While it is true that the world community has yet to enact a treaty explicitly outlawing nuclear weapons in general, the author argues that restraints on the conduct of war never have been limited to treaty law alone. Rejecting a purely hegemonic and statist conception of international law, it is suggested instead that an argument against the legality of most — and clearly all dominant — uses of nuclear weapons can be fashioned from implicit treaty provisions, international customs, general principles, judicial decisions, United Nations declarations, and even from initiatives by groups having little formal international status. The author employs the “coordinate communication flow” theory of norm prescription to demonstrate that the laws of war, including their humanitarian components, do apply to nuclear weapons and warfare. After identifying the relevant rules, the author applies them to specific conflict situations in which nuclear weapons might be used, concluding that virtually all potential uses of nuclear weapons are presently unlawful.

Quoiqu’il soit vrai que la communauté mondiale n’ait pas réussi à conclure un traité interdisant formellement l’usage d’armes nucléaires, l’auteur soutient que les moyens de réglementer les conflits armés ne sont pas limités au seul domaine du droit des traités. Rejetant une conception purement hégémonique et statiste du droit international, l’auteur propose plutôt qu’il est possible d’articuler une position contre la légalité de l’usage d’armes nucléaires dans la très grande majorité des cas, à partir des dispositions implicites de traités existants, du droit coutumier international, des principes généraux, des décisions judiciaires, des déclarations de l’ONU, et même des initiatives de groupes sans statut international reconnu. L’auteur fait appel à la théorie de la prescription de normes par flot d’information coordonné pour démontrer que les règles de la guerre, ainsi que leurs composantes humanitaires, s’appliquent aux armes et aux conflits nucléaires. Après avoir relevé les règles pertinentes, l’auteur les applique à des cas spécifiques de conflits où des armes nucléaires pourraient être utilisées, et en tire la conclusion qu’à peu près tous les usages possibles des armes nucléaires sont illégaux.
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* * *

When they shell the telephone building in Madrid it is all right because it is a military objective. When they shell gun positions and observation posts that is war. If the shells fall too long or too short that is war too. But when they shell the city indiscriminately in the middle of the night to try to kill civilians in their beds it is murder.

— Ernest Hemingway

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1 This quotation is drawn from the typescript of an article entitled *Humanity Will Not Forgive This*, written by Ernest Hemingway for the special 1 August 1938 issue of Pravda on the occasion of the Spanish Civil War. The typescript was discovered recently in the John F. Kennedy Library by Professor of History William B. Watson of the Massachusetts Institute of Technology and first published in English in The Washington Post (28 November 1982) F1. In an accompanying commentary, Professor Watson writes: “The Pravda article that is now being published in English for the first time is exactly as Hemingway wrote it. He wrote it out of anger, and he wrote it for Pravda not only because he was asked to, but because the Russians seemed then the only European power willing to confront Fascism head on.” Watson, *Discovering Hemingway's Pravda Article*, The Washington Post (28 November 1982) F1, F13.
Introduction

At the April 1982 Annual Meeting of the American Society of International Law, Eugene V. Rostow, former Director of the United States Arms Control and Disarmament Agency, defended the legality of nuclear weapons against the humanitarian laws of war, in part by invoking an 1825 U.S. Supreme Court decision declaring the then existing African slave trade contrary to the law of nature but permissible under the law of nations. "I rest my case", Rostow said, "on The Antelope". 2

Now surely, in the context of discussing the legalities of truly Plutonic weaponry, one may question the propriety of citing an early nineteenth century decision settling claims for the restitution of some African slaves captured at sea, said to belong to subjects of the kingdoms of Portugal and Spain. No matter how repugnant the African slave trade, hence no matter how analogous to the nuclear arms race it may be, its dehumanizing aspects simply pale in comparison to the treacheries of nuclear war. Still, as we may deduce from the words of Chief Justice Marshall, writing on behalf of The Antelope Court, Mr Rostow's point is clear. "However abhorrent this [slave] traffic may be to a mind whose original feelings are not blunted by familiarity with the practice", Marshall wrote,

it has been sanctioned, in modern times, by the laws of all nations who possess distant colonies, each of whom has engaged in it as a common commercial business, which no other could rightfully interrupt. It has claimed all the sanction which could be derived from long usage and general acquiescence.... Whatever might be the answer of a moralist to this question, a jurist must search for its legal solution, in those principles of action which are sanctioned by the usages, the national acts, and the general assent, of that portion of the world of which he considers himself as a part, and to whose law the appeal is made. If we resort to this standard, as the test of international law, the question...is decided in favor of the legality of the trade.3

In short, Rostow's purpose was to observe the classic distinction between the law lex lata and the law de lege ferenda, to equate the former with "the usages, the national acts, and the general assent of that portion of the world of which he considers himself as a part", and on this basis to decide in favor of the legality of nuclear weapons.

It is, of course, no cause for astonishment that Mr Rostow would favor "the usages, the national acts, and the general assent of that portion of the world of which he considers himself as a part", no more than it is cause for astonishment that Chief Justice Marshall chose to define the uniformities

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3The Antelope, ibid., 115-20.
controlling the slave trade almost exclusively in terms of the elites — the "commercial nations", the "nations who possess distant colonies" — of his time. Jurists, especially jurists with a large stake in the maintenance and expansion of established norms, procedures and institutions, naturally are reluctant to accept significant revaluation or revision of the social order to which they have been accustomed. The legal profession, rather than leading the demand for progressive change, too often opposes it, usually in the name of social stability.

But the point here is not to censure the legal character or profession, as much as this may need doing. The point, rather, is to acknowledge unabashedly the oft-disregarded truth that subjective factors such as position and influence (like culture, class, interest, personality, and past exposure to crisis) commonly condition legal decision, both advertently and inadvertent-ly. They affect not only the substance of our legal judgments; they affect also the evidence we select and the criteria we adopt to reach them — indeed, even our assumptions about the legal system that makes them possible in the first place (the nature of which must be established before we can ascertain the content of the norms that help order our judgments and the system as a whole). Particularly is this so when it comes to assessing the existence or non-existence of a legal rule (for example, a prohibition on a particular use of nuclear weapons) in a juridical system that is predominantly voluntarist in character, hence more or less lacking in putatively impartial command and enforcement structures (for example, the international legal system). In this setting especially, so-called "extra-legal" subjectivities play a critical part.

It is, in any event, from this outlook that the present reassessment is undertaken, proceeding in the belief that, consciously or not, Mr Rostow, like Chief Justice Marshall before him, answered the issue confronting him more according to the dictates of his partisan perspective than to the demands of social reality (although Marshall perhaps may be excused given that the international society of his day consisted entirely of a group of States that shared a common set of interests and normative traditions). By invoking The Antelope as he did, Mr Rostow revealed an excessively hegemonic and statist way of thinking about the international legal order and international norm prescription, a way of thinking which, though consistent with his position and influence, is nonetheless unsuited to a world sorely divided by antagonist values and severely threatened by nuclear Armageddon. Thus, he did not close the debate, but invited, instead, a considered — even if here inexhaus- tive — reply. Concededly, there is a tendency among international lawyers not to take up the debate, due in part to a sense of despondency about the influence of international law upon issues of high policy. But as Ian Brownlie has bravely rejoined, "[a]s a comparative assessment of the role of the law this
is incontrovertible and yet it cannot be said to justify the tacit removal of certain subjects from the agenda". 4

I. Clarification of the Problem

Let us begin by acknowledging immediately that, despite the aggravated mutilations we call Hiroshima and Nagasaki, 5 which some reputable scholarship says lacked military necessity, 6 the world community has yet to enact an explicit treaty or treaty provision prohibiting generally the development, manufacture, stockpiling, deployment, or actual use of nuclear weapons. This fact is not lost on those who defend the legality of these weapons. Consistent with the traditional State-centric theory of international legal obligation, which requires that prohibitions on international conduct be based on the express or implied consent of States, they rest their claim in substantial part on the proposition drawn from the decision of the Permanent Court of International Justice in The Case of the S.S. "Lotus" , 7 i.e., that States are free to do whatever they are not strictly forbidden from doing. 8 Indeed, consistent with Cicero's oft-quoted maxim inter arma silent leges (in war the law is silent), some go so far as to contend that nuclear weapons have made the laws of war obsolete. 9

4 Brownlie, Some Legal Aspects of the Use of Nuclear Weapons (1965) 14 Int'l & Comp. L.Q. 437, 437.
6 See, e.g., United States Strategic Bombing Survey, Japan's Struggle to End the War (1946) 13: "Based on a detailed investigation of all the facts and supported by the testimony of the surviving Japanese leaders involved, it is the Survey's opinion that certainly prior to 31 December 1945, and in all probability prior to 1 November 1945, Japan would have surrendered even if the atomic bombs had not been dropped, even if Russia had not entered the war, and even if no invasion had been planned or contemplated." See also G. Alperovitz, Atomic Diplomacy: Hiroshima and Potsdam (1965) 236-42; Baldwin, "The Atomic Bomb — The Penalty of Expediency" in E. Fogelman, ed., Hiroshima: The Decision to Use the A-Bomb (1964). But see Paust, The Nuclear Decision in World War II — Truman's Ending and Avoidance of War (1974) 8 Int'l Law. 160, 179-80.
8 Thus, in this spirit, does United States Army Field Manual No. 27-10 provide: "The use of explosive 'atomic weapons', whether by air, sea, or land forces, cannot as such be regarded as violative of international law in the absence of any customary rule of international law or international convention restricting their employment." United States Dep't of the Army, Field Manual 27-10, The Law of Land Warfare (1956), para. 35 [emphasis added].
But surely this is not the end of the matter. While the lack of an explicit ban may mean that nuclear weapons are not illegal per se,\textsuperscript{10} the fact is that restraints on the conduct of war never have been limited to explicit treaty prohibitions alone. As stated by the International Military Tribunal at Nuremberg in September, 1946:

> The law of war is to be found not only in treaties, but in the customs and practices of states which gradually obtained universal recognition, and from the general principles of justice applied by jurists and practiced by military courts.\textsuperscript{11}

Indeed, it is precisely the point being made here — that the law of war, like the whole of international law, is composed of more than treaty rules, explicit and otherwise — that prompted Eugene Rostow to certify the pertinence of \textit{The Antelope} to the issue at hand.

It is, at any rate, according to this more true-to-life portrayal of the so-called “sources” or law-creating processes of international law that the argument against the legality of nuclear weapons, qualified or unqualified, is fashioned.\textsuperscript{12} While ruling the absence of an explicit treaty or treaty provision that could dispel all doubts, those who deny the legality of nuclear weapons in whole or in part are mindful that historically the law of war has sought to inhibit weapons and tactics that cause aggravated and indiscriminate damage; and accordingly they point to an array of treaty provisions which, they say, implicitly outlaw the use or threat of use of nuclear weapons. Furthermore, they rely upon numerous other “sources” of international authority, such as international custom, general principles, judicial decisions, United Nations declarations and resolutions, and draft rules, to make their case. Some even affirm — correctly, I believe — the appositeness of initiatives by groups having little or no formal status in the international legal order as traditionally conceived.\textsuperscript{13}

\textsuperscript{10}Consider, for example, the emphasis added to the United States Army Field Manual 27-10 quotation, \textit{supra}, note 8.

\textsuperscript{11}\textit{Trial of the Major War Criminals Before the International Military Tribunal} (1948), vol. 22, 464 [hereinafter \textit{Trial of the Major War Criminals}].


\textsuperscript{13}See, e.g., Falk, Meyrowitz & Sanderson, \textit{ibid.}, 592-4. See also \textit{infra}, notes 75-9, 105-9 and accompanying text.
Now a distinct advantage of this line of argument — one may even say a virtue — is that it departs from exclusively hegemonic and statist models of international legal process. It therefore helps to discourage the widespread cynicism that international law is or must be only the expression of the will of the strongest. A distinct weakness, however, is its tendency — actually little different from that of its complementary opposite — toward an essentially rule-oriented conception of international law and law-making. Prone to treat international law mainly as a body of rules governing relations between States, rather than as a complex process of authoritative and controlling decision in which rules (and doctrines and principles) are continuously being fashioned and refashioned by a wide variety of global actors to suit the needs of the living and the unborn, this positivist model does not adequately conjoin law and social reality. Hence it makes little or no attempt to ask the question recently and felicitously put by Professor D’Amato: “What ‘counts’ as law?” 14 Ergo it never really rises to the challenge posed by Mr Rostow, namely, that international custom — by which Rostow meant a general State practice accepted as law — simply countermands whatever implicit, even if express, nuclear weapons prohibitions may be said to exist.

It seems evident, then, that the legality or illegality of nuclear weapons is not to be judged simply by the existence or non-existence of an explicit treaty rule or by a mere recitation of other “sources” of world authority, written or unwritten. The issue is not, fundamentally, the explicitness of the rule. Nor is it whether suitable language can be found to support one position or another. The issue is whether any of the authority cited — in this case, the laws of war — is of a sort that “counts as law” insofar as the use and threat of use of nuclear weapons are concerned. The issue is whether any of it, explicit or implicit, comports with what is needed to give it jural quality relative to nuclear weapons, and, if so, how or to what extent it applies.

It is my view (a) that the laws of war indeed do extend to nuclear weapons, and (b) that in fact they severely restrict the use of these weapons in most instances. But of course, merely to assert these propositions is not sufficient; each requires explanation. Before proceeding, however, two preliminary clarifications are in order. Each is necessary to a proper understanding of what follows.

First, we need to be clear about the issue we are not addressing, to wit, the lawfulness of using or threatening to use nuclear weapons as part of a campaign or single act of aggression (as that term is defined in the 1974 United Nations General Assembly Resolution on the Definition of

Whatever the exact legal status of the Kellogg-Briand Pact and United Nations Charter art. 2(4), particularly after the deafening silence that greeted the 1980 Iraqi invasion of Iran, arguably an act of aggression is unlawful irrespective of the kinds of weapons used, nuclear or conventional. Instead, recalling the customary right of individual and collective self-defense (now enshrined in U.N. Charter art. 51), and noting that all the nuclear weapon States admit to no other rationale for their arsenals, the question ultimately before us must be whether any defensive use or threat of use of nuclear weapons — “first-strike” or “second-strike”, “strategic” or “tactical” — may be considered contrary to international law, hence prohibited. Of course, our first duty is, as indicated, to demonstrate that the laws of war, which are the relevant corpus of international law for present purposes, do in fact cover nuclear weapons and warfare, that they are not obsolete in this connection.

Second, we need to be clear about the true nature of nuclear weapons, especially in contrast to so-called conventional weapons. While the horrifying consequences of nuclear warfare are at last beginning to penetrate the popular consciousness, our military leaders and civilian elites seem to think and act as if the nuclear weapon is “just one more weapon”, only somewhat more destructive. The fact is, however, that nuclear weapons differ from conventional weapons in at least three very critical respects. First, and most

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17 United Nations Charter, art. 2, para. 4: “All Members shall refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any State, or in any other manner inconsistent with the Purposes of the United Nations.”
19 United Nations Charter, art. 51: “Nothing in the present Charter shall impair the inherent right of individual or collective self-defence if an armed attack occurs against a Member of the United Nations, until the Security Council has taken measures necessary to maintain international peace and security. Measures taken by Members in the exercise of this right of self-defence shall be immediately reported to the Security Council and shall not in any way affect the authority and responsibility of the Security Council under the present Charter to take at any time such action as it deems necessary in order to maintain or restore international peace and security.”
20 For clarification of these and related terms, as well as substantive discussion on the legal issue posed, see infra, text following note 127.
21 For extensive and detailed information concerning the nature and effects of nuclear weapons, see S. Glasstone & P. Dolan, The Effects of Nuclear Weapons, 3d ed. (1977) (prepared and published by the United States Dep’t of Defense and the United States Energy Research and Development Administration). See also United Nations, Comprehensive Study
obvious, is the fact that most nuclear weapons, certainly all in the "strategic" category, are not just "somewhat more destructive", but many thousands or millions of times more powerful than even the largest conventional high-explosive weapons. One average nuclear weapon by today's standards — a device in the one megaton range — represents about seventy to eighty times the intensity and scale of devastation wrought at Hiroshima and Nagasaki, and it is highly unlikely that any future nuclear exchange would be limited to average size weapons or to one or two "defensive" strikes. Unlike conventional weapons, nuclear weapons risk putting an end to civilization as we know it. Second, the majority of nuclear weapons, "tactical" as well as "strategic", differ from conventional weapons in the variety as well as the intensity and scale of their physical effects. The chief characteristic of conventional weapons is their potential for "blast" or "shock" damage, accompanied by some thermal or heat effects (burns and fires). By contrast, although with variations depending on their yield and place of detonation, nuclear weapons produce "blast" or "shock" damage and, in addition, extended "thermal radiation", "electromagnetic pulse" [EMP] effects, and invisible but highly-penetrating and harmful rays called "initial nuclear radiation", followed by "residual nuclear radiation" in the form of delayed radioactive fallout across potentially great distances and over extended periods of time. The radiation effects, it should be noted, which consist of the transmission of gamma rays, neutrons, beta particles, and some alpha particles, are not unlike — indeed, are very similar to — the effects produced by chemical and biological weapons as opposed to conventional high-explosive weapons. Finally, in still further contrast to conventional weapons, nuclear weapons, even those with fairly low yields, are capable of harming noncombatants (including civilians and neutral parties) virtually inevitably. As George Kennan writes:

[Conventional] weapons can bring injury to noncombatants by accident or inadvertence or callous indifference; but they don't always have to do it. The nuclear weapon cannot help doing it, and doing it massively, even where the injury is unintended by those who unleash it.

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22 For clarification of this and related terms, see infra, text following note 127.

23 For clarification of these and related terms, see infra, text following note 127.


Mr Kennan might have acknowledged, of course, the possibility of a “surgical strike” with a “clean” low-yield warhead against a purely military target in a region inhabited by few people. But such a scenario would not be common, and thus the third distinction between nuclear and conventional weapons is drawn. Like the first two, it is critical to the legal appraisal that concerns us here.

Now, with these brief clarifications in mind, it is appropriate to turn to the core of our inquiry. We begin, as indicated, with the threshold issue whether the laws of war are obsolete in relation to nuclear weapons and warfare or whether they do in fact apply.

II. The Matter of Norm Prescription

The traditional approaches to the question whether an international rule of law has in fact been made or does in fact endure, such as the question whether the humanitarian laws of war apply to nuclear weapons and warfare, suffer from not a few disabilities that, at the very least, prompt serious skepticism. The mainstream opinio juris test, for example, which bids inquiry into what States “believe” a rule to be, does not lend itself easily, if at all, to empirical verification. Nor, for that matter, does it rest comfortably in a world increasingly beset by fundamental challenges to the primacy of the nation-state as a global claimant and decision-maker.

Essentially free from such disabilities, however, and therefore worthy of responsible attention, is the “coordinate communication flow” theory of norm prescription espoused by Yale law scholars Myres McDougal and Michael Reisman. Law-making, they write, is “a process of communication which creates, in a target audience, a complex set of expectations comprising three distinctive components: expectations about a policy content; expectations about authority; and expectations about control”. And to speak meaningfully of law, they emphasize, “all three components must be copresent”. Thus Reisman elaborates:

[P]rescriptive or law making communications... carry simultaneously three coordinate communication flows in a fashion akin to the coaxial cables of modern telephonic communications. The three flows may be briefly referred to as the policy content, the

27 See ibid., 249-56 and 268-84.
28 Ibid., 250.
29 Ibid.
authority signal and the control intention. Unless each of these flows is present and effectively mediated to the relevant audience, a prescription does not result. 30

Equally important, he adds, the three components "must continue to be communicated" for the prescription, as such, to endure. 31

In this Part, I attempt to resolve the question whether the laws of war apply to nuclear weapons and warfare according to this tripartite communications model of national and international law-making. I do so, in part, because it does indeed avoid the many pitfalls of the traditional theories. But I do so also, and more importantly, because it demythologizes the business of law-making in favor of a common sense appreciation for the richly textured social and jural environment within which law-making necessarily takes place. So critically significant an issue as the legality of nuclear weapons clearly requires a large dose of jurisprudential realism.

A. Policy Content

As noted earlier, except for a series of treaties prohibiting nuclear weapons in Antarctica, Latin America, outer space, and on the seabed beyond the limit of national territorial seas, 32 plus the Partial Test Ban Treaty outlawing the testing of nuclear weapons in outer space, under water, and within the earth's atmosphere, 33 no international covenant forbids expressly the develop-

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31 Ibid., 108. Reisman explains: "[I]f one or more of the components should cease to be communicated, the prescription undergoes a type of desuetude and is terminated."
ment, manufacture, stockpiling, deployment, or use of nuclear weapons in general. The United Nations General Assembly has declared the use of nuclear weapons to be "a direct violation of the Charter of the United Nations", 34 "contrary to the rules of international law and to the laws of humanity", 35 "a crime against mankind and civilization", 36 and therefore a matter of "permanent prohibition". 37 In addition, in a much too neglected decision rendered almost twenty years ago, a Japanese tribunal saw fit to condemn as contrary to international law the only instance of actual belligerent use of nuclear weapons to date, the United States bombings of Hiroshima and Nagasaki. 38 But considering that U.N. General Assembly resolutions are presumptively not binding as law and that, ordinarily, a single national tribunal decision cannot alone establish rules of international law, it scarcely can be said that these expressions of legal viewpoint, although certainly evidentiary of customary legal expectation, are by themselves dispositive of the issue at hand. Explicit content does not automatically spell legal prescription, however wise the content communication may be.

Accordingly, if international law has anything useful to say about our topic, as I believe it does, then it will do so implicitly rather than explicitly, through derivations from and analogies to the conventional and customary laws of war, both traditional and modern-day; and highly apropos in this connection are at least six core rules which stand out as prima facie relevant [hereinafter usually referred to as "the humanitarian rules of armed conflict"]. Each, to be sure, is susceptible of differing linguistic and contextual interpretation. Also, each involves a balancing of the customary principle of humanity against that of military necessity, 39 which inevitably challenges one's capacity for complete objectivity, be he or she Scholar Laureate or

3 "Ibid., para. 1(b).
3 "Ibid., para. 1(d).
3 "Summarize Adam Roberts and Richard Guelff:

Three general customary principles seek to delineate legal limits on belligerent conduct: the principle of military necessity, the principle of humanity, and what is still called the principle of chivalry. The principle of military necessity provides that, strictly subject to the principles of humanity and chivalry, a belligerent is justified in applying the amount and kind of force necessary to achieve the complete submission of the enemy at the earliest possible moment and with the least expenditure of time, life, and resources. The principle of humanity prohibits the employment of any kind or degree of force not actually necessary for military purposes. The principle of chivalry denounces and forbids
Commander-in-Chief. Nevertheless, I dare to note them here with a brief summary of what I understand to be their contemporary meaning — independent, of course, of the nuclear weapons factor.40

**Rule 1. It is prohibited to use weapons or tactics that cause unnecessary or aggravated devastation and suffering.**41

Here the principles of humanity and military necessity meet head-on, highlighting the interest of all States and peoples in simultaneously enhancing


40 See, *e.g.*, art. 23 of the 1907 Hague Regulations Respecting the Laws and Customs of War on Land [hereinafter 1907 Hague Regulations], Annex to the 1907 Hague Convention [No. IV] Respecting the Laws and Customs of War on Land, 18 October 1907, 36 Stat. 2277, T.S. No. 539, 1 Bevans 631, which provides in part: "In addition to the prohibitions provided by special Conventions, it is especially forbidden... (b) To kill or wound treacherously individuals belonging to the hostile nation or army; ... (e) To employ arms, projectiles, or material calculated to cause unnecessary suffering;... [and] (g) To destroy or seize the enemy's property, unless such destruction or seizure be imperatively demanded by the necessities of war". For similar language, see art. 35(2) of Geneva Protocol I Additional Relating to the Protection of Victims of International Armed Conflicts, U.N. Doc. A/32/144, Annex I, reprinted in (1977) 16 I.L.M. 1391 (adopted 12 December 1977; entered into force on 7 December 1978) which prohibits weapons and methods causing "superfluous injury or unnecessary suffering". In addition, see Hague Draft Rules of Aerial Warfare, arts 22-6, reprinted in (1923) 17 Am. J. Int'l L. 245 (Supp.); *Declaration of Brussels*, 27 August 1874, arts 12-3, reprinted in L. Friedman, ed., *The Law of War: A Documentary History* (1972), vol. 2, 194-6; *Declaration on the Prohibition of the Use of Nuclear and thermo-nuclear Weapons*, *supra*, note 34; *Resolution on Respect for Human Rights in Armed Conflicts*, United Nations G.A.
their security and minimizing the destruction of attendant values. Therefore, it is less the fact of devastation and suffering than the needlessness, the superfluity, the disproportionality of harm relative to military result that is determinative of illegality. This test, of course, is a function of context, and historically, it appears, "the line of compromise has... tended to be located closer to the polar terminus of military necessity than to that of humanity." The relative tolerance heretofore extended to "scorched earth" and "saturation bombing" policies and to incendiary and V-weapons, for example, may well attest to this observation. However, though military necessity may be the leading guide for defining permissible devastation and suffering, its operational scope is not unqualified. Generally speaking, "it... is of the proximate military order of raison de guerre rather than of the final political order

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Military necessity permits a belligerent, subject to the laws of war, to apply any amount and kind of force to compel the complete submission of the enemy with the least possible expenditure of time, life, and money. In general, it sanctions measures by an occupant necessary to protect the safety of his forces and to facilitate the success of his operations. It permits the destruction of life of armed enemies and other persons whose destruction is incidentally unavoidable by the armed conflicts of the war; it allows the capturing of armed enemies and others of peculiar danger, but it does not permit the killing of innocent inhabitants for purposes of revenge or the satisfaction of a lust to kill. The destruction of property to be lawful must be imperatively demanded by the necessities of war. Destruction as an end in itself is a violation of international law. There must be some reasonable connection between the destruction of property and the overcoming of the enemy forces. It is lawful to destroy railways, lines of communication, or any other property that might be utilized by the enemy. Private homes and churches even may be destroyed if necessary for military operations. It does not admit of wanton devastation of a district or the willful infliction of suffering upon its inhabitants for the sake of suffering alone.

Observing that the mass raids on Hamburg and Dresden, with their fire storms, are sometimes said to have been on a scale similar to the devastation at Hiroshima, Brownlie writes: "Of course, it does not follow from this that the mass raids were legal, although this is sometimes the intended inference." Supra, note 4, 449, fn. 50. Falk, Meyrowitz & Sanderson elaborate on this theme: "The obvious question is whether the practice of states, victorious in a major war in which accepted rules and standards of war are violated, has the effect of a legislative repeal." Supra, note 12, 565.
of raison d'état"; and in any event, especially when delineation between these two orders proves difficult or impossible, it is shaped by what all agree, after Aristotle, is the proper object of war, namely, the bringing about of those conditions that are needed to establish a just and meaningful and lasting peace.

Rule 2. It is prohibited to use weapons or tactics that cause indiscriminate harm as between combatants and noncombatant military and civilian personnel.

The historic distinction between combatants and noncombatants, military and civilian, once provided what John Bassett Moore called "the vital principle of the modern law of war". Today, however, after four decades of virtually constant conflict in which belligerents everywhere have flaunted the principle in one way or another, its legal status is confused. Although Rome and Paris were declared "open" (i.e. undefended) cities during World War II and thereby saved from destruction, ours tends to be an era of "total war" wherein greatly increased civilian participation in "the war effort" and well-known developments in the technical arts of war have rendered application of the principle all but impossible in many instances. At any rate, the more vital the target militarily, the more the law will condone incidental civilian damage; and again, as in the case of Rule 1, considerations of military necessity appear to have outweighed considerations of humanity. Nevertheless, demonstrating anew how notions of humanity or proportionality temper claims of military necessity, Rule 2 appears to pose a genuine legal challenge for at least the following: direct as distinguished from incidental attacks upon civilian populations and upon noncombatant sick and wounded armed forces personnel; raids upon target areas wherein civilian resources and uses of special value, such as cultural, humanitarian and religious institutions, significantly outbalance military and militarily-related resources and uses; assaults upon undefended population centers manifesting little or no effective base of

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4See, e.g., 1977 Geneva Protocol I Additional, supra, note 41, art. 48 which states: "In order to ensure respect for and protection of the civilian population and civilian objects, the Parties to the conflict shall at all times distinguish between the civilian population and combatants and between civilian objects and military objectives and accordingly shall direct their operations against military objectives." See also Geneva Convention [No. IV] Relative to the Protection of Civilian Persons in Time of War, 12 August 1949, 6 U.S.T. 3316, T.I.A.S. 3365, 75 U.N.T.S. 287; 1907 Hague Regulations, supra, note 41, arts 25 and 27; Resolution on Respect for Human Rights in Armed Conflicts, supra, note 41; Resolution on Basic Principles for the Protection of Civilian Populations in Armed Conflicts, supra, note 41; Fundamental Rules of International Humanitarian Law Applicable in Armed Conflicts, supra, note 41, 249.
4J.B. Moore, International Law and Some Current Illusions and Other Essays (1924) viii.
enemy power; and "terror bombardment" purely or primarily for the purpose ofdestroying enemy morale.\textsuperscript{47} It is, furthermore, appropriate toenote art. 6(c) of the \textit{Nuremberg Charter} declaring the extermination of a civilian population, in whole or in part, "a crime against humanity".\textsuperscript{48}

\textbf{Rule 3. It is prohibited to use weapons or tactics that cause widespread, long-term and severe damage to the natural environment.}\textsuperscript{49}

This prohibitory rule, a new "basic rule" added to the laws of war by 1977 Protocol I Additional to the 1949 \textit{Geneva Conventions},\textsuperscript{50} is emphatically a product of the worldwide environmental reawakening which has taken place since the advent of Sputnik and Rachael Carson's \textit{Silent Spring}. However, with none of the major powers having yet ratified the Protocol and some not even having signed it, its status as general international law is open to some doubt. On the other hand, in view of the sixty-two signatures and twenty-seven ratifications and accessions to date,\textsuperscript{51} plus the "common convictions" set forth at the 1972 United Nations Conference on the Human Environment\textsuperscript{52} and the mounting efforts since that time to preserve and enhance the human environment for present and future generations, it probably is correct to say that the prohibition is in at least the incipient stage of becoming law, and certainly is a guide todesired conduct.

\textbf{Rule 4. It is prohibited to effect reprisals that are disproportionate to their antecedent provocation or to legitimate military objectives, or disrespectful of persons, institutions and resources otherwise protected by the laws of war.}\textsuperscript{53}

\textsuperscript{47}McDougal & Feliciano, \textit{supra}, note 39, 657 write: "To accept as lawful the deliberate terrorization of the enemy community by the infliction of large-scale destruction comes too close to rendering pointless all legal limitations on the exercise of violence."


\textsuperscript{50}Ibid.

\textsuperscript{51}Information supplied in telephone communications from the Office of the Legal Advisor, United States Dep't of State.

\textsuperscript{52}\textit{Supra}, note 49.

The requirement of proportionality in respect of reprisals is but another manifestation of the interplay of the principles of humanity and military necessity. Accordingly, as in the case of Rule 1 relative to the limits of permissible destruction in the name of self-defense in general, what constitutes a legitimate reprisal is largely a function of context. Of course, in a legal system dominated by processes of autointerpretation, this fact affords a ready excuse for law evasion by unscrupulous belligerents. Nevertheless, patently disproportionate reprisals, i.e. reprisals that are extreme in relation to their provocation or that lack a reasonable connection with the securing of legitimate belligerent objectives, are contrary to United Nations Charter art. 51 as well as to international law in general. Moreover, reprisals must be directed at the cobelligerent State, with no adverse impact upon States not party to the conflict and they may not, besides, be directed against the following persons and objects, among others: wounded and sick persons (military and civilian) who are in need of medical care and who refrain from any act of hostility; the personnel of medical units and establishments, including chaplains; noncombatant civilians and civilian populations; cultural property and places of worship; and works or installations containing dangerous forces such as dams, dykes and nuclear electrical generating stations. Finally, inasmuch as reprisals are extreme measures to be used only as a last resort, every effort must be made, save where military necessity clearly compels otherwise, to regulate the conflict by other means.

Rule 5. It is prohibited to use weapons or tactics that violate the neutral jurisdiction of nonparticipating States.


I.e. otherwise unlawful acts of retaliation carried out in response to prior illegal acts of warfare and intended to force compliance with the laws of war.

See D. Bowett, Self-Defence in International Law (1958) 167-74. See also the discussion of Rule 5 beginning infra, text accompanying note 57.

See 1977 Geneva Protocol I Additional, supra, note 41, art. 56.

For all the vicissitudes that the law of neutrality has suffered over the years, from the bodyblows of maritime warfare during World War I, to the coming into being of the United Nations collective security system, to the more-or-less routine overflight of planes, rockets and satellites for intelligence retrieval and space exploration purposes, two key claims continue to be honored to substantial degree: the claim that belligerents have no warrant to carry their hostilities into the territory of a nonparticipating State, and the accompanying claim that nonparticipating States have the right to exclude the entry of belligerent forces into their territory. During both World Wars, for example, it was virtually uniform practice for nonparticipants to forbid the entry, deliberate or inadvertent, of belligerent military aircraft into neutral airspace.\(^\text{58}\) Of course, as everywhere in the law, different contextual factors make for different applications of the general rule; hence such slippery terms as "absolute neutrality", "nonbelligerence", "qualified neutrality", and the like. On balance, however, the notion that nonparticipants have a legal right to freedom from harm and injury to their territory resulting from interbelligerent activities, and a consequent right to compensation for damages attending violations of that right, appears to have withstood the test of time.

**Rule 6.** *It is prohibited to use asphyxiating, poisonous or other gases, and all analogous liquids, materials or devices, including bacteriological methods of warfare.*\(^\text{59}\)

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Whereas the use in war of asphyxiating, poisonous or other gases, and of all analogous liquids, materials or devices, has been justly condemned by the general opinion of the civilised world; and

Whereas the prohibition of such use has been declared in Treaties to which the majority of Powers of the world are Parties; and

To the end that this prohibition shall be universally accepted as a part of International Law, binding alike the conscience and the practice of nations;

Declare:

That the High Contracting Parties, so far as they are not already Parties to Treaties prohibiting such use, accept this prohibition, agree to extend this prohibition to the use of bacteriological methods of warfare and agree to be bound as between themselves according to the terms of this declaration.

Due partly to fear of retaliation, but also to the opprobrium that surely would attach to the admitted or discovered use of chemical and biological weapons, this prohibition, which is today derived primarily from the Geneva Gas Protocol of 1925, has been remarkably well observed since the widespread use of poison gas during World War I. When it has not, as when Italy used poison gas against Ethiopia in 1935-36, or when unobservance is suspected, as presently in the case of the U.S.S.R. in Afghanistan, the aversion and indignation aroused has been substantial. At any rate, given the large number of States that have become party to the 1925 Protocol (including the Soviet Union in 1928 and the United States in 1975), the majority view now seems to be that the prohibition should be regarded as part of customary international law, embracing all States whether or not they have formally adhered to the Protocol itself. Broad though its prescriptive foundation may be, however, there is some question about the prohibition's substantive scope. For example, some States, including the United States, have taken the position that it does not extend to non-lethal control agents and chemical herbicides. Additionally, because a number of State-parties have attached reservations declaring that the Protocol shall be binding upon them only to the extent that it is respected by the other State-parties, some maintain that the prohibition is addressed only to the first use of chemical, biological and equivalent weapons. Probably this is a correct interpretation insofar as these reserving States are concerned, but judging from the all-encompassing tenor of U.N. General Assembly Resolution 2603A which interprets the 1925 Protocol, such a construction doubtless should be applied as restrictively as possible.

THUS, despite an obvious erosion over the years of legal inhibitions regarding the conduct as well as the initiation of war, there remains today an inherited commitment to standards of humane conduct within which the reasonable belligerent can operate. Contrary to the repudiated Kriegsraison

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See ibid.

1 See Roberts & Guelff, supra, note 39, 138.

2 Ibid.

3 Resolution 2603A, supra, note 59, declares “as contrary to the generally recognized rules of international law”, embodied in the 1925 Geneva Gas Protocol, the use in international armed conflicts of:

(a) Any chemical agents of warfare — chemical substances, whether gaseous, liquid or solid — which might be employed because of their direct toxic effects on man, animals or plants;

(b) Any biological agents of warfare — living organisms, whatever their nature, or infective material derived from them — which are intended to cause disease or death in man, animals or plants, and which depend for their effects on their ability to multiply in the person, animal or plant attacked.

4 For a formulation somewhat different, but nonetheless paralleling and complementing the six prohibitory Rules summarized above, see Red Cross Fundamental Rules, supra, note 41.
theory of the German war criminals, there remains the fundamental principle from which all the laws of war derive, including the humanitarian rules of armed conflict noted here, namely, that the right of belligerents to adopt means and methods of warfare is not unlimited.

Now when applying this principle in light of the prohibitory rules summarized above, obviously one is not led inevitably to the proposition that nuclear weapons are illegal per se — except, I would argue, within the terms of Rule 6 prohibiting the use of chemical, biological and "analogous" means of warfare. Perhaps not all nuclear weapons which are conceivable, but certainly all nuclear weapons now deployed or planned, including the so-called "neutron bomb" or "enhanced radiation" [ER] weapon, and the "reduced residual-radiation" [RRR] or "minimum residual-radiation" [MRR] weapon, manifest radiation effects that for all intents and purposes are the same as those that result from poison gas and bacteriological means of warfare; and in any event the 1925 Geneva Gas Protocol is so comprehensive in its prohibition that it may be said to preclude the use of nuclear weapons altogether. But in the absence of a specific prohibition, one is led, instead, to ask the same basic question that the conscientious belligerent is obliged to ask in any given conflict situation: Is resort to this means or method of warfare proportionate to a legitimate military end? In most if not all nuclear warfare situations, I believe that the answer must be — no. It is hard to imagine any nuclear war, except possibly one involving a very restricted use of extremely low-yield battlefield weapons, where this vital link between

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6I.e., the theory that the "necessities of war", or military necessity, override and render inoperative the ordinary laws of war (Kriegsmansiert).

6See, e.g., 1907 Hague Regulations, supra, note 41, art. 22, which provides: "The right of belligerents to adopt means of injuring the enemy is not unlimited." See also 1977 Geneva Protocol I Additional, supra, note 41, art. 35(1); Resolution on Respect for Human Rights in Armed Conflicts, supra, note 41, para. 1(a).

6See supra, note 24 and accompanying text. For details concerning the so-called "second generation nuclear weapons" mentioned here, including the EMP Bomb [enhanced electromagnetic pulse warhead], see Gsponer, The Neutron Bomb and the Other New Limited Nuclear War Weapons (1982) 13 Bull. Peace Proposals 221. The same article describes briefly "third generation direct energy weapons" (laser beam, microwave beam and particle beam weapons) as well.

6See Castrén, The Present Law of War and Neutrality, supra, note 12, 207; Greenspan, supra, note 12, 372-3; Schwarzenberger, supra, note 12, 37-8; Singh, supra, note 12, 162-6; Falk, Meyrowitz & Sanderson, supra, note 12, 563; Meyrowitz, supra, note 12, 842.

6Article 36 of 1977 Geneva Protocol I Additional, supra, note 41, extends this inquiry to the longer term, with obvious implications for defense policymakers and operators: "In the study, development, acquisition or adoption of a new weapon, means or method of warfare, a High Contracting Party is under an obligation to determine whether its employment would, in some or all circumstances, be prohibited by this Protocol or by any other rule of international law applicable to the High Contracting Party."
humanity and military necessity — proportionality — would not be breached or threatened in the extreme; and it is especially hard to imagine in the face of the "countervalue" and "counterforce" strategic doctrines that underpin the core of the nuclear deterrence policies of the two superpowers.\(^7\) Given these observations, not to mention the millions of projected deaths and uncontrollable environmental harms that would result from any probable use of nuclear weapons, it seems inescapable that nuclear warfare is contrary to the core precepts of international law.

But the point here is not to deal in generalities, as important as the generalities are. Rather, it is to demonstrate, as I believe one can, that the humanitarian rules of armed conflict we have reviewed briefly do in fact apply to nuclear weapons and warfare, and then, to investigate how and to what extent this "policy content" actually operates in concrete contexts. Thus, it is appropriate to turn now to our second "communication flow", the authority signal.

B. Authority Signal

It is one thing to postulate and quite another to establish that the humanitarian rules of armed conflict, both conventional and customary, do extend to or cover nuclear weapons and warfare. A communication of policy content unaccompanied by an authority signal, let alone a communication of control intention, is not law.

But there is, I think, sufficient evidence to confirm that the requisite authority signal is present. The widespread and essentially unqualified adoption of the four 1949 Geneva Conventions on the humane conduct of war four years after the advent of the nuclear age;\(^7\) U.N. General Assembly Resolution 1653 of 24 November 1961, declaring the use of nuclear weapons to be, inter alia, "contrary to the rules of international law and to the laws of humanity";\(^7\) the 1963 Shimoda Case, holding that the bombings of Hiroshima and Nagasaki were contrary to international law in general and the laws of war in

\(^{7}\)For a discussion of these doctrines, see infra, text accompanying notes 128-32.


\(^{72}\) Supra, note 34 and accompanying text.
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particular; resolutions of the International Red Cross; the writings of the vast majority of publicists knowledgeable in the field — these and other communications express a far-flung community consensus that nuclear weapons and warfare do not escape the judgment of the humanitarian rules of armed conflict. True, some will challenge this assertion on the grounds that certain of the communications relied upon are not "true sources" of law, or, in more functional terms, that their communicators do not have the authority to prescribe. But this would be to imply, erroneously I submit, that only State actors have the competence to prescribe internationally respecting issues or values of major and universal significance, a viewpoint that contrasts sharply with the common understanding, certified in the famous Martens Clause of 1907 Hague Convention No. IV and reaffirmed in the four 1949 Geneva Conventions and the two 1977 Geneva Protocols Additional, that the laws of war are in part a function of "the dictates of the public conscience". Moreover, it is to beg the question of those "sources" that are acceptable by statist standards.

In sum, except as noted below, there is little in the authoritative literature to indicate, either explicitly or implicitly, that nuclear weapons and warfare are not or should not be subject to the humanitarian rules of armed conflict; indeed, there is a great deal to indicate that they are and should be. The world community has in no way consented to the abolition of these rules in order to legitimize nuclear war. As Professor Fried has stated emphatically: "It is scurrilous to argue that it is still forbidden to kill a single innocent enemy civilian with a bayonet, or wantonly to destroy a single building or enemy territory by machine-gun fire — but that it is legitimate to kill millions of enemy non-combatants and wantonly to destroy entire enemy cities, regions and perhaps countries (including cities, areas or the entire surface of neutral States) by nuclear weapons." 

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73 Supra, note 38 and accompanying text.

74 See, e.g., Resolution XXVIII on the Protection of Civilian Populations Against the Dangers of Indiscriminate Warfare in International Conference of the Red Cross, Resolutions (1965) 22, declaring: "The general principles of the Law of War apply to nuclear and similar weapons".

75 See, e.g., the many publicists cited supra, notes 12 and 40.


77 Fried, supra, note 12, 28.
Despite all this evidence, however, at least three negative arguments are heard to deny that the humanitarian rules of armed conflict apply to nuclear weapons and warfare. They merit acknowledgement and rebuttal, if only to demonstrate further the force of what has just been said.

First is the argument that these rules do not apply because, for the most part, they predate the invention of nuclear weapons or otherwise fail to mention them by name. The argument is easily dismissed. As a variant of the spurious thesis that nuclear weapons uses are without legal constraint in the absence of an explicit treaty ban, it fails to heed the multifaceted nature of the international law-creating system, taking a view of legal process that no one would dare accept in the domestic sphere. Moreover, legal rules typically are interpreted to encompass matters not specifically mentioned — often not even contemplated — by their formulators, the Commerce Clause of the United States Constitution being a well-known case in point. As stated by the 1945 Nuremberg Tribunal when called to adjudicate complaints about previously undefined “crimes against humanity” and other crimes, “[the law of war] is not static, but by continual adaptation follows the needs of a changing world”. Finally, confirming the first point, the well known Martens Clause, partially quoted above, was formulated exactly to cover such lacunae, and accordingly bears quotation in full:

> Weapons and tactics not dealt with specifically in the various texts articulating the laws of war thus remain nonetheless constrained by the principles of international law, including the counterbalancing principles of humanity and military necessity, and — not to be forgotten — “the dictates of the public conscience”.

Another negative argument, a variant of the first but not as broadsweeping, is that certain of the humanitarian rules of armed conflict do not apply or are not authoritative simply because they are open to exempting interpretation. For example, notwithstanding that the radiation effects of nuclear

78 Written in the late eighteenth century, before railroads, automobiles and airplanes, the United States Constitution, art. I §9, cl. 3, has nonetheless repeatedly been held to regulate virtually every aspect of modern technology operating across federal and state lines.

79 Trial of the Major War Criminals, supra, note 11, 464.

80 See supra, text accompanying note 76.

81 The 1907 Hague Convention No. IV, supra, note 41, Preamble. For more up-to-date versions, see sources cited, supra, note 76.
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weapons, initial and residual, produce symptoms and results essentially indistinguishable from the short- and long-term disease and genetic consequences of poison gas and bacteriological weapons, and despite the fact that the omnibus language of the 1925 Geneva Gas Protocol ("all analogous liquids, materials or devices") is comprehensive enough to proscribe any weapon whose effects are similar to chemical and biological means of warfare, it still is argued that art. 23(a) of the 1907 Hague Regulations (forbidding poison or poisoned weapons) and the Protocol's omnibus language do not apply to nuclear weapons. It is said that the former reflects an historic revulsion for clandestine instruments of war, which nuclear weapons clearly are not, and that the weapons banned by the latter (presumably the chemical and bacteriological weapons) harbor factual and policy aspects somehow distinguishable from radiological weapons. Similarly, it has been suggested that the radiological consequences of nuclear weapons, far from having any central military importance, are but the "incidental side effects" of nuclear weapons explosions, thus removing nuclear weapons from the reach of such rules as 1907 Hague Regulation 23(e) forbidding the use of weapons "calculated to cause unnecessary suffering". But such interpretive arguments are, I think, self-serving and evasive. As usefully observed by Ian Brownlie, the first argument (relative to chemical and biological weapons) is rather "[like] interpreting older statutes on road traffic in such a way as to confine the word 'vehicle' to the horse and cart"; the second argument (relative to the "incidental" versus "calculated" dichotomy) simply ignores that most nuclear weapons, certainly those in the strategic and high-yield tactical classes, are deployed, to quote Brownlie again, "in part with a view to utilizing the destructive effects of radiation and fall-out". On final analysis, these and like arguments tend to beg rather than to justify the conclusions put forward, and are scarcely less preposterous than contending that civil defense arrangements such as air raid shelters make a city defended and thereby beyond the protection of, say, art. 25 of the 1907 Hague Regulations prohibiting attacks upon "undefended" towns, villages, dwellings, or buildings.

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See supra, note 24 and accompanying text.

See supra, note 68 and accompanying text.

See supra, note 41.

See McDougal and Feliciano, supra, note 39, 662-3.

See ibid., 664-5.


Supra, note 41 [emphasis added].

Supra, note 4, 444.

Ibid., 445.

Supra, note 41.
Finally, there is the argument that the humanitarian rules of armed conflict do not extend to nuclear weapons and warfare insofar as they are newly expressed in 1977 Protocol I Additional to the four 1949 Geneva Conventions. The underlying rationale is twofold: first, that the Protocol has not yet been ratified by the nuclear weapon States, although it has been signed by the majority of them; and second, that at the time of signature, the United Kingdom and the United States stipulated formal “understandings” that the rules established or newly introduced by the Protocol would not regulate or prohibit the use of nuclear weapons, only conventional ones. Now it is true that failure of ratification of a treaty ordinarily prevents its application against a nonratifying State. It also is true that a declaration of understanding, like a reservation, may sometimes effectively qualify a treaty to the degree that it is not incompatible with the treaty’s object and purpose. Thus it is arguable that the Protocol’s provisions relative to the protection of the natural environment and of civilian populations as a whole, which are among those that supplement and extend the laws of war as previously articulated, may not in fact cover nuclear weapons and warfare at the present time. However, it also is true that a State consenting to a treaty subject to ratification — e.g., the United Kingdom, the United States and the U.S.S.R. in the instant case — is obliged to refrain from acts which would defeat the treaty’s object and purpose (at least until such time as it makes clear its intention not to become a party to the treaty) and that a declaration of understanding, in contrast to a reservation, is seen to be essentially a unilateral act and therefore presumptively not binding on parties that fail to object to it. Moreover, in

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92 See Roberts & Guelff, supra, note 39, 459-60.
94 See supra, note 49 and accompanying text.
95 See 1977 Geneva Protocol I Additional, supra, note 41, pt. IV.
97 See, e.g., D. O’Connell, International Law, 2d ed. (1970), vol. 1, 198-9. The point is important to bear in mind in view of the fact that sixty-two countries besides the United Kingdom and the United States have so far signed the Protocol apparently without formally objecting to the British and American “understandings”, but also, it must be noted, without seeking similarly to limit the reach of the Protocol in relation to nuclear weapons. India contradicted the views of the United Kingdom and the United States in a written statement in the final Plenary of the diplomatic conference which negotiated the Protocol. See Bothe, Partsch & Solf, supra, note 93, 189-90.
view of such instruments as the 1970 Stockholm Declaration on the Human Environment and the 1978 Red Cross Fundamental Rules, it is probable that the Protocol's environmental and civilian population protection provisions are declaratory of emerging customary law and are therefore unaffected by the nonratifications and declarations of understanding in question. Finally, because 1977 Geneva Protocol I Additional is directed at the minimization of destruction and suffering in modern warfare "without any adverse distinction based on the nature or origin of the armed conflict", and because it regretfully is easy to imagine the use of nuclear weapons in such warfare, it is not unreasonable to conclude that the United Kingdom and the United States declarations vitiate the fundamental objects and purposes of the Protocol and therefore are invalid.

At the very least, as remarked by Professor Fujita, "[t]his separation of fields of regulation between conventional warfare and nuclear warfare will produce an odd result not easily imaginable, because conventional weapons and nuclear weapons will be eventually used at the same time and in the same circumstances in a future armed conflict". In sum, the legal effects of nonratifications and declarations of understanding — matters of not a little bewilderment at any time — do not find themselves unequivocally on one side of the present debate. This third argument is highly ambiguous at best, and of course it does not negate any of the prohibitions that predate the Protocol.

On final analysis, then, the humanitarian rules of armed conflict may be said to apply to nuclear weapons and warfare. The counterarguments reviewed represent not a challenge to the essential authoritativeness of this conclusion, but, indeed, an acknowledgment of such authority and a consequent attempt to escape it. Considering the horrifying stakes involved, it seems a misplaced exercise.

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98 For the Stockholm Declaration, see supra, note 49. For the Red Cross Fundamental Rules, see supra, note 41.
99 Cf. Bothe, Partsch & Solf, supra, note 93, 572. It appears, indeed, that the United Kingdom and United States declarations of understanding were perceived as extending only to the Protocol's provisions regarding the use of weapons — i.e. paras 35(2) and (3) — and to no others. See Bothe, Partsch & Solf at 190.
100 Supra, note 41, Preamble.
101 See Vienna Convention, supra, note 96, art. 19.
102 Fujita, supra, note 12, 77.
103 Cf. Bothe, Partsch & Solf, supra, note 93, 190. Mr George H. Aldrich, Chairman of the United States Delegation to the diplomatic conference which drew up and adopted the Protocol, observed at the fourth and final session that the American stand on nuclear weapons applied only to the rules of warfare newly established by the Protocol (in particular, art. 55 on the protection of the natural environment), and not to the already existing customary and conventional laws of war. See Boyd, supra, note 93, 919.
C. Control Intention

What we have just observed vis-à-vis arguments disputing the applicability to nuclear weapons of the humanitarian rules of armed conflict—namely, that they constitute not a plea of unauthoritativeness but a confession of avoidance—is grist for the proposition that the world community has little or no expectation of allowing the rules of war to regulate the use of nuclear weapons. However solid the authority signal, it would be argued, the intention to make that authority controlling simply does not exist.

This proposition, it must be acknowledged, is no idle one, at least in relation to the nuclear weapon States. Despite abundant rhetoric to the contrary, they appear determined to fight delaying actions against a general legal control of nuclear weapons and warfare. In the name of self-defense and self-preservation, they have built and continue to build enormous nuclear arsenals which presumably they would use if sufficiently provoked. Mutually fearful of evasion, they have shown themselves unable to agree on a comprehensive instrument of prohibition or severe restriction. Except for the Soviet Union, they have declined to renounce the option of first use. And, as noted earlier in connection with 1977 Geneva Protocol I Additional, some of them have sought to exempt nuclear weapons from important provisions of the most recent formal statement on the protection of victims of international conflicts. In other words, on the basis of such facts, there can be genuine doubt about the extent to which the major powers actually have assimilated into their operational codes the authority signal that nuclear weapons and warfare are to be judged according to the humanitarian rules of armed conflict.

This doubt is not the end of the matter, however, although to make the opposite case is not easy, for one must rely for evidence more on acts of omission than of commission. Nevertheless, also germane are three clusters of countervailing factors which, though frequently and perhaps deliberately omitted from the balance of relevant considerations, nonetheless recommend that this third communication flow in law-making relative to nuclear weapons and warfare is not as one sided as at first it may seem. A control intention on the part of the global community as a whole is by no means absent.

In the first place, and perhaps most conspicuous at the present time, there are the initiatives of essentially nonformal members of the international legal community. Emboldened by a variety of inducements, such as the collapse of SALT II, a quantum leap in arms race expenditures, a growing fear of nuclear confrontation in Europe, the Nuremberg precedent, religious teachings, and

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104 See supra, text following note 91.
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secular humanism, increasing numbers of diverse individuals and groups, especially in the West where traditions of petition and redress prevail, have been demanding, if not the complete abolition of nuclear weapons, then the implementation of norms designed to control them. The Stockholm Declaration of the U.N. Conference on the Human Environment issued in June 1972 and the Delhi Declaration of the International Workshop on Disarmament issued in March 1978 are illustrative. So, too, are the assertions of Vatican II and, more recently, the Pastoral Letter on War, Armaments and Peace of the National Conference of Catholic Bishops of the United States. But perhaps most apposite is the work of the International Committee of the Red Cross [ICRC] which has come to play an important and respected quasi-official role in the implementation as well as the clarification and development of the humanitarian laws of war. Overwhelmingly, the intention is manifest to curtail the growing menace of nuclear militarism and to fashion or reinforce rules of humanitarian conduct in time of war.

Secondly, a control intention is evident in the attitudes and behaviors of the non-nuclear weapon States. Although without the nuclear hardware to prove their restraint unequivocally, still they may be seen to intend the regulation of nuclear weapons and warfare according to the humanitarian rules of armed conflict. For example, under the aegis and with the cooperation of the United Nations, they have on numerous occasions expressed their resolve either to prohibit nuclear weapons in toto or to restrict their use severely according to the laws of war. A good illustration, one we already

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105 Supra, note 49.
106 For the text, see B. Weston, R. Falk & A. D’Amato, Basic Documents in International Law and World Order (1980) 406.
109 The ICRC played a major role, as is well known, in the drafting and negotiation of the four 1949 Geneva Conventions, supra, notes 45 and 53, and the two 1977 Geneva Protocols Additional to the 1949 Conventions, supra, notes 41 and 76. For further indication of the ICRC’s extensive involvement, see Draper, supra, note 12; D. Forsythe, Humanitarian Politics: The International Committee of the Red Cross (1978); Pictet, supra, note 40; and J. Pictet, The Principles of International Humanitarian Law (n.d.; available from ICRC). See also ICRC, Some International Red Cross Conference Resolutions on the Protection of Civilian Populations and on Weapons of Mass Destruction (1981); and ICRC, Report on the Work of Experts on Weapons that May Cause Unnecessary Suffering or Have Indiscriminate Effects (1973).
110 See, e.g., the 1961 Declaration on the Prohibition of the Use of Nuclear and Thermonuclear Weapons, supra, note 34, the first time the non-nuclear weapon states expressed their views via the United Nations. The recorded vote, analysed in some detail infra, note 111, was
have encountered, is found in U.N. General Assembly Resolution 1653 of 24 November 1961, providing, inter alia, that the use of nuclear weapons would be “contrary to the rules of international law and to the laws of humanity”. Another is found in the history surrounding General Assembly Resolution 2444 of 19 December 1968, involving the deletion, at the request of the Soviet delegation, of a provision “that the general principles of war apply to nuclear and similar weapons”. The deletion was allowed, but only over the objections of the United States representative who maintained that the laws and principles of war “apply as well to the use of nuclear and similar weapons”, and only on the understanding that the remaining provisions would apply regardless of the nature of the armed conflict “or the kinds of weapons used”. But perhaps most telling has been the uniform disinclination of the non-nuclear weapon States to hedge on any of the provisions of 1977 Geneva


11 Supra, note 34, para. 1(b). The Resolution was passed by a vote of 55 to 20 with 26 abstentions, which suggests a much smaller consensus than in fact was the case. As Brownlie points out, “[t]he only vote cast against the resolution from Africa and Asia was that of Nationalist China. The Latin-American States largely abstained, as also did the Scandinavian States, Austria, and certain political associates of the West in Asia. What is interesting about the voting pattern is, however, the fact that States representing a variety of political associations are to be found in the majority vote. This was drawn from the ‘non-aligned’ African and Asian States, some African and Asian States with Western leanings such as Nigeria, Lebanon and Japan, Mexico...and the Communist States. Members of NATO (apart from Denmark and Norway), together with Australia, Ireland, New Zealand, Spain [under Franco], South Africa, three Central American republics and Nationalist China, voted against the resolution.” Supra, note 4, 438-9. In other words, except for the United States and countries allied with or significantly dependent upon the United States, most of the rest of the world voted for the Resolution. Compare the voting patterns in the Resolutions cited supra, note 110. Increasingly the non-nuclear weapon states may be seen to oppose the legality of nuclear weapons.

12 Resolution on Respect for Human Rights in Armed Conflicts, supra, note 41.

13 As recounted in United States Dep't of the Air Force, International Law—The Conduct of Armed Conflict and Air Operations (1976) 5-17, fn. 18 (AFP. 110-31).
Protocol I Additional in respect of nuclear weapons as did the United Kingdom and the United States. Not one non-nuclear weapon State has followed suit and none appears inclined to do so. The non-nuclear weapon States, it seems, are variously committed to the wholesale prohibition of nuclear weapons or, in the alternative, to their regulation according to the laws of war as most recently articulated.

Finally, and arguably most importantly, a control intention is evidenced in the words and deeds of the nuclear weapon States themselves. Even while escalating nuclear capabilities and tensions to the point where responsible observers are predicting a nuclear conflagration before the year 2000, the nuclear powers appear to take for granted that nuclear weapons do not escape the scrutiny of the humanitarian rules of armed conflict. For example, a certain responsiveness to these rules, or in any event to the importance of not transgressing them, appears to have been at work, however perversely, in the bombings of Hiroshima and Nagasaki. Each were justified officially on grounds of military necessity. Similarly, the responsiveness seems present, to some extent at least, in the complete non-use of nuclear weapons in Korea, Vietnam, Afghanistan, and the Falkland or Malvinas Islands where, manifestly, superior forces could have been unleashed; and again, to some degree, in the growing interest among American and Soviet strategists in counterforce doctrine and capabilities for damage limitation. But perhaps most unmistakably, the control intention is evident in the military manuals of the major powers, manuals whose purpose is, inter alia, to advise military personnel (particularly those in command positions) on how to comport themselves in time of war. While denying the illegality of nuclear weapons per se, the military manuals of the United States and the United Kingdom, for example, consistently instruct that nuclear weapons are to be judged according to the same standards that apply to other weapons in armed conflict.

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15 See generally, sources cited supra, note 6.
16 See Meyrowitz, supra, note 12, 835.
Thus, there is more to the issue of control intention in the present context than at first meets the eye. The huge emphasis given by the nuclear weapon States to their policies of nuclear deterrence and defense is, of course, theoretically complicating, certainly for anyone who believes law to be no mere body of rules but a complex process of controlling as well as authoritative decision — and the more so when one appreciates how difficult it is for the rest of the world to do much about it. Similarly troublesome, certainly for anyone who accepts the positivist assertion that only States can make, interpret and enforce international law, is any claim of control intention that relies to significant extent upon the words and deeds of actors having uncertain or no formal status in the international system as traditionally conceived. But it is crucial to remember that legal norms are prescribed and endure because violators of fundamental community policies do exist; that control intention, as a credible communication, can embrace inducements and pressures not confined to the threat or use of the force we typically associate with power elites; and that, in this burgeoning human rights era especially, when dealing with an issue that involves potentially the fate of human civilization itself, it is not only appropriate but mandated that the legal expectations of all members of human society, official and non-official, be duly taken into account. It is, for example, and by way of analogy, exceedingly difficult to imagine anyone but officials in Pretoria seriously contending that South Africa is not an international outlaw vis-à-vis Namibia simply because the World Court’s South West Africa decision has not been accompanied by a credible communication that the world community intends to and can make the decision controlling or because the communication which has occurred might be supported by expressions of intent drawn from actors of questionable standing in the international system (e.g., liberation movements). In any event, if recent Western — particularly United States — protests against the Soviet Union in Afghanistan and against Israel in Lebanon for violations of the laws of war are any indication, it is exceedingly difficult to imagine the United States not decrying as a heinous violation of the humanitarian rules of armed conflict an atomic attack by Japan against the United States or Allied territory during World War II, and notwithstanding the “saturation bombings” visited by American air forces at other times during that terrible

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119 The point would seem validated by the principle established in the famous Martens Clause that the laws of war are to be determined in part by “the dictates of public conscience”. For the Clause in full, see supra, text accompanying note 81. And in this spirit, one is tempted to paraphrase American revolutionary patriot Patrick Henry: No incineration without representation!

conflict. Write Falk, Meyrowitz and Sanderson in a recent essay: “A perspective of role reversal is helpful in orienting our understanding of the present status of nuclear weaponry and strategic doctrine.”

Thus, recalling, inter alia, the instructions of the military manuals of the major powers and the fact that the incineration of Hiroshima and Nagasaki were rationalized officially on grounds of military necessity, it is not unreasonable to conclude that the large-scale commitment of the nuclear weapon States to their unprecedented destructive arsenals reflects neither a repudiation of the humanitarian laws of armed conflict nor a refusal to make them controlling in respect of nuclear weapons. Rather, it implies an interpretation that nuclear weapons and the laws of war are not necessarily incompatible. The validity of this perception is of course open to debate, but the nuclear weapon, it seems, is nonetheless seen as “just one more weapon”, only somewhat more destructive.

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Based on the foregoing “communication flow” analysis, we arrive, at the following three conclusions: first, that the humanitarian rules of armed conflict, though somewhat eroded over the years and obviously susceptible of evasive interpretation, continue as a vital civilizing influence upon the world community’s warring propensities; second, that these rules, as contemporaneously understood, are endowed with an authority signal that communicates their applicability to nuclear as well as to conventional weapons and warfare; and third, that there exists on the part of the world community as a whole — evidenced, thankfully, more in words than in deeds — an unmistakable intention to cause the humanitarian rules of armed conflict to govern the use of nuclear weapons should ever that terrible day arrive again. To be sure, there is manifest a certain ambiguity about the extent to which this intention could in fact be fulfilled, and this ambiguity will persist as long as the distribution of the world’s effective power remains as oligarchic as it now is. But it would be error to conclude from this ambiguity that there is no prescription or law placing nuclear weapons and warfare under the legal scrutiny of the humanitarian rules of armed conflict.

In the first place, a control intention is not synonymous with an unconditional control capacity, even though some tangible leverage must be present to make the intention credible. Were it otherwise, many rules we unques-

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121 Falk, Meyrowitz & Sanderson, supra, note 12, 590.
122 For pertinent discussion, see infra, Part III.
tioningly accept as law would not be law at all. Ours, it should be remembered, is a more-or-less — not an either-or — world.

Secondly, in an essentially voluntarist community such as the world community today, one is well advised to stress the authority element over the control component of prescription, at least in cases where such common inclusive interests as the survival of all or of substantial segments of the community itself are fundamentally threatened, and especially when, in such cases, the community’s principal power elites are themselves the cause or source of the threat. Otherwise, assuming the community survives, the danger is very real that the law will become little more than the expression of the will of the strongest. It is true that in minimally integrated communities control may be, as McDougal and Reisman have theorized, “the primary characterizing and sustaining element of prescription” in some — possibly many — instances. But as these scholars also observe, attesting to the more-or-less world in which we live, “[t]he relative importance... of the control and authority components [in prescription] may vary with, among other things, the type of prescription being communicated, the level of crisis, and the nature of the community... The interplay between the authority and control elements of prescription is complex and variable.”

Finally, in view of the horrifying and potentially irreversible devastation of which nuclear weapons are capable, not to mention the very little time their delivery systems allow for rational thought, it seems only sensible that any doubts about whether they are subject to the humanitarian rules of armed conflict as a matter of law should be answered, as a matter of policy, unequivocally in the affirmative. Such a response seems required, in any event, by a world public order of human dignity in which values are shaped and shared more by persuasion than by coercion. It is in keeping, too, with the major trends of an evolving planetary civilization: for example, the persistent, if uncertain, quest for nuclear arms control and disarmament, and the accelerating struggle for the realization of fundamental human rights, including the emerging right to peace recognized implicitly in art. 28 of the Universal Declaration of Human Rights. Also, it is consistent with the spirit, if not always the letter, of the judgment at Nuremberg, the Genocide Convention, and, not least, the United Nations Charter. The burden of proof, in other words, should be upon those who would contend that the humanitarian norms do not control the use of nuclear weapons.

123 McDougal & Reisman, supra, note 26, 251.
124 Ibid.
125 Article 28 reads: “Everyone is entitled to a social and international order in which the rights and freedoms set forth in this Declaration can be fully realized.”
III. The Matter of Norm Application

We have answered affirmatively the question whether the humanitarian rules of armed conflict apply to nuclear weapons and warfare. It now is appropriate to ask, as posited earlier, whether any defensive use or threat of use of nuclear weapons would be in any way contrary to this body of law. The issue subdivides, first, in terms of the actual first- or second-strike defensive use of these weapons for "strategic" or "tactical" purposes; and, second, in terms of the threat of their use by way of research and development, manufacture, stockpiling, or deployment for any defensive use or purpose. The following analytic outline indicates the diversity of considerations involved:

1 First-strike (initiating/preemptive) defensive uses
   1.1 " Strategic" nuclear warfare
       1.1.1 "Countervalue" (societal) targeting
       1.1.2 "Counterforce" (military) targeting
   1.2 " Tactical" nuclear warfare
       1.2.1 "Theater" (intermediate) targeting
       1.2.2 "Battlefield" (limited) targeting

2 Second-strike (retaliatory) defensive uses
   2.1 " Strategic" nuclear warfare
       2.1.1 "Countervalue" (societal) targeting
       2.1.2 "Counterforce" (military) targeting
   2.2 " Tactical" nuclear warfare
       2.2.1 "Theater" (intermediate) targeting
       2.2.2 "Battlefield" (limited) targeting

3 Threat of first- or second-strike defensive uses
   3.1 " Strategic" nuclear warfare
       3.1.1 Research and development
       3.1.2 Manufacture and stockpiling
       3.1.3 Deployment
   3.2 " Tactical" nuclear warfare
       3.2.1 Research and development
       3.2.2 Manufacture and stockpiling
       3.2.3 Deployment

It should be understood, however, that "strategic" objectives and uses have been the centerpiece of United States and Soviet deterrence policies since the late 1940s and early 1950s when the nuclear arms race began. Indeed, despite a growing interest on both sides in counterforce doctrine and capabilities for

\[126\] See infra, text following note 127.
damage limitation, the concept of “countervalue” or “assured [societal] de-
struction” has served at least the United States as the principal rationale for its
nuclear arms build-up over the years.\footnote{See, e.g., Builder & Graubard, supra, note 12, 1-3; Report of the Secretary-General, supra, note 21, 104-13; Beres, Nuclear Strategy and World Order (1982) 8 Alternatives — A Journal of World Policy 139.}

Before proceeding, however, let us be clear about the meaning of the
terms “strategic”, “tactical”, “countervalue”, and “counterforce”. All figure
prominently in any discussion about nuclear weapons and all help to make up
the tangled doctrinal web of what popularly is called “nuclear deterrence”.\footnote{For definitions of the terms and their relation to specific weapons and weapon systems, see Report of the Secretary-General, ibid., chs 2 and 3.}

Strategic nuclear weapons are designed to destroy an enemy’s entire
military, political and economic capacity (or to defend against weapons with
such capability) while tactical nuclear weapons are intended for use within
more specific and circumscribed objectives. Thus, strategic nuclear weapons
and delivery systems include intercontinental ballistic missiles [ICBMs],
submarine-launched ballistic missiles [SLBMs] and intercontinental heavy
bombers (with and without cruise missiles),\footnote{See Report of the Secretary-General, ibid., ch. 2, especially Table 1, which shows that strategic weapons generally have strike ranges in excess of 3,000 nautical miles, yields up to twenty megatons, and an accuracy, measured in terms of “circular error probable” [CEP], of 300-2,500 metres. CEP is defined as “the radius of a circle around the target at which a missile is aimed within which the warhead has a .5 probability of falling”. United States Arms Control and Disarmament Agency, SALT Lexicon, rev’d ed. (1975) 5. In considering CEPs, Krass and Smith write: “[I]t is important to keep in mind, first, that probability does not mean certainty; second, that [it] is also probable that warheads will land further away from the target than the distance of the CEP; and, third, that the accuracy has probably been exaggerated.” Krass & Smith, “Nuclear Strategy and Technology” in M. Kaldor & D. Smith, eds, Disarming Europe (1982) 19.}

whereas tactical nuclear
weapons and delivery systems include “theater-level” intermediate-range
ballistic missiles, medium-range ballistic missiles and bombers, and strike
aircraft,\footnote{Tactical weapons of the “theater” class generally have strike ranges up to 3,000 nautical miles, yields up to one megaton and a CEP accuracy somewhat better than 300 metres. See Report of the Secretary-General, ibid., 26-31.}
plus weapons planned for use in “battlefield” situations, including
short-range ballistic missiles, howitzers, mortars, rockets, and demolition
mines.\footnote{“Battlefield” or limited tactical weapons generally have ranges up to 600 nautical miles, yields up to 100 kilotons and a relatively high accuracy. Ibid.}
definitional purposes is more the reasons for which these weapons are used than their performance capabilities and characteristics per se.

Similar ambiguities attend the distinction between countervalue and counterforce doctrines of nuclear warfare. Generally speaking, countervalue targeting, as embodied in the doctrine of Mutual Assured Destruction [MAD], refers to nuclear attacks upon an adversary’s cities and industries, while counterforce targeting refers to attacks upon an enemy’s military — usually nuclear — forces. In fact, however, the countervalue doctrines that have informed United States and Soviet nuclear strategy over the years always have included a counterforce component. The central concern, once again, is the ultimate purpose for which the particular weapon is intended. Whereas the essential purpose of counterforce targeting is to threaten military defeat (or “denial”) as a deterrent to potential aggression or escalation of hostilities, the primary aim of countervalue targeting is to threaten massive punishment by way of societal destruction.\(^3\)

Now, with these clarifications in mind, and following loosely the analytic outline set forth above,\(^5\) let us investigate whether, and if so to what extent, the humanitarian laws of war, at least as reflected in the prohibitory rules defined in Part II,\(^1\) may be said to interdict the use of nuclear weapons in specific conflict situations. A proper appreciation of any prescription whether explicitly or implicitly formulated, cannot be had without a conscious understanding of the “real world” contexts within which it has to function.

A. First Defensive Use of Nuclear Weapons

1. Strategic Warfare: Countervalue Targeting

As noted above,\(^3\) nuclear weapons designed for countervalue or city-killing purposes tend to be of the strategic class, with known yields of deployed warheads averaging somewhere between two to three times and 1500 times the firepower of the bombs dropped on Hiroshima and Nagasaki. Further, they are “dirty” bombs, capable of producing severe initial nuclear radiation, spatially and temporally dispersed residual radiation (or radioactive fallout), and, in addition, wide-ranging electromagnetic pulse [EMP] effects. Furthermore, their CEP [“circular error probable”] currently averages somewhere between 0.3 to 2.5 kilometers — which is to say that they lack pinpoint

\(^3\)Ibid., 100 (discussing the punishment and denial aspects of deterrence).

\(^5\)See supra, text following note 126.

\(^1\)See supra, Part II(A).

\(^3\)See supra, note 129 and accompanying text.
accuracy. Thus, in addition to violating the Rule 6 prohibition against chemical, biological and "analogous" means of warfare, their capacity for violating all the other prohibitory rules on a truly awesome scale, seems self-evident.137

However, when evaluating this defensive option, what really matters, in a certain sense, is less the fact that nuclear weapons would violate one or another of the prohibitory rules mentioned, than the fact that massive nuclear warfare, as a defensive measure, would be unleashed most probably in response to a conventional warfare provocation.138 By any rational standard, this would constitute a gross violation of the cardinal principle of proportionality. Assuming even the so-called "worst case" scenario — e.g., a Soviet conventional assault against Western Europe or the oilfields of the Middle East — where is the military necessity in incinerating entire urban populations, defiling the territory of neighboring and distant neutral countries, and ravaging the natural environment for generations to come simply for the purpose of containing or repelling a conventional attack? Surely a failure to provide for an adequate conventional defense or to develop alternative energy sources does not excuse these probable results. If so, then we are witness to the demise of Nuremberg, the triumph of Kriegsraison, the virtual repudiation of the humanitarian rules of armed conflict in at least large-scale warfare. The very meaning of "proportionality" becomes lost, and we come dangerously close to condoning the crime of genocide, that is, a military campaign directed more towards the extinction of the enemy than towards the winning of a battle or conflict.139

136 See supra, text following note 59.
137 For the probable effects, including economic and environmental effects, see Report of the Secretary-General, supra, note 21, ch. 4; see also Glasstone & Dolan, supra, note 21, passim; A. Katz, Life After Nuclear War [:] The Economic and Social Impacts of Nuclear Attacks on the United States (1982), passim; J. Schell, The Fate of the Earth (1982), ch. 1; S. Zuckerman, Nuclear Illusion and Reality (1982), ch. 2.
138 One assumes, I hope not naively, that a countervalue first strike would not be unleashed for any lesser provocation, for then certainly the principle of proportionality would be violated. For related comment, see infra, note 150 and accompanying text.
139 Genocide, the crime of deliberately bringing about the destruction, in whole or in part, of a national, ethnic, racial, or religious group as such, could well be listed among the prohibitory rules considered supra, Part II(A). Punished at Nuremberg, it since has become institutionalized in the Convention on the Prevention and Punishment of the Crime of Genocide, 78 U.N.T.S. 277 (adopted by the U.N. General Assembly 9 December 1948; entered into force 12 January 1951). China and the United States, as is well known, are alone among the major powers not to have become parties to the Convention. But it is accepted generally today that the prohibition has become a matter of customary international law. It does not follow, however, that every large-scale use of the military instrument constitutes genocide. The critical point is the matter of intent.
It is, of course, conceivable that a city-killing first strike might be in response to a perceived but as yet unexecuted threat of nuclear attack — an imminent one, we must assume. Indeed, it is conceivable that the threatened attack would be equivalent in character. However much the anticipatory or preemptive strike would run afoul of the rules against aggravated and indiscriminate suffering (Rules 1 and 2 above), it still might be argued to meet the test of proportionality in some rough way. But the argument, I think, would be deceptive. A preemptive strike of the sort contemplated here, particularly if surface bursts are involved, still would inflict large-scale collateral harms beyond the place and moment of immediate conflict. In addition to violating the Rule 6 ban on chemical, biological and "analogous" weapons, it would likely violate also the minimal safeguards extended to internationally protected persons (Rules 2 and 4), nonparticipating neutral States (Rule 5), the natural environment (Rule 3), and consequently by these excesses would strain severely the principle of proportionality. Moreover, to the extent that U.N. Charter art. 51 admonishes recourse to minimally coercive and nonviolent modes of conflict resolution, including resort to the collective conciliation functions of the United Nations, a preemptive strike probably would disproportionately violate Rules 1 and 2 as well. After all, the threat still would be unexecuted. In any event, the principle of proportionality surely would require that the burden of policy proof be shouldered by those who would unleash the preemptive countervalue strike, and that burden would be a heavy one considering the massive and extended deprivation potentially involved. It is difficult to conceive of any nuclear threat that could not be met by some lesser preemptive mode — except, of course, in the case of foreign policies lacking in creative imagination and insensitive to the magnitude of the human values at stake.

2. Strategic Warfare: Counterforce Targeting

Involving, as we have seen, the same strategic weapons with the same odious capabilities relied upon for countervalue targeting, a counterforce first strike, like a countervalue first strike, faces the test of proportionality

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140 See supra, text following notes 41 and 45.
141 See Report of the Secretary-General, supra, note 21, ch. 4.
142 See supra, text following note 59.
143 See supra, text following notes 45 and 53.
144 See supra, text following note 57.
145 See supra, text following note 49.
147 See supra, text following note 128.
with many presumptions against it. Even if intended for essentially military targets alone, it still would have far-reaching EMP and radiation effects that could not be confined to the place and moment of immediate confrontation, thus violating not only the *Rule 6* ban on chemical, biological and "analogous" weapons,148 but the rights of great numbers of innocent and neutral — including distant — third parties, both living and unborn.149 And however much actually restricted to essentially military targets, a counterforce first strike still would consist of a massive nuclear retort to what likely would be only a conventional war provocation.150

It may be conceded that, because counterforce strategy is a policy of targeting the military, especially nuclear, forces rather than the cities of the other side, there is at least surface plausibility in the argument that a counterforce first strike would not trample unduly upon the *Rule 2* prohibition against indiscriminate injury to noncombatant persons and property.151 Indeed, a lure of counterforce doctrine is that it makes nuclear weapons more credible as instruments of war in part because, at least theoretically, it is less subject to the legal and moral criticisms that can be levelled against countervalue doctrine. The plausibility of this argument vanishes quickly, however, when it is matched against the available data. An oft-cited Office of Technology Assessment study published in 1979, for example, quotes United States Government studies indicating that between two million and twenty million Americans would be killed within thirty days after a counter-silo attack on United States ICBM sites, due mainly to early radiation fallout from likely surface bursts.152 The test of proportionality is thus greatly strained once again.

Indeed, when all the dynamics of an actual counterforce first strike are taken into account, the test of proportionality seems to be abrogated completely, particularly when the opposing sides are both nuclear powers, as would likely be the case. In the first place, unless the counterforce attack were an all-out "disarming first strike" aimed at the total incapacitation of the enemy's nuclear forces, which is a highly unlikely achievement, it would virtually guarantee retaliation entailing greater and more widespread devastation and suffering. Second, notwithstanding voguish theories of "intra-war

148 See *supra*, text following note 59.
149 See *supra*, text following notes 45, 53 and 57.
150 One assumes, again I hope not naively, that a counterforce first strike would not be the consequence of any lesser provocation, for then without any doubt, the principle of proportionality would be breached. For related comment, see *supra*, note 138 and accompanying text.
151 For pertinent discussion, see *supra*, text following note 45.
152 Congress of the United States, Office of Technology Assessment, *The Effects of Nuclear War* (1979) 84.
bargaining”, “intra-war deterrence” and “controlled escalation”, it is highly improbable that the opposing sides would or could restrict themselves to fighting a “limited” rather than “total” nuclear war, as if somehow governed by the rules of the Marquess of Queensbury. Finally, it seems fairly clear that counterforce targeting, involving missiles that never have been tested over their expected wartime trajectories, is neither as accurate nor as reliable as publicly claimed.

Again, however, it remains to be asked whether different conclusions might not obtain in the case of an anticipatory counterforce first strike as distinguished from an initiating one. Such a strike, designed to preempt, say, an imminent devastation of equivalent or greater dimension, conceivably could meet the test of proportionality precisely because it would be directed, pursuant to counterforce doctrine, against only military targets. Particularly might this be the case where the statistical probability of accurate warhead delivery would be fairly high, that is, where the CEP of the preemptive strike would be fairly low (within 100-200 meters by current standards). This logic, however, is based on a calculation of statistical probability, and probabilities, let us be clear, are not certainties. In addition, it suffers from all the disabili- ties concerning proportionality that we noted in connection with both the preemptive countervalue strike and the initiating counterforce strike. Again, it is reasonable to conclude that the test of proportionality would not be met or that, at the very least, those who would unleash the preemptive counterforce strike would have the burden of proving otherwise.

3. Tactical Warfare: Theater/Battlefield Targeting

As noted earlier, there is no clear borderline between so-called “tactical” and so-called “strategic” nuclear weapons, with the yields and consequent effects of the former commonly rising to the level and impact of the latter. The

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153 See Report of the Secretary-General, supra, note 21, 71-6. Write Krass & Smith, supra, note 129, 16:
[It is integral to the idea of limited nuclear warfare, and to the currently fashionable concept of “escalation dominance,” that we can mount and dismount the tiger at will. There is a surface plausibility in the idea that since each side will be concerned to limit the damage to itself, both sides will be interested in fighting a limited nuclear war rather than a total war. But this plausibility vanishes once one tries to identify the moment at which one side would decide to leave the other with the final say, the final shot. And if it therefore seems likely that neither side will wish to pull out leaving the other side with the “advantage,” then why should either side bother with limited war at all? It is surely more likely that both sides would conclude that, since the most likely outcome is a non-limited war, the best option is to make an all-out strike immediately.


155 See supra, text following note 128.
public debates and demonstrations in Europe since late 1979, which have related primarily to intermediate-range weapons and weapons systems such as the SS-20 ballistic missile and Backfire bomber on the WTO [Warsaw Pact] side and the planned deployment of Tomahawk ground-launched cruise missiles and Pershing II ballistic missiles on the NATO side, are vivid witness to this fact. Accordingly, it is logical to conclude that the first-strike use of tactical nuclear weapons above, say, the thirteen to twenty-two kiloton range of Hiroshima-Nagasaki, which would include almost sixty per cent of the estimated intermediate “theater of war” and more limited “battlefield” nuclear weapons currently deployed by the NATO and WTO countries, should be subject to the same legal judgments that attend the first-strike use of strategic nuclear weapons (both countervalue and counterforce). The first-strike use of such high-yield tactical nuclear weapons, like the first-strike use of their strategic (particularly counterforce) equivalents would appear to violate in the same way and to similar degree, separately and in combination, not only all or most of the humanitarian rules of armed conflict considered in Part II, but also the fundamental principle of proportionality that mediates among them.

But what of tactical nuclear weapons below the thirteen to twenty-two kiloton range of Hiroshima-Nagasaki? Would the first-strike use of such lower yield weapons, particularly those in the one to two kiloton or sub-kiloton range, equally violate the prohibitory rules discussed above? Would such a strike equally violate the principle of proportionality on the grounds that, like its strategic counterparts, it probably would be in response to a conventional warfare provocation — indeed, in likely contrast to its strategic counterparts, probably in response to a conventional warfare provocation by a non-nuclear adversary? By common definitional agreement, it will be recalled, the term “tactical nuclear weapons” is intended generally to refer to those weapons systems that are designed or are available for use against essentially military targets in so-called intermediate “theater of war” and more limited “battlefield” situations.156

In theory, to be sure, the answers to these questions must depend, inter alia, on the characteristics and capabilities of the tactical weapons in question. For example, though the provocation might be a conventional one or, indeed, at the hands of a non-nuclear opponent, it is possible at least to conceive of a low-yield, relatively “clean” and reasonably accurate nuclear weapon or weapon system whose tactical first defensive use actually would save lives and protect property within the meaning of military necessity — that is, without violating the principle of proportionality. This “best case” scenario, however, appears to be a limited one. Judging from the state of the

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156 See supra, text following note 129.
art as so far publicly revealed, no such option is available among existing
intermediate-range theater weapons, although some "progress" in this
direction appears to be taking place in connection with limited-range battle-
field weapons. The possibility of minimizing destruction and of avoiding
indiscriminate harm consonant with Rules 1 and 2 may be present, but not
without substantial and, I submit, disproportionate cost in most circum-
stances relative to internationally protected persons (Rules 2 and 4), nonparticipating neutral States (Rule 5), and the natural environment (Rule 3) due to initial and residual radiation. Moreover, except by a process of interpretation that is uninformed by the basic assumptions of a world public order of human dignity, there is no escaping the Rule 6 prohibition of chemical, biological and "analogous" weapons. By its very nature, a fission weapon must be regarded as "dirty"; and even if a pure fusion weapon with no fission were developed, its explosion in the air and, of course, at ground-level still would result in some radioactive contamination, albeit not as extensive as when nuclear technology was less "tailored" than it is today.

But what truly is damning of the first defensive use of tactical nuclear weapons, whether in theater or battlefield operations, is less the nature of the weapons themselves than the nature of tactical nuclear warfare as a whole. In the first place, as should be apparent to all, if a military campaign defined in part by a first-strike use of nuclear weapons ever were to take place, it surely would not be limited to one or two nuclear strikes, even if only the first user were a nuclear power. Likely as not, as conservatively projected in the 1980 Report of the Secretary-General on nuclear weapons, tactical nuclear warfare, at least at theater level, would result in hundreds and thousands of nuclear explosions and, consequently, untold immediate and long-range, long-term collateral harms. In addition, once unleashed, the probability that tactical nuclear warfare could be kept at theater or battlefield level would be small. A crisis escalating to the first use of even relatively small nuclear

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157 This judgment is legitimately inferred not only from descriptions of intermediate-range theater weapons, as in Report of the Secretary-General, supra, note 21, 19-22 and ch. 3, but also from recent discussions of new "second generation" and "third generation" nuclear weapons and weapon systems which appear to be designed primarily, if not exclusively, for limited battlefield uses. See Rose, supra, note 117; and Gsponer, supra, note 67.

158 See supra, text following notes 41 and 45.

159 See supra, text following notes 45 and 53.

160 See supra, text following note 57.

161 See supra, text following note 49.

162 See supra, text following note 59.

163 See Report of the Secretary-General, supra, note 21, 71-6.
weapons would bring us dangerously close to the ultimate stage, a "strategic exchange", particularly if one of the two sides saw itself at a disadvantage in a drawn out "tactical exchange". In sum, once out of the bottle, likely as not even the tactical nuclear genie would quite literally cause "all hell to break loose". This fact, in combination with the observations already made regarding the humanitarian rules of armed conflict, would seem by any rational analysis to run hard up against the principle of proportionality upon which the doctrine of military necessity is premised.

Thus, the first use of nuclear weapons again would appear contrary to the basic laws of war as contemporaneously understood. It need only be added that, for all the reasons noted above, but especially the last two relative to the essential uncontrollability of tactical nuclear warfare in general, this conclusion may be seen to apply to the preemptive first use of tactical nuclear weapons as well as to their initiating first use.

B. Second Defensive Use of Nuclear Weapons

Would a second defensive use of nuclear weapons — one undertaken as a claimed "legitimate reprisal" in response to a prior attack unlawfully initiating the use of such weapons — equally or similarly violate the humanitarian rules of armed conflict? In view of the numerous qualifying reservations now attached to the 1925 Geneva Gas Protocol, conditioning adherence to it upon reciprocal observance of its terms, it may be that the Rule 6 ban on chemical, biological and "analogous" means of warfare would not stand in the way. On this point, concededly, there is ambiguity. But what about the Rule 4 prohibition of reprisals that are disproportionate to legitimate belligerent objectives or that are disrespectful of persons, institutions and resources otherwise protected by the laws of war? Is there ambiguity here as well?

1. Strategic Warfare: Countervalue Targeting

In the case of a second use of nuclear weapons characterized by counter-value targeting, there is, I submit, no ambiguity. For at least three reasons, such a use may be said to violate the humanitarian rules of armed conflict as contemporaneously understood, especially Rule 4.

In the first place, a retaliatory city-killing attack would trample flagrantly upon guarantees extended to civilians and civilian populations, among

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165 Ibid., 71.
166 See supra, text accompanying note 62.
167 See supra, text following note 53.
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other internationally protected persons, by the most recent formal statements on the laws of war. Article 51(6) of 1977 Protocol I Additional to the 1949 Geneva Conventions, for example, is characteristically unequivocal: "Attacks against the civilian population or civilians by way of reprisals are prohibited."

Second, except to destroy enemy morale, which is clearly an impermissible objective under the laws of war, and the more so, one would think, when the result is to terrorize an enemy community through the infliction of literally overwhelming — perhaps irremediable — societal destruction, it is difficult to see how a retaliatory countervalue strike would serve any military necessity whatsoever. To the contrary, even if the antecedent first use were likewise countervalue destructive in character, it would appear to serve mainly the purposes of vengeance rather than the values of proportionate policing (given, at least, the present essentially rural deployment of the world's strategic forces).

Finally, if the history of belligerent reprisals is any indication, there is the near certainty that a retaliatory countervalue strike would lead not to a reduction of hostilities nor to a moderation of tactics, but to an escalatory spiral and spread of countervalue exchanges. At this point, virtually everything for which the principle of proportionality is supposed to stand, including the integrity of the natural environment and the inviolability of neutral state territory, would be threatened; the humanitarian rules of armed conflict would become all but obsolete.

2. Strategic Warfare: Counterforce Targeting

The case of a second counterforce use of nuclear weapons is not so clear-cut. Because such a response would be directed, pursuant to counterforce doctrine, solely against the military — especially nuclear — forces of the first user, and because the laws of war do not invite national suicide, there is room to contend that such a strike would be compatible with Rule 4 regarding disproportionate reprisals and the other humanitarian rules of armed conflict, provided that it not be patently excessive relative to the antecedent attack and the goal of law compliance or nonrecurrence. Indeed,

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171 See supra, text following notes 49 and 57.
paradoxical though it may seem, it might even be argued that, to ensure a minimum destruction of cherished values (preferably the values of freedom and equality), a nuclear counter-strike of this kind would be required. On the other hand, bearing in mind the characteristics and capabilities of the weapons and weapon systems that constitute today's counterforce arsenals, there remains the problem of reconciling the rights of States not party to the conflict and of persons and property expressly shielded by the law of reprisals and the more general laws of war. "Clean bombs" and "surgical strikes", especially in relation to strategic warfare, exist more in the minds of military planners than they do in reality. Additionally, there is the customary injunction that reprisals be taken only as measures of last resort. In the context of nuclear war, this injunction is all the more imperative.

Thus, the permissibility of a counterforce second strike under the humanitarian rules of armed conflict may be regarded as ambiguous. Of course, because of the essentially uncontrollable dangers involved, one must assume that such a second use, if permissible, would be authorized only in response to an antecedent attack of equivalent or greater proportion, that is, a prior counterforce or countervalue attack. But even then, because of the unrefined nature of the weaponry involved and the likelihood of crisis escalation and spread, the burden of policy proof would again weigh heavily on those who would retaliate in this manner. Let us be candid. As Roger Fisher has written, "honestly, each of us would prefer to have our children in Havana, Belgrade, Beijing, Warsaw, or Leningrad today than in Hiroshima or Nagasaki when the nuclear bombs went off".172

3. Tactical Warfare: Theater/Battlefield Targeting

If there is a case to be made for a use of nuclear weapons that is consistent with the humanitarian rules of warfare, it is here, in respect of the second use of tactical nuclear weapons. Arguably, a second retaliatory use of a low-yield, "clean" and reasonably accurate intermediate- or limited-range nuclear weapon directed only at a military target could be said to meet the requirements of proportionality (or military necessity) that govern the law of reprisals as presently understood. When making the case beyond this highly circumscribed option, however, at least two major complexities arise. First, to the extent that a retaliatory second use would involve theater or battlefield weapons around or above the thirteen to twenty-two kiloton range of Hiroshi-
ma-Nagasaki, there is the problem of having to deal with all the ambiguities and qualifications noted in connection with a second counterforce use of nuclear weapons. And second, regarding all tactical nuclear weapons, including those in the one to two kiloton or sub-kiloton range, there is the problem of establishing upper limits on the number of retaliatory strikes that could be launched at any time without doing violence either to the rights of neutral States (Rule 5)\(^{173}\) and internationally protected persons (Rules 2 and 4)\(^{174}\) or, more generally, to the principle of proportionality. In other words, except in the narrowest of circumstances, the unrefined and unpredictable nature of nuclear weapons and weapon systems continues to call into question the legality of their second use even in tactical warfare. Add to this the extreme dangers that would attend a likely escalatory spiral once the process of reprisal and counter-reprisal were set into motion, and again the burden of proving that this retaliatory approach should be favored over other means of deterring the enemy becomes very heavy.

C. Threat of First or Second Defensive Use

If a given use of nuclear weapons is properly judged to be contrary to the humanitarian rules of armed conflict, then logically any threat of such use — including not only an ostentatious brandishing of arms (such as a menacing "demonstration burst"), but also their research and development, manufacture, stockpiling, and deployment — should be considered contrary to the humanitarian rules of armed conflict as well. In view of our preceding discussion, the threat of a strategic first strike, a tactical first strike, a second countervalue strike, and possibly also a second counterforce strike as well as most tactical second strikes would fit this logic.

A distinct problem with this thesis, however, is that nothing in the traditional rules of warfare prohibits the preparation, in contrast to the actual use of weapons and weapon systems. Also, it flies in the face of the deterrence doctrines which are said to have kept the peace, at least between the superpowers, for the last thirty-odd years — a conflict of major significance because, to be minimally credible, a policy of deterrence requires the research and development, manufacture, stockpiling, and deployment of the weapons upon which it is premised. It is true that the nuclear deterrence policies currently practised between the superpowers especially may be criticized in numerous ways: for involving unacceptably high risks; for building upon an inherently unstable balance; for terrorizing populations and holding them

\(^{173}\) See supra, text following note 57.

\(^{174}\) See supra, text following notes 45 and 53.
hostage as a consequence; for detracting from acceptable solutions or alternatives in case of the failure of deterrence; and so forth. But because of the widespread perception, however much open to debate, that the prevention of widespread conflict rests on nuclear deterrence and that this system is, in turn, dependent on credible nuclear threat, it would be difficult to conclude that measures short of actual use would violate the humanitarian rules of armed conflict as presently understood. Not even U.N. General Assembly Resolutions 1653 or 2936 which declare, respectively, the use of nuclear weapons “a crime against mankind and civilization” and a matter of “permanent prohibition”, seek to outlaw measures short of actual use.

Nevertheless, to facilitate a comprehensive outlook, at least three qualifying observations should be borne in mind. First, a number of pathbreaking treaties do specifically prohibit nuclear weapons preparations short of actual combat use: the 1959 Antarctic Treaty, the 1963 Partial Test Ban Treaty, the 1967 Treaty of Tlatelolco, the 1967 Outer Space Treaty, the 1971 Seabed Arms Control Treaty, and the 1979 Draft Moon Treaty. Second, where “demonstration bursts” or equivalent menacing tactics are involved, there is always the possibility of violating the Rule 6 ban on chemical, biological and “analogous” weapons and, in addition, of breaching the other humanitarian rules of armed conflict designed to safeguard internationally protected persons, the natural environment and neutral States. Finally, because of the high risks and monumental dangers involved, any nuclear weapons measure short of actual use, but especially those of particularly ostentatious or provocative nature, must be taken with extreme caution. The history of war is riddled with well-meaning doctrines gone out of control, and the possibilities of war increase in direct proportion to the effectiveness of the instruments of war we adopt. It is, no doubt, this viewpoint that lies behind art. 36 of 1977 Geneva Protocol I Additional to the 1949 Geneva

173"Declaration on the Prohibition of the Use of Nuclear and Thermo-nuclear Weapons, supra, note 34, para. 1(d).
174"Declaration on the Non-use of Force in International Relations and Permanent Prohibition of the Use of Nuclear Weapons, supra, note 37, para. 1.
175"Supra, note 32.
176"Supra, note 33.
177"Supra, note 32, art. 1.
178"Supra, note 32, art. IV.
179"Supra, note 32, art. I.
181See supra, text following note 59.
182See supra, text following notes 45, 49, 53 and 57.
Conventions: “In the study, development, acquisition or adoption of a new weapon, means or method of warfare, a High Contracting Party is under an obligation to determine whether if employment would, in some or all circumstances, be prohibited by this Protocol or any other rule of international law applicable to the High Contracting Party.”

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In summary, while no treaty or treaty provision specifically forbids nuclear warfare per se, except in certain essentially isolated whereabouts, almost every use to which nuclear weapons might be put, most notably the standard strategic and theater-level options which dominate United States and Soviet nuclear policy, appear to violate one or more of the laws of war that serve to make up the contemporary humanitarian law of armed conflict, in particular the cardinal principle of proportionality. Whatever legal license is afforded to the development and use of nuclear weapons is restricted to the following:

a) essentially cautious, long-term preparations for preventing or deterring nuclear war, short of provocative “sabre-rattling” activities;

b) very limited tactical — mainly battlefield — warfare utilizing low-yield, “clean” and reasonably accurate nuclear weapons for second use, retaliatory purposes only; and

c) possibly, but not unambiguously (until as yet undeveloped technological refinements are achieved), an extremely limited counterforce strike in strategic and theater-level settings for second use retaliatory purposes only.

In short, applying the humanitarian rules of armed conflict to different nuclear weapons options or uses tends to prove rather than disprove the illegality of these weapons generally. And when one adds to this the conclusion at Nuremberg that the extermination of a civilian population in whole or in part is a “crime against humanity”, plus the spirit if not also the letter of the 1948 Convention on the Prevention and Punishment of the Crime of Genocide, then a presumption of illegality and a commensurate heavy burden of contrary proof relative to the use of nuclear weapons on any extended or large-scale basis seems beyond peradventure.

183 1977 Geneva Protocol I Additional, supra, note 41, art. 36.
184 In the words of the Charter, supra, note 48.
185 Supra, note 139.
Conclusion

In this essay, two dominant conclusions have been established: first, that the humanitarian rules of armed conflict are not obsolete, that they do "count" as law, when it comes to nuclear weapons and warfare; and second, that this body of law restricts severely the use of nuclear weapons and weapon systems in most instances, above all in relation to their first defensive use, and to substantial degree in respect of their second defensive use as well. To be sure, ambiguities exist here and there, especially in the case of limited tactical uses where the venerable test of proportionality must struggle between increasingly "tailored" military technologies and the human propensity for escalatory violence. But, overall, the law opposes resort to these instruments of death, especially in relation to the standard strategic and tactical options which dominate United States and Soviet nuclear policy, and to argue otherwise on the basis of the arguable permissibility of some essentially restricted use is to engage in sheer sophistry. Just as international law came to repeal the African slave trade in the nineteenth century, so now on balance has it come to repeal the legitimacy of nuclear weapons and warfare. Of course, it would be naive to expect that the law alone can make the progressive difference, particularly when, as here, it touches sensitively upon prevailing notions of national security. But more and more the strategic planners among the nuclear weapon States especially — the defense policy-makers, the military operators, the laboratories of military research and development, even the arms controllers — have got to change their modes of thinking. More and more they must come to see the essential incompatibility of nuclear weapons with the core precepts of international law. More and more they must be made to understand that the bell tolls for us all.