assistance to inspectors

- (2) The owner or person in charge of a place entered under Section 12 and every person present in that place shall give an inspector all reasonable assistance to enable the inspector to perform his or her duties, and shall furnish the inspector with any information related to the administration of this Act that the inspector reasonably requests.

Interference

- (3) Except with the authority of an inspector, no person shall remove, alter or interfere in any way with any thing seized under this Act.

15 Directions requiring security measures

- (1) An inspector may give directions to the occupier of any relevant premises requiring him to take such measures to ensure the security of any dangerous substance kept or used there as are specified or described in the directions by a time so specified.
- (2) The directions may
 - (a) specify or describe the substances in relation to the security of which the measures relate; and

- (b) require the occupier to give a notice to the chief officer of police before any other dangerous substance specified or described in the directions is kept or used in the premises.

16 Directions requiring disposal of dangerous substances

- (1) Where the Minister has reasonable grounds for believing that adequate measures to ensure the security of any dangerous substance kept or used in any relevant premises are not being taken and are unlikely to be taken, he may give a direction to the occupier of the premises requiring him to dispose of the substance.
- (2) The direction must
 - (a) specify the manner in which, and time by which, the dangerous substance must be disposed of; or
 - (b) require the occupier to produce the dangerous substance to a person specified or described in the notice in a manner and by a time so specified for him to dispose of.

17 Punishment

- (1) Every person who contravenes Section 6 or 7 is guilty of an offence and liable upon conviction to
 - (a) In the case of an individual, imprisonment for a term not exceeding [] years or to a fine not exceeding [] or both;
 - (b) In the case of a body corporate, a fine not exceeding [].
- (2) Where an offence under Subsection (1) which is committed by a body corporate is proved to have been committed with the consent and connivance or, or to be attributable to any negligence on the part of, any director, manager, secretary or other similar officer of the body corporate, or any person who was purporting to act in such capacity, he as well as the body corporate shall be guilty of that offence and shall be liable to be proceeded against and punished in accordance with Subsection (1)(a).
- (3) Every person who contravenes Sections 8, 14, 16, or 20, Subsection 21(2) or Section 22 or any provision of the regulations is guilty of an offence and liable on conviction to
 - (a) In the case of an individual, imprisonment for a term not exceeding [] years or to a fine no exceeding [] or both;
 - (b) In the case of a body corporate, a fine not exceeding [].
- (4) Where an offence under Subsection (3) which is committed by a body corporate is proved to have been committed with the consent and connivance or, or to be attributable to any negligence on the part of, any director, manager, secretary or other similar officer of the body corporate, or any person who

was purporting to act in such capacity, he as well as the body corporate shall be guilty of that offence and shall be liable to be proceeded against and punished in accordance with Subsection (3)(a).

18 Extra-territorial application

- (1) A person who is alleged to have committed an offence under Sections 6, 7, 8, 14, 16, 20, Subsection 21(2) and Section 22 outside the territory of [COUNTRY NAME], may be prosecuted for that offence if
- (a) at the time the offence is alleged to have been committed,
 - (i) the person was a citizen of [COUNTRY NAME] or was employed in a civilian or military capacity, or
 - (ii) the person was a citizen of a State that engaged in an armed conflict against [COUNTRY NAME], or was employed in a civilian or military capacity by such a State, or
 - (iii) the victim of the alleged offence was a citizen of [COUNTRY NAME], or
 - (iv) the victim of the alleged offence was a citizen of a State that was allied with [COUNTRY NAME] in an armed conflict, or
 - (v) the person is a stateless person whose habitual residence is in [COUNTRY NAME], or
 - (b) after the time of the offence is alleged to have been committed, the person is present in [COUNTRY NAME].
- (2) ‘Person’ in Subsection 1 includes bodies corporate and partnerships registered under the laws of [COUNTRY NAME].

19 Continuing offence

Where an offence under this Act is committed or continued on more than one day, the person who committed the offence is liable to be convicted for a separate offence for each day on which the offence is committed or continued.

PART IV – INFORMATION AND DOCUMENTS

20 Information and documents

Every person who develops, produces, manufactures, possesses, stockpiles, otherwise acquires or retains, transports, transfers, uses, exports or imports any microbial or other biological agent, any toxin or any related equipment identified in the regulations shall

- (a) provide such information, at such times and in such form, as may be specified by the regulations, to the responsible authority or to any other authority specified by regulations; and
- (b) keep and maintain the documents specified by the regulations, at the person’s place of business or at such other place as may be designated by

the Minister, in the manner and for the period that is specified by the regulations and, on request by the Minister or the responsible authority, provide the documents to the responsible authority or to any other authority designated by regulations.

21 Notice for disclosure of information

- (1) The Minister may send a notice to any person who the Minister believes on reasonable grounds has information or documents relevant to the enforcement of this Act, requesting the person to provide the information or documents to the Minister.

Compliance with notice

- (2) A person who receives a notice referred to in Subsection (1) shall provide the requested information and documents that are under the person's care or control to the Minister in the form and within the time specified in the notice.

22 Confidential information

No person who obtains information or documents pursuant to this Act or the Convention from a person who consistently treated them in a confidential manner shall knowingly, without the written consent of that person, communicate them or allow them to be communicated to any person, or allow any person to have access to them, except

- (a) for the purpose of the enforcement or application of this Act or any other Act;
- (b) pursuant to an obligation of [COUNTRY NAME] under the Convention; or
- (c) to the extent that they are required to be disclosed or communicated in the interest of public safety.

23 Evidence of analyst

- (1) The Minister may appoint a person to be an analyst for the purposes of this Act.
- (2) Subject to Subsection (4), a certificate signed by an analyst appointed under Subsection (1) setting out, in relation to a substance, one or more of the following
 - (a) when and from whom the substance was received;
 - (b) what labels or other means of identifying the substance accompanied it when it was received;
 - (c) what container the substance was in when it was received;
 - (d) a description of the substance received;

- (e) that he or she has analysed or examined the substance;
- (f) the date on which the analysis or examination was carried out;
- (g) the method used in conducting the analysis or examination;
- (h) the results of the analysis or examination;

is admissible in any proceedings for an offence referred to in Sections 6, 7, 8, 14, 16, 20, Subsection 21(2) and Section 22 as evidence of the matters in the certificate and the correctness of the results of the analysis or examination.

- (3) For the purposes of this Section, a document purporting to be a certificate referred to in Subsection (2) shall, unless the contrary is established, be deemed to be such a certificate and to have been duly given.
- (4) A certificate shall not be received in evidence in pursuance of Subsection (2) in a proceeding for an offence unless the person charged with the offence has been given a copy of the certificate together with reasonable notice of the intention to produce the certificate as evidence in the proceeding.
- (5) Where, in pursuance of Subsection (2), a certificate of an analyst is admitted in evidence in a proceeding for an offence, the person charged with the offence may require the analyst to be called as a witness for the prosecution and the analyst may be cross-examined as if he had given evidence of the matters stated in the certificate.
- (6) Subsection (5) does not entitle a person to require an analyst to be called as a witness for the prosecution unless:
 - (a) the prosecutor has been given at least 5 days notice of the person's intention to require the analyst to be so called; or
 - (b) the Court, by order, allows the person to require the analyst to be so called.

PART V – REGULATIONS

24 Regulations

The Minister, and any other Minister who has powers in relation to biological agents or toxins, may make regulations

- (a) defining 'biological agent', 'microbial agent', 'toxin' and 'equipment' for the purposes of this Act;
- (b) respecting conditions under which activities referred to in Subsection 8(1) may be carried on, providing for the issue, suspension and cancellation of authorizations governing the carrying on of any such activity and prescribing the fees or the manner of calculating the fees to be paid in respect of any such authorizations;
- (c) identifying microbial or other biological agents, toxins and related equipment for the purposes of Subsections 8(1) or (2);

- (d) respecting the powers, privileges, immunities and obligations of representatives of the responsible authority who are designated under Subsection 9(2) and respecting the privileges and immunities of inspectors;
- (e) respecting the detention, storage, transfer, restoration, forfeiture and disposal - including destruction - of things removed by inspectors under this Act;
- (f) for the purposes of Section 20, identifying microbial or other biological agents and toxins and related equipment, and specifying anything that is to be specified by the regulations; and
- (g) generally for carrying out the purposes and provisions of the Convention and the Protocol.

PART VI – FINAL PROVISIONS

25 Commencement

This Act shall come into effect on *[INSERT DATE]*.

26 Saving and transitional arrangements

SCHEDULE 1

Text of Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction of 10 April 1972.

SCHEDULE 2

Text of Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare of 17 June 1925.

REPORTS AND DOCUMENTS

National implementation of international humanitarian law

Biannual update on national legislation and case law January – June 2005

A. Legislation

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Colombia

Decree No. 138¹ on implementing the Law on the use of the red cross and red crescent emblem and other emblems protected under the Geneva Conventions and their Additional Protocols² was adopted on 25 January 2005 and published in the official gazette on 27 January 2005. The Decree regulates the use of the emblem as a protective device by the medical and religious personnel of the armed and police forces and by civilian medical personnel when so authorized by the Ministry for Social Protection. It provides for disciplinary sanctions in cases of misuse of the emblem and requires that measures be taken by the Ministry of National Defence and the Directorate-General of the National Police to spread knowledge of the rules on the use and protection of the red cross emblem and other distinctive signs, and to incorporate those rules into policy and military doctrine.

El Salvador

Decree No. 471 on reform of the Penal Code concerning the use, development, production, acquisition, storage, conservation and transfer of anti-personnel mines³ was approved by the Legislative Assembly on 14 October 2004 and published in the official gazette on 22 November 2004. It entered into force eight days after its publication. The Decree implements Article 9 of the *Convention on the prohibition of the use, stockpiling, production and transfer of anti-personnel mines and on their destruction* of 3 December 1997 and incorporates into the Penal Code a new provision (Article 346 c) introducing prison sentences in the event of acts

prohibited under the Convention, or any help with or participation in such acts. However, an exception is provided for in the form of the authorized retention by the armed forces of a small number of anti-personnel mines for training in mine clearance, mine detection and mine-destruction techniques.

France

The *Law No. 2005-270 on the general status of servicemen*⁴ was adopted on 24 March 2005 and published in the official gazette on 26 March 2005. It entered into force on 1 July 2005. Title I of the law defines the rights and obligations of servicemen, the conditions of their service and establishes the conditions of their penal and disciplinary responsibility in doing their duty. Among the obligations of servicemen are those of completing their mission and obeying the orders of their superiors. In particular, the law prohibits acts committed in violation of the laws and customs of war and of international conventions, and establishes the responsibility of superiors for orders given in violation of such laws.

Germany

The *Law amending the Act implementing the Convention of 13 January 1993 on the prohibition of the development, production, stockpiling and use of chemical weapons and on their destruction*⁵ was adopted on 11 October 2004 and published in the official gazette on 15 October 2004. Under Article 2, the Law entered into force one day after its publication. The new Law amends the Chemical Weapons Act to allow for the use by army personnel of riot-control agents in law-enforcement operations carried out in the framework of international collective security, something which until then had been restricted to operations carried out on the national territory.

Haiti

The *Decree relating to the status of the International Committee of the Red Cross*⁶ was adopted on 25 August 2004 and published in the official gazette on 11 April 2005.

- 1 Decreto número 138 de 2005 por el cual se reglamentan los artículos 5º, 6º, 14 y 18 de la Ley 875 de 2004, Diaro Oficial de 27 de enero de 2005, pp. 42-45.
- 2 Ley 875 del 2 de enero de 2004 por la cual se regula el uso del emblema de la cruz roja y de la media luna Roja y otros emblemas protegidos por los Convenios de Ginebra del 12 de agosto de 1949 y sus Protocolos Adicionales. See National implementation of international humanitarian law — Biannual update on national legislation and case law, January — June 2004, *International Review of the Red Cross*, Vol. 86, No. 855, September 2004, p. 694.
- 3 Decreto número 471 — Reforma al Código penal, Diario oficial del 22 de noviembre de 2004, p. 13.
- 4 Loi N° 2005-270 du 24 mars 2005 portant statut général des militaires, publié au Journal Officiel N° 72 du 26 mars 2005, p. 5098.
- 5 Erstes Gesetz zur Änderung des Ausführungsgesetzes zum Chemiewaffenübereinkommen (1 CWÜAGÄndG) vom 11. Oktober 2004, Bundesgesetzblatt Jahrgang 2004 Teil I Nr. 54, ausgegeben zu Bonn am 15. Oktober 2004, p. 2575.
- 6 *Décret relatif au Comité International de la Croix-Rouge*, publié au Journal Officiel (“Le Moniteur”) N° 28 du 11 avril 2005.

The Decree recognizes the ICRC's special status and confers upon the organization and its expatriate personnel the same privileges and immunities as in the case of the United Nations under the *Convention of 13 February 1946 on the privileges and immunities of the United Nations*.⁷

Honduras

The *Law on the Protection of the red cross and red crescent emblem*⁸ was confirmed by Presidential Decree No. 199-2004 of 31 September 2004⁹ and approved by the National Congress on 17 December 2004. The law entered into force on the same day. It repeals Legislative Decree No. 31 of 19 January 1971 containing the *Law for the protection of the emblem and the name of the Honduran Red Cross*. The objectives of the new legislation are to protect the red cross and red crescent emblem and its name, and to establish controls and sanctions to guarantee proper use of the emblem in accordance with the provisions of the 1949 Geneva Conventions and their 1977 Additional Protocols. The act defines the protective and the indicative use of the emblem and identifies the national authorities of Honduras as responsible for monitoring application of the Law. It also provides for penalties in the case of commercial misuse of the emblem and refers to the Penal Code and to the Military Code to determine sanctions and penalties applicable in cases of abuse of the emblem committed in times of armed conflict.

Peru

The *Law No. 28413 on forced disappearances during the period from 1980 to 2000*¹⁰ was adopted on 24 November 2004 and published in the official gazette on 11 December 2004. The law settles the legal situation of missing persons, establishes applicable rules and procedures, and creates a register of persons unaccounted for. The objective is to provide the families (and other persons having a legitimate interest in the matter) with the measures needed for the protection of their rights.

Ukraine

Decree No. 400 by the Minister of Defence of Ukraine "on the approval of regulations on the use of international humanitarian law in the Ukrainian armed forces"¹¹ was adopted on 11 September 2004. Paragraph 2 of the Decree stipulates that the head of the General Staff of Ukraine's armed forces must ensure

7 Convention on the Privileges and Immunities of the United Nations, 1 UNTS 15, 13 February 1946.

8 Ley de protección del emblema de la cruz roja y de la media luna roja, la Gaceta — Diario oficial del 2 de marzo del 2005, número 30.636, p. A. 2.

9 Published in the Official Journal of 2 March 2005.

10 Ley número 28413 que regula la ausencia por desaparición forzada durante el período 1980-2000, El Peruano del 11 de diciembre de 2004, p. 282115.

11 Decree of the Minister of Defence of Ukraine No. 400, Kiev, "Azimut-Ukraine" Publishing House, 2004, p. 144.

that IHL is incorporated into armed forces operational training and ensure compliance with its provisions by servicemen and armed forces civilian staff. The Regulations set out IHL's main principles. They also outline the rules applicable during the preparation for and the conduct of military operations, as well as the IHL standards to be included in military education and operational training.

B. National committees on international humanitarian law

Burkina Faso

*Decree No. 2005-100 regarding the creation, mandate, composition and organization of the Interdepartmental Committee for Human Rights and International Humanitarian Law*¹² was adopted on 23 February 2005. The Committee is an advisory body entrusted with supporting the government in matters related to human rights and IHL and serving as a framework for dialogue on the promotion and protection of and respect for human rights and IHL. Its mandate is to facilitate coordination of the activities by different ministries in this field; to study policies and strategies proposed by the government; to provide technical support for drafting reports to be submitted by the government to various entities; to study any litigation involving the State; to help initiate training in the field of human rights and IHL in formal and non-formal education; and to spread knowledge of human rights and IHL within State structures, including the armed forces.

The Committee is chaired by the General Secretary of the Ministry of Human Rights and is composed of representatives of various ministries with the rank of general secretary. The Burkinabé Red Cross Society also participates in the work of the Committee when this concerns issues related to IHL. The Committee may also call for the assistance of other relevant organizations in civil society. The Decree provides for the establishment of a permanent technical secretariat and states that the expenses of the Committee will be covered by the budget of the Ministry of Human Rights.

United Arab Emirates

*Ministerial Council Resolution No. 32 of 2004 regarding the establishment of the National United Arab Emirates Commission for International Humanitarian Law*¹³ was adopted on 1 November 2004. The Commission has the task of strengthening implementation of IHL; reviewing legislation relevant to IHL; strengthening cooperation and exchanging expertise with unions, associations and other organizations concerned with IHL; proposing training programmes and organizing seminars; and undertaking any tasks assigned to it by the Council of Ministers or any other specialized State authority.

12 Décret N° 2005-100/PRES/PM/MPDH portant création, attributions, composition et fonctionnement du comité interministériel des droits humains et du droit international humanitaire.

13 Prime Ministerial Resolution No. 32 of 2004 regarding the establishment of the National United Arab Emirates Commission for International Humanitarian Law.

The Commission is chaired by the Deputy Prime Minister and is composed of representatives of different ministries. It must convene whenever the need arises, upon the initiative of its chairman. The Red Crescent Society of the United Arab Emirates plays the role of the Commission's General Secretariat.

C. Case law

Belgium

On 23 March 2005, Belgium's Administrative Jurisdiction and Procedure Court (*Cour d'arbitrage*)¹⁴ ruled on the issue of the compatibility between certain provisions of the *Law relating to serious violations of international humanitarian law* of 5 August 2003¹⁵ and Articles 10 and 11 of the Federal Constitution (principles of equality and non-discrimination) and, finally, Article 6 of the European Convention on Human Rights and Fundamental Freedoms (right to fair trial). The provisions of the Belgian law of 2003 being challenged in the above-mentioned case confer on the Federal Prosecutor exclusive authority to initiate a criminal investigation, thereby making it impossible for the victims themselves to initiate proceedings and precluding a "*constitution de partie civile*" for that purpose. Nor does the law provide the possibility of appeal against the Prosecutor's decision if he decides not to prosecute.

The court decided that it was not unreasonable for the Prosecutor to enjoy an exclusive prerogative to decide on the admissibility of a case before Belgian courts in situations where the needs of justice, or Belgium's international obligations, require that the claim should be brought before an international court or tribunal, or before the national and independent courts of another State enjoying jurisdiction over the case.

However, the court ruled that in other situations, the decision not to prosecute could not rest solely with the Federal Prosecutor and should be taken by an independent and impartial judge. The court consequently ordered that an amendment be made to the existing law, by 31 March 2006, in order to ensure that in such situations the decision not to prosecute would be taken under the authority of an independent and impartial judge.

On 13 April 2005, Belgium's Administrative Jurisdiction and Procedure Court (*Cour d'arbitrage*)¹⁶ ruled on the provisions of the *Law relating to serious violations of international humanitarian law* of 5 August 2003.¹⁷ Belgium's

14 Cour d'Arbitrage, Arrêt N° 62/2005 of 23 March 2005, available on <www.arbitrage.be> (visited on 8 September 2005).

15 Loi relative aux violations graves du droit international humanitaire, published in *Moniteur Belge* on 7 August 2003, Ed. 2, N° 286, pp. 40506-40515. This 2003 law repealed the 1993 Law on the repression of serious violations of international humanitarian law (as last amended on 23 April 2003). See National implementation of international humanitarian law — biannual update on national legislation and case law, January-June 2003, *International Review of the Red Cross*, Vol. 85, No. 851, September 2003, p. 654.

16 *Cour d'arbitrage*, Arrêt N° 65/2005, 13 April 2005, available on <www.arbitrage.be> (visited on 8 September 2005).

17 *Op. cit.* (note 15).

Supreme Court, the *Cour de Cassation*, asked preliminary questions¹⁸ to the Administrative Jurisdiction and Procedure Court on the compatibility of certain provisions of the law with the principles of equality and non-discrimination as enshrined in Articles 10 and 11 of the Federal Constitution.

The questions raised pertained to the transitional regime applicable between the *Law of 1993 on the repression of serious violations of international humanitarian law* (as last amended on 23 April 2003) and the new Law of 5 August 2003 (which revised and strengthened the requirements under which Belgian courts may assert jurisdiction). According to the transitional regime, in cases in which Belgian courts are not competent under the new law, they should decline jurisdiction, unless:

— at least one claimant is a Belgian citizen when public proceedings commence, or

— at least one alleged perpetrator had his principal residence in Belgium at the time of entry into force of the new Law.¹⁹

The requirement that at least one claimant be a Belgian citizen excludes *a priori* persons having refugee status in Belgium. Since the petitioners in the present case were refugees, the Administrative Jurisdiction and Procedure Court was asked to determine whether or not this exclusion amounted to a case of discrimination.

The Administrative Jurisdiction and Procedure Court ruled that the exclusion of refugees from the transitional regime introduced by the law of 5 August 2003 was in contravention of the *Convention relating to the status of refugees of 28 July 1951*, which provides that refugees should enjoy the same treatment as nationals in matters pertaining to access to the courts.²⁰ The Court concluded that the law of 5 August 2003 violated the principles of equality and non-discrimination. Consequently, the *Cour de Cassation*, in assessing the jurisdiction of Belgian courts under the law's transitional regime, could not rule out jurisdiction in regard to cases brought by persons enjoying refugee status at the time that public proceedings are initiated.

Canada

On 28 June 2005, the *Supreme Court of Canada*²¹ confirmed a deportation order for a Rwandan Hutu politician who had become a permanent resident in Canada. The deportation order was issued pursuant to the *Immigration Act* of 1985.²² It was based on a speech made by that individual in Rwanda in 1992 and which was deemed an incitement to commit murder, genocide and hatred, and therefore to constitute a crime against humanity.

18 *Cour de Cassation*, 5 May 2005, available on <www.cass.be> (visited on 8 September 2005).

19 Article 29, paragraph 3 of the *Law relating to serious violations of international humanitarian law*, 5 August 2003, *op. cit.* (note 7).

20 Article 16.2 of the Convention relating to the Status of Refugees, 28 July 1951.

21 *Mugesera v. Canada* (Minister of Citizenship and Immigration), 28 June 2005, SCC 40, available at <<http://www.lexum.umontreal.ca/csc-scc/en/rec/html/2005scc040.wpd.html>> (visited on 8 September 2005).

22 *Immigration Act*, RSC 1985, c. I-2. (now replaced by the *Immigration and Refugee Protection Act*, SC 2001, c. 27).

The *Immigration Act* provides for the non-admission to Canada of two categories of persons: first, persons suspected on the basis of “the balance of probabilities” of being the perpetrators of a crime such as incitement to genocide, murder or hatred; second, persons about whom there are “reasonable grounds to believe” that they have committed a crime against humanity outside of Canada. The Supreme Court had to rule on the legality of the deportation order on this basis.

As to the allegation of incitement to genocide, the court ruled that it was not necessary to establish a direct causal link between the speech and the acts of murder or other violence, and that incitement was punishable by virtue of the criminal act alone irrespective of the result. The court concluded that an incitement to genocide had been committed and that the individual who had made the speech was therefore not eligible for residence in Canada under the *Immigration Act*.²³

The court then went on to assess whether the speech itself had constituted a crime against humanity. At the time relevant to this appeal, crimes against humanity were defined in and proscribed by sections 7(3.76) and 7(3.77) of Canada’s *Criminal Code*,²⁴ based on the definitions laid down by the International Military Tribunal in Nuremberg. The court observed that a hate speech, particularly when it advocates egregious acts of violence, may constitute a crime against humanity, specifically that of persecution. After a thorough examination of the elements of the crime, the court decided that a crime against humanity had been committed and that the individual who made the speech was therefore not eligible for residence in Canada under the *Immigration Act*.²⁵

Russian Federation

On 25 May 2005, the Circuit Military Court for the region of the Northern Caucasus confirmed its judgement of acquittal in regard to several members of the special forces of the Russian Federation. The Russian servicemen were standing trial for the second time²⁶ on charges of murder and destruction of civilian property committed in January 2002 against four civilians captured on suspicion of having links with terrorist organizations. The jury, confirming the prior decision of the Circuit Military Court in the case, found that the accused had acted on orders from their superiors and that military discipline had compelled them to commit their actions. They were consequently acquitted by the court.

23 27(1)(a.1)(ii) and 27(1)(a.3)(ii) of the *Immigration Act*.

24 Sections 7(3.76) and 7(3.77) of the *Criminal Code* have since been repealed. Crimes against humanity are now defined under sections 4 and 6 of the *Crimes Against Humanity and War Crimes Act*, SC 2000, c. 24.

25 ss. 27(1)(g) and 19(1)(j) of the *Immigration Act*.

26 A first decision of acquittal in the case was issued by the Circuit Military Court for the region of the Southern Caucasus on 11 May 2004, but was repealed by resolution of the Military Collegium of the Supreme Court of the Russian Federation on 26 August 2004, on the grounds that the jury had been improperly selected. Thus, the Supreme Court ruled that the case should be heard again by the same Circuit Court.

United States

On 19 January 2005, the US District Court for the District of Columbia²⁷ issued its second decision regarding the legality of the continued detention of persons held at the US naval base at Guantanamo Bay and on the status of these persons.

The case involved seven foreign nationals — five Algerian-Bosnian citizens, one Algerian citizen and one French citizen — captured outside Afghanistan by the United States forces and detained pursuant to a US President's Order on Detention dated 13 November 2001. The petitioners challenged the legality of their detention on the basis of the US Constitution, different federal statutes and international law, and filed a petition calling for the court to issue a writ of *habeas corpus*.

The District Court concluded that “[...] *no viable legal theory exists by which it could issue a writ of habeas corpus under these circumstances*”, and granted the US government's motion to dismiss the petitions.

Apparently disregarding the terms of the US Supreme Court decision of 28 June 2004, in the *Rasul v. Bush* case,²⁸ the District Court considered that the fact had been well established before the Supreme Court decision that the petitioners possessed no cognizable constitutional rights resulting from their *habeas corpus* petitions. The court held that the rights of the detainees, as non-resident aliens captured outside the US during a time of armed conflict, were a matter within the exclusive responsibility of the executive and legislative branches of power and that the United States constitutional system precluded the judiciary from engaging in a substantive evaluation of the conditions of their capture and detention. The judicial review was hence limited to the question of whether Congress had or had not given the military the authority to detain or charge the individuals as *enemy combatants*.

The District Court also declared that the president's war power must include *the power to capture and detain the United States' enemies*, thus recalling the findings of the US Supreme Court in its decision of 28 June 2004 in the *Hamdi et al. v. Rumsfeld* case.²⁹

On 31 January 2005, the US District Court for the District of Columbia³⁰ was called upon to examine the same issues as those prompting its prior decisions

27 United States District Court for the District of Columbia Court, *Khalid v. Bush*, Civil Action No. 2004-1142, *Memorandum Opinion & Order*, 19 January 2005, by Judge Richard J. Leon, available at <<http://www.dcd.uscourts.gov/opinions/2005/Leon/2004-CV-1142~7:40:40~3-2-2005-a.pdf>> (visited on 8 September 2005).

28 US Supreme Court, *Rasul v. Bush*, No. 03-334. The Supreme Court held that foreign nationals imprisoned without charge at the Guantanamo Bay interrogation camps were entitled to bring legal action challenging their captivity in US civilian federal courts.

29 US Supreme Court, *Hamdi et al. v. Rumsfeld, Secretary of Defense, et. al.*, No. 03-6696, 28 June 2004, see also National Implementation of international humanitarian law — biannual update on national legislation and case law, January-June 2004, International Review of the Red Cross, Vol. 86, No. 855, September 2004, p. 705.

30 United States District Court for the District of Columbia Court, *In re Guantanamo Detainees Cases*, Civil Action No. 2002-0299, *Memorandum Opinion* issued January 31, 2005. Order issued January 31, 2005, available at <<http://www.dcd.uscourts.gov/opinions/2005/Green/2002-CV-299~8:57:59~3-2-2005-a.pdf>> (visited on 8 September 2005).

of 8 November 2004 and 19 January 2005. This case involved a third District Court judge. This time the court found in favour of the detainees, ruling that the petitioners did enjoy constitutional rights, as well as rights resulting from international treaties cognizable in a US court.

This case involved 11 detainees held as enemy combatants at the US naval base at Guantanamo Bay and accused of ties with al Qaeda or other terrorist organizations. The petitioners had been taken into custody in distant locations including Afghanistan, Gambia, Zambia, Bosnia-Herzegovina and Thailand, and some had already been detained for as long as three years.

The petitioners asserted that the detention and the conditions thereof at Guantanamo Bay violated a variety of laws, among which the Fifth Amendment to the US Constitution (the right not to be deprived of liberty without due process of law), as well as the Third and Fourth Geneva Conventions of 1949.

Following the reasoning of the Supreme Court in its decision of 28 June 2004, the court ruled that the “special nature of the base at Guantanamo Bay” justified that it be treated as the equivalent of sovereign US territory and held that fundamental constitutional rights, including the Fifth Amendment, applied to detainees held there, even if they were not US citizens.

The court also found that the procedures provided by the Combatant Status Review Tribunal failed to satisfy constitutional due process guarantees in different respects, i.e. that the detainees did not enjoy the assistance of counsel, were not provided with sufficient notice of the factual basis for their detention, and that some of the evidence against them may have been obtained by torture or other forms of coercion.

With respect to the 1949 Geneva Conventions, in particular Articles 4 and 5 of the Third Convention, the court held, in accordance with the District Court’s ruling in its decision of 8 November 2004,³¹ that the Geneva Conventions were self-executing. It also went on to decide that the US president’s early and broad determination that the detainees were not entitled to prisoner-of-war status was incorrect. This determination had to be made on an individual basis and if there was any doubt the matter had to be resolved by a competent tribunal, for which a broad characterization by the US president was no substitute.³²

31 United States District Court for the District of Columbia Court, *Hamdan v. Rumsfeld*, Civil Action No. 04-1519 (JR), 8 November 2004, see also National Implementation of International Humanitarian Law — biannual update on national legislation and case law, July-December 2004, *International Review of the Red Cross*, Vol. 87, No. 857, March 2005, p. 225.

32 The latter decisions are manifest of a split in opinion among the judges of the US District Court for the District Court of Columbia, which by 30 June 2005, remained to be resolved before a Federal Court of Appeals and eventually before the US Supreme Court. On 15 July 2005, the United States Court of Appeals for the District of Columbia Circuit issued a decision on appeal from the United States District Court for the District of Columbia in the *Hamdan Case*, which will be commented in the next *Biannual update on national legislation and case law* to be published in this Review for the period July-December 2005.

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