# *Preventing a Biological Arms Race*

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covert operation attack against crops and causing severe crop loss" in anticipation of actual use.[28]

In summary, the end result of the expansion of CBW activity in the 1950s and 1960s was an unprecedented assimilation of CB weaponry by the military and the CIA. The period saw the formation of a huge chemical and biological warfare infrastructure of laboratories, test facilities, and production plants, and a network of institutional ties with the civilian sector. This system produced biological and chemical weapons systems capable of dispersing lethal CB agents over vast areas. Plans for use both in military and covert operations were formed. The United States used herbicides and irritant agents on a massive scale in Vietnam, thereby undermining the clarity of the 1925 Geneva Protocol's ban on "the use in war of asphyxiating, poisonous and other gases and of all analogous liquids, materials or devices." Possibly in response to growing public and international criticism of such use, a no-first-use policy for lethal chemical and biological agents began to be articulated by U.S. spokesmen in the mid-1960s. Other aspects of the United States CBW policy remained obscure to the public and by no means unambiguously restrained by international law.[29]

### *CBW Disarmament Efforts, 1969–1975*

The second phase of U.S. policy began in the 1960s when international and domestic pressures for CBW disarmament mounted, stimulated partly by dissemination of information about the nature of these weapons, partly by strong opposition to the continued use of herbicides and irritant agents in Vietnam, and partly by several well-publicized events within the United States, including a major accident resulting from the testing of nerve gas at Dugway Proving Ground.[30]

In various international arenas, the question of chemical and biological disarmament achieved prominence. The United Nations heard repeated complaints against American use of chemicals in Vietnam.[31] U.N. Resolution 2603A introduced by Sweden in November 1969 affirmed the position of the majority of nations that the Geneva Protocol prohibited "any chemical agents of warfare . . . which might be employed because of their direct toxic effects on humans, animals or plants" and implicitly censured American use of defoliants and irritant agents. (Only the United States, Australia, and Portugal voted against the Resolution.) In addition,

various initiatives were taken to place the question of chemical and biological disarmament on the international agenda. In August 1968, the United Kingdom submitted a working paper to the Eighteen-Nation Disarmament Committee proposing a Convention banning biological weapons. A report issued by U.N. Secretary-General U Thant in July 1969 warned of the growing destructive capacity of CB weaponry. In a strongly worded foreword, he appealed to all nations to accept the Geneva Protocol's prohibition on the use of chemical and biological agents, including irritant agents, and to eliminate them from military arsenals.[32] Amidst considerable international debate about how best to achieve chemical and biological disarmament, two draft conventions, the first aimed at biological disarmament and the second aimed at comprehensive chemical and biological disarmament, were proposed by the United Kingdom and the countries of the eastern bloc respectively in the summer of 1969.[33]

Within the United States, the CBW programs drew the fire of those appalled at the complicity of modern science in warfare. Critics attacked the use of herbicides and anti-personnel weapons in Vietnam, the open-air testing of chemical and biological weapons, and generally, the use of science for the creation of weapons of mass destruction. Scientists contributed to the growing protests by publicizing these issues and focusing attention on the moral contradictions entailed by weapons research. In 1967, thousands of scientists signed a petition to President Lyndon Johnson urging an end to the use of anti-personnel and anti-crop weapons in Vietnam and a review of U.S. CBW programs and policies. A number of scientific societies took action to express concern over or opposition to chemical and biological warfare.[34]

Members of Congress were also influential in raising the visibility of the CBW issue and pressing for a change of policy. Congressional interest in the largely secret CBW program was activated in part by growing media coverage of the issue that focused public attention on the hazards associated with the storage, transportation, disposal and open-air testing of chemical weapons. Congressional hearings on these matters in the spring of 1969 further fanned public and congressional opposition.[35]

By the summer of 1969, congressional committees were flexing their muscles. By July, a House resolution urging the President to submit the Geneva Protocol to the Senate for ratification had gained 95 cosponsors. In addition, members of Congress were



threatening major cuts in the authorization for the CBW program. In the same month, the Senate Armed Services Committee voted to eliminate the entire $16 million authorization for offensive CBW research and development. In August, amendments to the defense procurement authorization bill placed a series of restrictive conditions on the CBW program including prohibitions on open-air tests of lethal CBW agents and procurement of delivery systems for such agents and a requirement that the Secretary of Defense submit semiannual reports to Congress accounting for expenditures on the CBW program. By the middle of 1969, the U.S. CBW programs had become the focus of a major public controversy.[36]

In this climate of strong criticism of the CBW program at home and abroad, the Nixon administration initiated a review of CBW policy by the National Security Council (NSC) in May 1969. Information and policy proposals flowed to the NSC from a variety of sources including the Joint Chiefs of Staff, the President's Science Advisory Committee, the DOD Office of Systems Analysis, and the State Department's Bureau of Politico-Military Affairs. Following a lengthy process of discussion and negotiation, Richard Nixon announced in November 1969 several major changes in CBW policy: an unconditional renunciation of the development, production, and stockpiling of biological weapons; the renunciation of first use of lethal chemicals and incapacitating agents; and finally, his historic renunciation of biological weapons. Henceforth, Nixon affirmed, U.S. interests in biological warfare would be confined to research for defensive purposes, and stockpiles of biological weapons would be destroyed.[37] Toxin weapons were not mentioned in the president's statement, but following substantial congressional comment on the omission, the U.S. renunciation was extended in February 1970 to include these weapons.[38]

The precise reasons for Nixon's decision to alter U.S. CBW policy remain obscure. In a general way, the policy change responded to growing public and international criticism of the U.S. CBW policy. In some respects, the decision may be seen as a compromise, going part way to satisfy the demands of critics of U.S. policy by renouncing those weapons which had the least military utility yet preserving the U.S. option to use herbicides and tear gas in Vietnam. As critics of the U.S. CBW policy noted immediately after Nixon's announcement, the United States did not consider those chemicals to be covered either by the Geneva Protocol or by Nixon's renunciation of "lethal chemical weapons." In addition,

the only chemical agent in the U.S. arsenal defined as an incapacitant—BZ—was both expensive and unreliable. Its elimination had no impact on the conduct of the Vietnam War.[39]

Nixon's renunciation of biological and toxin weapons was, on the other hand, comprehensive. It is likely that several factors entered into the Nixon administration's calculations. First, the military utility of biological weapons was seen as dubious; thus renunciation did not deny the U.S. an advantage over chemical or conventional weaponry. It is possible also that the decision was in part a response to concerns within the scientific community about the future military use of advances in biology.[40] Evidence for this interpretation comes from the reasons for supporting biological disarmament given by the director of the Arms Control and Disarmament Agency during the Nixon Administration, Fred Iklé, in testimony before the Senate Foreign Relations Committee in 1974. Among other things, Ikle stated that "without such a prohibition, new developments in the biological sciences might give rise to concern because they could be abused for weapons purposes. Such anxieties could foster secretive military competition in a field of science that would otherwise remain open to international competition and be used solely for the benefit of mankind."[41] A third and possibly decisive reason for the change of policy was that advances in biological weaponry were unlikely to serve U.S. interests. As one observer of U.S. CBW policy had argued in 1964: "The introduction of radically cheap weapons of mass destruction into the arsenals of the world would not act as much to strengthen the big powers as it would to endow dozens of relatively weak countries with great destructive capability. . . . It is obviously to the advantage of great powers to keep war very expensive."[42] This argument was also stressed by former Defense Department adviser Han Swyter at a symposium on chemical and biological warfare at the National Academy of Sciences in October 1969: "The proliferation of chemical and biological capability would tend to change the world's balance of power, reducing ours. We would lose some of the relative advantages of nuclear and conventional capability which wealth gives to us and to the Soviets. Consequently, we have a strong incentive to discourage other nations from acquiring chemical and biological capabilities."[43]

The details of Nixon's new biological warfare policy were articulated in National Security Decision Memorandum 35, signed by Nixon's National Security Adviser, Henry Kissinger, and issued on the same day as Nixon's renunciation of biological weapons. The memorandum defined the permissible areas of biological research: The United States . . . biological program will be confined to research and development for defensive purposes. . . . This does not preclude research into those offensive aspects of . . . biological agents necessary to determine what defensive measures are required." According to this guideline, the operative criterion for permissible biological defense research was not the *product* of research but the *motive* guiding it. This criterion thus allowed research in a gray area where defensive and offensive activities could not be easily distinguished.[44]



Meanwhile, at the international level, the question of whether the problem of chemical and biological disarmament should be addressed by a single comprehensive convention or by separate conventions remained controversial, with the socialist and nonaligned nations favoring the former and the United Kingdom, the United States, and some other western nations the latter. However, the virtual deadlock on this issue at the Geneva Conference on the Committee on Disarmament (CCD) was broken in the spring of 1971 when the Soviet Union reversed its position and tabled a draft convention for biological disarmament only. Nixon's renunciation may have played an important role in this reversal, signalling to the Soviet Union a new willingness to negotiate on BW disarmament.[45] Rapid progress on a Biological Weapons Convention prohibiting biological and toxin weapons followed. The Convention was completed in September 1971 and opened for signature in London, Moscow and Washington on April 10, 1972.[46]

The treaty was (and is) a major achievement in the history of disarmament. Until the 1988 INF treaty, it was the only treaty in modern times to prohibit possession as well as use of weapons. However, the formal language of the treaty is in some respects weak and does not entirely preclude the possibility of activities aimed at the development of biological weapons. (For a discussion of the Convention's provisions, see chapter 11.) In addition, the treaty does not contain provisions for verification of compliance. To a great extent, the Biological Weapons Convention depended on the good faith, self-interest, and commitment of the parties to it.[47]

In 1975, when the treaty entered into force, the United States also ratified the Geneva Protocol and committed itself once again to a policy of no-first-use of chemical weapons. A period of relative restraint with respect to chemical and biological weapons followed.

Stockpiles of biological and toxin weapons were ordered to be dismantled.[48] The Biological Warfare Program (now renamed the Biological Defense Program) was cut back, confined to research, and reoriented toward defense, as defined by National Security Decision Memorandum 35. The program also underwent some important institutional changes at this point. Research and development activities related to biological agents and toxins were transferred from the Army Matériel Command to the Health Services Command under the Army Surgeon General. Research related to crop diseases was transferred to the U.S. Department of Agriculture. Physical defense—that is, activities related to detection devices and protective clothing—continued under the Army Materiel Command at Edgewood Arsenal. Testing and evaluation remained under the Testing and Evaluation Command and continued to be carried out, with reduced staffing, at Dugway Proving Ground.[49] In effect, research and development activities focusing on the properties of biological warfare agents appear to have been separated from the Chemical Warfare Program and reoriented toward defense. At the same time, an unofficial moratorium on the manufacture of chemical weapons occurred. (No chemical weapons were produced from 1969 until December 1987.) Support for research and development for the Chemical Warfare and Biological Defense Programs continued to decline, reaching its lowest point in the post-war period in 1975 (figure 2.1). The CBW programs were essentially mothballed.

Also in the 1970s, negotiations on the development of a treaty prohibiting chemical weapons were initiated between the two superpowers. (These bilateral talks supplemented the multilateral efforts being pursued under joint U.S.-Soviet leadership by the Conference of the Committee on Disarmament.) President Nixon and Secretary Brezhnev's intention to begin such negotiations, announced at the Moscow summit meeting in 1974, was reaffirmed by President Ford and Secretary Brezhnev at Vladivostok, and bilateral negotiations began in Geneva in August 1976. Progress was slow, but it was not insignificant. By August 1979, broad agreement had been reached on the scope of the treaty (the quantities and types of chemicals to be covered) and on the national and international measures for verifying compliance, including the use of on-site inspection. In the joint communiqué issued by President Carter and Secretary Brezhnev in Vienna in June 1979, the superpowers agreed to intensify their efforts to produce a joint draft convention for presentation to the Committee on Disarmament, which succeeded the CCD. Although pressure from the U.S. Army to initiate production of binary chemical weapons had begun to mount, the Ford and Carter administrations and Congress seemed generally committed to seeking to disarm, rather than rearm, chemically, and the prospects for an eventual Chemical Weapons Convention appeared quite promising.[50]