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ANARCHY OR ORDER? THE Nth COUNTRY PROBLEM AND THE INTERNATIONAL RULE OF LAW

EDWIN BROWN FIRMAGE*

INTRODUCTION

Events proceeding from the explosion of the first atomic bomb at Alamogordo, New Mexico, on July 16, 1945, may revolutionize traditional concepts of international law. The need to create internationally recognized rules of law which will control atomic energy exists to a degree that dwarfs the demands that have been placed upon law in the past. Thomas E. Murray, a Commissioner on the Atomic Energy Commission, has recognized the problem:

In no field does the need for international order exist more imperatively than in the field of nuclear energy. In the concept of order I include a whole set of notions—regulation, control, supervision, commonly accepted standards of health and safety, and above all the institution of free and orderly procedures of cooperation among nations. You have heard statements about the danger of our gradually drifting into a state of atomic anarchy. This is a good phrase in which to describe the state in which we already find ourselves. Surely this is true in the field of nuclear weapons. Each of the nations engaged in their development and production is acting as a law unto itself.

There are no common norms or standards binding all; there are no common agreements accepted by all. The result is international lawlessness or anarchy which shows itself chiefly in the ungoverned—and for the moment seemingly ungovernable—race for nuclear armaments.

This international situation is not simply the road to anarchy. It is itself anarchy. Unless and until this anarchy is resolved into some decent measure of order, neither America nor the world at large could enjoy even the basic security that consists in the assurance of continued national existence.¹

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1. Statement made in testimony given May 10, 1957. *Hearings Before the Committee on Foreign Relations, United States Senate, and Senate Members of the Joint Committee on Atomic Energy on Executive I, The Statute of the International Atomic Energy Agency*, 85th Cong., 1st Sess. 174 (1957).

In the past we have been able to rely upon the gradual development of customary rules of international law to govern the behavior of nations. In the last hundred years, technological revolutions occurred at about the intervals of each major war. Today, technological revolutions are now occurring every five years.² Atomic energy would seem to fall into that category of technology which is advancing at such a rate as to defy the attempts of customary international law, taken alone, to control it.

One problem caused by the advent of atomic energy is especially unsuited to control through the development of customary international law. That is the problem of the proliferation of an independent nuclear military capacity, termed in the jargon of arms control, the "Nth country problem." If the proliferation of nuclear weapons is to be avoided, it must be done within the next few years.³

One scholar feels that a rule of customary international law has already evolved to the effect that a state which permits fissionable materials to go to another state without safeguards to insure its peaceful use violates international law.⁴ This would be difficult to maintain when the Soviet Union does not comply with the supposed law in its fairly broad program of bilateral agreements for the transfer of fissionable materials, and when EURATOM has a system of self-inspection which has been rejected by the International Atomic Energy Agency.

To talk in terms of an international law governing the distribution of nuclear weapons at the present time is to propose that wishing might make it so. When the matter to be controlled by law is the commercial intercourse among nations, it may be meaningful to refer to a rule of conduct to which most commercial nations adhere as a rule of law, even though other nations do not follow such a rule. However, when the subject-matter to be controlled is the proliferation of nuclear military capacity, the lack of acquiescence of one of the two major suppliers of nuclear fuel, installations, and technology renders any so-called "law" absolutely futile. To wait one hundred years until a degree of unanimity gradually occurs would be impossible.

The order which must be achieved in the area of atomic energy cannot be completely established by unilateral or bilateral acts of nations, gradually

2. See KAHN, ON THERMONUCLEAR WAR 125 (1961).

3. "A serious effort to think through the implications of what has been called the 'Nth country problem' is all the more essential because the early 1960's represent perhaps the last moment when it can still be dealt with." KISSINGER, *THE NECESSITY FOR CHOICE* 212 (1961).

4. Stein, *The New International Atomic Energy Agency*, *PROCEEDINGS OF THE AMERICAN SOCIETY OF INTERNATIONAL LAW* 158, 162-63 (1957).

leading to the creation of customary international law. Only through regional and international organizations, or by treaty, can norms be quickly and finally established to control atomic energy.

Various regional and international organizations are working, sometimes at cross-purposes, to establish controls over the indiscriminate proliferation of nuclear military capacity.⁵ The attempts of two international organizations,⁶ the United Nations and the International Atomic Energy Agency, to combat the Nth country problem by establishing law in the increasingly anarchical state of international atomic energy will be examined. The major focus is upon the International Atomic Energy since its work in this area is current.

If the force of law is to be brought to bear upon the proliferation of nuclear military capacity, it is submitted that this will occur through the development of international organizations of control. Much attention has been given to proposed international organizations which could enforce existing law. Comparatively little attention has been given to international organizations which could create the law to be enforced. The focus of what follows is upon the latter. Problems of achieving that degree of unanimity among nations which is necessary to be able to talk meaningfully about rules of international law governing the proliferation of nuclear military capacity will here be examined.

THE NTH COUNTRY PROBLEM

Some writers consider the Nth country problem to be the most crucial problem of our time.⁷ While other writers question the seriousness or at least the immediacy of this threat,⁸ all agree that indiscriminate proliferation of nuclear weapons greatly increases the precariousness of the continued existence of humanity.

This can be seen by an examination of the nature of the possible origin of a nuclear war. In his famous book, *On Thermonuclear War*, Herman

5. See Cavers, *International Cooperation in the Peaceful Uses of Atomic Energy*, 12 VAND. L. REV. 17 (1958), for an analysis of the many regional organizations which exercise some degree of control over atomic energy.

6. The IAEA has a loose connection with the UN family of organizations, but this relationship is so amorphous that the organizations are here considered as being separate entities.

7. Aiken, *Can We Limit the Nuclear Club?* 17 BULL. OF ATOMIC SCIENTISTS 263 (No. 7, 1961); Blackett, *Thoughts on British Defense Policy*, The New Statesman (Dec. 5, 1959); Simons, *World Wide Capabilities for Production and Control of Nuclear Weapons*, Daedalus 385 (Summer, 1959).

8. E.g., Teller, *The Feasibility of Arms Control and the Principle of Openness*, ARMS CONTROL, DISARMAMENT, AND NATIONAL SECURITY 122 (Brennan ed. 1961).

Kahn listed some possible causes of World War III in order of their likelihood.⁹ The first three causes involved some form of accident. If many nations were working to build an independent nuclear capacity, the likelihood of war by accident would increase tremendously. Projecting this hypothetical situation to the stage of the development of a weapons system built on nuclear capacity, one would see each nation's nuclear force going through that extremely dangerous stage of "soft" nuclear weapons in which the chance of accidents of many forms is great. Soft nuclear weapons by definition could not withstand an initial first strike by an enemy. Consequently, they must be constantly on a hair-trigger alert status. This would make it impossible to apply safety features designed to avoid accidental or unauthorized firings.

A new form of catalytic war causation is projected onto the stage by the Nth country problem.¹⁰ This presents the situation of a desperate third nation deliberately starting a nuclear war between the major powers on the rationale that its relative status among the nations of the world would be bettered by an all-out nuclear war. This possibility cannot be lightly dismissed in view of a belief reportedly held by the Chinese Communists that after such a war there would be 10 million Americans, 20 million Russians, and 350 million Chinese left alive.¹¹ This view may have been tenable if 1950 fission bombs were used as the basis of the statistics. However, with the thermonuclear weapons of the 1960's, China would be totally obliterated if such were the desire of a major thermonuclear power. This fact would seem to lessen the chances of a thermonuclear war being initiated by a desperate or ambitious third nation. However, the Sino-Soviet split which has recently come to a head would seem to refute the idea that the Chinese Communists realize the portent of the weapons developments of the last 10 years. If this is so, they could well be motivated to act as a catalyst upon the great powers in such a way as to initiate an unwanted war which would be nonetheless catastrophic because it was initiated on the basis of incorrect knowledge.

Of course, with the existence of independent nuclear military capacity, the chances of a nuclear war of aggression increase by a factor roughly determined by the number of nuclear nations. The world has already seen for the first time in history what can happen when "street gangs" seize

9. See discussion beginning at 190 and Table 136 at 227.

10. For an analysis of a catalytic war, see Kahn, *The Arms Race and Some of Its Hazards*, in Brennan (ed.), *op. cit. supra* note 8, at 101.

11. Statement reputedly made by Chou En-lai to a Yugoslav diplomat and reported in KISSINGER, *op. cit. supra* note 3, at 253.

“control of the resources of a great modern State.”¹² The prospect of a neurotic head of state deciding to bring the world down around him if his ambitions are frustrated is not without precedent in history.¹³ The possession of nuclear power brings this within the realm of possibility. The Nth country problem could at some time in the future bring this to a stage of ultimate probability.

*The Baruch Plan—The United Nations and
the Nth Country Problem*

The first effort to control atomic energy was the Baruch plan.

In November of 1945, a Joint Declaration by the Heads of Government of the United States, the United Kingdom, and Canada called for the creation of a United Nations Atomic Energy Commission to study ways of controlling atomic power.¹⁴ Russia agreed to this proposal, and, following the Moscow Communiqué of December, 1945,¹⁵ the United States, the United Kingdom, the U.S.S.R., and Canada joined in sponsoring a resolution in the United Nations which led to the creation of the United Nations Atomic Energy Commission.

In anticipation of the creation of the Commission, the United States government appointed a committee to submit proposals to the Commission when it was organized. Among others, the committee included Dean Acheson, John J. McCloy, Dr. Vannevar Bush, David E. Lilienthal, and Dr. J. Robert Oppenheimer. The resulting recommendations, termed the Acheson-Lilienthal Report,¹⁶ included all of the basic proposals of what became known as the Baruch Plan.¹⁷

Since atomic capacity was had by only one country, it was thought possible at this time to return the atomic genie to its bottle. No problems of hidden stockpile of atomic weapons existed. The Baruch Plan called for international ownership of all aspects of atomic energy. It provided for the

12. BULLOCK, HITLER: A STUDY IN TYRANNY 229 (Bantam ed., 1961).

13. *Id.* at 681, where the tragic account of the end of the Third Reich is related.

14. DEPARTMENT OF STATE, 1 DOCUMENTS ON DISARMAMENT: 1945-1956 at 1-3 (Pub. No. 7008 1960).

15. *Id.* at 3-5, *Moscow Communiqué by the Foreign Ministers of the United States, the United Kingdom, and the Soviet Union, December 27, 1945.*

16. DEPARTMENT OF STATE, THE ACHESON-LILIENTHAL REPORT (Pub. No. 2498 1946).

17. See *The Baruch Plan: Statement by the United States Representative [Baruch] to the United Nations Atomic Energy Commission, June 14, 1946*, DEPARTMENT OF STATE, 1 DOCUMENTS ON DISARMAMENT: 1945-1956, at 7-16 (Pub. No. 7008 1960).

creation of an International Atomic Development Agency (IADA), which would further the peaceful uses of atomic energy and at the same time possess rigorous inspection privileges over all aspects of the production of fissionable material. This international agency of the United Nations would receive all the information and equipment possessed by the United States. The United States would destroy all of its atomic bombs.

Taken at face value, the United States was offering to give up voluntarily the greatest strategic advantage ever possessed by one powerful nation over another. However, the Russians saw this plan as an attempt to insure that the U.S.S.R. would never have the nuclear capability possessed by the West. Since Western nations would control the proposed International Atomic Development Agency, the Russians professed to see little difference between this and outright United States control.

The big difference between the United States and the U.S.S.R., at least as seen from the debates, centered on whether the United States relinquished its nuclear weapons as the first or the last step in the process. We insisted on complete control before disarmament, while the U.S.S.R. insisted on complete nuclear disarmament before control. Whether the U.S.S.R. would have agreed to the amazing degree of control envisaged by the Baruch Plan even if we agreed to their chronology is extremely doubtful. The Baruch Plan would have called for a revolution in Russian society. Unfortunately, however, we permitted the U.S.S.R. to reject the Baruch Plan on the tenable basis of no inspection before disarmament instead of forcing them to deal with the degree to which they would permit their society to be breached.

Fruitless negotiations continued until 1949 when one of the two events destined to change the whole nature of disarmament proposals occurred. In 1949 the Soviet Union set off its first atomic explosion. With each passing year the Baruch Plan became increasingly impossible to accomplish. As atomic stockpiles grew in each country, the aspects of international ownership and control became proportionately more difficult. Finally, with the first Soviet thermonuclear explosion in 1954, international ownership was dropped from the arms control proposals of the United States.

The Baruch Plan, with its massive system of inspection and verification, could allow a margin of error in detecting clandestine stockpiles of fissionable material. But with the introduction of hydrogen weapons, the possession of a very small amount of weapons-grade plutonium, kept in clandestine stockpiles, would suffice to give complete world domination to its owner if all other thermonuclear materials were unavailable to the other

nations. The testing in 1954 at Bikini convinced scientists that the gulf between the high explosives of World War II and nuclear weapons was not nearly so great as the revolutionary difference between nuclear and thermo-nuclear explosives.¹⁸ Following the first explosion of a hydrogen bomb, Prime Minister Churchill described the results to the House of Commons:

We must realize that the gulf between the conventional high explosive bomb in use at the end of the war with Germany on the one hand, and the atomic bomb as used against Japan on the other, is smaller than the gulf developing between that bomb and the hydrogen bomb. . . . With all its horrors the atomic bomb did not seem unmanageable as an instrument of war, and the fact that the Americans have such an immense preponderance over Russia has given us passage through eight anxious and troublous years. But the hydrogen bomb carries us into dimensions which have never confronted practical human thought. . . .¹⁹

With the immense problems presented by the growth of stockpiles to almost unmanageable proportions and the consequent effect upon inspection and control proposals of any disarmament plan, compounded by the threatened proliferation of nuclear weapons to what was then called the "4th country," new approaches were put forth²⁰ dealing with inspection to avoid surprise attack, the control of testing, the control of production of fissile material, and the avoidance of proliferation of nuclear weapons.

Atoms for Peace: The International Atomic Energy Agency

One such new approach resulted in the creation of the International Atomic Energy Agency.²¹ Three major functions were to be performed by this agency. First, source materials for nuclear weapons were to be con-

18. See LAPP, *THE VOYAGE OF THE LUCKY DRAGON* (1958).

19. Delivered April 5, 1954, as quoted by BECHHOEFER, *POSTWAR NEGOTIATIONS FOR ARMS CONTROL* 244 (1961).

20. For the best account of the Baruch Plan and circumstances surrounding its origin, see DEPARTMENT OF STATE, *THE INTERNATIONAL CONTROL OF ATOMIC ENERGY: GROWTH OF A POLICY* (Pub. No. 2702 1946). See DEPARTMENT OF STATE, *THE INTERNATIONAL CONTROL OF ATOMIC ENERGY: POLICY AT THE CROSSROADS* (Pub. No. 3161 1948), for an account of the negotiation surrounding the Baruch Plan. For analyses of the Baruch Plan, see BARUCH, *THE PUBLIC YEARS* (1960); COIT, *MR. BARUCH* (1957); NOEL-BAKER, *THE ARMS RACE: A PROGRAMME FOR WORLD DISARMAMENT* (1958); Hohenemser, *The Nth Country Problem Today, DISARMAMENT: ITS POLITICS AND ECONOMICS* 238-78 (Melman ed. 1958); BECHHOEFER, *op. cit.* *supra* note 19, at 27-159.

21. For President Eisenhower's famous "Atoms for Peace" speech, which led to the creation of the IAEA, see U.N. GEN. ASS. OFF. REC. 8th Sess., Plenary 443 (A/N 462) (1953).

An authoritative account of the history of the negotiations on the Statute of the International Atomic Energy Agency has been given by Mr. Bernhard G.

trolled to a limited degree. Second, diminution of existing atomic stockpiles was to be accomplished through transfers of fissile material to the Agency. Third, peaceful applications of atomic energy were to be developed, especially the utilization of atomic energy for power purposes.

The Statute of the International Atomic Energy Agency has been interpreted elsewhere.²² Only as much of the Statute as is relevant to the development of world law will here be set forth.

Representative of all nations in the IAEA constitute the first of its three organs, the General Conference.²³ The Board of Governors²⁴ is the executive organ of the Agency, and the Director General and his staff²⁵ constitute the administrative branch.

The basic objectives of the IAEA are defined in Article II of the Statute:

The Agency shall seek to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world. It shall ensure, so far as it is able, that assistance provided by it or at its request or under its supervision or control is not used in such a way as to further any military purposes.

To effectuate these goals the Agency is empowered to carry out several functions. It fosters the exchange of experts and of scientific information,²⁶

Bechhoefer, *Negotiating the Statute of the International Atomic Energy Agency*, 13 INTER. ORG. 38 (1959). Mr. Bechhoefer participated in the negotiations leading to the formation of IAEA as Special Assistant to the United States Representative, Morehead Patterson. Mr. Bechhoefer was later acting Chief of the IAEA Branch of the Division of International Affairs of the Atomic Energy Commission.

For other accounts of the negotiations, see *Statute of the International Atomic Energy Agency*, REPORT OF THE COMMITTEE OF FOREIGN RELATIONS ON EXECUTIVE I, 85th CONG., 1st SESS., June 14, 1957; Cavers, *International Cooperation in the Peaceful Uses of Atomic Energy*, 12 VAND. L. REV. 17 (1958); Freeman, *The Development of International Cooperation in the Peaceful Use of Atomic Energy*, 54 A.J.I.L. 383 (1960); Rubinstein, *The United States, The Soviet Union, and Atoms-For-Peace: Background to the Establishment of the United Nations International Atomic Energy Agency*, 30 WORLD AFFAIRS Q. 46 (1959).

22. Bechhoefer & Stein, *Atoms for Peace: The New International Atomic Energy Agency*, 55 MICH. L. REV. 747 (1957). See also Freeman, *supra* note 21; Cavers, *supra* note 21; Stoessinger, *The International Atomic Energy Agency: The First Phase*, 13 INTER. ORG. 394 (1959); Hohenemser, *The Nth Country Problem Today*, DISARMAMENT: ITS POLITICS AND ECONOMICS 238 (Melman ed. 1962); *Statute of the International Atomic Energy Agency*, REPORT OF THE COMMITTEE ON FOREIGN RELATIONS ON EXECUTIVE I, 85th CONG., 1st SESS. (June 14, 1957).

The Statute of the International Atomic Energy Agency can be found in 35 DEP'T STATE BULL. 820 (1956); 51 A.J.I.L. 466 (1957); *Treaties and Other International Acts Series* (U.S.), No. 3873; U.N. Doc. IAEA/CS/13; N.Y. Times, Oct. 24, 1956; hereinafter referred to as *Statute*.

23. *Statute*, Art. V.

24. *Statute*, Art. VI.

25. *Statute*, Art. VII.

26. *Statute*, Art. III.

develops safety regulations for workers on nuclear projects,²⁷ and generally provides technical assistance for non-atomic countries regarding the peaceful utilization of atomic energy. This includes aid in project planning,²⁸ instruction in the use of radioactive isotopes,²⁹ providing or securing nuclear materials and equipment,³⁰ and aiding in obtaining financing.³¹ The Agency is authorized to accumulate a pool of fissionable materials³² to be distributed to nations which qualify under the standards of the Statute. Article VIII deals with the exchange of information on nuclear technology which the Agency is to foster. Along with those sections previously mentioned which also further the scientific and technological nuclear capacity of presently non-nuclear countries, this Article is one of the two most important sections in the Statute for the purpose of Nth country considerations.

The most controversial part of the Statute and the second vital section for a consideration of proliferation is Article XII, which provides for the establishment of a system of safeguards to prevent diversion of nuclear material supplied by the Agency to military purposes. This Article provides for the fulfillment of the negative aspect of the basic objective of the Agency as defined in Article II: The Agency shall "ensure . . . that assistance provided by it . . . is not used in such a way as to further any military purposes." Article XII authorizes the Agency to fulfill this injunction by establishing and administering a system of safeguards to prevent diversion. The Article further provides that this system of safeguards shall mandatorily be placed on specified types of fissile material and nuclear facilities supplied to a beneficiary state by the Agency. Article III permits the Agency to apply the safeguards system of the Agency, upon request of the state or states concerned, to the facilities of any state or any facilities of several states operating under a bilateral or multilateral arrangement (*e.g.*, EURATOM).

These safeguards have now been established by the Agency. In 1959 a set of rules and procedures to effectuate the general principles laid down by the Statute was prepared by the Agency's Secretariat and discussed by the Board of Governors. After debate among the Board of Governors, a revised draft was prepared and presented to the Board in 1960. The Board then set up a Special Working Group of Experts to prepare a working paper. From this a safeguards system was developed.

27. *Statute*, Art. III.

28. *Statute*, Art. IX.

29. *Statute*, Art. IX.

30. *Statute*, Arts. IX and X.

31. *Statute*, Art. XI.

32. *Statute*, Art. IX.

The principles and procedures of the safeguards system relate only to reactors with a given megawatt thermal output, to nuclear material used and produced in these reactors, and to small research and development facilities. Nuclear material supplied by the Agency, of a given kind and above a given quantity, is subject to the safeguards provisions. Principal nuclear facilities (*i.e.*, reactors, fuel processing plants, and isotope separation plants) provided by the Agency are also subject to safeguards and inspection requirements. However, one major break with the Baruch Plan is that no safeguards are attached to mines, to mining equipment, or to ore processing plants.³³

Under the safeguards plan established by the Agency under authority of Articles III and XII, a given number of inspections may be made by the Agency at its own timing. It may inspect the safeguarded facility or material, audit reports and records, and verify the amounts of material. The number and nature of the inspections depend on the nature of the reactor and the amount of the nuclear material used or produced in it.³⁴

Under the Statute itself, the Agency has the following control over Agency projects: (1) access to all records of the project; (2) limited control over by-products; (3) approval over means of irradiating materials; (4) rights of inspection by IAEA inspectors in the recipient state; (5) the right to suspend or terminate assistance on grounds of non-compliance with Agency requirements; (6) the duty to report non-compliance to the Security Council and the General Assembly.³⁵

A Critique of the International Atomic Energy Agency

Most writers have concluded that the International Atomic Energy Agency has failed to accomplish any of its major functions.³⁶ Whether the Agency is viewed primarily as an institution to prevent diversion,³⁷ or as an aid to the economic development of underdeveloped countries,³⁸ or as a "first step" toward creating the sort of political climate which could lead

33. See INFCIRC/26, International Atomic Energy Agency (Vienna), 1961 (text of approved safeguards system of IAEA).

34. *Ibid.*

35. *Statute*, Arts. III and XII.

36. See, *e.g.*, OSGOOD, NATO, THE ENTANGLING ALLIANCE 219 (1962); Hohenemser, *The Nth Country Problem Today*, DISARMAMENT: ITS POLITICS AND ECONOMICS 264 (Melman ed. 1962); *A Forgotten Outpost*, 196 THE ECONOMIST 1223 (Sept. 24, 1960).

37. *E.g.*, Hohenemser, *supra* note 20, at 264-66.

38. Rubinstein, *supra* note 21.

to substantively more important disarmament measures,³⁹ this conclusion appears to be almost unanimous.

Yet recent developments in the use of large-scale nuclear reactors to produce commercial electric power make the effective working of the IAEA all the more necessary. When the concept of an international agency to control the spread of nuclear capacity was first proposed, it was thought that the development of nuclear power plants would immediately prove commercially feasible, resulting in a rapid diffusion of nuclear capacity. That proliferation has not occurred to a greater extent than it has is at least partially the result of the inability, up to this time, to make nuclear power commercially competitive. Now, however, technological progress has occurred at an unexpectedly high speed toward making electric power from nuclear reactors competitive with power from conventional steam and hydroelectric plants.⁴⁰

The result of this technological breakthrough will inevitably be an increase in demands by the underdeveloped countries upon nuclear powers for assistance in developing their nuclear capacity. Without effective controls to prevent both the diversion of nuclear materials to military purposes and the use of knowledge gained in programs designed to promote the application of nuclear knowledge to peaceful purposes in the development of nuclear military capacity, nuclear chaos could result.

Conceivably, the United States and the U.S.S.R. could reach a bilateral agreement on the prevention of the proliferation of nuclear weapons and the capacity to independently produce such weapons. The time has passed, however, when such an agreement could halt the spread of nuclear capacity. Now, other nations and several international organizations possess both nuclear capacity and materials. Clearly, the need of an international organization of control is necessary. Yet many problems must be resolved before the International Atomic Energy Agency can adequately function in this capacity.

The International Atomic Energy Agency
as a Distributor of Power Reactors
and Fissionable Material

A reading of the hearings on the Statute of the International Atomic Energy Agency shows conclusively that the major motivations of the State Department, as well as Congress, in pushing for the creation of the IAEA,

39. *E.g.*, BECHHOEFER, *op. cit. supra* note 19, at 256-58.

40. See *Johnson Tells of Atom Power Breakthrough*, St. Louis Post-Dispatch, June 11, 1964, p. 1.

were to internationalize the safeguards provisions of the United States bilateral program to prevent diversion, and control in a limited degree the source material for atomic weapons, thus helping to prevent indiscriminate proliferation. Economic motivation hardly appears in the hearings.⁴¹ However, the failure of the International Atomic Energy Agency to fill the role as the prime supplier of nuclear installations and material, while not constituting a major setback in the accomplishment of the goals set out for it by its American founders, would appear to be the primary reason for it being written off as a failure by the bulk of the commentators.

Many reasons exist why the Agency is ill-fitted to act as the major supplier of nuclear materials and power reactors. First, as Madhu Joshi has observed, a nuclear nation can often obtain propaganda value and trade concessions by dealing bilaterally.⁴² Second, if the beneficiary nation so desires, it can avoid safeguards provisions by dealing with the U.S.S.R. The position of the Soviets on bilateral agreements for nuclear material and reactors has been stated as assuring that "the principle of respect for the sovereign rights of states [be] strictly observed."⁴³ Interpreted, this means that no safeguards are attached to reactors or fissionable material to prevent diversion to military purposes. Third, a nuclear power, through governmental sources or private industry, can often arrange for capital, loans, insurance, and other advantages that the IAEA is not prepared to do for the beneficiary nation. Fourth, the United States has made a policy of absorbing the cost of the safeguards provisions attached to its bilateral agreements while the Agency has required that the beneficiary state bear this cost. This, along with other factors before mentioned, has resulted in a slightly cheaper cost for nuclear materials if done under bilateral arrangements than if done under IAEA auspices.⁴⁴ Fifth, various regional organizations have nuclear aid programs with considerably less stringent safeguards provisions than the IAEA imposes. EURATOM, for example, does not require that the beneficiary country return the fissionable by-product materials to the supplier, as does the IAEA. The Nuclear Agency of the Organization for European Economic Cooperation (OEEC) also has less stringent standards of safeguards and inspection than the IAEA. It has "periodic" and "announced" inspection which the Agency rejected.⁴⁵ This

41. See *supra* note 1, at 1.

42. Joshi, *Dead or Alive? International Atomic Energy Agency*, 17 BULL. OF ATOMIC SCIENTISTS 95 (No. 3, 1961).

43. Yemelyanov, *Atomic Energy for Peace: The U.S.S.R. and International Cooperation*, 38 FOREIGN AFFAIRS 465 (April, 1960).

44. See Stoessinger, *supra* note 22, at 402.

45. *Ibid.*

last disadvantage of the Agency as a supplier of nuclear materials obviously carries over to its effectiveness as a creator of uniform safeguards and inspection arrangements.

Efforts should be made to effect agreements between the various regional organizations and the IAEA upon uniform safeguards provisions to bring the regional organizations into line with the Western nuclear nations which are now voluntarily placing their bilateral agreements under the safeguards and inspection provisions of the International Atomic Energy Agency.⁴⁶

As before stated, the function of the International Atomic Energy Agency as a distributor of power reactors and fissionable material was not one of the prime functions of the Agency as seen by its American founders. While the Statute did provide for this, the function was seen by our top governmental officers as being only supplementary to the prime function of preventing uncontrolled proliferation and diversion. Some, such as Sterling Cole, the first Director General of the IAEA, viewed the two functions as inseparable. That is, without the function of prime distributor of reactors and nuclear material, they thought that the establishment of a uniform and inspected international system of safeguards could not be established. It would now appear that the Agency will in fact be able to function as the creator and administrator over an international safeguards system which will operate primarily through the bilateral agreements made by the Western powers. This has obvious limitations as an anti-proliferation and diversion device, since the application of IAEA safeguards principles to bilateral agreements is not mandatory and has not been done by the U.S.S.R. This, however, represents no weakness that is not inherent within the IAEA concept itself, whether the Agency serves as an atomic pool and supplier of power reactors or serves as an inspection agency for bilateral agreements.

The International Atomic Energy Agency as a Device Against Uncontrolled Proliferation and Diversion

The main function of the International Atomic Energy Agency, as seen by its American founders, was to prevent uncontrolled proliferation and diversion. It may ultimately be judged on the basis of how well it functions in this respect. It is impossible at this date to give a conclusive answer to this question, but several facts are now becoming apparent.

46. See IAEA Press Releases, PR63/54 (June 21, 1963) and PR 63/75 (Sept. 23, 1963).

First, a crucial "fact" relied on in planning for the IAEA was that the world's supply of uranium would remain extremely limited. It was hoped to control the sources of atomic weapons to avoid uncontrolled proliferation. The "fact" thus relied upon is known now to be erroneous. This greatly limits the effectiveness of the International Atomic Energy Agency as an anti-proliferation device. It does not, however, completely eliminate the Agency as a potential vehicle for the control of proliferation. It does mean that the Agency will never constitute a major deterrent against proliferation without vast changes in its present functions.

A prior question should be raised at this point. It may validly be asked if the IAEA, far from being a deterrent to proliferation, does not in fact constitute a gigantic engine of proliferation. What Bechhoefer and Stein term the "positive function" and the "negative function" of the Agency may amount to an impossible joining of opposites so far as the Nth country problem is concerned.⁴⁷ The "positive function" is the effort to "accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world." The "negative function" is to see that the assistance provided by it "is not used in such a way as to further any military purpose."⁴⁸ The Statute tries to prevent proliferation by providing countries with help in achieving nuclear capacity for peaceful purposes, while applying safeguards which prevent this capacity from being used for military purposes. This assumes one of two things: (1) Once a country has nuclear capacity for peaceful purposes, this will assuage the desire to develop nuclear military capacity. This is a fallacious hope as long as that country's competitors have the possibility of developing nuclear weapons or in fact are then relying on nuclear weapons to maintain their relative position in the world. (2) The safeguards provisions attached to the reactors and nuclear material, while not preventing proliferation, at least prevent that aspect of proliferation which is after all the only undesirable concomitant of proliferation, namely, diversion of nuclear material to military uses. This would only be feasible if the Agency were the only source of nuclear installations and materials, which it manifestly is not.

A potentially much greater threat to ultimate diversion exists within the IAEA program itself. Even if the IAEA is able to police its nuclear material and reactors, how can it conceivably place safeguards on the vast amount of information it is distributing through the only popular and at

47. Bechhoefer & Stein, *Atoms for Peace: The New International Atomic Energy Agency*, 55 MICH. L. REV. 747 (1957).

48. *Statute*, Art. II.

this time effective part of its program, the program of symposia, transfer of experts, training of scientists in nuclear research and technology, and collection of scientific literature? Safeguards can be placed upon reactors, but how does the Agency plan to place safeguards on scientists' minds? It is well known that the same knowledge which the IAEA disseminates through literature, conferences, training projects, and symposia constitutes the basic knowledge necessary to utilize atomic energy for military purposes. What is to stop a country from training its scientists under IAEA auspices and then disassociating itself from the Agency, obtaining nuclear material from a regional organization or a nation which does not demand the imposition of safeguards or inspection, and then developing some degree of nuclear military capacity? There may in fact be quite a number of obstacles to overcome, such as possession of a sufficient industrial base, but none of these obstacles would represent institutional obstructions inherent in the program of the International Atomic Energy Agency.

This problem was briefly raised by Senator Hickenlooper during the debate over the Statute in 1957.⁴⁹ An exchange which occurred between Senator Hickenlooper and Thomas E. Murray, a Commissioner on the United States Atomic Energy Commission, is illuminating:

Hickenlooper: Nations who will come into this Agency to receive assistance from it will, in the main, be nations that do not have the competence themselves to develop this science at this moment.

Murray: I agree with that.

Hickenlooper: As these nations, if they have the latent or potential ability to develop the science themselves with aid, do so, a number of them probably will gain some proficiency in the atomic science.

Murray: No doubt about it.

Hickenlooper: As they gain proficiency in the peacetime uses of the atomic sciences, don't they go a long step down the road toward gaining knowledge and potential proficiency in the fabrication of weapons?

Murray: There is no question in my mind about that, yes.

Hickenlooper: If they do, then human nature being what it is, . . . the time comes when a nation says "I will be responsible for my own defense, and I will cease my association with this

49. *Hearings Before the Senate Committee on Foreign Relations and Senate Members of the Joint Committee on Atomic Energy on Executive I, the Statute of the International Atomic Energy Agency*, 85th Cong., 1st Sess., 174 (1957), hereafter cited *Hearings*.

Agency, with what I have learned, and will start making atomic weapons for myself. . . .”

. . . [A]re we perchance speeding the day when many nations can have the competence to make atomic weapons, *because of the educational and technical training which they will get through this international agency?* . . . Are we possibly in a situation where a father says, “My son is going to grow up and eventually drive an automobile and have one of his own, so when he is 10 years old I had better give him one now and start him out.” . . . [A]re we raising a potential Frankenstein monster here which can stalk the earth at an earlier date than it otherwise would, and perhaps rise up to plague us?⁵⁰

Murray was forced to admit that the total effect of the International Atomic Energy Agency could greatly increase the proliferation of nuclear capacity. But Murray still gave testimony supporting the Agency as an instrument to prevent diversion on the ground that only through an international institution could a safeguards and inspection system be internationalized. And only through an internationalization of the safeguards and inspection system then employed by the United States in its bilateral program could eventual diversion be prevented. Without the IAEA, the best our nation could unilaterally accomplish would be to delay proliferation for some length of time. When proliferation finally occurred, which to the experts seemed inevitable, there would be no institutional check on diversion. What Hickenlooper in effect forced Murray to say was that *in spite* of the increased proliferation caused by the International Atomic Energy Agency, it should be supported by this country since it provided a chance to internationalize the safeguards system developed by the United States and thus provide one important element in an attempt to overcome the anarchy which exists in international atomic energy today. Thus, the IAEA was supported by Mr. Murray and others on the ultimate basis of its becoming an international institution capable of creating international law to govern an area of activity badly in need of such law.

It is submitted that this idea, mirroring the thinking expressed throughout the hearings,⁵¹ is valid only if the IAEA is looked upon as a first step toward more serious disarmament measures. Taken alone, the hope that by giving a nation nuclear information and material for peaceful purposes one will thus deter it from developing nuclear military capacity is foolish. A

50. *Id.* at 184-85. Emphasis supplied.

51. See, e.g., the statement of Ambassador Wadsworth, *Hearings* at 164.

true internationalization of safeguards and inspection provisions must include both beneficiary and donor nations.

In this respect, the complaints of the Indian government concerning the safeguards provisions of the Statute of the International Atomic Energy Agency seem valid. The major Indian objection was stated by Dr. H. J. Bhabha, Chairman of the Indian Atomic Energy Agency, in 1956:

The elaborate safeguards provisions of the present draft are intended to ensure, if I may use an analogy, that not the slightest leakage takes place from the wall of a tank, while ignoring the fact that the tank has no bottom. . . .

Besides the three States which already have atomic weapons, there are a number of States which have the technical and material resources to push forward their own atomic weapons programmes without any aid from the Agency and to make atomic weapons, if they so wish. The present safeguards will in no way stop their progress. Further, there are many States, technically advanced, which may undertake projects with Agency aid, fulfilling all the present safeguards but in addition run their own parallel programmes independently of the Agency in which they could use the experience and know-how obtained in Agency aided projects, without being subject in any way to the system of safeguards.⁵²

There is nothing in the Statute to prevent the knowledge gained by scientists of a nation under the IAEA program of technical training to be used for military purposes. The elaborate safeguards on materials and installations may prevent direct diversion, but what of the vast training program of the IAEA? This may well be a critical mistake based on an initial error in planning the International Atomic Energy Agency. As previously stated, when the IAEA was originally established, it was thought that there was an extreme scarcity of uranium. Now that it is known that such is not the case, competent scientific manpower, technological capacity and industrial advancement, rather than supplies of raw material for the production of fissionable material, are the major impediments to the development of nuclear capacity. Hence, any system of control over proliferation based on control over supplies of uranium is undercut. This leads to a conclusion which will be developed later, that without a general disarmament plan, including the inspected cut-off of production of fissionable materials and the diminution of existing stockpiles, the International Atomic Energy Agency may be a great vehicle of proliferation and eventual di-

52. U.N. Doc. IAEA/CS/OR, 7, at 50-51.

version. Even though the Agency could not conceivably have been created if the nuclear powers had been subject to the safeguards provisions in the 1950's, this must now be accomplished within a short time.

James Wadsworth⁵³ and Bernhard Bechhoefer⁵⁴ have both presented a "first step" rationale as one of the prime reasons for the creation of the International Atomic Energy Agency. The basic argument is that by taking limited "first steps" a political climate may be created which will permit the accomplishment of later steps which are substantively more meaningful. This argument has been recently bolstered by psychological writings which link such steps to a graduated, unilateral but hopefully reciprocal method of disarmament.⁵⁵ The same argument was made in defense of the recently accomplished partial nuclear test ban. The problem with these "first steps" is that they seem to be taken without any clear idea of what the second step is to be. Care must also be taken to see that they do not constitute a first step in the wrong direction, or possibly a first step in a direction in which no second step is feasible. The effect of such "first steps" upon our alliance system must carefully be watched. If these tension-reducing agreements are not quickly followed by substantively meaningful disarmament measures, measures which at the same time do not disrupt our alliance system, we will continue to do nothing more than take ceremonial first steps leading nowhere.

Since the safeguards and inspection provisions of the Statute of the International Atomic Energy Agency do not apply to lending nations, or to nations which develop their own nuclear capacity apart from the Agency, or to bilateral agreements unless requested by the nations party to the agreements, the world could eventually be filled with power reactors despite the International Atomic Energy Agency. Until the major nuclear powers are in some way made subject to the control provisions of the Statute, the Agency soon will be meaningless as an instrument against uncontrolled proliferation. To date, the International Atomic Energy Agency has failed to deter any major Nth country from becoming a nuclear nation. Some countries, such as India, have expressed no interest in developing a military nuclear capacity, either before or after the creation of the Agency. The Peoples Republic of China is not a member of the Agency and no intention has ever been expressed by our government that she become a member, even though many statements have been made to the effect that

53. *Hearings*, at 174.

54. BECHHOEFER, *op. cit. supra* note 19, at 241-49.

55. See *e.g.*, OSGOOD, AN ALTERNATIVE TO WAR OR SURRENDER (1962).

Communist China is our greatest long-term threat to world peace. In fact, the negotiations concerning the Statute clearly show that the firm position of our government was that China should not at any foreseeable time become a member of the Agency. Our opposition to the Soviet demand for universal membership was based on this fact. The Agency has not deterred France from her goal of becoming a nuclear power, despite the effect this must ultimately have upon Germany's desires for nuclear weapons.

Any other result than this could hardly be expected unless meaningful steps are taken to place restrictions upon the military nuclear development of the major powers. While the United States, the U.S.S.R., and the United Kingdom rely upon the possession of military nuclear capacity to maintain their strategic position in relation to other nations, the major Nth countries cannot really be expected to deprive themselves permanently from obtaining military nuclear capacity. Some nations which have not expressed any intention of developing military nuclear capacity have accepted the imposition of safeguards upon their nuclear establishments. But Mr. Dulles was hoping for much more when the International Atomic Energy Agency was first proposed. He gambled that by helping spread nuclear technology for peaceful purposes he would be able to dissuade key countries such as France from the utilization of this knowledge for military purposes. He lost. The Agency was mainly aimed at proliferation. The only discernible result of the Agency in this area is that it has succeeded in spreading nuclear technology. This is a rather wry result for a plan designed to prevent diversion.

France has taken the position that Germany, Japan, and other countries may someday take in regard to this problem. She has rejected the right of the major powers to decry the dangers of proliferation and at the same time rely upon military nuclear capacity to maintain their strategic position in the world.

The logical second step to follow the creation of the International Atomic Energy Agency and the accomplishment of a limited agreement to ban some forms of nuclear testing would seem to be a controlled and inspected agreement to cease the production of nuclear weapons.⁵⁶ This has

56. The recently concluded agreement by which the U.S.S.R. and the United States will voluntarily and without inspection cease the production of nuclear weapons, while a step in the right direction, does not fulfill this requirement. Before a cut-off will be meaningful, given the present bloated stockpiles of nuclear weapons, the gradual diminution of existing stockpiles must be underway. When this occurs, an uninspected cut-off would be an invitation to catastrophe. The sort of inspected cut-off of nuclear production which must soon occur if nuclear disarmament is to be possible must provide for inspection, as does the proposal made by the United

been called in disarmament parlance the "cut-off." The gigantic problems involved in accomplishing such an act are not ignored by this writer, but they are essentially beyond the scope of this article. The problems of inspection are manifold and are only exceeded by the problems which would be involved in the third step, the gradual elimination of existing stockpiles. Perhaps even more gigantic than the technical problems involved in inspecting such agreements is the all-pervading problem of the degree to which the societies of the two great powers will allow themselves to be breached in the inspection process.

It may be that these problems are by this time insoluble. Stockpiles may be such that no inspection plan could be comprehensive enough to provide a sufficient degree of assurance against the possession of clandestine stockpiles. It may be politically impossible in either country to reach agreement on an inspected cut-off and stockpile reduction plan. If this is so, the International Atomic Energy Agency, and perhaps any other instrument against diversion, must fail.

CONCLUSION

Several functional problems exist in the International Atomic Energy Agency: The Agency is hampered financially by the failure of the U.S.S.R. to pay any portion of the expenses of the Agency other than the mandatorily assessed amount; the underdeveloped countries are unwilling to contribute to any projects other than those which immediately benefit themselves; the Board of Governors is too large to be an effective administrative head of an agency, yet the Director General is given little discretionary authority to compensate for this; political, geographical, and economic divisions badly undercut the Agency's effectiveness.

Yet these problems are minor as compared to those which have been discussed before. Many have said that the International Atomic Energy Agency is a failure. Implicit in some of these criticisms is the vaguely articulated assumption that there is something inherently wrong in the nature of the international institution which renders it incapable of performing its intended functions. This leads to a search for possible minor surgery to the organization of the Agency or some appendage to its functions. The basic problem does not lie in this area. The fundamental difficulty lies in the relationship between the major states. If co-operation is de-

States at the seventeen-nation disarmament conference at Geneva on June 25, 1964. See *U.S. Presents 3-Point Plan for Inspecting Nuclear Cutoff*, St. Louis Post-Dispatch, June 26, 1964, p. 1.

sired by the powerful nations, even an institutionally imperfect international organization will function. A truly "international" body of law governing atomic energy as opposed to a body of 19th Century Western European law, could then develop. If co-operation is not desired in meeting the goals set out for the international organization, a mechanically perfect international institution cannot perform its tasks. Gadgetry in international institutions cannot solve basic differences in goals and means to such goals.

Assuming that the control of proliferation and the prevention of diversion were the goals of the American originators of the International Atomic Energy Agency, these goals will be without the reach of the Agency so long as the safeguards provisions of the Agency continue to apply only to beneficiary nations. Until meaningful steps are taken to decrease the strategic reliance upon nuclear weapons by the two major powers, the Agency will only serve to insure that "not the slightest leakage takes place from the wall of a tank, while ignoring the fact that the tank has no bottom."⁵⁷

57. Statement of Dr. H. J. Bhabha, Chairman of the Indian Atomic Energy Agency, U.N. Doc. IAEA/CS/OR, 7, at 50-51.