



The SirUS Project: Progress Report on "Superfluous Injury or Unnecessary Suffering" in Relation to the Legality of Weapons

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Buried or "point-detonating" anti-personnel mines are the only weapons in widespread use that cause specific and severe injury resulting in specific and permanent disability. The treatment of the injury requires, on average, twice as many operations and four times as many blood transfusions as an injury from other weapons [1].

During the last years of the Cold War, the full extent of the impact of mines on whole societies was as yet unknown. New international legislation to ban the devices was not being discussed. Meanwhile, hospital teams in the field were faced with long and difficult operations which entailed excising large amounts of damaged tissue or amputating limbs. The appalling and somehow excessive nature of the injuries caused as a function of the design of these weapons led to abhorrence for the weapons themselves.

In 1990, the International Committee of the Red Cross (ICRC) was alerted to the development of blinding laser weapons, a development which was founded on the notion that it would be better to blind an

enemy soldier than to kill him or her. According to expert opinion, even in the best ophthalmological centres there was no effective treatment for laser-induced retinal hemorrhage. Here was another weapon system that, as a function of its design, would produce severe, permanent disability. (Fortunately, blinding lasers were banned in 1995; unfortunately, this ban came after the first such weapons had been produced.) It was becoming clear that however severe the effects of bullets or fragmentation munitions, there existed weapons that were, in some indefinable way, worse, causing "superfluous injury or unnecessary suffering"--a fundamental concept of international humanitarian law governing weapons [2].

The stigmatization of anti-personnel mines as abhorrent, and much of the subsequent thrust of the campaign to ban them, have quite rightly been based on the argument that they kill or injure both combatants and non-combatants without distinction and continue to do so long after the conflict has ended. The nature of the injuries caused by a weapon, however, should also be a basis for deeming a weapon illegal. If the injury or suffering resulting from a weapon's nature or technology could be proved to be excessive compared with the military advantage gained from its use, according to this argument, the weapon would be illegal whether the victim were a soldier or a civilian.

New weapon technologies are appearing on the horizon, such as beams and waves that could produce certain specific effects on the central nervous system, including depression and convulsions. Do armies really need

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such weapons? Are they “abhorrent?” What can or should doctors do about them? What constitutes “superfluous injury or unnecessary suffering?”

Doctors trying to understand this phrase step into the no-man’s land between the effects of weapons on health and the international law of war. One way--perhaps the only way--to navigate this no-man’s land is to translate a field surgeon’s concept of abhorrent weapons into a tool that can be used for making a legal determination of whether a specific weapon will inflict “superfluous injury or unnecessary suffering.”

The Origins of the SIrUS Project

The medical profession has a responsibility to use health-related data to help the international community define objectively which weapons are inherently “abhorrent” and which weapons cause “superfluous injury or unnecessary suffering.” This was one of the major findings of a symposium on the medical profession and the effects of weapons, organized by the ICRC in Montreux, Switzerland, in March 1996 [3].

The Montreux symposium, which represented the start of the SIrUS Project, addressed this responsibility by drawing together data and expert opinion from the fields of weapons, medical ethics, trauma surgery, and law. The project takes its name from that which it seeks to prevent. It is an attempt to bring objectivity to the legal notion of “superfluous injury or unnecessary suffering” and so aims to facilitate the review of the legality of weapons [4].

A Study of the Effects of Weapons

The group of experts who worked on the SIrUS Project, most of whom were health professionals, collated data relating to the effects of weapons used in conflicts over the past 50 years. These data originated from both military medical publications and the ICRC wound database of 26,636 weapon injuries. In relation to different causes of injury, the following information was retrieved:

- * the proportion of large wounds (according to the Red Cross wound classification);
- * overall mortality;
- * the relative proportions of central and limb injuries;
- * the duration of hospital stay;
- * the number of operations required;
- * the need for and volume of blood transfusions;
- * the number of lower limbs amputated among the survivors.

From these data, the expert group found that the weapons which cause injury by explosions or projectiles but which do not target a specific part of the body as a function of their design:

- * do not cause a field mortality of more than 22% nor a hospital mortality of more than 5%;
- * cause grade 3 wounds (as measured by the Red Cross wound classification) in less than 10% of those who survive to hospital ; and
- * cause wounds that can be treated for the most part by well established medical and surgical methods.

High-mortality or large wounds can be caused by legitimate weapons such as rifle bullets and fragmentation munitions under certain circumstances. Whether an individual is wounded slightly or severely, or is killed by such weapons, is determined by the design of a weapon, how it is used and random factors such as his or her proximity to the detonation (of a munition) and the part of the body that is hit. The data in the SIrUS Project about the effects of weapons commonly used in recent conflicts take all these factors into account.

The SIrUS Project has established that the following effects of weapons on humans have not been seen commonly as a result of armed conflicts in the last five decades:

- * disease other than that resulting from physical trauma from explosions or projectiles;
- * abnormal physiological state or abnormal psychological state (other than the expected response to trauma from explosions or projectiles);
- * permanent disability specific to the kind of weapon (with the exception of the effects of point-detonated anti-personnel mines--now widely prohibited);
- * disfigurement specific to the kind of weapon;
- * inevitable or virtually inevitable death in the field or a high hospital mortality rate;
- * grade 3 wounds among those who survive to hospital;
- * effects for which there is no well-recognized and proven medical treatment that can be applied in a well-equipped field hospital.

Some weapons can be expected to inflict certain effects virtually all the time. These effects result specifically from the nature or

technology of the weapon, i.e., they are design-dependent. Examples include:

- * exploding bullets, which are usually lethal or cause grade 3 limb wounds;
- * chemical and biological weapons, which inflict specific diseases or abnormal physiological states;
- * blinding laser weapons, which cause specific permanent disability to the eyes and have effects for which there is no proven medical treatment;
- * “point-detonated” anti-personnel mines, which result in a severe (grade 3) injury to the foot or leg, which in turn results in specific disability and disfigurement.

International Law and the SIrUS Project

States have an obligation to review the legality of the weapons they intend to use. This principle, as it applies to new weapons, is enshrined in Article 36 of Protocol I additional to the Geneva Conventions of 1949. One reason that a weapon might be deemed illegal is that it causes “superfluous injury or unnecessary suffering.”

Since the 1868 Declaration of St. Petersburg, the principle that the only legitimate purpose of war is to weaken the military forces of an opponent has been an accepted fundamental principle of international humanitarian law [5].¹ It was established that this purpose would be served by disabling enemy combatants and that it “would be exceeded by the employment of arms which uselessly aggravate the sufferings of disabled men, or render their death inevitable” [5]. This principle has been reaffirmed in various international instruments in the form of a prohibition on the use of “weapons, projectiles and material and methods of war of a nature to cause superfluous injury or unnecessary suffering” [6,7]. In 1996, the International Court of Justice stated that this rule constitutes one of the “intransgressible principles of international customary law” and is a fundamental rule to be observed by all States [8].

Despite the firmly established nature of this prohibition, its application has often been difficult or has not even been attempted

1. Even before 1868, the ancient laws of war in India, Greece, Rome, and the Middle East had prohibited poison weapons because of their excessive effects. The 1863 Lieber Instructions : Instructions for the Government of Armies of the United States in the Field (General Orders No. 100, of 24 April 1863) also “wholly excluded” this means of warfare on the same grounds.

due to the difficulty for lawyers, weapon designers, and political leaders to determine the degree of human injury or suffering inflicted. Judgments as to whether a specific weapon causes “superfluous injury or unnecessary suffering” have most often been made primarily on the basis of subjective influences, often prompted by generalized public abhorrence of a particular weapon, rather than an appraisal of whether the weapon’s effects might outweigh military need.

The notion of “superfluous injury and unnecessary suffering”² relates to the design-dependent effects of specific weapons on health. Indeed the prohibition refers to weapons “of a nature to cause”³ these effects. Although much of humanitarian law is aimed at protecting civilians from the effects of armed conflict, this rule of customary international law constitutes one of the few measures intended to protect combatants from certain weapons which are deemed abhorrent or which inflict more suffering than required for their military purpose.

All weapons whose use is already controlled or prohibited under international humanitarian law cause injuries that exceed the baseline of weapon injuries seen in recent conflicts, as described by the SIrUS Project. Had such an approach existed when the problems related to these weapons were being discussed, their control or prohibition might have occurred through a more rational and efficient process. Subsequently, consensus on and universalization of the relevant rules might also have been achieved more rapidly.

ICRC Proposals

In May 1999, the ICRC convened a meeting of government experts in international humanitarian law and of military and civilian medical experts to consider the proposals contained in the SIrUS Project. On the basis of discussions in this meeting and bilateral consultations, the ICRC made a set of proposals for consideration by the States, the

2. Both terms are translations from the single French concept of “maux superflus” contained in the 1899 and 1907 Hague Regulations Respecting the Laws and Customs of War on Land, Article 23 (e). The French text is the only authentic text of the 1899 and 1907 Hague Regulations.

3. This term is translated from the original French “propres à causer.” The term was incorrectly translated into the English “calculated to cause” in the 1907 Hague Regulations, which introduced the subjective element of the weapon designer’s intention. This error was corrected when the original “of a nature to cause” was restated in Protocol I of 1977, Article 35, para. 2.

International Red Cross and Red Crescent Movement, and other concerned organizations. The proposals were submitted to the 27th International Conference of the Red Cross and Red Crescent, held in Geneva in October-November 1999.

Proposal 1

States, when reviewing the legality of a weapon, should take the above facts into account by :

- * establishing whether the weapon in question would cause any of the above effects as a function of its design, and if so:

- * weighing the military utility of the weapon against these effects; and

- * determining whether the same purpose could reasonably be achieved by other lawful means that do not have such effects.

Proposal 2

States should make new efforts:

- * to build a common understanding of the norms to be applied in the review of new weapons, and

- * to promote transparency in the conduct and results of such reviews.

The ICRC has presented the SIrUS Project and the above proposals to national governments, the medical community, and concerned organizations and individuals as a means of promoting, over time, both debate and consensus on a health-based approach to weapons under international humanitarian law. States will be encouraged to take the available data concerning the nature of injury in recent conflicts into account when determining, as called for under Article 36 of Additional Protocol I of 1977, whether a proposed weapon, by its design, causes effects on health which may constitute "superfluous injury or unnecessary suffering."

The ICRC will also ask States to make new efforts to build a common understanding of the norms to be applied in the review of new weapons, and to promote transparency in the conduct and results of such reviews. National Red Cross and Red Crescent Societies and national medical associations will be urged to strengthen respect for the prohibition of weapons that are inherently abhorrent or of a nature to cause "superfluous injury or unnecessary suffering" and to promote effective implementation of international humanitarian law through discussion and endorsement of the SIrUS Project.

The SIrUS Project has been endorsed by a growing part of the international medical

community. In October 1998, the World Medical Association called on all its member national medical associations to endorse the criteria contained in the SIrUS Project. Thirteen national medical associations and 16 other medical institutions had endorsed the SIrUS Project as of April 1999. By doing so, these institutions recognize the validity of the study and recommend that the findings be used when making a determination of which weapons cause "superfluous injury or unnecessary suffering."

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