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The Law of Weaponry at the Start of the New Millennium

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I. Introduction

THE LAW OF WEAPONRY, which seeks to regulate both the means and the methods of warfare, is one of the oldest and best established areas of the laws of war.¹ It is also widely regarded as one of the least effective. The remarkable progress which has been made in the development of weaponry and methods of warfare during the twentieth century has been unmatched by development in the law. The result is that much of the law and the legal literature in this field has a distinctly anachronistic feel. For example, the prohibition of weapons causing unnecessary suffering² was first established over a century ago but remains part of the law and was recently applied by the International Court of Justice in considering the legality of nuclear weapons.³ Yet a 1973 survey of the law on weaponry by the United Nations Secretariat cited bayonets or lances with barbs, irregular shaped bullets, and projectiles filled with glass as examples of weapons considered to be outlawed by the unnecessary suffering principle.⁴ Scarcely standard weapons at the beginning of the twentieth century, these were museum pieces by its end. Similarly, leading text books refer to the unnecessary suffering principle meaning that “cannons

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must not be loaded with chain shot, crossbar shot, red-hot balls, and the like.”⁵ Such examples suggest that the law is firmly rooted in the nineteenth century.

Yet it would be wrong to write off the law on weaponry as unimportant in modern warfare. The twentieth century has seen the adoption of prohibitions on two of the century’s most destructive innovations in weaponry—chemical and bacteriological weapons.⁶ In the closing years of the century, there has been a burst of activity, unprecedented in this area since the Hague Peace Conferences of 1899 and 1907, which has produced treaties on blinding laser weapons⁷ and anti-personnel land mines,⁸ as well as a treaty which greatly strengthens the ban on chemical weapons. In addition, the evolution of customary international law regarding the protection of the environment in time of armed conflict has had effects on the law of weaponry, while the discussion of the legality of nuclear weapons by the International Court of Justice, though inconclusive and unsatisfactory in a number of respects, demonstrated that principles established in the last century are capable of being applied well into the next.⁹ Finally, wider developments in the laws of armed conflict, in particular the development of the law by the *ad hoc* tribunals for Rwanda and the Former Yugoslavia and the negotiations for the establishment of a permanent international criminal court, have had repercussions for the law on weaponry.¹⁰

It is therefore a good time at which to take stock of the law relating to weaponry and to consider how that law might develop in the early years of the new millennium. If that is to be done, however, it is important to have a clear understanding of the objectives which the law seeks to achieve in this area and the means by which it has sought, so far, to secure them. Among the reasons why the law on weaponry is so often seen as ineffective are that its objectives are misunderstood and unrealistic expectations are entertained as to what can be achieved. The present paper will accordingly begin with a brief account of the development of the law (Part II) and an analysis of its objectives (Part III). Part IV will then assess the law of weaponry as it stands at the end of the twentieth century. That law does not, however, operate in isolation, and Part V will therefore consider the influence of other parts of international law, in particular those concerned with the restriction of the resort to force, the protection of human rights, and the environment, which may have an impact upon the use of weapons in conflicts. Finally, Part VI will consider how the law is likely to develop in the foreseeable future—and how it might be strengthened.

II. The Development of the Law Relating to Weaponry

The prohibition of certain weapons, particularly poisonous weapons, can be traced back many centuries. The contemporary law on weapons and the

methods of warfare, however, began to develop only in the mid-nineteenth century. The Lieber Code¹¹ mentioned the prohibition on the use of poison and, in its emphasis on the principle of necessity, contained an early, albeit implicit, statement of the prohibition of weapons calculated to cause unnecessary suffering.¹² The draft declaration drawn up by the Brussels Conference in 1874¹³ and the Oxford Manual prepared by the Institute of International Law in 1880 both contained provisions to the effect that a belligerent State did not possess an unlimited choice of the methods and means of war and prohibited the use of poison, treachery, and weapons causing needless suffering.¹⁴ It is clear, therefore, that by the late nineteenth century there was considerable support for the proposition that international law imposed some constraints upon the weaponry which a belligerent might employ.

The first treaty to that effect was the St. Petersburg Declaration of 1868, which outlawed the employment in hostilities between parties to the Declaration of any “projectile of a weight below 400 grammes, which is either explosive or charged with fulminating or inflammable substances.”¹⁵ While the specific prohibition introduced by the Declaration is still in force, a more important feature of the Declaration is the statement in the Preamble of the reasoning behind the specific prohibition, namely:

That the only legitimate object which States should endeavour to accomplish during war is to weaken the military forces of the enemy;

That for this purpose it is sufficient to disable the greatest possible number of men;

That this object would be exceeded by the employment of arms which uselessly aggravate the sufferings of disabled men or render their death inevitable; [and]

That the employment of such arms would, therefore, be contrary to the laws of humanity.

It is this statement which provided the first recognition in treaty form of the prohibition of weapons calculated to cause unnecessary suffering.

The Hague Peace Conferences of 1899 and 1907 built upon these foundations in a number of agreements. Thus, the Regulations on the Laws and Customs of War on Land, adopted at the 1907 Conference,¹⁶ provide that “the right of belligerents to adopt means of injuring the enemy is not unlimited” (Article 22) and go on to declare that it is “especially forbidden” “to employ

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arms, projectiles, or material calculated to cause unnecessary suffering” (Article 23(e)). The Peace Conferences also adopted a number of other treaty provisions relating to weaponry and methods of warfare:

- Hague Declaration No. 2, 1899, banning the use of projectiles the sole object of which is the diffusion of asphyxiating or deleterious gases;¹⁷
- Hague Declaration No. 3, 1899, prohibiting the use of bullets which expand or flatten easily in the body (especially the so-called soft-headed or “dum-dum” bullets);¹⁸
- Hague Declaration No. 4, 1899, prohibiting for a period of five years the launching of projectiles and explosives from balloons and other methods of a similar nature;¹⁹
- Hague Regulations, 1907, Article 23(a), prohibiting the use of poison or poisoned weapons;²⁰
- Hague Convention No. VIII, 1907, restricting the use of automatic submarine contact mines.²¹

Subsequent years saw the adoption of the 1925 Geneva Chemical and Bacteriological Weapons Protocol, prohibiting the use of asphyxiating, poisonous or other gases, all analogous liquids, materials or devices, and bacteriological methods of warfare.²² This prohibition on the use of chemical and biological weapons was reinforced many years later by the 1972 Convention on the Prohibition of Development, Production and Stockpiling of Bacteriological and Toxin Weapons, which prohibited the possession of bacteriological and toxin weapons,²³ and the 1993 Chemical Weapons Convention, which prohibited the possession and use as a means of warfare of chemical weapons.²⁴ Neither the 1949 Geneva Conventions,²⁵ nor the two Additional Protocols to those Conventions, adopted in 1977,²⁶ deal with specific weapons. Additional Protocol I does, however, contain a restatement of the principles that belligerents do not have an unlimited right to choose the methods and means of warfare and may not employ methods or means of warfare of a nature to cause unnecessary suffering,²⁷ and also codifies important principles of customary international law regarding the protection of civilian life and property which have significant consequences for the freedom of States to select the methods and means of warfare.²⁸ In addition, the Protocol contains some innovative provisions on the protection of the environment in time of armed conflict.²⁹ The protection of the environment was also addressed in the 1977 United Nations Convention on the Prohibition of Military or any Other Hostile Use of Environmental Modification Techniques, which prohibited the use of weapons intended to change the environment through the deliberate manipulation of natural processes.³⁰

Finally, a United Nations conference held in 1980 adopted the 1981 United Nations Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons, the three original Protocols to which prohibited the use of weapons which injured with fragments which cannot be detected by x-rays (Protocol I) and imposed certain restrictions on the use of mines and booby traps (Protocol II) and incendiary weapons (Protocol III).³¹ A subsequent review conference in 1995-96 adopted an amended Protocol II on mines (which will be superseded for some States by the 1997 Land Mines Convention) and a new Protocol IV on laser weapons.³²

III. The Objectives of the Law Relating to Weaponry

As the law relating to weaponry is a part of the law of armed conflict, it is therefore to be expected that its objectives reflect those of the law of armed conflict as a whole. The law of armed conflict (or international humanitarian law) is primarily concerned with preserving, as far as possible, certain core humanitarian values during hostilities. It is not designed to prevent or deter States from resorting to force, and the constraints which it imposes must not, therefore, be incompatible with the effective conduct of hostilities. Every State has an undoubted right of self-defense under international law and is entitled to use force in order to vindicate that right.³³ While the law of armed conflict imposes limitations upon what a State may do in the exercise of that right, it is not intended to prevent the effective exercise of the right.³⁴ The law of armed conflict is thus based upon the assumption that States engaged in an armed conflict will necessarily inflict death and injury upon persons and damage to property, and seeks to limit these effects by preventing the infliction of suffering and damage which is unnecessary because it serves no useful military purpose. The law goes beyond that, however, for it requires that, even where destruction does have a military purpose, a balance be struck between the attainment of that purpose and other values, such as the preservation of civilian life; it prohibits the carrying out of an attack when the military benefit which may be expected to ensue is outweighed by the damage to those values.

The principal objective of the law of weaponry is the protection of these values. Thus, the prohibition of indiscriminate weapons and methods of warfare is designed to serve the objective of distinguishing between civilians and civilian objects, on the one hand, and combatants and military objectives, on the other, and protecting the former. Similarly, the principle that belligerents may not employ weapons or methods of warfare of a nature to cause unnecessary suffering serves the objective of protecting even combatants

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from suffering and death which is not necessary for the achievement of legitimate military goals. The principle, which has only recently become a part of the law of weaponry, that limits the use of weapons and methods of warfare which have a substantial adverse effect upon the natural environment³⁵ also has as its objective the prevention of wanton, unnecessary destruction and the balancing of military needs against the value of environmental preservation.

To that extent, the law of weaponry forms part of an intellectually coherent system. The law has, however, also been used to achieve other objectives which do not so obviously form part of that system. For example, the prohibition of perfidy, which has implications for the choice of methods of warfare (if not the weapons themselves), is designed to serve two very different objectives. In part, it seeks to preserve core humanitarian values by prohibiting the feigning of surrender, protected status, or wounds, because such feints endanger those who genuinely seek to surrender, possess protected status, or are wounded, and whom the law seeks to protect. The prohibition of perfidy has also, however, been used to protect able-bodied combatants from attacks which endanger no one else but which are seen as somehow "unfair." The objective there is the quite distinct one of preserving certain military or chivalric values. Thus, it is easy to see that the prohibition on using the Red Cross and Red Crescent emblems as a shield for military operations³⁶ serves a humanitarian objective, since abuse of the emblem will endanger genuine medical facilities and personnel. On the other hand, the prohibition on making use of the emblems or uniforms of an adversary while engaging in attacks or in order to assist military operations serves no humanitarian purpose whatsoever; rather, it seeks to ensure that one party to a conflict does not treat the other in a way which is perceived to be contrary to concepts of fair dealing.³⁷

In addition, the humanitarian objectives of the law of weaponry have frequently been intertwined with broader concerns about armaments. Thus, the First Hague Peace Conference in 1899 was convened in order to discuss questions of peaceful settlement of disputes, disarmament, and the laws of war, the Russian Government whose initiative had led to the convening of the Conference being particularly concerned to ensure that limits were placed on the introduction of new weapons and the consequent increases in military expenditure which these would entail. In adopting the three declarations banning the use of specific weapons,³⁸ the Conference clearly had that consideration in mind,³⁹ but was also influenced by humanitarian considerations. Each of the three Declarations contained a statement to the effect that the Conference had been "inspired by the sentiments" of the 1868 St. Petersburg Declaration, while the debates reveal that humanitarian

considerations were to the fore in the discussions.⁴⁰ Similarly, the attempts to rid the world of chemical and biological weapons which have lasted throughout the twentieth century have involved a mixture of humanitarian and disarmament considerations, the 1993 Chemical Weapons Convention being couched very much in the form of a disarmament agreement with its ban on possession as well as use of chemical weapons and its complex verification system.⁴¹

There is, of course, no reason why humanitarian and disarmament considerations should not be combined. The outlawing of a weapon as cruel and often indiscriminate as poisonous gas serves the values of disarmament and humanity and the employment of disarmament mechanisms for verification makes a ban far more effective than a simple prohibition on use. It should, however, be borne in mind that the objectives are different. Unlike the law of armed conflict, the disarmament process is intended to make war less likely by achieving a reduction in armaments, irrespective of whether the particular weapons involved are more or less cruel or indiscriminate than others which may not be the subject of disarmament negotiations.

Finally, in considering the objectives which the law of weaponry is designed to serve, it is worth remembering that the process by which those objectives have been applied has not always been one of strict rationality. Consideration of whether a particular weapon or method of warfare causes *unnecessary* suffering or *excessive* harm to civilians requires a comparison between different weapons and methods of warfare. Yet the process of comparison has seldom been a scientific—or even a particularly informed—one. Deep-seated taboos found in many societies regarding certain types of injury or means of inflicting harm have meant that certain types of weapon (those employing or causing fire, for example) have been treated as particularly horrific, without any serious attempt being made to compare their effects with those produced by other weapons.

Moreover, a mixture of humanitarian and disarmament considerations has all too often been used to disguise the pursuit of more self-interested objectives. The attempts to ban the crossbow in the twelfth century were the product of concern not only with the injuries which a crossbow could inflict but also with the way in which this infantry weapon changed the balance of power between mounted knights and infantrymen of a far lower social standing.⁴² Likewise, the British proposals eight hundred years later to ban the submarine and the naval mine owed more to the threat which those weapons posed to the supremacy of the Royal Navy's surface fleet than their challenge to the humanitarian values underlying the laws of armed conflict. As Captain (later Admiral) Mahan, one of the United States delegates to the 1899 Peace Conference, explained, new weapons have always been denounced as barbaric.⁴³

IV. The Law of Weaponry at the End of the Twentieth Century

It has already been seen that the law of weaponry consists of general principles, such as that prohibiting weapons of a nature to cause unnecessary suffering, and a number of rules prohibiting, or limiting the use of, specific weapons or methods of warfare. While the relationship between the two is a close one, the specific provisions frequently being an extension of one or other of the general principles, the differences between them are sufficient to justify separate examination here. In particular, the general principles tend to refer to the effects produced by the use of weapons or methods of warfare, whereas the specific provisions usually concentrate upon the means employed. Section 1 of this Part will therefore consider the general principles, while Section 2 will examine some of the rules pertaining to specific weapons. Finally, Section 3 will consider the case of nuclear weapons.

Before turning to the general principles, two preliminary matters call for comment. First, the law of weaponry—both general and specific—has been developed in the context of armed conflicts between States. The treaty provisions have usually been applicable only in conflicts between the parties to the treaty concerned and even the general principles, which apply as part of customary law, have usually been seen as applicable only in international armed conflicts. That assumption is now being challenged. As will be seen, some of the most recent treaties on specific weapons, noticeably the 1993 Chemical Weapons Convention and the two new agreements on land mines (the 1996 Amended Mines Protocol to the Conventional Weapons Convention and the 1997 Land Mines Convention) expressly apply to internal as well as international armed conflicts.⁴⁴ In addition, the Appeals Chamber of the International Criminal Tribunal for the Former Yugoslavia has held, in its decision in *Prosecutor v. Tadic (Jurisdiction)*, that the customary international law applicable to internal armed conflicts is more extensive than had previously been supposed and, in particular, includes the customary rules regarding methods and means of warfare which apply in international armed conflicts.⁴⁵ As the Appeals Chamber put it:

[E]lementary considerations of humanity and common sense make it preposterous that the use by States of weapons prohibited in armed conflicts between themselves be allowed when States try to put down rebellion by their own nationals on their own territory. What is inhumane, and consequently proscribed, in international wars, cannot but be inhumane and inadmissible in civil strife.⁴⁶

This aspect of the decision is controversial, not least because the issue of methods and means of warfare did not, in fact, arise on the facts of the *Tadic* case and there is little evidence of State practice to support the conclusion that the rules of customary international law in internal conflicts are as extensive as the Appeals Chamber found. The argument of logic is, however, compelling, and it is likely that the *Tadic* precedent will be followed on this point, particularly if the International Criminal Court is established and given jurisdiction over war crimes committed in internal conflicts. Nevertheless, some differences remain between the law of weaponry in international conflicts and that applicable in internal conflicts because some of the specific provisions on weaponry have not become customary law and, therefore, depend entirely upon treaties as the basis for their applicability.

Secondly, there have sometimes been differences of opinion over whether weapons and methods of warfare are lawful unless prohibited (either expressly or by necessary implication) or whether one should proceed on the basis that the use of at least certain types of weapon is illegal in the absence of a permissive rule to the contrary. An element of uncertainty on this question can be seen in the Opinion of the International Court of Justice in the *Nuclear Weapons* case. The Court stated both that international law contained no "specific authorization of the threat or use of nuclear weapons"⁴⁷ and that it contained no "comprehensive and universal prohibition of the threat or use of nuclear weapons as such."⁴⁸ Nevertheless, an examination of the whole Opinion demonstrates that the Court did not endorse the argument that nuclear weapons carried a general stigma of illegality which rendered their use unlawful in the absence of a permissive exception to the general rule. Had the Court adopted such an attitude, its finding that there was no rule authorizing the use of nuclear weapons would have disposed of the case. By holding that international law contained neither a comprehensive prohibition of the use of nuclear weapons, nor a specific authorization of their use, all the Court did was to hold that the answer to the General Assembly's question had to be sought in the application of principles of international law which were not specific to nuclear weapons. When the Court came to consider those principles, it looked to see whether they prohibited the use of nuclear weapons, not whether they authorized such use. In commencing its examination of the law of armed conflict, the Court stated that:

State practice shows that the illegality of the use of certain weapons as such does not result from an absence of authorization but, on the contrary, is formulated in terms of prohibition.

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The Court must therefore now examine whether there is any prohibition of recourse to nuclear weapons as such⁴⁹

This approach, rather than that of seeking a permissive rule, certainly accords better with State practice in relation to all types of weaponry over an extended period.

(1) The General Principles of the Law of Weaponry

(a) The Unnecessary Suffering Principle. The most recent statement of this principle can be found in Article 35(2) of Additional Protocol I, which provides that:

It is prohibited to employ weapons, projectiles and material and methods of warfare of a nature to cause superfluous injury or unnecessary suffering.

The principle is a long established part of customary international law which can be traced back to the 1868 St. Petersburg Declaration and to the Hague Regulations of 1899 and 1907. As was seen in Part III, the rationale for this principle is to be found in the broader principle of necessity in armed conflict, which prohibits wanton violence that serves no legitimate military purpose.⁵⁰ As well as providing a general yardstick against which all weapons and methods of warfare must be judged, the unnecessary suffering principle has provided much of the inspiration for agreements on specific weapons, such as those on explosive, inflammable and soft-headed or expanding bullets,⁵¹ chemical and biological weapons,⁵² poison,⁵³ and weapons which injure with fragments which cannot be detected by x-rays.⁵⁴ Some of these agreements go beyond the general principle in that they prohibit the use of such weapons even in circumstances where their use might not have been a violation of the general principle.⁵⁵

The unnecessary suffering principle applies to both the methods and means of warfare. It prohibits outright any weapon (or means of warfare) which is of a nature to cause unnecessary suffering. In addition, where a particular weapon has a legitimate use but is also capable of being used in a way which will, in the circumstances, cause unnecessary suffering (and all weapons can be so used), the principle prohibits the latter use (or method of warfare) even though it does not give rise to an outright ban on the weapon itself.

The fact that a particular weapon or method of warfare causes severe or widespread injuries or death, or inflicts great pain, is not, in itself, sufficient to render its use incompatible with the unnecessary suffering principle. That

principle does not possess an absolute character; it does not prohibit the use of any weapon or method of warfare which causes extreme suffering or extensive injuries, but only those which cause injuries or suffering that are unnecessary. The application of the unnecessary suffering principle thus requires a balancing of the military advantage which may result from the use of a weapon with the degree of injury and suffering which it is likely to cause. As the Japanese court in the case of *Shimoda v. The State* put it, "the use of a certain weapon, great as its inhuman result may be, need not be prohibited by international law if it has a great military effect."⁵⁶

This balancing act is, however, easier to state in the abstract than it is to apply, since one is not comparing like with like and there is considerable uncertainty regarding the factors to be placed on each side of the scales. A 1975 Conference of Experts held at Lucerne which considered this question agreed that the principle "involved some sort of equation between, on the one hand, the degree of injury or suffering inflicted (the humanitarian aspect) and, on the other, the degree of necessity underlying the choice of a particular weapon (the military aspect),"⁵⁷ but had more difficulty in agreeing on how this should best be applied. It is important, therefore, to examine the factors which should be taken into account on each side of the equation.

The Military Aspect. In determining what factors may be taken into account on the military side of the equation, the Preamble to the St. Petersburg Declaration provides a useful starting point.⁵⁸ The Declaration is based upon the premise that, since the legitimate objective of disabling an enemy combatant could be achieved with ordinary rifle ammunition, the "rifle shell" or exploding bullet merely exacerbated injury or rendered death inevitable and should therefore be prohibited. On the other hand, the high explosive shell, which was far more destructive and just as deadly, was excluded from this prohibition because it offered a distinct military advantage in that it could disable several combatants with one shot or destroy large quantities of property, and thus achieve military goals which ordinary rifle ammunition could not. In taking the decision which they did, the States represented at the 1868 Conference rejected two factors which might have been taken into account on the military side of the equation. First, they expressly rejected the argument that since a disabled enemy might recover and be able to fight again, the fact that a weapon made death inevitable was a legitimate military reason for employing that weapon in preference to others. The same reasoning is reflected more than a century later in the ban on weapons which injure with fragments that cannot be detected with x-rays. Secondly, there was an implicit rejection of the argument that the very savagery

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of a weapon might be a legitimate military advantage because of the effect which it produced upon the morale of enemy combatants.⁵⁹

As the first modern attempt to apply the unnecessary suffering principle in a specific case, the Declaration remains important. Nevertheless, in at least one respect it presents an over-simplified picture. The suggestion that the legitimate objectives of a belligerent can be achieved by disabling the greatest number of men overlooks the fact that there are other equally legitimate objectives, such as:

[T]he destruction or neutralisation of enemy materiel, restriction of movement, interdiction of lines of communication, weakening of resources and, last but not least, enhancement of the security of friendly forces.⁶⁰

It is generally accepted that the weapons needed to achieve such aims differ, both in character and effect, from those commonly used against personnel and may cause more serious injuries or make death more likely than would typical anti-personnel weapons. Nevertheless, their use does not violate the unnecessary suffering principle, because the advantages which they offer, in terms, for example, of their capacity to destroy materiel, means that this additional suffering cannot be characterized as unnecessary.⁶¹

The Humanitarian Aspect. Disagreement also exists about what factors should be taken into account on the “suffering” side of the equation. The Lucerne Conference considered that

[T]his comprised such factors as mortality rates, the painfulness or severeness of wounds, or the incidence of permanent damage or disfigurement. Some experts considered that not only bodily harm but also psychological damage should be taken into account. Another expert could not accept such a wide interpretation of the concept at issue, as all wartime wounds, no matter how slight, could entail severe psychological harm.⁶²

The present writer considers that the concept of “injury” or “suffering” includes the totality of a victim’s injury, and that a distinction between physical and psychological injuries would be artificial, as well as having no basis in past practice concerning weaponry. A more difficult question is whether the effects of the victim’s injuries upon the society from which he or she comes should be taken into account on this side of the equation—for example, the effect upon a society of having to cope with large numbers of limbless or blinded former combatants would invariably be serious and might well be disastrous. Such effects are, however, difficult to quantify and depend more upon the numbers injured than the nature of the injuries in any particular case.

A report published in 1997 by the International Committee of the Red Cross attempts to specify more precise criteria for determining whether a particular weapon causes unnecessary suffering.⁶³ The approach taken in this Report is to study the medical effects of existing weapons, i.e., the degree to which they cause death or particular types of injury, and suggest four sets of criteria to be used in determining whether a new weapon is one which violates the unnecessary suffering principle.

- Does the weapon foreseeably cause specific disease, specific abnormal physiological state, specific abnormal psychological state, specific and permanent disability, or specific disfigurement?
- Does the weapon foreseeably cause a field mortality of more than 25% or a hospital mortality of more than 5% (figures substantially in excess of those caused by weapons in use at present)?
 - Are the weapons designed to cause particularly large wounds?
 - Does the weapon foreseeably exert effects for which there is no well recognized and proven treatment?

The identification of these criteria and the medical study on which they are based is of considerable value in helping to show how the balancing act required by the unnecessary suffering principle can be made more precise and less anecdotal than at present. It is, however, important to realize that the fact that a particular weapon meets one of these criteria is not, in itself, sufficient to brand it as unlawful without consideration of the military advantages which that weapon may offer. For example, the fact that soldiers cannot take cover from a particular type of weapon will, as the report points out, heighten the reaction of abhorrence produced by such a weapon.⁶⁴ But it is also the very inability of soldiers to take cover that means that the weapon will, in the language of the 1868 Declaration, disable the greatest possible number of enemy combatants, and which thus gives it its military effectiveness when compared with other weapons.

Comparison Between Weapons. The essence of the unnecessary suffering principle is that it involves a comparison between different weapons in determining whether the injuries and suffering caused by a particular weapon are necessary. As Dr. Hans Blix has noted, "it is unlawful to use a weapon which causes more suffering or injury than another which offers the same or similar military advantages."⁶⁵ The 1868 Declaration was based, as has been seen, on precisely such a comparison. In many cases, however, making that comparison will be more difficult than might appear from a glance at the approach taken in 1868.

It is not enough simply to consider the immediate effects of the two weapons (or methods of warfare) which are being compared. It may well be the case that the one weapon offers the same or similar destructive capability and accuracy as another while causing less horrific injuries or a lower level of fatalities. Before it is concluded, however, that the use of the latter weapon would therefore cause unnecessary suffering, it is necessary to consider a number of other factors, in particular the availability (including the expense) of both types of weapon and the logistics of supplying the weapon and its ammunition at the place where it is to be used. A particularly important consideration will be the extent to which each type of weapon protects the security of the troops which employ it, for if the use of the first, more "humane," weapon will lead to significantly higher casualties amongst the force using it, then there is a valid military reason for using the second. A belligerent is not obliged to sacrifice members of its own armed forces in order to spare the enemy's combatants (as opposed to the enemy's civilian population) the effects of the fighting.⁶⁶ These considerations are as much part of the military advantages which the weapon offers as the effects which its use produces on the enemy.

Moreover, it has to be remembered that the degree of choice of weapons decreases as one goes down the chain of command. While those who plan or decide upon operations at the highest levels of command are likely to have a large range of weapons at their disposal and the battle group or task force commander retains a significant element of choice, the individual soldier does not, as Professor Kalshoven puts it, carry the military equivalent of a bag of golf clubs from which he can select the weapon appropriate to each task; usually that soldier has no element of choice of weapon at all.⁶⁷ This consideration is likely to be of considerable importance if, which has not hitherto been the case, individual servicemen face trial on charges of using illegal weapons.

The Effect of the Unnecessary Suffering Principle. Although it is the oldest principle of the law of weaponry and its continued significance has recently been reaffirmed by the International Court of Justice, in practice the unnecessary suffering principle has only very limited effects. In particular, it is difficult to find a single example of a weapon which has entered into service during the twentieth century and which is generally agreed to fall foul of this principle. There are several reasons why that is the case. First, if the question is whether the weapon itself, as opposed to its use in specific circumstances, contravenes the principle, there is disagreement about the test to be applied. At the Lucerne Conference, a paper submitted by a British military lawyer suggested that the principle would ban a weapon outright only when that weapon was "in practice found inevitably to cause injury or suffering

disproportionate to its military effectiveness.”⁶⁸ Other experts contested the use of the word “inevitably” and argued that it was sufficient if the weapon caused such effects in its “normal” use. Article 35(2) of Additional Protocol I speaks of weapons “of a nature” to cause unnecessary suffering. It is doubtful whether the use of this formula offers any greater degree of clarity. In practice, if it can plausibly be argued that there is a significant range of cases in which a weapon can be used without causing unnecessary suffering, the weapon itself is unlikely to be regarded as unlawful under this principle. That conclusion is confirmed by the paucity of examples of contemporary weapons described in the literature as contravening the unnecessary suffering principle.⁶⁹ The result is that the unnecessary suffering principle has generally been more important in prohibiting particular uses of weapons (i.e., methods of warfare) than the weapons themselves.

Secondly, as has been seen, the criteria to be employed on both sides of the equation in the unnecessary suffering principle are far from clear. Moreover, even if the criteria themselves were clearer, it is frequently very difficult when a new weapon is developed for anyone outside the circle of those who have been responsible for its development to make an informed assessment of the military advantages which it offers or the medical effects which its use is likely to produce.

Finally, even when sufficient information about the weapon is available, a determination of whether or not its use would violate the unnecessary suffering principle requires a balancing of the likely military advantages and the likely human suffering which its use in the future will entail, and then a comparison between that balance and what would result from the use of alternative weapons. It is scarcely surprising that agreement on the outcome of applying such a test is seldom achieved.

(b) *The Principle of Discrimination.* The second general principle prohibits the use of indiscriminate weapons or—which is more important in practice—the indiscriminate use of any weapon, irrespective of whether that weapon is inherently indiscriminate. This principle is, in fact, a compound of three separate principles. First, it is well established in customary international law that it is unlawful to direct attacks against the civilian population, individual civilians or civilian property. Under the principle of distinction, a belligerent is required to distinguish between the enemy’s combatants and military objectives on the one hand and the civilian population and civilian property on the other, and direct his attacks only against the former.⁷⁰ Secondly, even if the target of an attack is a legitimate military objective, the

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principle of proportionality provides that it is prohibited to proceed with the attack if it:

[M]ay 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.⁷¹

Finally, if there is a choice of the methods or means of attack, there is a requirement to take all feasible precautions with a view to avoiding or minimizing incidental civilian casualties and damage.⁷²

These principles go primarily to the question of targeting, a matter which falls outside the scope of this paper.⁷³ Nevertheless, they also have an effect upon the law of weaponry. If a weapon is incapable of being used in a way which permits discrimination between military targets and civilians or civilian objects, then it is inherently indiscriminate and these principles render it unlawful. In practice, very few weapons are so inaccurate that they cannot be used in a way which complies with the principles set out in the preceding paragraph, although the V1 and V2 missiles used by Germany in the Second World War probably fell into that category.⁷⁴ A far more common case of conduct prohibited by these principles is the indiscriminate use of a weapon which is capable of being used in a discriminating way. Iraq's use of Scud missiles during the Gulf hostilities in 1991 is an example.⁷⁵

These principles are some of the most important cornerstones of the law of armed conflict. They were so widely disregarded during the Second World War that it was open to question whether they could still be regarded as part of the customary law. Since 1945, however, they have been reaffirmed on a number of occasions, most recently in Additional Protocol I, and were applied by, for example, the Coalition States in the operations against Iraq in 1991.⁷⁶ Their status as part of the contemporary customary law cannot now be doubted. While difficulties in their application remain, Protocol I has resolved a great many problems. In particular, it has clarified the principle that attacks must be directed only against military objectives by offering a workable definition of a military objective and has made clear that in applying the test of proportionality, only a "concrete and direct military advantage," rather than a nebulous concept such as the effect on enemy morale, is to be weighed against the effect of an attack upon the civilian population.

The principles contain both absolute and relative elements. The principle of distinction possesses an absolute character—civilians and civilian objects must never knowingly be made the object of attack and care must be taken to ensure that any target is, in fact, a legitimate military objective.⁷⁷ The principle of

proportionality, on the other hand, involves a balancing of the military advantages to be gained from an attack upon a military target against expected civilian losses and damage. As with the principle of unnecessary suffering, if those same military advantages can be achieved in different ways, one of which involves likely civilian casualties whereas the other does not, then the choice of the first route will entail a violation of the principle. However, the same qualifications apply here. In determining whether a commander who possesses a choice of weapons or methods of warfare should select one rather than the other, the extent to which both are truly available to him (in the light of such considerations as the likely future calls on precision munitions, the protection of his own forces and the logistic questions considered in the previous section) must be examined. The difference is that, although the security of his own forces remains an important part of this calculation, the need to reduce the risk to the civilian population means that a commander may be required to accept a higher degree of risk to his own forces.

Where the proportionality principle differs from the unnecessary suffering principle is that it is clearly established that it does not stop at the prohibition of unnecessary collateral injury and damage, but also requires a belligerent to abstain from an attack altogether, even if that means losing a military advantage which cannot be obtained by other means, if the military advantage would not be worth the expected civilian casualties and damage. The principle of proportionality is thus a more substantial constraint than the unnecessary suffering principle. Nevertheless, it remains a requirement to balance military gains against civilian losses; it does not possess an absolute character. In this respect, the Commentary on Additional Protocol I published by the International Committee of the Red Cross is misleading when it says that:

The idea has been put forward that even if they are very high, civilian losses and damage may be justified if the military advantage at stake is of great importance. This idea is contrary to the fundamental rules of the Protocol. . . . The Protocol does not provide any justification for attacks which cause extensive civilian losses and damage. Incidental losses and damage should never be extensive.⁷⁸

What the principle of proportionality (as stated in both customary law and the Protocol) prohibits is the causing of *excessive* civilian losses and damage. By substituting the word *extensive*, the Commentary replaces a term which necessarily implies a balance between two competing considerations with a term which suggests an absolute ceiling on civilian losses. There is no basis in the law for such an approach.

The Gulf conflict of 1990-91 demonstrated that the principles which are designed to protect the civilian population are workable. That conflict, however, also highlighted the fact that the proportionality test today requires consideration of a wider range of issues than in the past. In the Gulf conflict, Coalition air raids and naval bombardment of military targets appear to have caused relatively few direct civilian losses, but the damage done to the Iraqi power generating system and other parts of Iraq's infrastructure did far more harm to the civilian population. Application of the proportionality test today, at least at the strategic level, requires that less immediate damage of this kind must also be taken into account, although the difficulty of doing so is apparent.

The treaty statements of the discrimination principles do not apply to naval warfare except in so far as it involves the civilian population on land. Nevertheless, it is clear that there are restrictions on targeting in naval warfare.⁷⁹ In particular, merchant ships are not automatically to be treated as legitimate targets unless they engage in certain kinds of behaviour. It has therefore been suggested in a recent study that the principles of distinction and proportionality are applicable, *mutatis mutandis*, as part of the customary law of naval warfare, with consequent implications for the law of weaponry in a naval context.⁸⁰

(c) *The Prohibition of Perfidy*. The principle which prohibits the use of perfidy is well established in both customary international law and Additional Protocol I. The somewhat mixed objectives which this principle seeks to achieve have already been discussed in Part III and little more need be said here. There is probably no weapon which is inherently perfidious,⁸¹ and the principle therefore operates entirely upon the methods of warfare.

The humanitarian rationale of this principle is concisely set out in Article 37(1) of Additional Protocol I as "inviting the confidence of an adversary to lead him to believe that he 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." The provision then goes on to give the following 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.

Article 38 adds a specific prohibition on the improper use of the emblems (principally the Red Cross and Red Crescent) of the Geneva Conventions and internationally recognized protective emblems, such as the flag of truce, as well as any unauthorized use of the United Nations emblem.⁸² By contrast, Article 37(2) provides that:

Ruses of war are not prohibited. Such ruses are acts which are intended to mislead an adversary or to induce him to act recklessly but which infringe no rule of international law applicable in armed conflict and which are not perfidious because they do not invite the confidence of an adversary with respect to protection under that law. The following are examples of such ruses: the use of camouflage, decoys, mock operations and misinformation.

As has already been seen, these provisions, which reflect customary international law, serve a clear humanitarian objective. The prohibition in Article 39(1) of the use by belligerents of the flags, emblems, and uniforms of neutral States or other States not party to the conflict also serves that objective, since it also seeks to protect persons and objects which would not be legitimate targets of attack. That is not true, however, of the rule in Article 39(2) which forbids the use of *enemy* flags and uniforms by a belligerent while engaging in an attack or in order to shield, favor, protect, or impede military operations. The objective behind the latter rule is quite different and serves no obvious humanitarian purpose.⁸³

Traditionally, the law on ruses in naval warfare has been different. In naval warfare, the use of enemy flags and signals is entirely legitimate up to the point at which an attack is commenced.⁸⁴ There is, therefore, no equivalent of the rule in Article 39(2) of Additional Protocol I (which is expressly stated not to apply to naval warfare).⁸⁵ The principles in Articles 37 and 38 of the Protocol are intended to apply to all forms of warfare, but their application to naval hostilities necessitates some modification to take account of the different conditions of naval warfare. The *San Remo Manual on International Law Applicable to Armed Conflicts at Sea* states the basic principle of perfidy in the same terms used in Additional Protocol I, Article 37(1), and adds, as specific examples of perfidious behavior:

. . . the launching of an attack while feigning:

- (a) exempt, civilian, neutral or protected United Nations status;
- (b) surrender or distress by, e.g., sending a distress signal or by the crew taking to life rafts.⁸⁶

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This provision was supported by a large group of experts and is in accordance with the approach taken in the United States *Naval Commander's Handbook*.⁸⁷ It is open to question, however, whether sub-paragraph (a) reflects customary law, since the practice of disguising warships as merchant vessels and the use of Q-ships was extensively practised during the Second World War and there is no clear practice to the contrary since that date.⁸⁸

The *San Remo Manual* also states that:

Ruses of war are permitted. Warships and auxiliary vessels, however, are prohibited from launching an attack whilst flying a false flag, and at all times from actively simulating the status of:

- (a) hospital ships, small coastal rescue craft or medical transports;
- (b) vessels on humanitarian missions;
- (c) passenger vessels carrying civilian passengers;
- (d) vessels protected by the United Nations flag;
- (e) vessels guaranteed safe conduct by prior agreement between the parties, including cartel vessels;
- (f) vessels entitled to be identified by the emblem of the red cross or red crescent; or
- (g) vessels engaged in transporting cultural property under special protection.⁸⁹

(d) *The Principle of Environmental Protection*. A number of specific rules of the law of armed conflict operate, expressly or impliedly, to protect the natural environment. Thus, the 1977 Environmental Modification Treaty addresses the potential problem of a belligerent seeking to use the environment as a means of warfare in itself by prohibiting the use of environmental modification techniques which have widespread, long-lasting, or severe effects upon the environment.⁹⁰ This treaty, however, deals with the exceptional case of the deliberate manipulation of the environment for military purposes, rather than the far more common case of environmental damage inflicted in the course of ordinary military operations. To some extent, the prohibition of the wanton destruction of property and the use of chemical and biological weapons, as well as the restrictions on the use of land mines and incendiary weapons indirectly protect the environment. Today, however, it is argued that there is a broader, general principle of respect for the environment in time of armed conflict.⁹¹

For States party to Additional Protocol I, such a principle is to be found in Article 35(3), which states that:

It is prohibited to employ methods or means of warfare which are intended, or may be expected, to cause widespread, long-term and severe damage to the natural environment.⁹²

This provision was, however, an innovation in 1977 and cannot be regarded as forming part of customary international law.⁹³

Nevertheless, there are clear indications that a general principle of environmental respect is emerging and may well already form part of customary law. Thus, the 1995 edition of the U.S. *Commander's Handbook on the Law of Naval Operations* stipulates that:

It is not unlawful to cause collateral damage to the natural environment during an attack upon a legitimate military objective. However, the commander has an affirmative obligation to avoid unnecessary damage to the environment to the extent that it is practicable to do so consistent with mission accomplishment. To that end, and as far as military requirements permit, methods or means of warfare should be employed with due regard to the protection and preservation of the natural environment. Destruction of the natural environment not necessitated by mission accomplishment and carried out wantonly is prohibited. Therefore, a commander should consider the environmental damage which will result from an attack on a legitimate military objective as one of the factors during target analysis.⁹⁴

In its *Advisory Opinion on the Legality of the Threat or Use of Nuclear Weapons*, the International Court of Justice stated that:

States must take environmental considerations into account when assessing what is necessary and proportionate in the pursuit of legitimate military objectives. Respect for the environment is one of the elements that go to assessing whether an action is in conformity with the principles of necessity and proportionality.⁹⁵

The United Nations General Assembly has expressed similar views.⁹⁶ While the language may be different in each case, the general sense is substantially the same.⁹⁷

(e) *Other General Principles.* Before leaving the subject of the general principles, it is necessary to consider whether any other general principle may have become part of the law of weaponry. There is, of course, the principle that the right of the parties to an armed conflict to choose the methods and means of warfare is not unlimited.⁹⁸ This principle is not, however, a free-standing norm, since it gives no indication what the limitations upon the right to choose

might be. It serves only to introduce the limitations, both general and specific, laid down elsewhere in the law.

A more substantial contender is the Martens Clause, which first appeared in the Preamble to Hague Convention No. II of 1899. The most recent version of this clause appears as Article 1(2) of Additional Protocol I:

In cases not covered by this Protocol or by other international agreements, civilians and combatants remain under the protection and authority of the principles of international law derived from established custom, from the principles of humanity and from the dictates of the public conscience.

It has sometimes been argued that the use of a particular weapon or method of warfare might be unlawful, as a result of the Martens Clause, even though it was not outlawed by any of the general principles or specific provisions of the law of weaponry.⁹⁹ According to this approach, a weapon will be unlawful if its effects are so contrary to considerations of humanity and the public conscience that it arouses widespread revulsion. This view is based upon a misunderstanding of the Martens Clause. There is no doubt that one effect of the Clause is that the absence of a specific treaty provision does not mean that a weapon must be lawful; the Clause makes clear that the general principles embodied in customary law still apply and that the use of a weapon contrary to those principles will be unlawful. Furthermore, the Martens Clause undoubtedly states what has frequently been the motivating force behind the adoption of a specific ban (e.g., those on land mines and laser weapons). There is no evidence, however, that the use of any weapon has ever been treated by the international community as unlawful solely on account of the Martens Clause and the Clause should not be regarded as laying down a separate general principle for judging the legality of weapons under existing law.¹⁰⁰

Finally, it can reasonably be said that the undoubted duty to respect the territorial integrity of neutral States implies the existence of a general principle that the belligerents must abstain from the use of methods and means of warfare which cause disproportionate damage to the territory of neutral States. This principle has only very limited significance for the use of weapons other than nuclear weapons and it is in that context that it will be considered below.

(2) Rules on Specific Weapons. The evolution of the treaty provisions regulating the use of specific weapons has already been outlined in Part II. Unlike the general principles of the law of weaponry, these specific provisions tend to concentrate upon the means used (e.g., exploding bullets of less than 400 grammes weight, laser weapons, chemical weapons), rather than the

effects produced (e.g., unnecessary suffering, disproportionate civilian casualties). They fall into three broad groups:

- Limitations on the use of a particular weapon which fall short of an outright ban;
- Bans on the use, but not the possession and, perhaps, not the retaliatory use, of a particular weapon; and
- Bans on both use and possession.

It is not intended in this paper to try to analyze all of the specific weapons provisions. Instead, three categories of weapons—laser weapons, land mines, and chemical weapons—which have been the subject of important legal changes in the 1990s, and which illustrate the three categories set out above, will be examined.

(a) *The Lasers Protocol*. In October 1995, a Conference was convened under the provisions of Article 8(3) of the 1981 Weapons Convention to review the scope and operation of the Convention and its three Protocols. One of the items on the agenda of the Review Conference was a proposal for the adoption of a new protocol to the Weapons Convention to ban the use of anti-personnel laser weapons (a type of weapon not then in common use but which it was believed would be widely available before long) on the ground that such weapons would cause permanent blindness. This issue had been under consideration by the International Committee of the Red Cross for several years.¹⁰¹ It had been argued by some commentators that the use of laser weapons to blind enemy combatants was already prohibited by the unnecessary suffering principle.¹⁰² That conclusion was challenged, however, by others who argued that a blinding weapon could not be regarded as causing *unnecessary* suffering when the alternative weapons could cause death.¹⁰³ In fact, the arguments are finely balanced and the unnecessary suffering principle probably does not outlaw the use of anti-personnel lasers as such, although it might prohibit their use in certain circumstances.¹⁰⁴ In view of this difference of opinion and the uncertainty inherent in the application of the unnecessary suffering principle, the opponents of anti-personnel lasers not surprisingly decided that it was necessary to seek a specific ban.

In this case, the approach of seeking to eliminate an entire category of weapons was never an option. Lasers are used on the battlefield for a wide range of undoubtedly legitimate purposes, including target identification and range finding, which would not normally involve injury to eyesight and which States were not willing to abandon. In addition, several States distinguished between the use of lasers against the human eye and their use against equipment optical systems, where there was a risk of incidental injury to the human eye.

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The new agreement,¹⁰⁵ adopted by the Review Conference as Protocol IV to the Weapons Convention, reflects these views. Article 1 prohibits the employment of “laser weapons specifically designed, as their sole combat function or as one of their combat functions, to cause permanent blindness to unenhanced vision, that is to the naked eye or to the eye with corrective eyesight devices.” The use of laser weapons which do not have as one of their combat functions the causing of permanent blindness to the naked eye is not, therefore, prohibited and, if blindness is caused as a collateral consequence of the use of such a weapon, or the use of other laser systems such as range finders, there will be no violation of the Protocol.¹⁰⁶ Article 2 of the Protocol, however, requires the parties to take all feasible precautions, when using laser systems not prohibited by the Protocol, to avoid causing blindness to the unenhanced vision of enemy combatants.

The result is a treaty that bans the use of a fairly narrow category of weapons—laser weapons specifically designed to cause blindness. The use of other types of laser weapon, even if it results in blindness, remains lawful. At the time of writing, the Protocol had not yet entered into force. When it does, it will be binding only upon those States parties to the Weapons Convention which opt to become bound by Protocol IV.

(b) *Land Mines.* Unlike laser weapons, land mines have been the subject of a sustained campaign during the 1990s to achieve a total ban. Whereas the concern about blinding laser weapons centered on the unnecessary suffering principle, the move to ban land mines was motivated more by the effects which their use had been shown to have upon the civilian population, often long after the conflict. Nevertheless, while the indiscriminate use of land mines was a violation of the general principle of distinction, they were also capable of lawful use, against military targets or as a means of denying an adversary access to an area of land.

Protocol II to the Weapons Convention already contained limitations on the use of land mines and booby-traps.¹⁰⁷ So far as mines¹⁰⁸ were concerned, the original Protocol II limited their use in the following ways:

- By prohibiting their use against civilians and their indiscriminate use (Article 3), although this added nothing to the general principles on targeting;
- By imposing a more specific restriction on the use of mines in centers of civilian population where combat was not actually taking place (Article 4);
- By prohibiting the use of remotely delivered mines unless they are used within an area which is itself a military objective and either their location is accurately recorded or they are fitted with a self-neutralizing mechanism which

will render the mine harmless or destroy it when it no longer serves the military purpose for which it was laid (Article 5); and

- By requiring the recording and publication of the location of minefields and co-operation in their removal after a conflict (Articles 7 and 9).

The provisions of the Protocol are very limited. Only Article 5 imposed a substantial limitation and this is “clumsily worded.”¹⁰⁹ Not surprisingly, these provisions were widely regarded as insufficient in view of the devastating effects of land mines—often continuing for many years after the end of active hostilities.¹¹⁰ A number of States therefore pressed for a complete ban on land mines, while others urged the Review Conference to tighten the restrictions in Protocol II.

The first result was the adoption in 1996 of an amended Protocol II¹¹¹ which goes some way towards tightening the restrictions on the use of land mines and increasing the protection of the civilian population. The most important changes introduced by the amendments are as follows:

- A ban on the use of various devices which make mine clearance more dangerous (Article 3(5) and (6));

- A ban on the use of anti-personnel mines which are not detectable, as specified in the technical annex to the Protocol (Article 4);

- Restrictions on the use of mines which do not meet the requirements in the technical annex (Article 5). The technical annex requires that mines produced after 1 January 1997 must meet certain requirements regarding detection and self-neutralization and their location must be carefully recorded;

- Stricter constraints on the use of remotely delivered mines (Article 6);

- Stricter rules for the protection of peacekeepers and others not directly involved in the conflict (Article 12) and for the protection of civilians (Article 3(8) to (11));

- A more extensive obligation regarding mine clearance after the conflict (Articles 10 and 11); and

- A prohibition on the transfer of mines which do not meet the requirements of the Protocol and limitations on the transfer of mines which do meet those requirements (Article 8).

The amended Protocol II is thus considerably more stringent than the original Protocol. Whether it will succeed in significantly reducing the threat posed to civilians by mines is another matter. One of the biggest threats to civilians is the large numbers of old mines, readily available and cheap, which do not meet the requirements of the amended Protocol and which are likely to be used by untrained personnel. This risk is particularly acute in civil wars; indeed, it is in the civil wars in Angola and Cambodia that some of the worst casualties from

land mines have been sustained. It is therefore an important development that the amended Protocol is expressly applied to internal armed conflicts within the meaning of common Article 3 of the Geneva Conventions, where it applies both to the government and rebel parties.¹¹² Since the other Protocols to the Weapons Convention contain no provision on the scope of their application, they apply only in the circumstances specified in Article 1 of the Weapons Convention itself, namely international armed conflicts, including wars of “national liberation” as defined in Article 1(4) of Additional Protocol I to the Geneva Conventions. It has, however, been suggested, notwithstanding the absence of any express provision regarding internal conflicts in the new Protocol IV, that Protocol was also intended to apply to internal armed conflicts,¹¹³ although no trace of such an understanding is to be found in its text.

The amended Protocol II did not go far enough for a large body of States. They aimed instead at a complete ban on the use and transfer of land mines and, to that end, adopted a separate treaty in 1997. The United Nations Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction, as its name suggests, is a complete ban on the use of anti-personnel land mines.¹¹⁴ The Convention, the Preamble of which echoes the language of the Martens Clause and refers specifically to both the unnecessary suffering principle and the principle of distinction, goes beyond a ban on the use of anti-personnel mines “in all circumstances” and bans their production, stockpiling, and possession, as well as the transfer of such mines to others. The definition of an anti-personnel mine, however, excludes mines “designed to be detonated by the presence, proximity or contact of a vehicle as opposed to a person,” even if equipped with anti-handling devices.¹¹⁵ The Convention requires that all parties take steps, including the imposition of penal sanctions, to ensure implementation of its provisions.¹¹⁶ While the conclusion of this Convention was a triumph for the opponents of land mines, its effectiveness is likely to be limited as a number of major military powers have declined to participate.

Once the 1997 Convention and the amended Protocol II enter into force, there will be a complex network of obligations regarding land mines:

- States party to the 1997 Convention will be obliged not to employ anti-personnel land mines in any circumstances, even in hostilities with States not party to the Convention;
- States party to the 1980 Conventional Weapons Convention which elect to become party to the amended Protocol II will be bound by that Protocol in their relations with other States party to the 1980 Convention which have accepted that Protocol;

- States party to the 1980 Conventional Weapons Convention which elect not to become party to the amended Protocol II will remain bound by the original Protocol II in their relations with other parties which have made the same choice; and

- States not party to the 1980 Convention or which have not accepted either version of Protocol II will remain subject in their use of land mines only to the customary law general principles on unnecessary suffering and distinction and other States will be subject to the same regime in their relations with such States (unless, of course, they are parties to the 1997 Convention). As students of the law will doubtless testify, multiplicity of law making bodies has its price.

(c) *Chemical Weapons*. By far the most important development in the law of weaponry during the last decade of the twentieth century has been the adoption in 1993 of a new Chemical Weapons Convention.¹¹⁷ The use of chemical weapons in warfare had already been prohibited by the 1925 Geneva Protocol.¹¹⁸ That prohibition, however, was incomplete in a number of respects. In particular, so many States had entered reservations to the 1925 Protocol, to the effect that they retained the right to use chemical weapons if those weapons were first used against themselves or their allies, that the Protocol was, in reality, only a ban on the first use of such weapons.¹¹⁹ The use of chemical weapons by Iraq, first against Iranian armed forces and later against parts of Iraq's own civilian population, during the Iran-Iraq war,¹²⁰ and the threats by Iraq to use chemical weapons during the Kuwait conflict,¹²¹ highlighted the weakness of the existing legal regime. The prohibition on the use of chemical weapons was reaffirmed by a declaration adopted by 149 States at the Paris Conference in January 1989. Subsequent negotiations led to the adoption of the new convention in 1993. The Convention entered into force in April 1997.

The 1993 Convention establishes a legal regime far more extensive than that contained in the 1925 Protocol and customary international law. While space does not permit a detailed analysis of the provisions of the 1993 Convention here,¹²² three points call for comment. First, the scope of the 1993 Convention is broader than that of the 1925 Protocol. The range of weapons covered by the 1925 Protocol had long been the subject of debate, with the United States, and latterly the United Kingdom, arguing that non-lethal riot control agents lay outside the scope of the Protocol,¹²³ an interpretation contested by many other States. The new Convention expressly prohibits the use of riot control agents "as a method of warfare."¹²⁴ While this prohibition still leaves some room for debate about whether a particular use of riot control agents (for example, to suppress a riot at a prisoner of war camp or to deal with

demonstrators in occupied territory) constitutes their use "as a method of warfare," it clearly outlaws the use of riot control agents against enemy forces in combat or in bombardment of enemy targets. In addition, the obligation placed upon States parties by Article I, paragraph 1, never to use chemical weapons "under any circumstances" applies to non-international armed conflicts, as well as to conflicts between States.¹²⁵ While it had been argued by some States and commentators that the prohibition in the 1925 Protocol was also applicable to non-international conflicts,¹²⁶ the matter was not free from doubt and the greater clarity of the new Convention is thus most welcome.

Secondly, the 1993 Convention prohibits *all* use of chemical weapons in warfare, not just their *first* use. The obligation never to use chemical weapons in any circumstances, contained in Article I, was intended to exclude the operation of the doctrine of belligerent reprisals as a justification for employing chemical weapons. In addition, Article XXII provides that the Convention is not subject to reservations, so that there is no scope for States to become parties subject to the kind of reservations which many entered on becoming parties to the 1925 Protocol. That does not mean that a State which was the victim of a chemical attack in violation of the Convention may not retaliate. The Convention prohibits retaliation in kind, in the form of a chemical counter-attack, but it does not affect the right of States to retaliate by other means. In this context, a particularly important question is whether a State could lawfully resort to the use of a nuclear weapon in response to a chemical attack. This possibility was considered at some length by Judge Schwebel in his dissenting opinion in the *Nuclear Weapons* case, where he discussed the threat of nuclear retaliation allegedly made by the United States to dissuade Iraq from resorting to chemical weapons during the Kuwait conflict.¹²⁷ In the writer's view, the Court's advisory opinion in the *Nuclear Weapons* case leaves open the question whether such a reprisal would be lawful.

Finally, the 1993 Convention goes far beyond a prohibition on the use of chemical weapons and outlaws their manufacture, acquisition, stockpiling, and transfer.¹²⁸ It also requires States to destroy their existing stocks.¹²⁹ The Convention creates a complex regime of inspection and verification, which goes beyond that envisaged by the Land Mines Convention, the object of which is to guarantee that chemical weapons are completely eliminated. This ambitious project takes the Convention out of the scope of the law of armed conflict and into the realm of arms control. It remains to be seen whether some of the doubts expressed about the effectiveness of this regime can be overcome and the goal of the Convention attained.

(3) *Nuclear Weapons*.¹³⁰ Nuclear weapons merit separate consideration, both because of their inherent importance and because of the intensity of the debate about whether their use could ever be compatible with the law of weaponry. Those who argue that it could not have tended to base their case on one or more of three propositions.

- That there exists in international law a specific prohibition of the use of nuclear weapons. Since there is evidently no treaty of general application containing such a prohibition, this argument is based upon a series of resolutions adopted by the United Nations General Assembly over the years;¹³¹
- That one of the other specific prohibitions applies directly, or by analogy, to nuclear weapons. The prohibitions on which reliance is usually placed being those on chemical weapons and poisoned weapons; and
- That any use of nuclear weapons would inevitably violate one or more of the general principles of the law of weaponry.

These arguments have been fully canvassed both in the literature¹³² and in the submissions of certain States to the International Court of Justice in the proceedings on the request for an *Advisory Opinion on the Legality of the Threat or Use of Nuclear Weapons*.¹³³

Those who take a contrary view do not, for the most part, deny that the law of weaponry is applicable to nuclear weapons. Indeed, it is striking that none of the nuclear-weapon-States which made submissions to the International Court of Justice took such a position.¹³⁴ The only respect in which the law of weaponry does not apply to nuclear weapons is that the innovative provisions introduced by Additional Protocol I were adopted on the understanding that they would not apply to the use of nuclear weapons.¹³⁵ They maintain, however, that there is no specific prohibition of the use of nuclear weapons in international law, that the prohibitions on chemical weapons and poison do not extend to nuclear weapons, and that it is possible to envisage circumstances in which nuclear weapons could be used without violating the general principles.

In some respects, the Court's Advisory Opinion has clarified the issues in this debate.¹³⁶ The Court found (by eleven votes to three) that there was no specific prohibition of nuclear weapons, the majority taking the view that the General Assembly resolutions were insufficient to create a rule of customary international law in view of the strong opposition and contrary practice of a significant number of States.¹³⁷ The Court also rejected the argument that nuclear weapons were covered by the prohibitions on chemical weapons or poisoned weapons. The Court found that the various treaties on chemical and biological weapons had "each been adopted in its own context and for its own

reasons” and concluded that the prohibition of other weapons of mass destruction did not imply the prohibition of nuclear weapons, while the ban on poisoned weapons had never been understood by States to apply to nuclear weapons.¹³⁸

Given the Court’s conclusions on these points (which, it is submitted, are manifestly correct), the Court necessarily concentrated on the application to nuclear weapons of the general principles. The Court referred, in particular, to the prohibition of weapons calculated to cause unnecessary suffering, the prohibition of attacks upon civilians and of the use of indiscriminate methods and means of warfare, and the principle protecting neutral States from incursions onto their territory. Although the Court noted that the use of nuclear weapons was “scarcely reconcilable” with respect for these principles, it concluded that it did not have:

[S]ufficient elements to enable it to conclude with certainty that the use of nuclear weapons would necessarily be at variance with the principles and rules of law applicable in armed conflict in any circumstance.¹³⁹

This passage suggests that the Court should therefore have concluded that the use of nuclear weapons was not unlawful in all circumstances. In fact, however, it adopted, by seven votes to seven on the casting vote of the President, the following conclusion:

It follows from the above-mentioned requirements that the threat or use of nuclear weapons would generally be contrary to the rules of international law applicable in armed conflict, and in particular the principles and rules of humanitarian law;

However, in view of the current state of international law, and of the elements of fact at its disposal, the Court cannot conclude definitively whether the threat or use of nuclear weapons would be lawful or unlawful in an extreme circumstance of self-defence, in which the very survival of a State would be at stake.¹⁴⁰

The Opinion is not easy to follow at this point. In the absence of a specific prohibition of the use of nuclear weapons, the only basis upon which the Court could have concluded, consistently with its own earlier reasoning, that such use was illegal in all circumstances would have been by analyzing the circumstances in which nuclear weapons might be used and then applying the principles of humanitarian law which were relevant. At the heart of any such analysis would have been three questions.

- Would the use of a nuclear weapon in the particular circumstances inflict *unnecessary* suffering upon combatants?
- Would the use of a nuclear weapon in the particular circumstances be directed against civilians or indiscriminate, or, even if directed against a military target, be likely to cause *disproportionate* civilian casualties ?
- Would the use of a nuclear weapon in the particular circumstances be likely to cause *disproportionate* harmful effects to a neutral State ?

To answer those questions would have required both a factual appreciation of the capabilities of the weapon being used and the circumstances of its use and a value judgement about whether the adverse consequences of that use were “unnecessary” or “disproportionate” when balanced against the military goals which the State using the nuclear weapon was seeking to achieve.

The Court did not, however, attempt that task but merely enumerated the relevant principles, with little discussion, before reaching the conclusions quoted above.¹⁴¹ It is not clear, therefore, how it arrived at its conclusion that the use of nuclear weapons would “*generally* be contrary to the rules of international law applicable in armed conflict,” nor, indeed, what it meant by the term “generally” in this context. It is clear, both from the voting on paragraph 2E of the *dispositif* and from some of the separate and dissenting opinions, that there was a considerable divergence of views within the Court.

Nevertheless, if one looks at the Opinion as a whole, the only interpretation of the first part of paragraph 2E which can be reconciled with the reasoning of the Court is that, even without the qualification in the second part of the paragraph, the Court was not saying that the use of nuclear weapons would be contrary to the law of armed conflict in all cases. It could only have reached such a conclusion if it had found that there were no circumstances in which nuclear weapons could be used without causing unnecessary suffering, striking civilians and military targets indiscriminately (or with excessive civilian casualties), or causing disproportionate damage to neutral States. The Court did not make such an analysis, and the reasoning gives no hint that it reached such a conclusion. Indeed, it is difficult to see how it could have done so. In considering the application of principles of such generality to the use of weapons in an indefinite variety of circumstances, the Court could not have determined that as a matter of *law* a nuclear weapon could not be used without violating one or more of those principles,¹⁴² even if some of its members suspected as a matter of *fact* that that was so.

This reading of the Opinion is reinforced by the fact that there is only one other basis upon which the second part of paragraph 2E of the *dispositif* could make sense. That is that, although the use of nuclear weapons would always be

contrary to the law of armed conflict, the Court was not prepared to exclude the possibility that there might be circumstances in which the right of a State to self-defense could override the prohibition imposed by the law of armed conflict. Although that interpretation has received a measure of support,¹⁴³ it flies in the face of the long established principle that the law of armed conflict applies equally to both sides in a conflict. To hold that the party exercising the right of self-defense can depart from fundamental principles of the law of armed conflict would drive a coach and horses through that principle.¹⁴⁴

The Court's Opinion has attracted an enormous amount of interest among academic commentators. It is a mark of the ambiguity of the Opinion in general and of paragraph 2E in particular, that some commentators have seen it as largely vindicating the position of the nuclear-weapons States, while others have claimed it as a victory for the anti-nuclear lobby.¹⁴⁵ The present writer finds the analysis of the first group the more persuasive.

V. The Applicability to Weaponry of Other Rules of International Law

It is tempting to take the view that once States resort to the use of force, the law of armed conflict, as *lex specialis*, takes over from all other parts of international law. On this view, the use of methods and means of warfare is governed exclusively by the law of weaponry. In practice, however, that law does not operate in isolation and the rest of international law cannot be disregarded in determining whether the use of a particular weapon is lawful. Three other areas of international law, all of which were considered by the International Court of Justice in its *Advisory Opinion on the Legality of the Threat or Use of Nuclear Weapons*, are potentially relevant.

First, it has sometimes been suggested that the use of particular weapons, especially nuclear weapons, would violate the right to life under human rights treaties.¹⁴⁶ The United Nations Human Rights Committee, for example, has commented that "the designing, testing, manufacture, possession and deployment of nuclear weapons are amongst the greatest threats to the right to life which confront mankind today."¹⁴⁷ However, warfare invariably involves the taking of life and it is clear that the human rights treaties were not intended to outlaw all military action even in self-defense. By prohibiting the *arbitrary* taking of life, Article 6 of the 1966 International Covenant on Civil and Political Rights, and the comparable provisions in other human rights treaties, imply that not all taking of life is prohibited. The *travaux préparatoires* of Article 6 make clear that, in the context of warfare, the term "arbitrary" was intended to mean the taking of life in circumstances which

were contrary to the law of armed conflict, and killing in the course of a “lawful act of war” was expressly given as an example of a taking of life that would not be arbitrary.¹⁴⁸

This was the view taken by the International Court of Justice in the *Nuclear Weapons* case. The Court accepted that the protection of the International Covenant (and, by implication, other human rights treaties) did not cease in time of armed conflict but held that:

The test of what is an arbitrary deprivation of life, however, then falls to be determined by the applicable *lex specialis*, namely, the law applicable in armed conflict, which is designed to regulate the conduct of hostilities. Thus whether a particular loss of life, through the use of a certain weapon in warfare, is to be considered an arbitrary deprivation of life contrary to Article 6 of the Covenant, can only be decided by reference to the law applicable in armed conflict and not deduced from the terms of the Covenant itself.¹⁴⁹

This conclusion, though no doubt unwelcome to some human rights lawyers, is plainly correct in view both of State practice and the *travaux préparatoires* of the Covenant. Nevertheless, the Court’s acceptance that human rights treaties continue to apply in time of war (except insofar as derogation is expressly permitted) may be of considerable importance in other cases. Although the right to life may add nothing to international humanitarian law at the substantive level, human rights treaties contain unique mechanisms for enforcement which may be of great assistance to individuals seeking to rely upon the right to life in order to show that there has been a violation of the law of armed conflict.¹⁵⁰

Secondly, it has been suggested, again primarily in relation to nuclear weapons, that international environmental law is applicable to the use of weapons.¹⁵¹ In the *Nuclear Weapons* case, the Court stated that “the issue is not whether the treaties relating to the protection of the environment are or are not applicable during an armed conflict, but rather whether the obligations stemming from these treaties were intended to be obligations of total restraint during military conflict.”¹⁵² It rejected the argument that the use of nuclear weapons was prohibited as such by the general environmental treaties or by customary environmental law.¹⁵³ It would have been extraordinary for the Court to have concluded that nuclear weapon States, which had so carefully ensured that treaties on weaponry and the law of armed conflict did not outlaw the use of nuclear weapons, had relinquished any possibility of their use by becoming parties to more general environmental agreements. Nevertheless, the Court indicated that the international law on the environment does not

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altogether cease to apply once an armed conflict breaks out, and it seems that it found the origins of what it identified as a customary law duty of regard for the environment in times of war¹⁵⁴ as much in the general law on the environment as in the specific provisions of the law of armed conflict.

Finally, the *Nuclear Weapons* case confirms that:

A threat or use of force by means of nuclear weapons that is contrary to Article 2, paragraph 4 of the United Nations Charter and that fails to meet all the requirements of Article 51, is unlawful.¹⁵⁵

This proposition was not contested by any of the States which submitted arguments to the Court.

The Court held that the right of self-defense under Article 51 of the Charter was subject to the limitations of proportionality and necessity which it had earlier held, in the *Nicaragua* case,¹⁵⁶ were part of the right of self-defense at customary international law.¹⁵⁷ It also concluded that, although neither Article 2(4) nor Article 51 refers to specific weapons, the need to ensure that a use of force in self-defense was proportionate had implications for the degree of force and, consequently, for the weaponry which a State might lawfully use. The proportionality requirement of self-defense thus had an effect upon the legality of the way in which a State conducted hostilities. In determining whether the use of a particular weapon in a given case was lawful, it was therefore necessary to look at both international humanitarian law and the requirements of the right of self-defense.

The Court's opinion on this point is of considerable importance. The logic of the Charter and customary law provisions on self-defense means that the modern *jus ad bellum* cannot be regarded as literally a "law on going to war," the importance of which fades into the background once the fighting has started and the *jus in bello* comes into operation.¹⁵⁸ The *jus ad bellum* imposes an additional level of constraint upon a State's conduct of hostilities, affecting, for example, its choice of weapons and targets and the area of conflict. The Court did not, however, accept, as some commentators had argued, that the use of nuclear weapons could never be a proportionate measure of self-defense.¹⁵⁹ In reaching this conclusion, it appears to have accepted that proportionality has to be assessed, as Judge Higgins put it, by considering "what is proportionate to repelling the attack" and not treated as "a requirement of symmetry between the mode of the initial attack and the mode of response."¹⁶⁰

It is evident, therefore, that the legality of the methods and means of warfare can no longer be considered by reference to the law of weaponry alone.

Especially when one considers the more destructive weapons, the law of the United Nations Charter will be a significant factor to be borne in mind. Human rights law and international environmental law may also have some importance, although their application is likely to have only a small impact on the substantive law applicable to the use of particular weapons.

VI. The Future of the Law of Weaponry

This stocktaking of the law of weaponry at the end of the twentieth century shows that this part of the law of armed conflict, while not one of the most effective, cannot be disregarded as an anachronism. The adoption of new treaties on weapons of real military significance, such as chemical weapons and land mines, demonstrates that it is possible to develop legal regimes which, if they are made to function properly, can have a significant impact in protecting the values of humanitarian law. Similarly, the Advisory Opinion on *Nuclear Weapons*, whatever its shortcomings, shows that the general principles of the law are capable of developing in such a way that they can be applied to new types of weapon. How then is the law likely to evolve as we enter the new millennium?

The outline of two developments is already visible. First, the trend of extending the law of weaponry from international armed conflicts to conflicts within States is likely to prove irreversible. Application to such conflicts has already been the subject of express provision in the two latest agreements on land mines and the Chemical Weapons Convention. In addition, the logic of the position taken by the International Criminal Tribunal for the Former Yugoslavia in the *Tadic* case and the general trend towards the development of the law of internal conflicts means that most, if not all, of the law of weaponry is likely to become applicable in internal conflicts in time. There is every reason why this should be so. While arguments against extending parts of the law of international armed conflicts, such as those which create the special status of prisoners of war, to internal hostilities have some force, there is no compelling argument for accepting that a government may use weapons against its own citizens which it is forbidden to use against an international adversary, even in an extreme case of national self-defense.

Secondly, it seems probable that the concept of penal sanctions for those who violate the law of weaponry will become far more important in the future. The Chemical Weapons Convention and the 1997 Land Mines Convention both make express provision for the enactment of criminal sanctions.¹⁶¹ Certain violations of the principle of distinction are included in the grave

breaches regime by Additional Protocol I, Article 85. Moreover, any serious violation of the laws of war is already a war crime and this would include a serious violation of one of the weaponry treaties or a general principle such as that prohibiting unnecessary suffering. However, the existence of the two *ad hoc* criminal tribunals and the development of their jurisprudence, together with the likelihood of a future permanent international criminal court with an extensive war crimes jurisdiction, means that these sanctions are likely to be far more significant in the future. How far this is a desirable development is another matter. While the present writer strongly supports the principle of effective criminal sanctions for violations of the law of armed conflict, it has been seen that the general principles of the law of weaponry—and, indeed, some of the specific provisions—are far from clear or easy to apply. It would be quite wrong to hold individual servicemen, especially low down the chain of command, criminally responsible for the good faith use of weapons with which their government has provided them. Moreover, the preparatory talks on the international criminal court have shown a disturbing tendency to try to use the negotiation of the Court's statute as a way of revising the substantive law on weaponry, thus risking upsetting the work of more specialized conferences.

It is less easy to speculate as to what weapons might be made the subject of new agreements for the prohibition or limitation of their use. Incendiary weapons, fuel-air explosives, and napalm have all attracted considerable opprobrium over the last part of the twentieth century and are likely to face further calls for their limitation or outright prohibition. The precedent of the campaign against land mines, which attracted far greater publicity than do most developments in the law of armed conflict, suggests that future calls for changes in the law of weaponry may come as much from NGOs and public opinion as from governments. Such a change is both desirable and in keeping with the spirit of the Martens Clause. It carries the danger, however, that some of these calls will be unrealistic both in failing to recognize that States must be able to defend themselves and in the expectations which they create about what can be achieved.

One of the most important issues is likely to be the future of nuclear weapons. The inconclusive Opinion of the International Court of Justice included a unanimous finding that:

There exists an obligation to pursue in good faith and bring to a conclusion negotiations leading to nuclear disarmament in all its aspects under strict and effective international control.¹⁶²

Although this paragraph adds little of substance to the Non-Proliferation Treaty, it has already led to calls for fresh negotiations on nuclear disarmament. In this writer's view, attempts to achieve a ban on the use of nuclear weapons are unlikely to succeed in the foreseeable future and would probably prove counter-productive in that they will block progress in other areas (as happened with attempts to reform the law of armed conflict in the 1950's). As far as the possession of nuclear weapons is concerned, a ban is likely to prove possible only if all the nuclear-weapons States (declared and undeclared) support it, and such a result could not be achieved without simultaneous progress on a range of related security issues.

One of the most important developments may well prove to be the application to new types of weaponry of the existing general principles. The Advisory Opinion in the *Nuclear Weapons* case has demonstrated that these principles are capable of being applied to weapons of a kind which was beyond contemplation when those principles were first developed. The flexibility of the general principles thus makes them of broader application than the specific provisions which are all too easily overtaken by new technology. If the speed of change in military technology continues into the next century (as seems almost inevitable),¹⁶³ that capacity to adapt is going to be ever more important.

Take one example. Suppose that it became possible for a State to cause havoc to an enemy through the application of electronic measures or the selective planting of computer viruses which brought to a standstill whole computer systems and the infrastructure which depended upon them. Such a method of warfare would appear to be wholly outside the scope of the existing law. Yet that is not really so. The application of those measures, though not necessarily an "attack" within the meaning of Additional Protocol I because no violence need be involved,¹⁶⁴ is still likely to affect the civilian population and possibly to cause great damage and even loss of life amongst that population. As such, it should be subject to the same principles of distinction and proportionality considered above.

The application of the general principles of such forms of warfare would, however, require a measure of refinement of those principles. The place in the concept of proportionality which should be given to indirect, less immediate harm to the civilian population would have to be resolved. Similarly, if the principle of distinction is to be applied to existing, let alone new, weapons of naval warfare, a clearer assessment needs to be made of exactly what constitutes a legitimate target in naval hostilities. Both the military and humanitarian aspects of the unnecessary suffering principle need to be clarified if that principle is to have a significant impact in the assessment of new

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methods and means of warfare. The duty which States have to scrutinize developments in weaponry and to assess whether any new weapons or methods of warfare comply with the law¹⁶⁵ means that the resolution of such questions is a matter of considerable importance.

In this writer's opinion, it is both more probable and more desirable that the law will develop in this evolutionary way than by any radical change. With the law of weaponry, as with most of the law of armed conflict, the most important humanitarian gain would come not from the adoption of new law but the effective implementation of the law that we have. That should be the priority for the next century.

Notes

1. For example, the Second Lateran Council in 1139 attempted to ban the crossbow. Prohibitions of particular weapons or methods of warfare are to be found in several different traditions. See UNESCO, *INTERNATIONAL DIMENSIONS OF HUMANITARIAN LAW* (1988), and Waldemar A. Solf, *Weapons*, in 4 RUDOLF BERNHARDT ET AL., *ENCYCLOPAEDIA OF PUBLIC INTERNATIONAL LAW* 352 (1982). The more recent history of this area of the law is discussed in Frits Kalshoven, *Arms, Armaments and International Law*, 191 *RECUEIL DES COURS* 185–341 (1985–II). Strictly speaking, the “means of warfare” refers to the weapons themselves, whereas the “methods of warfare” refers to the ways in which those weapons are used. The term “the law of weaponry” is here used to describe the legal rules and principles relating to methods and means of warfare.

2. This principle is discussed in Part IV, *infra*.

3. *Legality of the Threat or Use of Nuclear Weapons* (Advisory Opinion of July 8, 1996), 1996 I.C.J. 226.

4. *Respect For Human Rights in Armed Conflicts: Existing Rules of International Law Concerning the Prohibition or Restriction of Use of Specific Weapons*, U.N. Doc. A/9215, vol. I, at 204 (1973). The list was based upon the entries in national manuals of military law. See, e.g., UNITED KINGDOM WAR OFFICE, *THE LAW OF WAR ON LAND* (Part III of the Manual of Military Law) 110 (1958).

5. SIR HERSCH LAUTERPACHT, *OPPENHEIM'S INTERNATIONAL LAW* 340–1 (7th ed. 1952).

6. Geneva Protocol Prohibiting the Use in War of Asphyxiating, Poisonous or other Gases and of Bacteriological Methods of Warfare, June 17, 1925, 26 U.S.T. 571 (1975), 94 L.N.T.S. 65 [hereinafter Geneva Gas Protocol]; Convention on the Prohibition of Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and their Destruction, April 10, 1972, 26 U.S.T. 583 (1975), 1015 U.N.T.S. 164 [hereinafter Bacteriological and Toxin Weapons Convention]; Convention on the Prohibition of Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction, Jan. 13, 1993, 32 I.L.M. 800 (1993) [hereinafter Chemical Weapons Convention].

7. Additional Protocol No. IV on Blinding Laser Weapons, Oct. 13, 1995 [hereinafter Lasers Protocol] to the Convention on Prohibitions or Restrictions on Certain Conventional Weapons which may be Deemed to be Excessively Injurious or to Have Indiscriminate Effects,

35 I.L.M. 1218 (1996) [hereinafter Conventional Weapons Convention]. The Convention itself is at 19 I.L.M. 1523 (1980).

8. Additional Protocol II on Mines, Booby-Traps and Other Devices to the Conventional Weapons Convention, 1980, 19 I.L.M. 1523 (1980) [hereinafter Original Mines Protocol], Amended Additional Protocol II, May 3, 1996, 35 I.L.M. 1206 (1996) [hereinafter Amended Mines Protocol] and the United Nations Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction, Sept. 18, 1997, 36 I.L.M. 1507 (1997) [hereinafter Land Mines Convention].

9. Legality of the Threat or Use of Nuclear Weapons, *supra* note 3.

10. See William J. Fenrick, *The Development of the Law of Armed Conflict through the Jurisprudence of the International Criminal Tribunal for the Former Yugoslavia*, and Theodor Meron, *War Crimes Law for the Twenty-First Century*, both in this volume.

11. U.S. War Dep't, General Orders No. 100, April 24, 1863, reprinted in THE LAWS OF ARMED CONFLICTS 3 (Dietrich Schindler & Jiri Toman eds., 3d ed. 1988).

12. *Id.*, art. 16. For a discussion of this aspect of the Code, see Burrus M. Carnahan, *Lincoln, Lieber and the Laws of War: The Origins and Limits of the Principle of Military Necessity*, 92 AM. J. INT'L L. 213 (1998).

13. Brussels Conference, Project of an International Declaration Concerning the Laws and Customs of War, 1874, Arts. 12 & 13, 65 Brit. and Foreign State Papers (1873-74) 1005, reprinted in THE LAWS OF ARMED CONFLICTS, *supra* note 11, at 25. The declaration never entered into force.

14. Institute of International Law, Manual of the Laws of War on Land, 5 ANNUAIRE DE L'INSTITUT DE DROIT INTERNATIONAL 156 (1881-82), reprinted in THE LAWS OF ARMED CONFLICTS, *supra* note 11, at 35.

15. Declaration Renouncing the Use, in Time of War, of Explosive Projectiles under 400 Grammes Weight, 1868, 58 Brit. and Foreign State Papers (1867-68) 16 [hereinafter St. Petersburg Declaration], reprinted in THE LAWS OF ARMED CONFLICTS, *supra* note 11, at 101.

16. Regulations Respecting the Laws and Customs of War on Land annexed to Hague Convention No. IV, Oct. 18, 1907, 2 U.S.T. 2269, reprinted in THE LAWS OF ARMED CONFLICTS, *supra* note 11, at 63 [hereinafter Hague Regulations]. The 1907 Regulations were a revised version of an earlier set of regulations annexed to Hague Convention No. II, July 29, 1899, 2 U.S.T. 2042, reprinted in THE LAWS OF ARMED CONFLICTS, *supra* note 11, at 63.

17. 1 AM. J. INT'L L. 155 (1907 Supp.), reprinted in THE LAWS OF ARMED CONFLICTS, *supra* note 11, at 105

18. *Id.* at 157, reprinted in THE LAWS OF ARMED CONFLICTS, *supra* note 11, at 109.

19. *Id.* at 153, reprinted in THE LAWS OF ARMED CONFLICTS, *supra* note 11, at 201. The Declaration was renewed in 1907 until the opening of the Third Peace Conference, an event which has never occurred. 2 AM. J. INT'L L. 216 (1908 Supp.), reprinted in THE LAWS OF ARMED CONFLICTS, *supra* note 11, at 201. This Declaration is no longer regarded as being in force and, unlike the other two, is not considered to be declaratory of a rule of customary international law.

20. Hague Regulations, *supra* note 16.

21. T.S. No. 541, reprinted in THE LAWS OF ARMED CONFLICTS, *supra* note 11, at 803. For a particularly interesting discussion of this treaty, see HOWARD S. LEVIE, *MINE WARFARE AT SEA* (1991).

22. *Supra* note 6.

23. *Supra* note 6.

24. *Supra* note 6.

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25. Geneva Convention No. I for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field, Aug. 12, 1949, 6 U.S.T. 3114, 75 U.N.T.S. 31 (1950); Geneva Convention No. II for the Amelioration of the Condition of Wounded, Sick and Shipwrecked Members of the Armed Forces at Sea, Aug. 12, 1949, 6 U.S.T. 3217, 75 U.N.T.S. 85 (1950); Geneva Convention No. III Relative to the Treatment of Prisoners of War, Aug. 12, 1949, 6 U.S.T. 3316, 75 U.N.T.S. 135 (1950); and Geneva Convention No. IV Relative to the Protection of Civilian Persons in Time of War, Aug. 12, 1949, 6 U.S.T. 3516, 75 U.N.T.S. 287 (1950). The four Conventions are *reprinted in* THE LAWS OF ARMED CONFLICT, *supra* note 11, at 373, 401, 423, & 495, respectively.

26. Additional Protocol I, Relating to the Protection of Victims of International Armed Conflicts, 1125 U.N.T.S. 3 (1979), 16 I.L.M. 1391 (1977) [hereinafter Additional Protocol I]; Additional Protocol II, Relating to the Protection of the Victims of Non-International Armed Conflicts, 1125 U.N.T.S. (1979) 609, 16 I.L.M. 1391 (1977), *reprinted in* THE LAWS OF ARMED CONFLICT, *supra* note 11, at 621 & 689.

27. Additional Protocol I, *supra* note 26, art. 35(1) & (2).

28. *Id.*, arts. 51(2)-(5), 52(1) & (2). Most of these provisions reflect customary law, although that is not true of the prohibition of reprisals against civilian objects in Article 52(1). See Christopher Greenwood, *The Customary Law Status of the 1977 Additional Protocols*, in HUMANITARIAN LAW OF ARMED CONFLICT: CHALLENGES AHEAD 93 (Astrid Delissen & Gerard Tanja eds., 1991).

29. Additional Protocol I, *supra* note 26, arts. 35(3) & 55.

30. 31 U.S.T. 333, 1108 U.N.T.S. 151 (1978), *reprinted in* THE LAWS OF ARMED CONFLICT, *supra* note 11, at 163 [hereinafter the ENMOD Convention].

31. *Supra* note 7.

32. *Supra* notes 7 & 8.

33. U.N. CHARTER art. 51.

34. See Legality of the Threat or Use of Nuclear Weapons, *supra* note 3, at 262-3.

35. This principle, like the others mentioned in the present paragraph, is discussed in greater detail in Part IV, *infra*.

36. Additional Protocol I, *supra* note 26, art. 38.

37. Additional Protocol I, *supra* note 26, art. 39(2). This provision goes beyond the rules of customary law, which prohibited the wearing of enemy uniforms only during an attack itself. See *United States v. Skorzeny*, 9 War Crimes Reports 90. The fact that the law of naval warfare is entirely different from the law of war on land in relation to this matter is a further illustration of the absence of any clear humanitarian purpose behind this rule; see text accompanying notes 81-9 *infra*.

38. See text accompanying notes 7-8 *supra*.

39. The Conference also unanimously adopted a resolution to the effect that "the Conference is of the opinion that the restriction of military charges, which are at present a heavy burden on the world, is extremely desirable for the increase of the moral and material welfare of mankind." A. PEARCE HIGGINS, THE HAGUE PEACE CONFERENCES 67 (1909).

40. Kalshoven, *supra* note 1, at 214-15.

41. Chemical Weapons Convention, *supra* note 6. See also the discussion in Part IV, *infra*.

42. The same was true of the reaction to early firearms. See LESLIE C. GREEN, THE CONTEMPORARY LAW OF ARMED CONFLICT 122-3 (1993).

43. Records of the First Hague Peace Conference, published by the Netherlands Ministry of Foreign Affairs, 1907, Part II, at 65.

44. See Part IV, sect. 2, *infra*.

45. Prosecutor v. Tadic (Jurisdiction), 105 I.L.R. 419, 504-20 (1995). For comment, see the article by Fenrick, *supra* note 10, and Christopher Greenwood, *International Humanitarian Law and the Tadic Case*, 7 EUR. J. INT'L L. 265 (1996). For subsequent proceedings in Tadic, see 36 I.L.M. 908 (1997).

46. Prosecutor v. Tadic (Jurisdiction), *supra* note 45, at 516, para. 119.

47. Legality of the Threat or Use of Nuclear Weapons, *supra* note 3, at 266, para. 2(A), of the *dispositif*. The Court was unanimous on this point.

48. *Id.*, para. 2(B) (by eleven votes to three).

49. *Id.* at 247, para. 52.

50. Although the principle of necessity has frequently been seen as justifying violence, in reality it is a restraining principle, requiring belligerents not to injure, kill or damage unless that is necessary for the achievement of legitimate military goals. See Carnahan, *supra* note 12.

51. The first two are outlawed by the St. Petersburg Declaration, *supra* note 15, and the last by the 1899 Declaration No. 3, *supra* note 18.

52. The origins of this ban also lie in the principle that civilians should be protected from acts of violence and that indiscriminate weapons are prohibited. However, the influence of the unnecessary suffering principle is evident in the *travaux préparatoires* of both 1899 Declaration No. 2, *supra* note 17, and the 1925 Geneva Gas Protocol, *supra* note 6.

53. Hague Regulations, *supra* note 16, art. 23(a).

54. Protocol I to the Conventional Weapons Convention, *supra* note 30.

55. That would be the case where, for example, no more humane alternative was available.

56. 32 I.L.R. 626 at 634 (1963). See also Dissenting Opinion of Judge Higgins, Legality of the Threat or Use of Nuclear Weapons, *supra* note 3, at 585-7, and Kalshoven, *supra* note 1, at 234-6.

57. International Committee of the Red Cross, Conference of Government Experts on the Use of Certain Conventional Weapons (Lucerne, Sept. 9 - Oct. 18, 1974) 9, para. 24 (1975) [hereinafter *Lucerne Conference*].

58. St. Petersburg Declaration, *supra* note 15, at preamble.

59. For a somewhat extreme example of the "morale" argument, see the article by Major G.V. Fosbery, *Explosive Bullets and their Application to Military Purposes*, 12 J. ROYAL UNITED SERVICES INST. 15-27 (1869), discussed in Kalshoven, *supra* note 1, at 208-13.

60. This was the view of some of the experts at the Lucerne Conference, *supra* note 57, at 9, para. 25. Although this approach was challenged by other experts (see Kalshoven, *supra* note 1, at 235) it clearly reflects State practice and, in the view of the present writer, is a correct statement of the law.

61. For example, the use of armor-piercing weapons against tanks and warships has always been accepted as lawful, notwithstanding that they cause more grievous injuries to personnel than do simple anti-personnel weapons. Indeed, the use of inflammable bullets, banned by the 1868 Declaration at a time when they were employed as anti-personnel weapons, came to be accepted as lawful some fifty years later when they were used against aircraft, notwithstanding the effect which they can have upon air crew (although their use in a simple anti-personnel role remains unlawful).

62. Lucerne Conference, *supra* note 57, at 8, para. 23.

63. INTERNATIONAL COMMITTEE OF THE RED CROSS, THE SIRUS PROJECT: TOWARDS A DETERMINATION OF WHICH WEAPONS CAUSE "SUPERFLUOUS INJURY" OR "UNNECESSARY SUFFERING" (Robin Coupland ed., 1997).

64. *Id.* at 27.

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65. Hans Blix, *Methods and Means of Combat*, in UNESCO, INTERNATIONAL DIMENSIONS OF HUMANITARIAN LAW 135, 139 (1988).

66. For that reason, the present writer respectfully disagrees with Professor Françoise Hampson when she argues that Coalition forces in the 1991 Gulf fighting should have used infantry to clear Iraqi trenches rather than bulldozing those trenches and thus condemning large numbers of Iraqi soldiers to a death widely regarded as particularly horrific. In this writer's view, the avoidance of the Coalition casualties which trench fighting would have caused was a military advantage sufficient to ensure that the suffering inflicted upon the Iraqi soldiers manning the trenches was not "unnecessary." See Françoise Hampson, *Means and Methods of Warfare in the Conflict in the Gulf*, in THE GULF WAR 1990-91 IN INTERNATIONAL AND ENGLISH LAW 89, 104-7 (Peter Rowe ed., 1993).

67. Frits Kalshoven, *The Soldier and his Golf Clubs*, in STUDIES AND ESSAYS ON INTERNATIONAL HUMANITARIAN LAW AND RED CROSS PRINCIPLES 369-86 (Christophe Swinarski ed., 1986).

68. Unpublished paper submitted by Colonel (later Major-General) Sir David Hughes-Morgan, discussed in the Report of the Lucerne Conference, *supra* note 57, at 7-11.

69. See Part I, *supra*.

70. Additional Protocol I, *supra* note 26, arts. 48, 51(2) & 52(1). For these purposes, a combatant is a member of the armed forces (with the exception of medical personnel and chaplains) or someone who takes a direct part in hostilities [Art. 51(3)]. Art. 52(2) provides that:

In so far as objects are concerned, military objectives are limited to those objects which by their nature, location, purpose or use make an effective contribution to military action, and whose total or partial destruction, capture or neutralisation, in the circumstances ruling at the time, offers a definite military advantage.

71. *Id.*, art. 51(5) (b). This principle is also regarded as part of customary international law.

72. *Id.*, art. 57(2) (a) (ii).

73. On this subject, see ANTHONY P.V. ROGERS, LAW ON THE BATTLEFIELD 7-46 (1996), William Fenrick, *Attacking the Enemy Civilian as a Punishable Offence*, 7 DUKE J. OF COMP. & INT'L L. 539 (1997), and Christopher Greenwood, *Current Issues in the Law of Armed Conflict: Weapons, Targets and International Criminal Liability*, 1 SINGAPORE J. INT'L & COMP. L. 441, 459-62 (1997).

74. The annotated edition of NWP 1-14M gives as an example of an inherently indiscriminate weapon the "bat bomb" developed but never used by the U.S. Navy during the Second World War. This weapon would have consisted of a bat with a small incendiary bomb attached to it. The bats would have been released over Japan, U.S. DEPT OF THE NAVY, ANNOTATED SUPPLEMENT TO THE COMMANDER'S HANDBOOK ON THE LAW OF NAVAL OPERATIONS (NWP 1-14M/MCWP 5-2.1/COMDTPUB P5800.1), para. 9.1.2, n. 12 (1997) [hereinafter ANNOTATED HANDBOOK]. See also JACK COUFFER, BAT BOMB (1992).

75. But see the comments of the Trial Chamber of the International Criminal Tribunal for the Former Yugoslavia, *Prosecutor v. Martić* (Rule 61) 108 I.L.R. 39, 47-52.

76. Christopher Greenwood, *Customary International Law and the First Geneva Protocol of 1977 in the Gulf Conflict*, in Rowe, *supra* note 66, at 63.

77. Additional Protocol I prohibits such attacks even by way of reprisal, but on this point the Protocol is not declaratory of customary law; Greenwood, *supra* note 28, at 110-111, and *Twilight of the Law of Belligerent Reprisals*, 20 NETH. Y.B. INT'L L. 35 (1989). The United Kingdom entered a reservation to the reprisals provisions when ratifying the Protocol in January 1998. Letter of 28 January 1998 to the President of the Swiss Confederation, not yet published.

78. INTERNATIONAL COMMITTEE OF THE RED CROSS, COMMENTARY ON THE ADDITIONAL PROTOCOLS, para. 1980 (Yves Sandoz et al. eds., 1987).

79. See the essays in THE LAW OF NAVAL WARFARE: TARGETING ENEMY MERCHANT SHIPPING (Richard Grunawalt ed., 1993).

80. SAN REMO MANUAL ON INTERNATIONAL LAW APPLICABLE TO ARMED CONFLICTS AT SEA, 114 *et seq.* & 167–8 (Louise Doswald-Beck ed., 1995).

81. Although it has sometimes been suggested that poison and poisoned weapons are perfidious, the prohibition of those weapons, which has long been the subject of a specific rule, probably owes more to perceptions that they cause unnecessary suffering and are difficult to use in a discriminating way.

82. The prohibition of the unauthorized use of the United Nations emblem and the provision in Article 37(1)(d) were intended to apply only where the United Nations was involved in a conflict in a peacekeeping or other impartial role and not where the United Nations itself had committed forces to combat. Sandoz, *supra* note 78, para. 1560.

83. See text accompanying note 37, *supra*.

84. ROBERT W. TUCKER, THE LAW OF WAR AND NEUTRALITY AT SEA 138–42 (1955).

85. Additional Protocol I, *supra* note 26, art. 39(3).

86. SAN REMO MANUAL, *supra* note 80, at 186.

87. ANNOTATED HANDBOOK, *supra* note 74, ch. 12, esp. para. 12.7 & n. 23.

88. Contrast the explanation to paragraph 111 of the SAN REMO MANUAL, *supra* note 80, at 186, with TUCKER, *supra* note 84, at 140–1.

89. SAN REMO MANUAL, *supra* note 80, at 185.

90. ENMOD, *supra* note 30.

91. See, e.g. the paper by the International Committee of the Red Cross in Report of the Secretary-General on the Protection of the Environment in Times of Armed Conflict, United Nations Doc. A/48/269, at 25. See also ENVIRONMENTAL PROTECTION AND THE LAW OF WAR (Glen Plant ed., 1992).

92. See also art. 55. The terms “widespread, long-term and severe” in the Protocol do not carry the same meaning as “widespread, long-lasting or severe” in the ENMOD Treaty. Not only are the three requirements cumulative in Additional Protocol I, whereas they are alternatives in ENMOD, the *travaux préparatoires* of the two agreements demonstrate that “long-lasting” in the ENMOD Treaty was intended to refer to effects which lasted for approximately a season (see the Understanding adopted in relation to this term by the Conference of the Committee on Disarmament, quoted in DOCUMENTS ON THE LAWS OF WAR 377-8 (Adam Roberts and Richard Guelff eds., 1989)), whereas “long-term” in Additional Protocol I was intended to convey a sense of something to be measured “in decades rather than months.” Sandoz, *supra* note 78, at 417.

93. See the statement to this effect by the Federal Republic of Germany, VI OFFICIAL RECORDS OF THE DIPLOMATIC CONFERENCE 115 (prepared by the Foreign Ministry of Switzerland). Articles 35(3) and 55 were not included in the list of provisions deemed to be part of customary law which appears in the International Committee of the Red Cross Commentary on the Additional Protocols (Sandoz, *supra* note 78, paras. 1857-9) and the International Court did not treat them as declaratory of custom in the *Nuclear Weapons* case, *supra* note 3, at 242, para. 31. See also Kalshoven, *supra* note 1, at 283.

94. ANNOTATED HANDBOOK, *supra* note 74, para. 8.1.3.

95. Legality of the Threat or Use of Nuclear Weapons, *supra* note 3, at 242, para. 30.

96. G.A. Res. 47/37 (1992) on the “Protection of the Environment in Times of Armed Conflict.” See also G.A. Res. 49/50.

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97. See also SAN REMO MANUAL, *supra* note 80, at 119; ROGERS, *supra* note 73, at 127-9.
98. Hague Regulations, *supra* note 16, art. 22; Additional Protocol I, *supra* note 26, art. 35(1).
99. See, e.g., the view expressed by some participants at the Lucerne Conference, *supra* note 57, at 11-12. See also Helmut Strebel, *Martens Clause*, in 3 ENCYCLOPAEDIA OF PUBLIC INTERNATIONAL LAW 252-3 (R. Bernhardt ed., 1982).
100. Kalshoven, *supra* note 1, at 238.
101. On this point, see BLINDING WEAPONS (Louise Doswald-Beck ed., 1993).
102. See, e.g., B. Anderberg, O. Bring, & M. Wolbarsht, *Blinding Laser Weapons and International Humanitarian Law*, 29 J. PEACE RESEARCH 287 (1992).
103. See, e.g., the Memorandum of Law by the U.S. Judge Advocate-General of the Army, reprinted in BLINDING WEAPONS, *supra* note 101, at 367.
104. See Christopher Greenwood, *Analysis of the Law Applicable to the Use of Battlefield Laser Weapons*, in *id.* at 71, and the ensuing discussion.
105. 35 I.L.M. 1218 (1996). The text of the new protocol is also reproduced, together with a useful commentary, in Louise Doswald-Beck, *The New Protocol on Blinding Laser Weapons*, 36 INT'L REV. RED CROSS 272 (1996). At 30 April 1998 there were 24 parties to the Protocol.
106. See art. 3. Doswald-Beck, *supra* note 105, at 298, argues, however, that the use of laser weapons against optics systems is incompatible with the underlying intention of the Protocol.
107. Roberts & Guelff, *supra* note 92, at 479. For a commentary on the original Protocol II, see A.P.V. Rogers, *Mines, Booby-traps and Other Devices*, 30 INT'L REV. RED CROSS 521 (1990).
108. Original Mines Protocol, *supra* note 8, art. 2(1), defines a mine as "any munition placed under, on or near the ground or other surface area and designed to be detonated or exploded by the presence, proximity or contact of a person or vehicle."
109. Rogers, *supra* note 107, at 528.
110. See, e.g., the ICRC booklet, *Mines: A Perverse Use of Technology*; P. CORNISH, ANTI-PERSONNEL MINES: CONTROLLING THE PLAGUE OF "BUTTERFLIES" (R.I.I.A., 1994).
111. Amended Mines Protocol, *supra* note 8. At 30 April 1998 there were 19 parties to the Amended Protocol.
112. *Id.*, arts. 1(2) and (3).
113. Doswald-Beck, *supra* note 105, at 287. Some States have made declarations to this effect when ratifying the new Protocol IV; see, e.g., the declarations by Germany, Ireland and Sweden.
114. The United Nations Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction, 1997, art. 1., 36 I.L.M. 1507 (1997).
115. *Id.*, art. 2.
116. *Id.*, art. 9.
117. Chemical Weapons Convention, *supra* note 6. At 30 April 1998 there were 108 parties.
118. Roberts & Guelff, *supra* note 92, at 137. See also the prohibition on poison and poisoned weapons codified in Article 23(a) of the Hague Regulations in Land Warfare, 1907, and the 1899 Hague Declaration No. 2 Regarding Asphyxiating Gases, notes 17 and 20, *supra*.
119. See, e.g., the United Kingdom Reservation, reprinted in Roberts & Guelff, *supra* note 92, at 144. These reservations originally applied to the use of bacteriological weapons as well. For States Party to the 1972 Toxins Convention, however, reservation to the prohibition of such weapons was prohibited, so that the reservation of the right to use bacteriological weapons ceased to have any real substance. Even so, it was not until 1991 that the United Kingdom

withdrew its reservation of the right to use bacteriological weapons, 63 BRIT. Y.B. INT'L L. 700 (1992).

120. See the reports of a commission of experts established by the UN Secretary-General to inquire into allegations of the use of chemical weapons by Iraq, U.N. Docs. S/17130 (April 25, 1985), S/17932 (March 21, 1986), and S/18863 (May 14, 1987). The use of chemical weapons by Iraq was condemned in a Statement by the President of the Security Council on 21 March 1986. U.N. Doc. S/PV.2667, reprinted in RESOLUTIONS AND STATEMENTS OF THE UNITED NATIONS SECURITY COUNCIL, 1946-92, at 466 (K. Wellens ed., 1993)), but the Council's own resolutions were couched in cautious language and did not formally censure Iraq, let alone impose sanctions upon it. See S.C. Res. 598 (1987) & 620 (1988). Not until after the Kuwait conflict did the Security Council take action to seek out and destroy Iraq's stockpiles of chemical weapons. S.C. Res. 687 (1991).

121. See the speech by Iraq's representative to the United Nations in the Security Council on 16 February 1991. U.N. Doc. S/PV.2977.

122. For a detailed commentary, see W. KRUTZSCH & R. TRAPP, A COMMENTARY ON THE CHEMICAL WEAPONS CONVENTION (1994).

123. See Roberts & Guelff, *supra* note 92, at 137-8.

124. Chemical Weapons Convention, *supra* note 6, art. I, para. 5. See also art. II, paras. 7 & 9; KRUTZSCH & TRAPP, *supra* note 122, at 18 & 42.

125. KRUTZSCH & TRAPP, *supra* note 122, at 13.

126. See, e.g., the statement by the Government of the United Kingdom condemning Iraq's use of gas against Iraqi civilians at Halabja in 1988, 59 BRIT. Y.B. INT'L L. 579 (1988), quoted with approval by the Appeals Chamber of the International Criminal Tribunal for Former Yugoslavia in Prosecutor v. Tadic (Jurisdiction), *supra* note 45, at 517-18.

127. Dissenting Opinion of Judge Schwebel, Legality of the Threat or Use of Nuclear Weapons, *supra* note 3, at 323-29.

128. See Chemical Weapons Convention, *supra* note 6, art. I, para. 1.

129. See *id.*, art. I, paras. 3 & 4.

130. The author appeared as one of the counsel for the United Kingdom in the proceedings before the International Court of Justice on the Threat or Use of Nuclear Weapons, *supra* note 3. The views expressed in the present paper are the personal views of the author and should not be taken as representing the position of the Government of the United Kingdom.

131. See esp. G.A. Res. 1653 (1961), 2936 (1972), 33/71 B (1978), 35/152 D (1980), 36/92 I (1981), 45/59 B (1990), 46/37 D (1991), 47/53 C (1992), & 48/76 B (1993).

132. See, e.g., N. SINGH & E. MCWHINNEY, NUCLEAR WEAPONS AND CONTEMPORARY INTERNATIONAL LAW (2d ed. 1989), G. SCHWARZENBERGER, THE LEGALITY OF NUCLEAR WEAPONS (1958), and the essays by Falk, Meyrowitz, and Weston in NUCLEAR WEAPONS AND LAW (Miller and Feinrider eds., 1984).

133. See esp. Written Observations of India, Malaysia, Nauru and the Solomon Islands.

134. See Written Observations of France, the Russian Federation, the United Kingdom and the United States of America. In the case of France, at least, this reflected a change of position. See also Kalshoven, *supra* note 1, at 266 *et seq.*; W. Hearn, *The International Legal Regime Regulating Nuclear Deterrence and Warfare*, 61 BRIT. Y.B. INT'L L. 199 (1990); and D. Rauschnig, *Nuclear Weapons*, in 4 ENCYCLOPAEDIA OF PUBLIC INTERNATIONAL LAW 44 (R. Bernhardt ed., 1982).

135. See Kalshoven, *supra* note 1, at 281-2.

136. For comment, see Richard Falk, *Nuclear Weapons, International Law and the World Court*, 91 AM. J. INT'L L. 64-75 (1997); Michael Matheson, *The Opinions of the International*

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Court of Justice on the Threat or Use of Nuclear Weapons, *id.* at 417–35; and the symposium in 37 INT'L REV. RED CROSS 4–117 (1997).

137. Legality of the Threat or Use of Nuclear Weapons, *supra* note 3, paras. 71 and 105, part 2(B).

138. *Id.*, paras. 54–7.

139. *Id.*, para. 95.

140. *Id.*, para. 105, part 2(E).

141. See the criticism in the Dissenting Opinion of Judge Higgins, *supra* note 56, at 584–5.

142. Legality of the Threat or Use of Nuclear Weapons, *supra* note 3, paras. 94–5.

143. See, in particular, the Separate Opinion of Judge Fleischhauer, 1996 I.C.J. 305.

144. For further discussion of this point, see Christopher Greenwood, *Jus ad Bellum and Jus in Bello in the Advisory Opinion on Nuclear Weapons*, in THE ADVISORY OPINION OF THE INTERNATIONAL COURT OF JUSTICE ON NUCLEAR WEAPONS (P. Sands & L. Boisson de Chazourmes eds., 1998).

145. Compare Condorelli, 37 INT'L REV. RED CROSS 9 (1997) with David, *id.* at 21.

146. Article 6 of the 1966 International Covenant on Civil and Political Rights, provides that:

Every human being has the inherent right to life. This right shall be protected by law. No one shall be arbitrarily deprived of his life.

Comparable provisions can be found in Article 2 of the European Convention on Human Rights, Article 4 of the American Convention on Human Rights, and Article 4 of the African Charter on Human and People's Rights.

147. General Comment 14(23), U.N. Doc. A/40/40, at 162, para. 4. For comment, see DOMINIC MCGOLDRICK, THE HUMAN RIGHTS COMMITTEE 336 (1994).

148. See Written Observations of the Netherlands to the International Court of Justice, para. 27.

149. Legality of the Threat or Use of Nuclear Weapons, *supra* note 3, para. 25.

150. See, e.g., the decisions of the European Court of Human Rights in *Loizidou v. Turkey*, 103 I.L.R. 622 (1995) and 108 I.L.R. 443 (1996), and the European Commission of Human Rights in *Cyprus v. Turkey*, 23 E.H.R.R. 244 (1997), where the European Convention on Human Rights was invoked in a case of belligerent occupation.

151. See, e.g., the reliance by Mexico and the Solomon Islands in their Written Observations to the International Court of Justice on the Rio Declaration and other environmental texts.

152. Legality of the Threat or Use of Nuclear Weapons, *supra* note 3, para. 30.

153. *Id.*, paras. 30 and 33.

154. See Part IV (1) (d), *supra*.

155. Legality of the Threat or Use of Nuclear Weapons, *supra* note 3, para. 105, part 2(C).

156. 1986 I.C.J. 3.

157. Legality of the Threat or Use of Nuclear Weapons, *supra* note 3, para. 41.

158. See, e.g., Christopher Greenwood, *The Relationship Between Jus ad Bellum and Jus in Bello*, 9 REV. INT'L STUDIES 221 (1982), and *Self-defence and the Conduct of International Armed Conflict*, in INTERNATIONAL LAW AT A TIME OF PERPLEXITY 273 (Yoram Dinstein ed., 1989).

159. Legality of the Threat or Use of Nuclear Weapons, *supra* note 3, paras. 42–43.

160. 1996 I.C.J. 583. See also the views of Judge Ago as Rapporteur on State Responsibility for the International Law Commission, Eighth Report, II(I) Y.B.I.L.C. 69 (1980).

It would be mistaken . . . to think that there must be proportionality between the conduct constituting the armed attack and the opposing conduct. The action needed to halt and

repulse the attack may well have to assume dimensions disproportionate to those of the attack suffered. What matters in this respect is the result to be achieved by the 'defensive' action, and not the forms, substance and strength of the action itself.

161. See Chemical Weapons Convention, *supra* note 6, art. VII. For an example of national implementation, see the United Kingdom's Chemical Weapons Act 1996.

162. Legality of the Threat or Use of Nuclear Weapons, *supra* note 3, para. 105, part 2(F).

163. See FRANÇOIS HEISBOURG, THE FUTURE OF WARFARE (1998).

164. Additional Protocol I, *supra* note 26, at art. 49(1).

165. This duty is expressly stated in Additional Protocol I, Article 36, but is regarded as part of customary international law. The United States of America, for example, which is not a party to Additional Protocol I, has long had a scrutiny program of this kind.