

Seminar held on 23rd September 1998

## **Weapons: A Question of Health?**

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**Speakers : Robin M. Coupland and  
David Meddings**

Dr. Robin Coupland and Dr. David Meddings, two members of the ICRC staff, discussed the humanitarian dimension of the proliferation of small arms and light weapons and the ICRC's work in this area. They based their presentations on a recognition that different points of view exist with respect to the issue of the effects of weapons on health. While Coupland, a surgeon, focused on the effects of weapons on the individual person, Meddings, an epidemiologist, discussed the impact of weapons use on entire populations. Underlying their dual approach throughout, however, was a central framework of thinking known as the "weapons continuum of activities".

### **Presentation by Dr. Robin Coupland**

In focusing on the effects of weapons on the individual person, Dr. Robin Coupland based his presentation on the process whereby the recognition of a health problem is translated into binding law. This 'data to policy link', which is evident in measures to combat drunken driving fatalities, for instance, is also applicable, according to Coupland, to weapons and the international laws of war. The production, design, use and effects of weapons (all of which are interrelated) take place within a 'continuum of activities', with different people and professions involved at different points along the continuum. Coupland's area of focus within this continuum is on how data on the effects of weapons is utilized to build policy-international law-regulating the design,

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production, transfer or use of such weapons. Antipersonnel mines, whose observed effects contributed significantly to the campaign which led to a prohibition of their production, transfer, and use, are an obvious example in his opinion.

To illustrate, Coupland considered three types of weapons—assault rifles, hand grenades, and anti-personnel mines. While the wounds inflicted by the first two are a result of weapon design, they are not inflicted to a specific part of the body. Anti-personnel mines, however, are designed to target a specific part of human anatomy—the human foot or leg—and result in both a specific injury and a specific disability. The example of anti-personnel mines illustrates the relationship between the design and effect of a weapon, and provides the first step in understanding how legislation that is based on the effects of weapons can be conceived. From the legal side of the data-policy link, Coupland described Article 35 of Protocol 1, Additional to the Geneva Conventions of 1949, which states that it is prohibited to employ weapons, projectiles, materials and methods of warfare of a nature to cause superfluous injury or unnecessary suffering. Despite a commonly-held view that antipersonnel mines inflict a degree of damage excessive to the its military advantage, linking such views and Article 35 requires a precise legal formulation of “superfluous injury and unnecessary suffering”.

According to Coupland, the STrUS project (initiated by a group of ICRC doctors) is an attempt to operationally define “superfluous injury or unnecessary suffering” while simultaneously bridging the divide between the medical and legal professions in the area of small arms and light weapons. The main tenets of the STrUS project are: first, that weapons should be considered from the point of view of their effects, and not technology, the basis of past prohibitions; and second, that legal consideration should be given primarily to the effects on the human being. As an example, Coupland stated that while a prohibition exists on laser-blinding weapons, this prohibition is not based on the intentional blinding of one’s opponents as a method of warfare; the difference between looking at a weapon in terms of its function versus its impact on the human body, according to him, is the distinction between ef-

fect and technology.

The data collected from field hospitals and military publications in the context of the SIRUS project has yielded substantial measures of wound size, number of fatalities, the fact that most weapons—with the exception of anti-personnel mines—randomly target the human anatomy, and residual disability, among others. As measures of the effects of conventional weapons on humans treatable by conventional medicine and surgery, these data provide a possible baseline for comparing weapons and address the question of whether the collective effects of conventional weapons on health provide a baseline for injury and suffering, and therefore legality, and even acceptability in the public mind.

According to Coupland this is not in doubt, given that there is no intrinsically abhorrent weapon in the public mind that has not already been banned. According to this logic, the SIRUS project proposes that a weapon causes "superfluous injury or unnecessary suffering" when its effects encompass one of the four following criteria (according to which different weapons can be evaluated):

1. Any specific disease, specific abnormal physiological state, specific abnormal psychological state, specific and permanent disability, and specific disfigurement;
2. Provable mortality of more than 25%, or hospital mortality of more than 5%;
3. Grade-3 wounds (very large wounds);
4. Effects that are not treatable by conventional methods of surgery.

The data of the SIRUS project would permit the establishment of a distinction between "legitimate" and "non-legitimate" weapons by defining injuries associated with legitimate weapons and asserting that anything not within those parameters constitutes superfluous injury and unnecessary suffering. This divide, Coupland argues, also mirrors the public notion of what constitute abhorrent weapons.

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Not all weapon categories, according to Coupland, fit the SIRUS project criteria perfectly; so-called 'non-lethal weapons' are one such example. In his opinion, caution must be utilized in using the phrase 'non-lethal', which implies the communication, anti-material, and anti-personnel aspects of new weapons that together constitute the future of warfare, because no proof exists that non-lethal weapons necessarily reduce death and injury on the battlefield. As an example of a weapon currently viewed as 'non-lethal,' Coupland described the use of sticky foam fired from a canister on to a human body. While ostensibly designed to immobilize the human form, it would prove fatal if the face was targeted. Despite being labeled as a non-lethal technology, therefore, such foam could yield a higher mortality rate than conventional weapons.

It is Coupland's belief that new weapons should be assessed in terms of their effects on health, and that states have an obligation to determine the legality of the weapons they are developing and deploying. It is his hope that the criteria of the SIRUS project will eventually provide a code of reference and a point of debate on weapons in the process of being designed.

### **Presentation by Dr. David Meddings**

Dr. David Meddings discussed the proliferation of small arms and light weapons in the context of population health and its overall impact on the functioning of societies. His presentation was divided into two parts: an overview of the small arms and light weapons problematic, and a presentation of ICRC data and analyses of the effects of weapons at both the individual and societal levels interpretable within the context of small arms and light weapons.

Both the small arms/light weapons and conventional weapon problematics arise from three different perspectives: an academic perspective relating weapons proliferation to violence; a humanitarian perspective subordinating weapons proliferation to the necessity of dealing with its effects; and a political-economic perspective focusing on the mechanisms and interests necessary

for raising the issue on the agenda of the international community. In order to produce an overview of the small arms and light weapons problematic, Meddings believes it is important to revert to the initial framework of the design and foreseeable effects of weapons, and to address related issues and problems within the context of the 'weapons continuum of activities'.

In terms of *production and transfer*, broad-based political and economic factors influence the ease with which weapons are transferred. These include open or inefficiently policed borders, intentional regional destabilization by adversary states, and large-scale economic interests (both in terms of high-profit armaments markets and the micro-economic dynamics of "pipeline trading" across international borders). In terms of the use of small arms and light weapons, two prominent factors exist: first, users themselves who, besides being often male and possessing few prospects, often operate both within and outside the chain of command. Second, the *context* of weapons use is increasingly associated with both economically motivated and politically motivated violence; this is reflected in the blurring border between criminality and military insurgency. Finally, the *effects* of small arms and light weapons can exist at both the individual level (e.g. the mortality of a given weapon) and at the level of the society. Societal effects include the degradation of the social environment in which people live and the destruction of necessary infrastructure (hospitals, roads, etc) that is vital in maintaining a certain level of functioning and civility. Within the context of the continuum of activities, weapons design and use lead to effects on both the individual and society that facilitate the increased transfer of weapons into the latter, thus initiating a vicious cycle.

With regard to the role of the ICRC in the area of small arms and light weapons, Meddings stated that the organization has reflected concern on these issues through its emergency appeals for funding, where attention is drawn to the changing nature of conflicts, and the commissioning of conflict analyses. These concerns reflect those being addressed at the international level and that have resulted in a number of regional and international guidelines, regulations, accords and agreements over the recent

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years.

According to Meddings, the ICRC can address the central concern of the small arms and light weapons issue from a number of perspectives. Within the ICRC, two essentially different forms of data collection exist: a surgical wound database, containing a large volume of information on each weapon-injured individual admitted into ICRC hospitals since 1990 (a total of 28,000 individuals); and a number of focused studies examining the issue of patterns of weapons use in various contexts. He discussed three of them in the context of the presentation.

The first study described by Meddings focused on 'post-conflict' weapons injuries. A problem with the term 'post-conflict', Meddings argued, is that if, despite a cessation of hostilities, the proliferation of weapons is not checked, the effects of relatively unrestrained transfers of weapons could result in a post-conflict situation that is just as bad as the conflict situation. This troubled distinction constitutes the essence of the studies carried out in this area.

In the context of the post-conflict reconstruction and development of a country recently involved in an armed conflict, the existence of large volumes of weapons and their use poses clear challenges. The ICRC study took place in a region of a country previously contested by 5-6 different military factions. Following its successful occupation by one faction, the post-conflict period was not characterized by an attempt by the new authorities to disarm the population. The ICRC surgical wound database recorded data on individuals injured in this region for five years prior to the military transition and during the 18 month "post-conflict" period following it. The annual incidence of injuries (correcting for population influx in the region during the time period) showed a decline in the incidence of weapon injuries between the conflict and post-conflict period of approximately 20 per cent for all weapon types. When broken down into all categories of weapon types (firearms, fragmentation munitions, mines), the decline varied between these categories but did not exceed 40%, while in the case of fragmentation munitions the decline was only 8%. The study, Meddings argued, demonstrated that in the

absence of disarmament in a heavily militarized region, the level of weapons injuries is only moderately different than while the region was contested. Interpreting these results against the context of larger concerns about the prevalence of weapons and their effects within society, according to him, leads to some sobering conclusions.

Meddings then discussed two further studies concerning "non-combat weapons injury" which, as distinct from combat-related injuries that occur during inter-factional combat, involve people being injured for reasons having nothing to do with inter-factional combat but rather social violence and accidents, among other things. The first was a six-month perspective study in Jalalabad, Afghanistan, where information gathered on circumstances surrounding injury revealed a high level of non-combat injuries ranging between 50-100 injuries per 100,000 inhabitants over three months, this just before the city was taken over and used for the primary assault against Kabul by the Taliban. In the second period combat injuries increased dramatically while non-combat injuries dropped to a low level before rising again.

These results, Meddings argued, reveal two interesting implications. First, the level of non-combat related injuries does not reflect the real number of people injured (not all go to hospitals), but rather illuminates the dynamics of a region undergoing an extremely violent time in its history. Furthermore, the drop-off between combat and non-combat injuries and its subsequent rise (perhaps reflecting a tendency of people to hide their weapons during transitions) could potentially be a useful time frame—a "golden window"—within which to intervene and disarm segments of the population.

The same phenomenon was studied in a second study on Cambodia with the difference that researchers were able to inquire about combatant status, thus adding to the analysis the important contextual element of whether people injured were civilians or military personnel. The study, which collected data for 4 months following the departure of UNTAC (the United Nations Transitional Authority in Cambodia) also utilized data from field hospitals on the incidence of weapons injuries over the previous

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4 years. Results showed that while before UNTAC the mean annual incidence had been 147 per 100,000, the period following the operation witnessed a decline of 50%; during the period of the ICRC study, however, weapons injuries incidence increased to more than the level prior to the establishment of UNTAC.

According to Meddings, several important consequences arose from the fact that UNTAC only managed to disarm 20% of the Cambodian factions. To begin with, only 40% of those injured during one year were military personnel injured in combat; over 60% of people injured during this period were either civilians or military personnel not involved in factional conflict. Second, non-combat injuries accounted for 30% of all weapons injuries occurring during the year. Finally, non-combat injuries were disproportionately shouldered by the civilian population. Breaking down non-combat injuries by weapons type revealed that firearms and fragmentation munitions were the weapons of concern. Finally, the consideration of whether non-combat injuries were intentionally or accidentally inflicted revealed that first, civilians injured by firearms inflicted in a non-combat situation accounted for 70% of all intentionally-inflicted non-combat injuries; and that second, a high incidence of accidental injuries was related to fragmentation munitions (discarded grenades, etc.)

In conclusion, Meddings stated that, in his opinion, ICRC studies facilitate a realization that human beings are not very good in recognizing transitions that occur gradually. He believes that the changing nature of conflict in the latter part of this century is a transition with profound implications that are not going to be understood until conflict is considered from a deeper level than before. Important implications exist in this regard concerning the strength of nation-states and the role of states as fundamental factors in the dynamics of weapons proliferation. According to him many complex and vested interests are also concerned in questions of conventional weapons proliferation which, as reflected in the data, also have important implications for human rights and international humanitarian law.

Questions and Answers

**Q.:** What is the meaning and relation of “unnecessary suffering” to humanitarian law? Are weapons that only blind their opponents indeed not less harmful than lethal weapons?

A.:

Coupland affirmed that international humanitarian law is fundamentally a balance between the human cost of going to war and military gain. The problem is judging where those limits should be. The SIRUS project attempts to assist states and their lawyers in deciding where those limits should be. With regards to arguments supporting blinding weapons: they are incorrect because they bypass the fact that conventional weapons are not actually lethal. Conventional weapons result in a 25% mortality rate on the battlefield, and a 5% rate in the hospital. In his opinion it is impossible to make a comparison between a 100% rate of blindness versus a 25% mortality rate on the battlefield.

**Q.:** With regard to the boundaries drawn between combat versus non-combat injuries, and necessary versus unnecessary suffering, how and with what implications can these different distinctions be brought together in a general analysis?

A.:

Coupland argued that all concerns with weapons fall into one of two areas in international humanitarian law: whether they have been used against civilians or whether they have inflicted a degree of suffering on soldiers that is excessive to the military gain. The first presentation concerned the designed nature of injuries on soldiers (one body of law), the second addressed how weapons might inflict injuries on civilians (any attack or weapon is thus illegal)—another body of law. The body of humanitarian law is the link between the two presentations.

Meddings added that, despite these commonalities, the two presentations did address divergent concepts. The emphasis was not on ensuring that the two “dove-tailed” or reinforced each other. Meddings did acknowledge however that at the general level of

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ICRC's field experience both were related.

**Q.: Given the inherent trade-off in international humanitarian law between human cost and military gain, what would constitute the ideal in the achievement of objective arms control policies?**

A.: The role and objective of the ICRC was to determine the human cost of weapons, while the role of states was to determine what they required for their military objectives, replied Coupland. It would then fall to lawyers to determine the exact balance between the two requirements. The purpose of the presentations was to document the human cost. All they expected was for others to justify the military utility of what they planned to use. It is not for the ICRC to generate a scale of injury and determine the threshold of unacceptability.

**Q.: Given the need to distinguish between the effects of weapons and to determine a threshold in this regard, how can a balance be effected between military needs and humanitarian considerations?**

A.: Coupland affirmed that if there is a military advantage in making a bullet go faster (i.e. hit a target from a longer distance at a flatter trajectory) the basis for a balance becomes evident; if there is only one way of producing that military advantage, then lawyers must make the legal judgement in this respect to determine this 'way'. It is always a balance between the two. The criteria of the SIRUS project are not definitions, but serve as guidelines using the effects of conventional weapons as a baseline (beyond which additional human cost would be incurred) that lawyers of states could utilize when deliberating the concept of a balance. Blinding lasers were developed without using such a baseline.

**Q.: Why has Coupland distinguished between napalm and chemical weapons which are both chemicals?**

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A. : Napalm is listed as representative of incendiary weapons. Its effect, which is inflicted through burning and not poisoning (which is characteristic of chemical weapons) is the basis upon which the distinction is made.

**Q. : The importance of the Swiss proposal on ballistics lies in the objective tests carried out on weapons which can be linked to the description of wounds. This link, when made, can be universalized by carrying out tests on all weapon types, and form the basis of an assessment of the legality of the weapon based on considerations accepted by governments. In my view, the lowest level of superfluous injury possible must be aimed for in such considerations.**

A. : Coupland affirmed the importance of the Swiss proposal by highlighting the plan for a laboratory model of bullet wounds in which any bullet can be tested, yielding a physical measurement of the resulting wound. In relation to the balance mentioned earlier, while the ICRC is not in the position to determine where the line should be drawn, it should encourage the use of such models as a reference.

**Q. : While recognizing the utility of international treaties that determine the threshold of legality for weapons utilized in conflicts, most conflicts in the post-Cold war world have taken place within and not between states. How can such treaties be enforced in contexts where the relevant parties are often non-state or trans-national groups?**

A. : In Meddings' opinion, whether a given conflict is intra- or inter-state does not negate the application of the Geneva Conventions. More important, in his view, was the increasing economic motivations and criminal interests involved in the use of weapons in various parts of the world that render the provision of humanitarian aid more difficult and dangerous owing to the perception of such organizations that they are not bound by the Geneva Conventions.

According to Coupland, the consideration of non-state actors raises an entirely new spectrum of thought; one aspect of the SIrUS project criteria is the possibility of their application at the design stage of weapons production and the assessment of the legality of the weapon. It is thus possible that a given weapon will not even reach the production stage and be transferred to non-state actors.