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DISARMAMENT AND ATOMIC CONTROL: LEGAL AND NON-LEGAL PROBLEMS

Harrop A. Freeman and Stanley Yaker†

Atomic warfare and its control is generally recognized as the key problem of our age.¹ It existed in 1945 when President Truman called for "international agreements looking, if possible, to the renunciation of the use and development of the atomic bomb." Its importance had greatly increased when ten years later President Eisenhower concluded that "the world must finally disarm or suffer catastrophic consequences."² These statements had defined the problem as international control of warlike atomic energy, its relationship to general disarmament, and to the potential development of nuclear energy for peaceful uses emphasized by the Atoms for Peace and Progress Program.³

The present study will be divided into three parts. Firstly, we will briefly try to trace disarmament, control, and civilian use over the past ten years. Secondly, we will outline some of the legal problems of the atomic age, and thirdly we will view some of the current developments and plans relating to atomic problems.

At the end of this article, as an *appendix*, is a highly condensed resume of the atomic reaction process.

I. HISTORY

Early Development to 1950

The story of the United Nations effort toward atomic control begins in 1945 with President Truman's demand for "renunciation of the use and development of the atomic bomb."⁴ This was followed in November and December by the Truman-Attlee-King⁵ and Bevin-Byrnes-Molotov

† See Contributors' Section, Masthead, p. 263, for biographical data.

¹ A mimeographed bibliography is available (unpublished) at the Cornell Law School. Other well known collections of material are: International Bibliographies on Atomic Energy, UN Doc. AEC/INF/7, Rec. 2 (1949), id. Add. 1 (1950), Add. 2 (1953) and Add. 3 (1956); running bibliographies in Bull. of Atom. Scientists, 1947-1957; Reference Documents on Disarmament Matters, Background Series D-1, White House Disarmament Staff (1957); Disarmament and Security: A Collection of Documents, Sen. Subcomm. on Disarmament, 84th Cong., 2d Sess. (1956); Bibliography on Atoms and Disarmament, Comm'n World Dev. & Disarm., U.N. Plaza.

² An article on so contemporary an issue must of necessity rely on some non-official sources.

³ U.S. Dep't of State Pub. (hereinafter cited as Dep't of State Pub.) 5403, Gen. For. Pol. Ser. 88, The Atom for Peace and Progress, Address of President Dwight D. Eisenhower, Dec. 8, 1953.

⁴ Message to Congress on Atomic Energy, Oct. 3, 1945, cited in Dep't of State Pub. 2702, The International Control of Atomic Energy, 16.

⁵ Dep't of State Pub. 2520, Ser. 1504, Treaties and Other International Acts (Agreed Declaration of Nov. 15, 1945).

Declaration,⁶ for the "elimination from national armaments of atomic weapons and of all other major weapons adaptable to mass destruction." The declaration stated that atomic weapons were "means of destruction hitherto unknown"; that *international* action was required and that war was no longer a satisfactory instrument of national policy.

All members of the United Nations at the first session of the General Assembly (January 1946) pledged themselves to eliminate atomic and all other weapons of mass destruction. On January 24, 1946, the General Assembly voted to establish an Atomic Energy Commission "to make proposals for the elimination" of atomic and other mass destruction weapons. And on February 13, 1947 the Security Council created a commission for conventional armaments "to work out practical measures for . . . the general regulation and reduction of armaments."⁷

At the same time, arms control planning went forward in the State Department and resulted in the so-called Acheson-Lilienthal report.⁸ The report remains even today an excellent analysis of the problem.

The report arrived at two major conclusions: because of its value as a surprise weapon, mere "outlawing of the bomb would put enormous pressure on national good faith" and would be insufficient; security through a system of continuous international inspection was deemed impractical and offensive. In view of these conclusions the report advocated the following plan: (1) classification of activities into "safe" (wherein denatured material was used) and "dangerous" (employing the fission materials going into a bomb), the "safe" activities being left to national governments, (2) an international Atomic Development Authority which would hold, manage, and control all dangerous atomic production activities and research, (3) negotiation of the plan as a whole, but putting it into effect in stages, (4) maintenance of a "strategic balance" by dispersal throughout the world of protection and storage facilities, and (5) license or lease of fissionable materials for peaceful uses. Civilian rather than military control was firmly established. Timing, sequence and order of transition were not detailed, and became a major point of divergence between the East and West.⁹

The Acheson-Lilienthal plan showed that control was technically feasible and this view was confirmed by the U.N.'s Committee of Experts.¹⁰

⁶ Moscow Proposals, Dec. 16-26, 1945 cited in Dep't of State Pub. 2702, The International Control of Atomic Energy: Growth of a Policy 27-28.

⁷ See bibliography, note 1 *supra*.

⁸ Dep't of State Pub. 2498, A Report on the International Control of Atomic Energy (1946), hereinafter referred to as the Acheson-Lilienthal report.

⁹ See note 14 *infra*.

¹⁰ Atomic Energy Commission, Official Records, Special Supplement, "Report to the Security Council," 37 (Dec. 31, 1946).

On June 14, 1946, the official Baruch proposals, to a great extent, incorporated the Acheson-Lilienthal plan for an International Atomic Development Authority with ownership and control of atomic energy starting at the raw material stage. After adequate control was realized, after the international agency's operations became effective, and after punishments were set up for the violations of the rules, the American government proposed¹¹ that manufacture of atomic bombs would stop, the existing bombs would be disposed of, and full know-how for production of atomic energy would be shared.

With the USSR counter-proposing outlawry and destruction of bombs first, limits on inspections, and retention of the veto against violators, the United Nations Atomic Energy Commission started its work. It subdivided the problem into three parts: safeguards, legal and treaty aspects, and scientific and technical control. By September 1946 the Scientific and Technical subcommittee concluded that effective control of production of both peaceful and warlike atomic energy was needed and technologically feasible. The Soviet Union agreed.

The First Report of the UNAEC to the Security Council (December 31, 1946)¹² repeated the Baruch plan. A majority of the United Nations in 1948 approved and this became the "Majority Plan."

The Soviets continued to argue for the system of individual nations owning and operating nuclear facilities. The West advocated international ownership and management. The Soviets, at first opposed inspection, but later were willing to accept qualified and periodic inspections of declared facilities. The West always favored strong, continuous international inspections.

The American government insisted on separate international commissions for conventional and atomic disarmament, the Baruch plan for atomic control,¹³ and general disarmament through (1) progressive disclosure and a verified census of all armed strength; (2) a limitation on armaments, and gradual elimination of weapons of mass destruction; (3) the setting up of an international control organ; and (4) an agreement on the procedure and timing of the program—the so-called problem of "stages."¹⁴

¹¹ Dep't of State Pub. 2702, *The International Control of Atomic Energy: Growth of a Policy* 50 (1946).

¹² Atomic Energy Commission, *Official Records, Special Supplement, "Report to the Security Council,"* (Dec. 31, 1946) which embodies the First Report of the UNAEC to the Security Council.

¹³ General Assembly, *Official Records* (Jan. 11, 1952); see, also 12 U.N. Bulletin 93 (1952).

¹⁴ The official American position prior to the London conference of 1954 has been spelled out in a number of U.S. Dep't of State Papers. Among the more important ones are: 22 Dep't of State Bull. 957 (1950); 25 Dep't of State Bull. 953 (1951); 26 Dep't of State

Thus the areas of agreement in 1948 were: that nuclear and other weapons of mass destruction should be eliminated, that mere outlawry of nuclear weapons was insufficient, that the danger of diversion and clandestine activities must be met, that a control plan must be administered by an international agency within the United Nations, that the plan should spring from a treaty or convention signed by the ratifying member nations, that para-military and security police should be regulated as "armed strength."

1950 to 1956

In October 1950 the United States changed its position and suggested that the Atomic Energy and the Conventional Armaments Commissions be merged. This was done by the General Assembly, January 11, 1952. The resolution creating the agency instructed it to consider other plans besides the "majority" plan. In 1952 Mr. Vyshinsky modified the Russian position to approve of "permanent inspection" on "a continuing basis" provided "it did not interfere in the domestic affairs of States." In the 1952 session of the General Assembly, Mr. Acheson, without abandoning the general American theory of a slow, cautious, and "safe" approach, did indicate a willingness, instead of disclosure and verification first and then limitation of armaments and prohibition of atomic weapons, to consider doing "all of this at one time." And the Russians on January 12, 1952 gave up their previous view of ban first and then reduction of other arms, and advocated instead "simultaneous" action. The American representatives delicately refrained from demanding waiver of the veto and suggested this was not essential. The world hoped for agreement.

On April 19, 1954, the now-merged Disarmament Commission was directed by the General Assembly, as the result of the hydrogen bomb experiments in the Pacific, to set up a sub-committee of the five powers "principally involved" in atomic production to see if this smaller group could reach agreement.¹⁵ An examination of the official records of the subcommittee for 1954¹⁶ makes it clear that the Soviet Union held to its new position of simultaneous prohibition and control, while the West returned to its traditional position of control first, prohibition later.

An honest attempt to meet the Russian and American central points and break the stalemate was embodied in the Anglo-French proposals¹⁷

Bull. 17 (1953); 26 Dep't of State Bull. 501 (1952); 26 Dep't of State Bull. 586 (1952); 27 Dep't of State Bull. 478 (1952); 27 Dep't of State Bull. 645 (1952).

¹⁵ N.Y. Times, April 20, 1954, p. 1, col. 5.

¹⁶ For strong arguments against the conduct of the Pacific experiments, see Margolis, "H-Bomb Experiments and International Law," 64 Yale L.J. 629 (1955); for an equally strong contra position, see MacDougal and Schlei, "H-Bomb Tests in Perspective: Lawful Measure for Security," 64 Yale L.J. 648 (1955).

¹⁷ U.N. Doc. DC/53, June 22, 1954, Annex 1, p. 1.

of June 11, 1954, which concerned themselves primarily with the problem of phasing and timing of controls. In the first phase, an international organ was to be created and military and manpower expenditures would be frozen as of the December 21, 1953 levels. Next, there was to be a fifty per cent reduction in conventional armaments. In the third stage when the control organ was operating, the other half reduction would be effectuated, coupled with a ban on the manufacture of nuclear weapons. By the end of this phase, "conversion" of fissile materials to peacetime purposes was to have been accomplished. These recommendations, first denounced, were later stated by the Soviets on September 30, 1954, as an acceptable basis for future discussion.

At the same time the U.S.S.R. proposed that in phase one conventional armaments would be reduced to "fifty per cent of their levels," rather than frozen at the December 1953 levels;¹⁸ in phase two, the other half would be cut back, production of nuclear and other weapons of mass destruction would cease, and by the close of the period be eliminated from national arsenals; also, a permanent board would be set up by the end of this period, with full power of inspection on a continuing basis. On May 10, 1955, the Soviets showed a willingness to accept the west's theory of progressive elimination of nuclear weapons and limitations on armed strength implemented through stages but coupled this with a demand for withdrawal from and unification of Germany and termination of military and air bases in other countries during the second phase of the plan.¹⁹

Developments: Control v. Disarmament 1956-57

During 1955 the British and French regarded the Soviet and American positions as retrogressive and suggested proposals like budget control and demilitarized zones as ways of breaking the deadlock.²⁰

Control discussions within the last two years demonstrate how the quick tempo of events, an eleven-year arms race, nuclear stockpiles and mutual distrust have rendered obsolete plans for international ownership and have shifted emphasis from control of the bomb or nuclear material to control of the means of delivery.

The changes in American policy during this period may be thus summarized:

1. The problem of nuclear control, conventional weapons, and world security tend to be treated as one "package problem."

¹⁸ See Cavers, "The Arms Stalemate Ends," 11 Bull. Atom. Scientists 9, 10 (1955).

¹⁹ N.Y. Times, May 11, 1955, p. 1, col. 4; see also, 11 Bull. Atom. Scientists 261-62 (1955).

²⁰ N.Y. Times, July 19, 1955, p. 10, col. 2 (French Plan). Id., p. 11, col. 1 (British Plan). N.Y. Times, March 29, 1956, p. 1, col. 8; id., April 1, 1956, p. 1, col. 8.

2. Emphasis is placed on pre-disarmament, confidence-building steps, primarily accomplished through open sky reconnaissance to be tried in test areas (accepted by Russia "in principle" but with disagreement as to the inspection areas) supplemented by ground inspection.

3. There are to be some slashes in conventional arms and equipment, followed by a "nuclear disarmament" passing through four distinct stages: census, freeze, reduction and, finally, conversion to peaceful uses.

4. The policy is aimed at the objective of living with the bomb.

5. A strong inclination to link political settlements of Germany and Korea with the problems of disarmament and nuclear control appears.

Perhaps the issue on which the peoples of the world watched the negotiations most anxiously was that of stopping nuclear weapons tests. The warning of scientists, the fall-out hearings in Washington, the appeal of Albert Sweitzer and others, and the numerous factual magazine articles, had alerted mankind to the dangers of strontium 90 in the atmosphere.²¹ The United States first proposed a ten-month suspension of tests coupled with a halt in atomic arms production. Russia countered with a three-year suspension not tied to production cessation. On nuclear weapons the West proposed a multi-stage program: halt of production of fissionable materials of weapon calibre, a suitable monitoring or inspection system, suspension of nuclear weapon testing and finally a transfer gradually of fission stockpiles to peaceful uses. Russia approved with the exception that testing was to be discontinued without any agreement to cease production. The nations were united in preventing a "fourth country" from becoming a nuclear threat through continued tests. The United States and the United Kingdom have been rushing through a series of tests, perhaps in anticipation of agreement. Although on July 25th Harold Stassen suggested that a technical board be created to insure that outerspace missiles be used only for peaceful purposes, no substantial consideration was given this, and no agreement was reached. Russia, with the ICBM and its earth satellites, has presently outdistanced the United States in this field.

Disagreement as to conventional forces and arms is not great; the United States seeks a three-stage program reducing men to 2.5 million for the U.S. and U.S.S.R. and 750,000 for the U.K., and France in the first stage (2.1 and 1.7 million in the second and third stages); Russia includes China and asks a two-stage program, 2.5 for the U.S., U.S.S.R. and China and 750,000 for the U.K. and France, reducing to 1.5 million and 650,000 respectively in the second. Weapons, according to the United States, are to be gradually placed in an international disarmament

²¹ N.Y. Times, Aug. 30, 1957, p. 4. N.Y. Times, July 23, 1957, p. 10 Staff Studies and Interim Reports, Senate Subcommittee on Disarmament, Washington Newsletter, No. 167 (August, 1957); Saturday Review, May 18, 1957.

depot and after 12 months destroyed. Russia wants a 15 per cent reduction at once.

Atoms for Peace and Progress: The New Era?

On December 8, 1953 President Eisenhower called upon the nations of the world to join the United States in an international atomic pool for peaceful purposes. The United States Atomic Energy Act was adopted in 1954²² allowing the President to negotiate special agreements, subject to the approval of Congress, to carry forward the program. Forty-one bilateral agreements were negotiated from 1954 to 1957 for low grade or "non-bomb" material but giving the United States any plutonium produced as a by-product. Although at one point in early 1956 we seemed to be circumventing the United Nations by offering bilateral agreements, the United States, U.S.S.R., United Kingdom and five other atom producing countries, together with sixty-three other States established a U.N. special agency to handle this program. On July 30, 1957, the United States became the third major atomic power to ratify the treaty; the agency has been set up and its director (Hon. Sterling Cole) chosen. Although the IAEC is constitutionally divorced from disarmament, its operation and effect are necessarily related to it. The International Atomic Energy Agency has two functions to perform: to positively accelerate the peaceful atomic energy program for the world, and to develop an international inspectorate to prevent possible diversion for military purposes of nuclear energy. The agency does *not* purport to control *nuclear weapons*, but it has an important place in the disarmament scheme in that, (1) it will *siphon off* fission materials of the present atomic powers into a so-called international atomic pool; (2) it will attempt to assure that other nations develop their atomic energy programs solely for peaceful uses; (3) it is to develop an administrative inspection and control plan which could form the pattern for later disarmament control; (4) the agency is given international personality, power to negotiate disputes and authority to refer disputes to the International Court for binding adjudication where the parties have agreed, or for advisory opinions.

This discussion of the International Atomic Energy Agency has intentionally confined itself to the relation of the peaceful uses program to disarmament. A fairly complete listing of the material available on peaceful uses is found in the footnote.²³ The full scale excellent presentation of

²² Act of Aug. 1, 1945, c. 724, 60 Stat. 755, 42 U.S.C. 1801, amended, Aug. 30, 1954, c. 1073, 68 Stat. 919, 42 U.S.C. 2011-281.

²³ Records of Agreements for Cooperation, A.E.C., Oct. 1956; Cavers, "Our Split Atomic Policy," *The Nation*, March 31, 1956, p. 256; U.N. Doc. G.B. 132/I.U./D.2/2, Proposed

this Agency by Messrs. Bechhoefer and Stein in the 1957 Michigan Law Review must be read for full understanding.²⁴

The above capsule review of over ten years of international negotiations relating to nuclear matters and armaments falls far short of telling the full story. It does not refer to the many excellent private American studies and their effect on official positions.²⁵ It is suggested that this review does show that negotiations have fairly well blocked out the policy decisions and areas of agreement, that there is going to be some development of peaceful atomic energy internationally, that some form of control of armament (and perhaps disarmament) will come and that we are now, therefore, approaching the point where law must begin to

International Atomic Agency, May 22, 1956; 34 Dep't of State Bull. 852 (May 21, 1956); 2 U.N. Rev., No. 12, pp. 62-66 (June, 1951); Frye, "The U.N. and Atomic Revolution," 35 For. Pol. Bull. No. 24, p. 189; "A Chronology on Atoms for Peace," U.N. Fact Series, U.N. Dep't of Publ. Inf., U.N. Doc. St/DPI/Ser/i/14 Rev. 1 (May, 1956); "Progress Report on Atoms for Peace Program," 34 Dep't of State Bull. 4 (June, 1956); "The Role of the International Atomic Energy Agency," 34 Dep't of State Bull. 898 (May 28, 1956); Official Records of the 1956 Conference on the International Atomic Energy Agency, U.N. Doc. IAEA/CS/OR. 39; U.N. Doc. IAEA/CS/13; Atoms for Peace Manual, Sen. Doc. No. 55, 84th Cong., 1st Sess.

²⁴ Bechhoefer and Stein, "Atoms for Peace: The New International Atomic Energy Agency," 55 Mich. L. Rev. 747 (1957).

²⁵ Private Planning:

In few areas of International politics have private American plans sought to influence official positions as in disarmament and atomic control. In the atomic control and disarmament fields the Bulletin of Atomic Scientists (Chicago) has monthly led the way since its inception. The Committee on World Development and World Disarmament (New York) has run a close second with non-technical material. Professor David F. Cavers has favored a freeze, a "proportionate arms cut" and a "single one-step reduction" of arms and equipment. He has been particularly effective in analyzing the thorny political problems, e.g., "International Control of Armaments," 296 Annals. 117 (Nov. 1954); "New Life for the UNAEC," 4 Bull. Atom. Scientists 355 (Dec. 1948); "Atomic Power versus World Security," 3 Id. 283 (Oct. 1947); "The Arms Statement Ends," 11 Bull. Atom. Scientists 9 (Jan. 1955); "The Challenge of Planning Arms Control," 34 Foreign Affairs 50 (Oct. 1955).

The Draft Convention of the Carnegie Endowment for International Peace (Utilization and Control of Atomic Energy, New York: Carnegie Endowment, 1946; International Conciliation No. 423 Sept. 1946; 2 Bull. Atom. Scientists 15 (1946)) challenged the Baruch proposal of international ownership and demanded a supervising, inspecting, coordinating international Commission with police powers. The University of Chicago Draft Convention (Quincy Wright, et al., International Conciliation No. 423, Sept. 1946, New York: Carnegie Endowment) proposing three agencies met rebuff from the UNAEC plan for a single agency, but its atomic moratorium and emphasis on peaceful uses has since received careful attention. The Yale Institute of International Relations (Brodie, The Absolute Weapon 1946) urged balance of power as a middle of the road position. This Machpolitik appears to be the present basis of American and Russian proposals. The American Friends Service Committee (The United States and the Soviet Union: Some Quaker Proposals for Peace, New Haven: Yale University Press (1949); Toward Security Through Disarmament, Philadelphia (1952)) seems to have made four contributions later reflected in official plans: (a) a pointing up of areas of agreement, (b) a freeze, (c) methods of inspection and denaturing and (d) a total disarmament plan coupling conventional and atomic weapons. Grenville Clark and Louis B. Sohn (Peace Through Disarmament and Charter Revision (1953)) have most consistently spoken for the rule of law and revision of the U.N. Charter with universal membership and inspection and a police force as the pre-conditions to disarmament. Walter Reuther (A Total Peace Offensive (1950)) and Senators McMahon, Tydings, Flanders and others (See U.S. Senate Proceedings, February 2, 6, 12, 16, 23, March 6, April 24, 1950) present a plan for total disarmament down to local police with the funds saved used in aid to underdeveloped areas (essentially embodied in the French plan).

answer legal questions that arise in fulfillment of these plans. Only in the light of the legal issues can we then return to recommend future action.

II. SOME LEGAL QUESTIONS TO BE ANSWERED

When a new situation appears on the legal stage it is always difficult to select from analogies, not intended for that situation, the one which should apply. The problem is doubly difficult when the new facts present not a matter of degree, but an entirely new dimension, one whose scope and repercussions cannot be foreseen. The difficulty is cubed rather than multiplied when we operate in the uncertain area of international "law." It is not surprising, therefore, that no article has yet attempted definitive analysis of the law, though some have raised questions.²⁶ The present treatment will likewise largely raise questions, with some brief guidance, where this is possible, as to how these questions may be met.

American Constitutional Law Questions^{26a}

Although we do not know at the present how broad the international regulation may be, or all the specific issues which may arise, there has been revealed enough of the likely pattern to block out several of the clearer issues. We are aware that the plan will operate within the law regarding treaties and their effect within the country, the powers which can be granted, their effect on other laws in the federal or state sphere, the constitutional objections of individuals and states, the precedents for disarmament or like control.

As appears in this article, though some arrangements might be made other than by treaty, most will be by treaty and those which are not are likely to have the same internal impact as a treaty. The constitutional law of treaties is quite clear. The treaty power covers all matters properly the subject of international negotiation.²⁷ Although the Supreme Court

²⁶ Walker, "Legal Control of Thermonuclear Energy: The Atomic Energy Act and the Hydrogen Program," 52 Mich. L. Rev. 1099 (1954); Bathurst, "Legal Aspects of the International Control of Atomic Energy," 24 Brit. Y.B. Int'l L. 1 (1947); Sohn, Cases and Materials on World Law 879-81 (1950); "Atomic Energy—A New Body of Administration Law," 24 J.B.A.D.C. 71 (1957); "Atomic Energy and Lawyers," 24 J.B.A.D.C. 76 (1957); Green, "A Broad New Field: Atomic Energy and the Practicing Lawyer," 43 A.B.A.J. 689 (1957); "Atomic Energy in the Field of Law," 41 Mass. L.Q. 7 (1956); Atomic Power Development, 21 Law & Contemp. Prob. (1956).

^{26a} Since this article was written we have had an opportunity to examine the excellent unpublished study of Professor Louis Henkin (Legislative Drafting Research Fund, Columbia University (1957)), Arms Control and Inspection in American Law. We appreciate Professor Henkin's gracious grant of permission to refer to material therein. That study contains a far more extensive documentation and discussion of many of the points contained in the present section of this article.

²⁷ *Asakura v. Seattle*, 265 U.S. 332 (1924); *Holden v. Joy*, 84 U.S. (17 Wall.) 211 (1872); *Geofroy v. Riggs*, 133 U.S. 258 (1890); *Charles Evans Hughes*, 23 Am. Soc. of Int'l L. Proc. 194-96 (1929). There may be some question whether a "treaty" is necessary; some think President Eisenhower did not contemplate a treaty for the aerial inspection plan;

has always maintained that treaties are subject to constitutional limitations there is authority to the contrary,²⁸ and neither has a treaty ever been declared unconstitutional nor have standards for testing treaty validity been laid down.²⁹ There is considerable American precedent for treaties dealing with disarmament, control of armaments and regulation of atomic industries and for stand-by legislation in these fields.³⁰ The problem of the permanence of treaties is a particularly thorny one. The United States will certainly be critical if other nations fail to carry out treaty obligations, yet our own constitutional theory makes treaties impermanent. A treaty in the United States is equal to legislation, can be repealed infra-territory by legislation and apparently by its terms can not bar the executive or legislative departments from abrogating the treaty.³¹

the Rush-Bagot Agreement of April 30, 1817 for disarmament of the Great Lakes was achieved by a mere exchange of notes (8 Stat. 231 (1818) T.S. No. 110½; S. Ex. Doc. No. 9, 52d Cong., 2d Sess. (1892)).

²⁸ See note 27 supra and *Thomas v. Gay*, 169 U.S. 264 (1894); *The Cherokee Tobacco*, 78 U.S. (11 Wall.) 616 (1871); *New Orleans v. United States*, 35 U.S. (10 Pet.) 662 (1836); *Judiciary Act 1789*, 1 Stat. 73, 86; *Missouri v. Holland*, 252 U.S. 416, 433 (1920); *Stimson*, "The Treaty Making Power," 6 *Cornell L.Q.* 91 (1920), 1 *B.U.L. Rev.* 111 (1921); *Potter*, "Inhibitions Upon the Treaty Making Power of the United States," 28 *Am. J. Int'l L.* 456 (1934); *Sutherland*, "Restricting the Treaty Power," 65 *Harv. L. Rev.* 1305 (1952). Secretary John Foster Dulles has shifted his position from one side to the other of the argument: *Hearings Before the Subcommittee on the Study of Treaties and Executive Agreements of the Senate Committee on the Judiciary*, 83d Cong., 1st Sess. (1953), p. 862 and 84th Cong., 1st Sess. (1955), p. 178.

²⁹ *Corwin*, "The Constitution of the United States of America," *Sen. Doc. No. 170*, 82d Cong., 2d Sess.; *Cooley*, *Constitutional Limitations* 25, nn. 27, 28 (8th ed. 1927).

³⁰ *Reference Documents on Disarmament Matters*, Background Series, White House Disarmament Staff (1957); *Background Paper on Disarmament*, U.N. Doc. No. ST/DPI/Ser. A/75/Rev. 1 (1955); *Disarmament and Security: A Collection of Documents 1919-55*, Senate Subcommittee on Disarmament, 84th Cong., 2d Sess., and accompanying Staff Studies (1956); *Rush-Bagot Agreement for Limitation of Armaments on the Great Lakes*, Apr. 30, 1817, 8 Stat. 231 (1818), T.S. No. 110½; *Convention on the Limitation of Armaments of the Central American States*, Feb. 27, 1923; *Washington Naval Treaty*, Feb. 6, 1922, 43 Stat. 1655 (1923) T.S. No. 671; *London Treaty on Limitation and Reduction of Naval Armaments*, Apr. 22, 1930, 46 Stat. 2858 (1931), T.S. No. 830; *London Limitation of Naval Armament Treaty*, March 25, 1936, 50 Stat. 1363 (1937), T.S. No. 919; *Treaty for Repression of African Slave Trade*, July 2, 1890, 27 Stat. 886 (1892), T.S. No. 383; *Declaration Regarding Germany*, June 5, 1945, 60 Stat. 1649 (1946); *Hague Convention*, July 29, 1899, 32 Stat. 1779 (1901), T.S. No. 392, *Hague Convention*, Oct. 18, 1907, 36 Stat. 2199 (1910), T.S. No. 536; *Charter of the United Nations*, June 26, 1945, 59 Stat. 1031, 26 T.S. No. 993; Note: certain American efforts were not ratified by the Senate or by the requisite number of countries—June 28, 1919, *Gr. Br. Treaty Ser.*, 1918, No. 4; *Mutual Security Act*, 1954, 68 Stat. 848, 22 U.S.C. § 1934; *Atomic Energy Act*, 68 Stat. 936, 42 U.S.C. § 2101; *International Atomic Energy Agency Statute*, IAEA/CS/13., *Armed Forces Code*, 10 U.S.C. § 4501 (Supp. IV 1957).

³¹ From the earliest Supreme Court cases it has been the stated rule that "if the two (a statute and a treaty) are inconsistent, the one last in date will control the other," *Whitney v. Robertson*, 124 U.S. 190, 194 (1888); *Chinese Exclusion Case*, 130 U.S. 581, 600 (1889). For cases stating that a subsequent treaty repeals a prior statute, see *Cook v. United States*, 288 U.S. 102 (1932); *United States v. Lee Yen Tai*, 185 U.S. 213 (1901); *Thomas v. Gay*, 169 U.S. 264 (1897); *Ward v. Race Horse*, 163 U.S. 504 (1895); *Foster v. Neilson*, 27 U.S. (2 Pet.) 253 (1829); some authors cast doubt on this rule, 1 *Willoughby*, *The Constitutional Law of the United States* 555 (2d ed. 1929). For cases to the effect that a subsequent statute repeals, intra-territory, a prior treaty, see *Moser v. United States*, 341 U.S. 41 (1951); *Rainey v. United States*, 232 U.S. 310 (1913); *Ex parte Webb*, 225

In regard to the powers which can be given international personnel or agencies, we are not without guiding principles. In various treaties, status-of-forces agreements, statutes and executive orders we have given powers and privileges to international agencies such as would have to be given to make effective a disarmament, limitation of armament or control of atomic industry plan. Thus we have provided for registration of facilities, inspection and reports.³² We have empowered other countries or international parties to use our courts, investigate and take testimony and enforce their decisions.³³

Nor would federal or state officers, nor individuals or corporations, be likely to have much success in asserting constitutional rights to block the international activity. The federal government can regulate by treaty what would otherwise be a state subject.³⁴ The power to regulate or abolish armaments with incidental inspection and administrative procedures, would not seem to be prevented by the militia provision, the second amendment (right to bear arms), the due process, search and seizure or self-incrimination provisions of the constitution.³⁵ The ex-

U.S. 663 (1911); *Stephens v. Cherokee Nation*, 174 U.S. 445 (1898) and many other cases; however, an earlier contrary view was stated in *The Federalist* No. 64, at 363; and the Court frequently demands a high degree of proof of Congress' intent to repeal or abrogate a prior treaty—*United States v. Payne*, 264 U.S. 446 (1923); *United States v. Lee Yen Tai*, 185 U.S. 213 (1901); *United States v. Gue Lim*, 176 U.S. 459 (1899).

There are instances where the President has abrogated a treaty, Corwin, *The President: Office and Powers* 473 (3d ed. 1948); Letter to Japanese Ambassador terminating the Treaty of Commerce and Navigation in 1939, 2 For. Rel. U.S.: Japan 189 (1943); see, attempts to limit the right of termination or abrogation, Agreement on Tariffs and Trade, Oct. 30, 1947, 61 Stat. 43, T.S. No. 1700.

³² Brussels Treaty, Oct. 23, 1954, Protocol No. IV, art. 12 (Disarmament and Security, supra note 30 at 515); Convention on the Limitation of Armaments of Central American States, art. 6, Feb. 27, 1923; London Limitation of Naval Armament, Mar. 25, 1936, 50 Stat. 1363, T.S. No. 919 (1937); Civil Uses of Atomic Energy, e.g., 6 U.S. Treaties 2586, T.I.A.S. No. 3303, art. VI c; International Atomic Energy Agency, U.N. Doc. IAEA/CS/13 (1956), 103 Cong. Rec. 8453 (June 18, 1957); Convention on Narcotic Drugs, 1931, 48 Stat. 1543, T.S. No. 863; International Civil Aviation Treaty, 1944, 61 Stat. 1180, T.I.A.S. No. 1591. Powers, privileges and immunities necessary to carry out international functions have been frequently granted: Charter of the United Nations (1945), 59 Stat. 1031, T.S. No. 993, e.g., arts. 104-05; International Monetary Fund (1944), 60 Stat. 1401 T.I.A.S. No. 1501, art. IX; Privileges and Immunities of the United Nations, 1 U.N. Treaty Series 15 (U.S. non-acquiescence) and related International Immunities Act (1945) 59 Stat. 669; U.N. Emergency Forces (Egypt), U.N. Doc. A/3526; North Atlantic Treaty Organization (1952) 5 U.S. Treaties 883, T.I.A.S. No. 2978; Privileges and Immunities of Specialized Agencies (1947), 33 U.N. Treaty Ser. 261; Branden "The United Nations Laissez-Passer," 27 Brit. Y.B. Int'l L. 448 (1950).

³³ North Atlantic Status of Forces Agreement, 4 U.S. Treaties 1792 (1953), T.I.A.S. No. 2846; Treaty Relating to the Boundary Waters Between the United States and Canada, 36 Stat. 2448 (1911), T.S. No. 548; 36 Stat. 1364, 22 U.S.C. § 268 (1952); Consular Conventions, e.g., United States and Ireland, 5 U.S. Treaties 949 (1954), T.I.A.S. No. 2984; *The Betsey*, 3 U.S. (3 Dall.) 6 (1794); Friendly Foreign Forces Courts Act, 58 Stat. 643 (1944), 22 U.S.C. § 701 (1952); 46 Stat. 1006, 22 U.S.C. § 270a (1952).

³⁴ The United States-United Nations Agreement, T.I.A.S. No. 1676; see Control of Narcotics including conventions of 1925, 1931, 1936, 1940, 1946, 1948 and 1953, reviewed by the authority, Bertil Renborg in International Drug Control (1947) and "International Control of Narcotics," 22 Law & Contemp. Prob. 86ff. (1957).

³⁵ *Slochow v. Bd. of Education*, 350 U.S. 551 (1956); *Davis v. United States*, 328 U.S.

tended powers already upheld in local administrative legislation would protect almost any contemplated international powers from substantive or procedural objection.³⁶

Local Non-Constitutional Law Problems

In adopting international plans we must ever be aware of their impact on the most humble local law. This impact may be more important to the local practicing attorney than any issue of international law. Dean E. Blyth Stason has given some attention to (local) "Legal Problems Arising from Peaceful Use of Atomic Energy."³⁷ He includes: statutes of limitation, workmen's compensation, manufacturers' product liability, spreading of radio-activity, conflict of laws, introduction of evidence (secrecy) and international private enterprise.

Since we cannot analyze all the local problems, it might be helpful if we examined one problem, *e.g.*, tort liability merely as it arises under Anglo-American jurisprudence (avoiding the thornier problems of Russian civil and Asian law). Assume that the old doctrine of *Rylands v. Fletcher*³⁸ is to apply. Certain defenses to the *Rylands* rule have generally been recognized: fault of the plaintiff, assumption of risk, act of God or an intervening third party, normal use, legislative authorization or direction. It becomes at once apparent that, since atomic injury is likely to occur over a large area and involve mass torts, individuals may be injured where the plaintiff is subject to a contributory negligence or a comparative negligence rule, and injury may occur to those normally subject to the assumption of risk rule or those who are not. Also, how far shall we press the doctrine of proximate cause of *Palsgraf v. L.I.R.R. Co.*,³⁹ (fallout in Baltimore was noted from the Bikini blast), or the

582 (1945); "Denying the Privilege Against Self Incrimination to Public Officers," 64 Harv. L. Rev. 987 (1951); see the theory stated in *Curcio v. United States*, 354 U.S. 118 (1957); *Oklahoma Press v. Walling*, 327 U.S. 186 (1946); and *Wilson v. United States*, 221 U.S. 361 (1911). See, as relates to state officials, *Ullman v. United States*, 350 U.S. 422 (1956) regulated and illegal activities; *United States v. Cardiff*, 344 U.S. 174 (1952); *Shapiro v. United States*, 335 U.S. 1 (1948); *Zap v. United States*, 328 U.S. 624 (1946); *Davis v. United States*, supra; *United States v. Lee*, 274 U.S. 559 (1927); *Kentucky v. Dennison*, 65 U.S. (24 How.) 66 (1861).

³⁶ It is hardly possible in a footnote to review the many powers of licensing, inspection, prescription of records, testing, regulation, etc., which have been upheld in administrative law; a reference to any standard text will suffice—see *Davis, Administrative Law 73-272* (1951). See also note 35 supra; *United States v. Kahriger*, 345 U.S. 22 (1953); *United States v. Morton Salt Co.*, 338 U.S. 632 (1950); Typical statutory provisions which have been upheld include Communications Act of 1934, 48 Stat. 1064, 47 U.S.C. § 203ff. (1952); Securities Exchange Act, 1934, 48 Stat. 886, 15 U.S.C. § 78ff. (1952); Atomic Energy Act, 1954, 68 Stat. 948, 42 U.S.C. § 2201ff. (1954 Supp.); Note, "Developments in the Law: The Federal Food, Drug and Cosmetic Act," 67 Harv. L. Rev. 632, 690 (1954).

³⁷ 24 Tenn. L. Rev. 13 (1955). See also Becker and Huard, "Tort Liability and the Atomic Energy Industry," 44 Geo. L.J. 58 (1955).

³⁸ *Rylands v. Fletcher*, 1868, L.R. 3 H.L. 330.

³⁹ 248 N.Y. 339, 162 N.E. 99, 59 A.L.R. 1253 (1928).

view adopted as to nuisances in manufacturing communities that "this is no *silvan dell*."⁴⁰

The application of the doctrine of "normal use" is far from clear. It has been viewed in England as justifying manufacture of explosives in wartime but in New York as no authorization for a powder house necessary to peaceful industry.⁴¹ Similarly England has exempted a gas company from strict liability for an explosion on the ground of legislative authorization; New York has not.⁴²

International or national regulation or license of nuclear activity raises further questions. If the license or regulation is not complied with, is violation thereof proof of negligence or liability?⁴³ Or may a person compelled to act in a certain way by international regulation thereby plead his freedom from local liability for his acts? We do not want a repeat in this field of the uncertainty caused by the Federal Communication Commission's "Port Huron" declaration that radio stations cannot censor even libelous material and that state libel laws are thereby superceded. The states, however, did not accept this dictum so that under state law the broadcaster was held responsible for libel and slander.⁴⁴

In a field that will be so completely regulated as armaments and atomic development further problems will arise out of claims of manufacturers and others that their tangible or intangible property has been damaged as the result of regulatory action. The effect on trade secrets is sure to be a bothersome question. Will local law prevent injury there-to by international inspectors or control? If trade secrets are damaged or disclosed, will liability be imposed on the international authority or be

⁴⁰ *Haber v. Paramount Ice Corp.*, 239 App. Div. 324, 267 N.Y. Supp. 349 (2d Dep't 1933), *aff'd*, 264 N.Y. 98, 190 N.E. 163 (1934). See Hutton, "Evidentiary Problems in Proving Radiation Injury," 46 *Geo. L.J.* 52 (1957).

⁴¹ *Cibulski v. Hutton*, 47 App. Div. 107, 62 N.Y. Supp. 166 (3d Dep't 1900); *Read v. Lyons*, [1945] K.B. 216; *Richards v. Lothian*, [1913] A.C. 263.

⁴² *N.W. Utilities, Ltd. v. London Guar. and Acc. Co.*, 154 L.T.R. 89 (1936); *Rohan v. Port Jervis Gaslight Co.*, 45 Hun 257 (1887), *aff'd*, 122 N.Y. 18, 25 N.E. 246 (1890).

⁴³ *Schumer v. Caplin*, 241 N.Y. 346, 150 N.E. 139 (1925), the doctrine that violation of statute constitutes negligence is well known; administrative standards are not in the same category. Even less clear is the effect of standards fixed internationally.

⁴⁴ *Houston Post Co. v. United States*, 79 F. Supp. 199 (S.D. Texas 1948); *Port Huron Broadcasting Co. (WHLs)* 12 F.C.C. 1069 (1948); Hearings before Select Comm. to Investigate F.C.C., House of Reps. Aug. 1948; Snuder, "Liability of Station Owners for Defamatory Statements Made by Political Candidates," 38 *Va. L. Rev.* 303 (1953); "The Broadcaster's Liability Under Sec. 315 of the Communications Act," 4 *Baylor L. Rev.* 516 (1952). The study of William A. Krebs and Robert L. Hamilton, "The Role of the States in Atomic Development," 21 *Law & Contemp. Prob.* 182 (1956) shows that many of the same problems are developing: has Congress preempted the field. Cf. *Penna. v. Nelson*, 350 U.S. 497 (1956) and *California v. Zook*, 336 U.S. 725 (1949); shall the States adopt Model State Acts (Maine Acts, 1955, c. 105; N.H. Acts, 1955, c. 281; Conn. Acts, 1955, No. 46; R.I. Pub. Laws, 1955, c. 3416; Mass. Acts & Resolves, 1955, c. 355); who fixed the standards of liability for radiation exposure (20 Fed. Reg. 5101 (1955), proposed standards of the AEC).

assumed by the nation?⁴⁵ Of similar moment may become the issues arising from seizure, destruction or control of physical property.⁴⁶ It is believed that the locally developed rules are ill-equipped to handle the new problems aggravated by possible distrust of foreign inspection.

In the field of both peaceful and warlike atomic development the government and private industry are in joint operation. To what extent will the doctrines applicable to manufacturers and suppliers of dangerous substances or those applicable to governmental "sovereign immunity" apply?⁴⁷ Even if the government be subject to suit, the extent of its liability will have to be fixed. Thus England recognizes absolute liability of the government for extra-hazardous instrumentalities,⁴⁸ whereas the United States Government accepts liability only on the basis of "negligence."⁴⁹ There is the further possibility of the government escaping liability for "discretionary" and "policy" actions as one writer has pointed out.⁵⁰ The freedom of government and its instrumentalities from liability for damage arising out of the conduct of war (and perhaps from preparing for war) has long been asserted.⁵¹ Far from exhausting the subject of tort liability arising from nuclear operations, peaceful and warlike, articles such as the present merely raise questions which the best minds in the field of torts must answer. Much material has already been developed on standards of care against radiation injury even before

⁴⁵ Very little law has been developed on this problem. See Brach, "A Question of Property Rights," 41 A.B.A.J. 1024 (1953). Some legislation has attempted to make provision: Atomic Energy Act, 1954, 68 Stat. 947, 42 U.S.C. § 2187; Mutual Security Act, 1954, 68 Stat. 852, 22 U.S.C. § 1758. A few cases have obliquely passed on the question, *Aktiebolaget Bofors v. United States*, 194 F.2d 145 (D.C. Cir. 1951), noted in 20 Geo. Wash. L. Rev. 802 (1952). An attempt has been made to protect against divulging trade secrets in the Statute of the I.A.E.A., art. VII, par. F, IAEA/CS/OR 26, p. 12.

⁴⁶ Damage to property by inspectors and other public officials is the subject of much local administrative law: Davis, *Administrative Law* § 231 (1951); Gellhorn and Byse, *Administrative Law: Cases and Comments* 344-55 (1954). Provisions have been inserted in the Federal Torts Claims Act and some international treaties to provide rules of liability: 28 U.S.C. §§ 1346 and 2680a-h; NATO Status of Forces, 4 U.S. Treaties 1806, T.I.A.S. No. 2846, art. VIII.

⁴⁷ Restatement, Torts § 166 at 395 (1934). The subject of "dangerous product" has been explored by William Mitchell in "Some Administrative and Legal Problems Related to the Widespread Use of High-Level Radiation Sources," 13 Intern. Conf. on the Peaceful Uses of Atomic Energy 32 (1956).

For a good summary of international immunity, see Briggs, *The Law of Nations* 413-51 (1952). Concerning national immunity, see Borchart, *Governmental Liability in Tort* (1924); "States-Sovereign Immunity," 42 Va. L. Rev. 686 (1956); "Governmental Liability in Tort," 9 Law & Contemp. Prob. 181-370 (1948); Leflar and Kantrowitz, "Tort Liability of the States," 29 N.Y.U.L. Rev. 1363 (1954).

⁴⁸ British Crown Proceedings Act (10 and 11 Geo. 6, c. 44, § 2(1)(c)).

⁴⁹ Federal Tort Claims Act § 410(a), 28 U.S.C. § 2674.

⁵⁰ See note 47, *supra*, and a full review in Peck, "The Federal Tort Claims Act, A Proposed Construction of the Discretionary Function Exception," 31 Wash. L. Rev. 207 (1956); *Delehite v. United States*, 346 U.S. 15 (1953).

⁵¹ 28 U.S.C.A. § 2680 and cases cited, 31 U.S.C.A. § 224(d) and cases cited; 16 Law & Contemp. Prob. 345ff. (1951).

the mushrooming of the nuclear industry.⁵² This kind of research must be extended.

The above short, and somewhat inadequate, treatment of a few typical problems of local law is not to be taken as implying that disarmament and atomic development will not have an effect on almost every field of local law. Even procedure (e.g., to what extent shall injunction be available) and jurisdiction (e.g., the right of our courts to pass on international law questions) may well undergo considerable change. Certain it is, as implied in the opening of this section, that many of our rules will meet a new severe test and may not be consonant with the new demands.

International Law Problems

1. United Nations Charter Limitations

Atomic energy was not considered in the drafting or adoption of the United Nations Charter, and this instrument therefore may ill serve in solving problems which have already arisen and are bound to arise in international disarmament or control and peaceful uses of nuclear power. Thus, article 24, paragraph 1, placed "primary responsibility for the maintenance of international peace and security" in the Security Council and article 26 required the Council to formulate plans "for the regulation of armaments," yet the powers given to the Council were probably inadequate for the kind of disarmament control envisaged.⁵³ This difficulty has been skirted by proposing that the International Control Commission be "within the framework of the Security Council" but created by special conventions of member nations.⁵⁴

Article 2, paragraph 7, which prevents the United Nations from interfering in matters "essentially within the domestic jurisdiction of any State" poses some thorny questions. Although it has been argued that

⁵² Reviewed in *Peaceful Uses of Atomic Energy*, Proceedings of the Int. Conf. in Geneva, Aug. 1955, vol. 13, Legal Administrative, Health and Safety Aspects of Large Scale Use of Nuclear Energy. See also *id.*, Greene, *Workman's Compensation Aspects of the Peaceful Uses of Atomic Energy* 323.

⁵³ Art. 29 states that "The Security Council may establish such subsidiary organs as it deems necessary for the performance of its functions," but the jurisdiction of the Council exists under cc. VI and VII only if there is a situation endangering the peace or a threat to peace, breach of the peace or aggression (arts. 34, 36, 39) and the administrative inspection and control of an international AEC are not functions of the Council (U.N. Doc. AEC/WC/2, July 17, 1946, p. 31). Generally, from the beginning the United States has denied the power of the U.N. to establish adequate controls (U.N. Doc. AEC/WC/2, p. 36), whereas the U.S.S.R. has insisted on U.N. legal power (U.N. Doc. AEC/WC/3, July 24, 1946, p. 1). Clark and Sohn, *Peace Through Disarmament and Charter Revision* (1953); Sohn, "U.N. Charter Revision and the Rule of Law: A Program for Peace," 50 *Nw. U.L. Rev.* 709 (1956).

⁵⁴ U.N. Doc. A/64/Add. 1, Jan. 31, 1947, Res. 41(I). The necessity of keeping within the Security Council framework gave legal validity to the Soviet insistence on retaining the veto as to sanctions. The recent Soviet surrender of the veto for peaceful uses may not come under the Security Council powers while war potential or war sanctions may. See note 24 *supra*.

any matters on which there is an international agreement are no longer within "domestic jurisdiction,"⁵⁵ there is respectable authority to the contrary.⁵⁶ Again there has been an attempted end run around the issue by embodying recitals in proposed treaties and reports that atomic control is predominantly international rather than domestic.⁵⁷ But it is not merely whether *control* is international, for certain matters of internal inspection and operation may well be domestic.⁵⁸

2. The Administrative Law of Control and Inspection

The law of inspection and supervision is well developed nationally.⁵⁹ It is better developed internationally than often conceived. The experience of two operations—the International Labor Organization and International Drug Control—is most frequently referred to as that on which a nuclear control system could be based, combining as it does national and international operatives in a fairly efficient system.⁶⁰ Nothing will be gained by reviewing what one of the authors has heretofore written on this subject, to which articles the reader is referred.⁶¹ Other worth while experience is recorded by such commissions as the commission to investigate and determine the facts in the Greek dispute, which

⁵⁵ Goodrich and Hambro, *Charter of the United Nations: Commentary and Documents* 73 (1946); Bathurst, "Legal Aspects of the International Control of Atomic Energy," 24 *Brit. Y.B. Int'l L.* (1947).

⁵⁶ Advisory opinion, *Permanent Court of International Justice, Series B, No. 4*, pp. 18-24; Sohn, *Cases and Other Materials on World Law* 117 (1950); see note 62 *infra*; 17 *Am. J. Int'l L.* 298 (1923); 18 *Revue de droit International Privé* 1-287 (1922).

⁵⁷ U.N. Doc. AEC/18/Rev. 1, Jan. 3, 1947, Pt. IIC, Finding 4; U.N. Doc. AEC/WG/17, July 1946, p. 37.

⁵⁸ Bathurst, *supra* note 55; Brierly, "Matters of Domestic Jurisdiction," 2 *Brit. Y.B. Int'l L.* 8 (1925); Kelsen, *Legal Techniques in International Law: A Textual Critique of the League Covenant*, Geneva Studies, X, No. 6, Dec. 1939, p. 125ff.; Aaland Islands Case, Sohn, *Cases and Other Materials on World Law* 87-120 (1950); Brown, "The Aaland Island Question," 15 *Am. J. Int'l L.* 268 (1921); U.N.C.I.O. Docs. vol. 6, 110-13, 507-15, 723; *Repertory of Practice of United Nations Organs* (1955); *Official Records of the Fourth Session of the General Assembly, Ad Hoc Political Committee, Meetings* (Sept. 27-Dec. 7, 1949). Compare positions in other areas such as one involving Human Rights—*Official Records of the Second Part of the First Session of the Gen. Assembly, Gen. Comm., Meetings* Oct. 22-Dec. 13, 1946; *Joint Committee of the First and Sixth Committees; Principal Documents Relating to Consideration by the U.N. General Assembly of the Representations of the Government of India on the Treatment of Indians in the Union of South Africa, Capetown, 1947; Official Records of the Eighth Session of the General Assembly, Supp. No. 16* (U.N. Doc. A/2505); U.S. State Dep't Staff Study No. 11, "Human Rights, Domestic Jurisdiction and the United Nations Charter," (1955).

See the unpublished study of Louis Henkin, *supra* note 26, cc. IV, V, VII.

⁵⁹ Davis, *Administrative Law* cc. 3 (1951); Freund, *Administrative Powers over Persons and Property* (1928); Henkin, *supra* note 26, cc. III, IV.

⁶⁰ Freeman, "International Administrative Law: A Functional Approach to Peace," 57 *Yale L.J.* 976 (1948); Freeman and Paullin, *Road to Peace* (1947); Hill, *International Administration* (1931); Renborg, *International Drug Control* (1947); "International Control of Narcotics," 22 *Law & Contemp. Prob.* 88 (1957); Henkin, *supra* note 26, c. VII; *League of Nations, Geneva Special Study*, vol. VI, No. 1; *International Conciliation Pamphlet #441*, May 1948; Hambro, *World Organization, Am. Council on For. Affairs* 121ff. (1942); Morgan, "Issues of the General Disarmament Conference," *National Council for Prevention of War* (1932).

⁶¹ *Ibid.*, particularly 57 *Yale L.J.* 976 (1948).

employed inspection teams for on-the-spot checking of arms, munitions dumps and soldiers.⁶² Some of this material was early adapted to atomic control in the *First Report of the U.N. A.E.C. to the Security Council*, 12/3/46. Even more of it has subsequently been reviewed and incorporated in the International Atomic Energy Convention (Peaceful Uses), and in other international agreements.⁶³ Although there has been no complete catalogue of all these plans and procedures for inspection and additional work is needed, it is clear that in the plans adopted and proposals made the experience in previous national and international administrative action is being utilized.⁶⁴

It is perhaps worth while to explore a little further some of the questions which may arise from international inspection. There may first be the problem of getting the staff into the country and past such provisions as section 214 of our Immigration and Nationality Act.⁶⁵ Questions of immunity also arise, e.g., whether immunity should be limited to that essential to the job⁶⁶ or whether, if only partial immunity is granted, trial should comply with local or foreign standards.⁶⁷ Should the inspectors

⁶² United Nations, Annex B, Doc. 5/PV/87; U.N. Docs. S/360; S/AC/4/Rev, S/AC.4/SC; Dep't of State Pub. 2909, Near East Series 9.

⁶³ Dep't of State Pub. 2737, parts II-V. Statute of the International Atomic Energy Agency, IAEA/CS/13 arts. II, III, VIII, IX and particularly arts. XI, XII, XV, XIX dealing with powers and duties of inspectors to gain compliance and prevent diversion; General Assembly Document A/3122, Apr. 20, 1956, IAEA/CS/5; Bechhoefer and Stein, "Atoms for Peace: The New International Atomic Energy Agency," 55 Mich. L. Rev. 747 (1957); see similar inspector-systems in the United States bi-lateral peaceful uses agreements, e.g., U.S. and France, 102 Cong. Rec. 10398 (June 28, 1956), art. X; also see concerning EURATOM, Knorr, Nuclear Energy in Western Europe and United States Policy (1956) and Report of the Intergovernmental Committee on European Integration (Brussels, 1956); Reference Documents on Disarmament Matters, Background Series D-1 to D-42, White House Disarmament Staff.

⁶⁴ See notes 57 and 63 supra; also Tate, *The Disarmament Illusion* (1942), *The United States and Armaments* (1948); Background Paper on Disarmament, U.S. Doc. No. ST/DPI/SER. A/75/REV. 1 (1955); Disarmament and Security, Senate Subcommittee on Disarmament, 84th Cong., 2d Sess. (1956); Le Febvre, *Common Sense in Disarmament* (1929); Baker, *Disarmament*; International Conciliation, "A Practical Plan for Disarmament," Aug., 1924, #201; International Conciliation, Apr. 1946, #420, p. 744; Hill, *International Administration* (1931); 7 Brit. Y.B. Int'l L. 68 (1926).

⁶⁵ 66 Stat. 163 (1952); see notes 32 and 33 supra.

⁶⁶ Kunz, "Privileges and Immunities of International Organizations," 41 Am. J. Int'l L. 828 (1947); Hill, *Innunities and Privileges of International Officials* (1947); Charter of the United Nations, art. 105; General Convention on the Privileges and Immunities of the United Nations, 1 U.N.T.S. 15, arts. II, III, IV, V and VI; 22 U.S.C. §§ 252-55 (1952) are not broad enough to cover the issue, but the International Organizations Immunities Act, 59 Stat. 669, 22 U.S.C. § 228ff. (1952) would be if presidential designation were given; Preuss, "Immunity of Officers and Employees of the United Nations for Official Acts," 41 Am. J. Int'l L. 555 (1947), "The International Organizations Innunities Act," 40 Am. J. Int'l L. 332 (1946). British immunity is somewhat more extensive: Diplomatic Privileges (Extension) Acts, 1944, 7 & 8 Geo. 6, c. 44; 1946, 9 & 10 Geo. 6, c. 66; 1950, 14 Geo. 6, c. 7; Schwelb, 8 Modern L. Rev. 50 (1945).

⁶⁷ A precedent for the approach that might be taken is found in the Status of Forces Agreements under NATO (North Atlantic Treaty) art. VII, ¶ 9 wherein personnel are to be tried by local courts but under procedure that would meet our constitutional requirements of due process; see Comm. on For. Affairs, H. of Rep., 84th Cong., H.J. Res. 309.

seize or require the destruction of property, questions would arise as to whether there was liability and who was liable.⁶⁸ Further, there might be real doubt whether there is an adequate tribunal for considering legal problems growing out of inspection orders or regulations.⁶⁹

3. What Precedent for Disarmament?

There has been a constant attempt by diplomats and military men to translate "disarmament" into "sanctioned armaments" (a) by viewing disarmament as unilateral which exposes one to attack, (b) by recognizing weapons as "power" and (c) by requiring political solution of power conflicts to precede disarmament. These arguments have been recently restated by Ernest Gross.⁷⁰ But "disarmament" is *disarmament*. And the arguments are fully as strong that *disarmament* must precede or be simultaneous with solution of power conflicts and that "negotiation from strength" is a contradiction in terms. The plan of the United Nations contemplates operation in an unarmed world, and reflects in the veto the lesson learned in the League of Nations—that you cannot enforce decisions against a major power, unless it is disarmed.

Although the dimension of the problem has greatly changed we ought not to forget the large body of law and supporting studies which have grown up about limited disarmament efforts. First, we may mention the disarmament of Germany and Austria following World War I and Germany and Japan following World War II. In 1944-45 the Foreign Economic Administration, Enemy Branch prepared "A Program for German Economic and Industrial Disarmament, Final Report," which included an elaborate administrative setup with an internal and an international disarmament commission.^{70a}

Even a very cursory review of early disarmament attempts will reveal useful material. Elsewhere in this study are listed many of the disarma-

⁶⁸ See notes 45 and 46 supra; Cowles, *Treaties and Constitutional Law: Property Interferences and Due Process of Law* (1941). The local government might undertake to assume liability as is often done by peace treaties, e.g., the Japanese Treaty of 1951.

⁶⁹ The "judicial" power of the United States courts extends to cases "arising under this Constitution, the Laws of the United States, and treaties made, or which shall be made, under their authority," art. III, §§ 1 and 2. It may be doubted whether action taken under a treaty or regulations adopted would come within the constitutional language. Nor would the Statute of the International Court of Justice, arts. 34-38 seem broad enough. However the Statute of the IAEA has gone far to confer jurisdiction on this court for such matters, Statute supra note 63, art. XVII, A. Two excellent studies have explored this problem: Bechhoefer and Stein, supra note 24, at 775; Henkin, supra note 26, cc. IV, V, VII and VIII, and materials cited.

⁷⁰ Gross, "Major Problems in Disarmament," 51 *Nw. U.L. Rev.* 299 (1956). Secretary Dulles, *N.Y. Times*, July 23, 1957.

^{70a} The draft treaties with Germany and Japan did not embody these plans, and Russia objected. The rules for checking German and Austrian armaments are most informative. See: U.S. Dept. of State, Press Release #292, 4/30/46 and #433, 6/21/46; Mimeo, Washington, 12/19/45; *N.Y. Times*, July 10, 1946, p. 6; Note 94, Series C. 729 (1926), IX, 17; Tate, *United States and Armaments*, p. 199ff. (1948).

ment or regulation of armament agreements to which the United States was a party.⁷¹ As far back as 1899 studies were prepared to reduce "effectives" and "budgets." Article 8 of the League Covenant emphasized full publicity of armaments as a deterrent and gave rise to the League of Nations Armaments Year Books. The Preparatory Disarmament Commission's Report of 1930 and the 1932 Conference for the Reduction and Limitation of Armaments Publications give detailed attention to the problems of inspection, supervision, publicity, enforcement.⁷² The Naval Disarmament (Limitation) Conferences did not produce like valuable studies—perhaps a recognition of the difficulty of hiding a warship. From the very beginning the atomic control planning has embodied much the same system of control.⁷³

4. Is the Use of Thermo-Nuclear Bombs Legal Under International Law?

If there is one issue that has been neatly skirted by international lawyers, this is it.⁷⁴ Yet the problem will not down. Tort actions have been brought in Japanese courts by survivors of Hiroshima and Nagasaki against the Japanese government as successor (under the Treaty of Peace) to any liability of the United States, and Professor Freeman has been approached by representative Japanese lawyers to bring similar

⁷¹ See note 30 supra.

⁷² Records of the Conference for the Reduction and Limitation of Armaments: (all designated IX for disarmament)

Series A—Verbatim Records of Plenary Meetings

Series B—Minutes of the General Commission

Series C—Minutes of the Bureau (intended to deal with political questions) Conference Documents: Several volumes of Actual draft conventions, etc., National Defense Expenditure Commission, Report Technical Committee; Several volumes dealing with methods of publicity under art. 8 of League Covenant; Preliminary and Final Reports of the Work of the Conference. The preliminary proposals as to supervision were well catalogued by Chairman Henderson at the 16th Meeting of the Bureau c. 13, 1952, IX, 2.

See Draft Convention to Improve the Means of Preventing War, Sept. 26, 1931 (Conf. Doc. C.658.M.269(1), 1931, IX, 4); Regulations for the Execution of Article 4 (Conf. Doc. 119, vol. II, 1935, IX, pp. 350-52); first and second reports of the Bureau, Oct. 24 and Nov. 17, 1932 (Conf. D. 140, vol. II, 1935, IX, 4, p. 357; Conf. D. 148, vol. II, 1935, IX, p. 440); Preliminary Report of the Work of the Conference (Conf. D. 171) and American proposals for enlarged inspection powers (Conf. D. 167); Report of Technical Comm. of the National Defense Expenditure Commission (Conf. D. 158, 1935); Study on Publicity of Aviation (S. 95M. 47, 1935 IX.4); Report on Prohibition of chemical, bacteriological and incendiary warfare (Conf. D. 142, 1932, IX.55, and questionnaire annex, Conf. D. 152, 1932, IX.65); Report on Trade in and Manufacture of Arms (Conf. D. 145, 1932, IX.59, Conf. D. 166, 1935, IX.6); Minutes of Bureau concerning supervision (C. 1935, IX.2ff. 28ff.). All these show detailed plans and draft conventions for licensing, supervision, inspection, census, reports, auditing.

⁷³ First Report A.E.C., U.N. Doc. AEC/18/Rev. I, 1/3/47, Part III and V, cc. I; Second Report, U.N. Doc. AEC/26, 9/8/47; Statute of the IAEA, IAEA/CS/13.

⁷⁴ Stowell, "The Laws of War and the Atomic Bomb," 39 Am. J. Int'l L. 784 (1945); Turlington, "International Control of the Atomic Bomb," 40 Am. J. Int'l L. 165 (1946); see bibliography, Sohn, Cases and Materials on World Law 879-81 (1950). Even the H-bomb tests in the Pacific brings forth a controversy of legality: Margolis, "The Hydrogen Bomb Experiments and International Law," 64 Yale L.J. 629 (1955); McDougal and Schlei, "The Hydrogen Bomb Tests in Perspective: Lawful Measures for Security," 64 Yale L.J. 648 (1955).

actions in the United States. The argument for illegality generally runs as follows: since there are no provisions for atomic warfare we apply *mutatis mutandis* laws of war formulated pre-atom bombs. These include the Hague Declarations and Regulations of 1899 and 1907 (prohibiting projectiles and explosives from balloons and fixing custom of war on land, which proscribe poisonous weapons and those causing superfluous injury or indiscriminate bombing); the customary law or natural law; the Geneva Protocol of 1925 (prohibiting poisonous gases and "analogous liquids, materials or devices") and the Declaration of St. Petersburg of 1868 against causing needless suffering.⁷⁵ The American and British reports on the Japanese bombing show that it violated the spirit of these declarations. Actually, as the Indian position in the United Nations shows, since radioactive fallout affects nations other than those at war, an argument can be made based on freedom of the seas and air, fisheries rights and non-pollution.⁷⁶ On the other hand many writers view these rules as inapplicable, all rules of law bending before the new factors and the requirement to use whatever force is necessary to wage war successfully.⁷⁷

Because of the basic assumptions of an "early warning system," of the American position that it must remain able to defend itself atomically and that because of the potential destruction "defense" involves the ability to deliver "massive retaliation" moments before the threatened attack, it becomes important to examine the right to employ atomic warfare to meet a *threatened* attack. Although an inherent or natural right of self preservation against threatened attack has been asserted, this turns out in the cases to be a right limited to actual self defense against invasion and not to cover the supposed military necessity of attacking

⁷⁵ Schoichi Okamoto, Civil Action for Atomic Bomb Damage (1952); Stone, Legal Controls of International Conflict 342 (1954); Hague Regulations, art. 23(a)—poisons, 23(e)—superfluous injury, 25—bombardment of undefended cities, 26—notification, 27—mass atrocities. See Spaight, The Atomic Problem (1948), Air Power and War Rights 273 (1947); Fenwick, International Law 559 (1948). Specifically, since the United States was not a signatory to The Hague Convention No. 4, 1907 or Geneva Protocol of 1925, her liability would depend on (1) the Geneva Convention of 1949, art. 158; (2) Custom; (3) Nuremberg principles. See the Protest of the Japanese House of Representatives, 2/7/56 and the plea of Pope Pius XII, Feb. 1956. United States Strategic Bombing Survey (Pacific War); The Effect of the Atom Bombs on Hiroshima and Nagasaki (British Report).

⁷⁶ Official Records of the Fourth Session of the General Assembly, First Committee, p. 306ff.; Ad Hoc Political Committee, Sept. 27-Dec. 7, 1949, p. 169ff.; Annex, vol. 1, 1949, p. 68 U.N. Doc. A/AC.31/L.26; Jawaharlal Nehru, N.Y. Times, April 3, 1954, p. 1; V. K. Krishna Menon, N.Y. Times, July 10, 1954, p. 1; Margolis, "The Hydrogen Bomb Experiments and International Law," 64 Yale L.J. 629 (1955).

⁷⁷ Stovell, "The Laws of War and the Atomic Bomb," 39 Am. J. Int'l L. 784 (1945); Baxter, "The Role of Law in Modern War," 47 Proc. Am. Soc'y Int'l L. 90 (1953); 2 Oppenheim, International Law 347-52 (7th ed. 1952); McDougal and Schlei, "The Hydrogen Bomb Tests in Perspective: Lawful Measures for Security," 64 Yale L.J. 648 (1955); Kunz, "The Chaotic Status of the Laws of War," 45 Am. J. Int'l L. 37-61 (1951).

another deemed a threat.⁷⁸ Article 51 of the U.N. Charter recognizes both the right of individual and collective self defense. But it expressly makes this applicable only if "an armed attack occurs against a member." Although a great deal of sophistry has been written to prove that this does not limit "inherent" rights of self defense, the better view would appear to be to the contrary.⁷⁹ There are also long asserted positions that the amount of force can only be that necessary to repel the attack and that the area of defense cannot be spread indefinitely.⁸⁰ In the light of these considerations it seems highly doubtful whether national massive retaliation with nuclear weapons to meet a threatened or anticipated attack, particularly in the framework of NATO, SETO, and like regional alliances, would be "legal," unless we apply the concept of victor's justice or war as justifying any means.

5. Prohibition of Thermo-nuclear Weapons

There is general agreement of writers, whether they believe that bombing is illegal under present law or not, that production of nuclear weapons should be prohibited and stockpiles destroyed. Elsewhere we have shown that the United States favors proven control before prohibition while Russia demands prohibition as the first stage of control.⁸¹ Though the position may be sound that prohibition alone accomplishes little,⁸² the position of India⁸³ that it cannot be harmful and may build trust seems one that might well be taken. We must remember that the *Nuremberg* case relied on treaty prohibitions previously branded as pious platitudes. And if there be any likelihood that atomic warfare is illegal, as developed in the previous section, atomic weapons should be banned.

⁷⁸ 5 Oppenheim, *International Law* 297 (7th ed. 1955); Brierly, *The Law of Nations* 290 (1949); Kelsen, *The Law of the United Nations* 914-16 (1951); Stone, *Legal Controls of International Conflict* 244 (1954); The Lytton Commission Report, *League Doc.* 663, M. 320, 1932, VII; *Nuremberg Trials*, *Command Paper No.* 6964, 41 *Am. J. Int'l L.* 205 (1947).

⁷⁹ See Kelson, *supra* note 78 and Stone, *supra* note 78. See also Nitze, "Atoms, Strategy and Policy," 34 *For. Aff.* 187 (1956); Kissinger, "Force and Diplomacy in the Nuclear Age," 34 *For. Aff.* 349 (1956); Wit, "Some International Aspects of Atomic Power Development," 21 *Law & Contemp. Prob.* 148 (1956); Carleton, *The Revolution in American Foreign Policy* (1954). A similar position was urged by the United States in 1946, U.N. Doc. AEC/WC/2, July 17, 1946, p. 40.

⁸⁰ *The Caroline*, 2 Moore, *International Law* 409-10 (1906); Jennings, "The Caroline and MacLeod Cases," 32 *Am. J. Int'l L.* 82 (1938); Weightman, "Self Defense in International Law," 37 *Va. L. Rev.* 1095 (1951); *Parliamentary Papers*, 1843, LXI, 46-51. For a further presentation of these positions, M. Nagendra Singh, "The Right of Self-Defense in Relation to the Use of Nuclear Weapons," 5 *Indian Y.B. Int'l Aff.* 3 (1956).

⁸¹ See both the U.S. and U.S.S.R. positions in 1946. Atomic Energy Commission, *Official Records*, No. I, p. 8, No. 2, p. 27; Stone, *Legal Controls of International Conflict* 346 (1954).

⁸² U.N. Doc. AEC/C.2/3, July 31, 1946, p. 3.

⁸³ See note 76 *supra*.

6. Putting a Control Plan into Effect

The legal problems involved in putting a control plan into effect are usually discussed under four topics: (1) "national sovereignty" and its limitations, (2) "domestic jurisdiction," (3) the veto, and (4) sanctions, national and individual, for violations. Much has been written concerning these. It is perhaps sufficient if we state four short conclusions.

State sovereignty includes the right to enter into agreements restricting sovereignty and therefore any control plan entered into voluntarily would not be subject to attack as a derogation of sovereignty.⁸⁴ This would therefore seem to call for a multi-lateral treaty as early contemplated by the Atomic Energy Commission.⁸⁵ The effect, of course, would be to strongly impinge on sovereignty.⁸⁶

We have already pointed out that with the abandonment of international ownership the problems of "domestic jurisdiction" will not be so severe, but they will exist and the exclusion of intervention in domestic affairs may have to be surrendered or modified as in the case of sovereignty.⁸⁷

Writers generally urge that effective atomic control cannot exist with the veto. We believe these writings misconstrue the problem. Russia has stated a willingness to decide day-to-day issues by a majority and recently has agreed to majority determinations concerning peaceful uses. The one thing she refuses to surrender is the veto on sanctions for violations. Since forceful sanctions on major nations unwilling to accept sanctions are themselves war,⁸⁸ it is believed that no useful purpose will be obtained by pressing for veto surrender, and it appears that America is dropping this demand.

The problem of enforcement and whether and how to use sanctions has been met by stereotyped thinking or inadequate treatment. It is first concerned with the extent to which international crimes or viola-

⁸⁴ S. S. Wimbledon, Perm. Ct. Int. Jus. (1923) Series A, No. 1, p. 25; U.N. Committee 2, July 26, 1946, U.N. Doc. AEC/C.2/3, p. 4.

⁸⁵ U.N. Doc. AEC/18/Rev. I, 1/3/47, Part IIC, Finding 5; Bathurst, "Legal Aspects of the International Control of Atomic Energy," 24 Brit. Y.B. of Int'l L. 1, 23 (1947). See the Canadian-French draft, adopted by the Political Committee: "Recommends that all nations, in the use of their right of sovereignty, join in mutual agreement to limit the individual exercise of those rights in the control of atomic energy to the extent required, in the light of the foregoing considerations, for the promotion of world security and peace, and recommends that all nations agree to exercise such rights jointly." (U.N. Doc. A/AC.31/L.27/Rev. 1). The statute creating the IAEA has clearly restricted sovereignty in many ways—by inspection, reporting, limiting production and use, prescribing amendment powers, etc., IAEA/CS/13 and Bechhoefer and Stein, 55 Mich. L. Rev. 747 (1957).

⁸⁶ See Stone, Legal Controls of International Conflict 347 (1954).

⁸⁷ Id. at 344.

⁸⁸ Paullin and Freeman, Coercion of States in Federal Unions (1943); Freeman, Coercion of States in International Organizations (1944); Freeman, "The United Nations Organization and International Law," 31 Cornell L.Q. 259 (1946). Cf. Stone, supra note 86; Bathurst, supra note 85, at 25.

tions may be recognized,⁸⁹ and what action may be taken on violation. Again, violations and punishment may be national or individual. With regard to national violation, no adequate answer has ever been given to the position stated by America's founding fathers that to brand a whole people as violators and impose military sanctions on them is war, and the U.N. Charter essentially recognizes this in condemning aggression and authorizing self help.⁹⁰ This would not prevent other sanctions such as fines, withholding licenses or other advantages. When international ownership and operation were early envisaged, sanctions were proposed in the form of withholding materials, and we have shown that the new international agency for peaceful atomic uses employs this sanction as well as provisions to prevent diversion of materials and for forfeitures or suspensions and thus sets the stage for enforcing nuclear or conventional disarmament. But, in so far as present planning assumes continued bomb stockpiles and living with the bomb, sanctions will remain a troublesome problem and self help will be used. It is probable that resort to self help would throw out of balance any international control. It is unlikely that individual responsibility, except as a government agent, will exist in fields like disarmament and nuclear use. As to government agents, some application of the *Nuremberg* principle could be relied on, whereas other individuals might be disciplined under local laws.⁹¹

7. Other International Legal Aspects Beyond Armament Control

We are now being told that our atomic industry has worked a revolution in our foreign policy, that we have opened the door for a private international nuclear industry, that even nuclear war threats must be retained as instruments of foreign policy, that we must live with the bomb. These observations pose numerous legal questions, of which in addition to those outlined above, the following are a few:

(a) Can the proposed international clearing house for the Atoms for

⁸⁹ Pella, "Towards an International Criminal Court," 44 Am. J. Int'l L. 37 (1950); Offenses Against Peace and Security, A/CN, 4/39 (1950); Murray, "The Present Position of International Criminal Justice," 36 Trans. Grotius Society 191 (1950); Harvard Research Draft Convention on Jurisdiction with Respect to Crime, 29 Am. J. Int'l L. Supp. (1935); definition and punishment of such crimes as genocide by Convention, U.S. Doc. A/810; Lemkin, "Genocide as a Crime under International Law," 41 Am. J. Int'l L. 145 (1947); see rather complete collections of authorities in Briggs, *The Law of Nations* 575-95, 1017 (1952); Sohn, *Cases and Materials on World Law* 967 (1950); these believe that jurisdiction of aliens, extradition and war crimes are recognition of some degree of international criminal justice.

⁹⁰ United Nations Charter, c. VII, arts. 39-51; see Wright, "The Prevention of Aggression," 50 Am. J. Int'l L. 514 (1956).

⁹¹ Bathurst, *supra* note 7, at 24-30; The *Nuremberg Case*, presented by Robert H. Jackson, New York, 1947; Briggs, *supra* note 89, at 1017.

Peace program and the American bilateral agreements under strict Congressional control be reconciled?⁹²

(b) Is it possible to maintain a foreign policy based on atomic war-power and a free atomic commerce and keep control of information?⁹³

(c) Has the essence of the Bricker amendment sneaked in the back door in the form of restrictions on the president in this field?⁹⁴

(d) What is the law of outer space?⁹⁵

The above treatment does not pretend to exhaust the legal questions relating to disarmament and nuclear control. It is intended to suggest that we lawyers have at our disposal the techniques and precedents essential to work through most of the known problems.

III. AN EVALUATION AND A CHALLENGE

If, then, the legal problems in disarmament and atomic control are soluble and if the nations have already achieved large areas of agreement, what points can the lawyer take as established, and at what points and how can he negotiate further agreement?

Those of us idealistically committed to world brotherhood and peace may tend to ask, "Why have we not been able to accomplish disarmament in over ten years"? Why are we in more danger to-day than at the end of the war? Without in any way playing down the urgency of these questions, we may, as lawyers, recognize that sometimes events must occur before parties want to agree and that negotiation is most difficult at the very moment when the final details are being worked out. Are we now at that point?

If we were to describe where we are at the end of 1957 it might look something like this: (1) most of the disagreements of ten years ago have been eliminated (ownership, joint commission, ultimate bomb ban, veto, permanence of inspection); (2) disarmament is now linked with political settlements (Germany and Korea) and elimination of distrust, without

⁹² Atomic Energy Act of 1954, 68 Stat. 922-45, 42 U.S.C. §§ 2014-2168 (Supp. 1954); Hearings before the Joint Committee on Atomic Energy (S. 3323 and H.R. 8862), 83d Cong., 2d Sess., pt. 1 and 2; Atomic Power for Peace, U.N. Gen. Assembly Off. Rec., 8th Sess., Plenary 470 (1953); Wit, "Some International Aspects of Atomic Power Development," 21 Law & Contemp. Prob. 169-80 (1956); Knorr, EURATON and American Policy (1956); Bechhofer and Stein, *supra* note 24, at 771-75.

⁹³ Green, "Information Control and Atomic Power Development," 21 Law & Contemp. Prob. 91 (1956). Joint Committee on Atomic Energy, *Impact of the Peaceful Uses of Atomic Energy* (Jan. 1956), pp. 9, 105ff.; a reading of merely the present criminal provisions regarding secrecy will show what change may be necessary, e.g., Espionage, 18 U.S.C. §§ 791-98; Atomic Energy, 42 U.S.C. §§ 2274-78; Internal Security, 50 U.S.C. § 783(b); Defense Mobilization, 50 U.S.C. § 404; cf. the information provisions of IAEA, Statute, art. VIII, ¶¶ A and B.

⁹⁴ Caver, "The Challenge of Planning Arms Control," 34 For. Aff. 50, 65 (1955).

⁹⁵ N.Y. Times, October 13, 1957, p. 1; Rep. Comm. to Study the Organiz. of Peace, Oct. 16, 1957; the International Civil Aviation Convention outlaws pilotless flights, but agreements as to the geophysical year have waived this.

which real peace cannot come; (3) the peaceful uses of atomic development and the pattern of the International Atomic Energy Agency largely prevented the so-called "fourth nation" (other than the U.S., U.S.S.R. and Gt. Br.) from becoming a nuclear military threat and began to meet America's insistent demand for "confidence building" before disarmament; (4) there has been a *de facto* cutback in manpower of the United States, Russia and Great Britain, and almost complete agreement as to the levels to which reductions will be made; (5) the pressure for elimination of bomb testing has virtually brought agreement of cessation, though America officially asks that this be coupled to a bomb manufacture "freeze"; (6) sputnik has drawn attention to the necessity of barring non-peaceful uses of rockets (a matter lightly passed over at London in July), but perhaps more from scientific pride than military necessity, it has started a new armaments race.

During November the following action was taken in the eighty-two-nation Political and Security Committee: (1) resolution advocating six concurrent steps to produce an agreement—cessation nuclear tests, cessation production fissile material, transfer nuclear weapons to peaceful use, reduction armed forces and armaments, progressive establishment of inspection force, study to assure outer-space objects solely for peaceful purposes. (2) Two amendments—for an armaments truce pending negotiations, spending the savings from armaments on world living conditions. (3) A publicity campaign to alert the world to the dangers of spending \$85 billion annually on armaments. (4) Rejected were attempts to abolish the twelve-nation Disarmament Commission and substitute eighty-two nations (leaving open a proposal to increase to twenty-two), to immediately cease nuclear tests, to ban nuclear weapons for five years.

All this leaves the parties bargaining for very substantial stakes. The United States seeks to pool the West's scientific and production potentials, and by a freeze rule out "fourth nations" and retain her superiority to Russia in nuclear weapons, to be heightened by a formula for transferring fission material from warlike to peaceful uses; to destroy the Iron Curtain by an early warning system of ground and aerial inspection; to obtain political settlements of Germany and Korea which will not lose them to America as allies. Russia wants to eliminate America's encircling bases, directly or indirectly by reduction of manpower; and to gain recognition of the communization of Germany and Korea and the inclusion of China, at least for disarmament purposes.

These are burning and difficult issues, and America may not be able to recognize "communization" to gain complete settlement. But a will to

avoid war does seem to pervade negotiations. These negotiations must continue. It is suggested that the following agreements might be formalized now: (1) a cessation of bomb testing, (2) a realistic formula for turning over bombs to the IAEA for peaceful use, which would keep the American-Russian ratio as at present, (3) a freeze on military ICBM's. But more than this is needed. The negotiations for real disarmament down to internal policing must not be abandoned. The constant development of an administrative method of controls must be pressed. The conversion of nuclear weapons to peaceful uses must be completed. Anything less is suicide.

Finally, we must remember that the results of agreement will have repercussions internally. Two of these, to which inadequate attention has been given, may be mentioned. Many believe that in the rush of military necessity we have invested far greater capital in an atomic industry than it can absorb or carry for many years, and that we have thus set the stage to repeat all the headaches which we lawyers know befell the railroads.⁹⁶ We know something, also, of the legal and economic problems of reconversion after World War II. But this was child's play compared to the reconversion we must achieve in disarmament, and it is this which has caused aid to backward countries to be suggested as a safety valve. The goal is worth our effort.

APPENDIX

Certain fairly well recognized technical facts need to be set forth at the outset as a foundation for our thinking. Some figures may be slightly inaccurate, due to the material being highly classified. The principle of nuclear fission may be briefly stated: energy may be released by smashing the atomic nuclei through a bombardment of neutrons. This occurs only with the heaviest of nuclei, e.g. uranium. Under certain conditions thorium, in combination with uranium produces a new isotope (U-233), while combining U-238 and U-235 produces Plutonium (PU-239). U-233, U-235 and PU-239 are nuclear fuels or fission material. An H bomb represents the use of fission material as a "trigger" plus raw uranium and deuterium (derived from "heavy water", D₂O) in substantially the following proportions:

about 5 kilograms fissionable material	plus about 500 kg Deuterium	plus about 1 ton raw uranium (4238)
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Processes for peaceful commercial use of atomic power (we speak not of isotopes for medical, experimental or tracer type commercial use or "denatured" or low energy output materials unusable to "trigger" a bomb, but rather of electrical or similar power production) fall into two classes: fission reactors and thermo-nuclear reactors. Only fission reactors are now feasible; we are promised thermonuclear reactors in 10-20 years. All fission reactors require fissionable materials to be burned therein; one type breeder reactor uses U-235, blanketed by Thorium, the escaping neutron "bullets" change the thorium blanket to U-233, thus as a by-product creating additional fuel. But if these fission products are left in the "furnace" they will capture neutrons and the chain reaction will cease. Therefore, they have to be reprocessed. A power reactor is designed to utilize the produced heat, keep the chain reaction going, control its speed and prevent dispersion outside. A reactor designed to use U-235 or uranium enriched by U-235 will not function efficiently

⁹⁶ Something of the tremendous costs in private atomic development are coming to light, together with the companies forced out of the field. N.Y. Times, November 24, 1957, sec. 1, p. 1, col. 2.

if fueled by plutonium or U-233. There are less efficient power reactors working on a natural uranium-plutonium or thorium—U-233 cycle. Only the very expensive gaseous-diffusion plants of the United States and Russia can separate U-235 (0.7%) from uranium. The fission processes for peaceful uses are 80-90% identical with the bomb production. The fission material for the peaceful reactor is, until fed into the reactor, identical with the "trigger" of the bomb and could be diverted to such use overnight; once it is in the reactor it becomes highly radioactive and could not be brought back into the former state without costly and time-consuming processing.

America now uses approximately 60 million kilowatt-days of all forms of energy per day. One kilogram of fissionable material will produce about 1 million kilowatt-days of energy; our total energy requirements would thus require burning 60 kilograms of fissionable material per day. The 60,000 Kw pilot pressurized water power plant at Shippingport, Pennsylvania might require for a year's operation the fissionable material equal to that in 3-5 bombs. The AEC spent about \$800 million in 1955 to buy uranium and produce fissionables. The year 1954 was 45% lower. The government is committed to buy domestic products at a fixed price until 1962. It is estimated that the most efficient atom power plant is 10-30% in capital and operating costs higher than coal and the less efficient cost double or more. Less than 5% of the government's reactor plants development is presently civilian.

A kilogram of fissionable material is about the size of a golf ball; all the fissionable material in the United States might not occupy more than a few cubic yards; it could be so shielded that present instruments within a short distance could not discover it. It is extremely difficult to estimate the major powers' inventories of bombs. One informed observer has estimated that the American government has conducted 90 major tests and the Soviet Union 20, and that the United States possesses around 6,000 bombs and the USSR about 1,500. Thus in experimentation there is a ratio of roughly 5 to 1, and in bombs a 4 to 1 ratio. The implications of these ratios may now have been changed by Russia's success with ICBM and Sputnik I and II.

H-bomb manufacture is militarily cheap in destructive power compared to manpower divisions, capital ships, aircraft, etc. The theory that the bomb was built on "secret information" was exploded by the early Smyth Report and the more recent Geneva peaceful uses conference. The bomb is built on generally known scientific information; the method and efficiency of production of fissionable material coincides in all major countries.