

AN INTERNATIONAL CRIMINAL LAW APPROACH TO BIOTERRORISM

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I. INTRODUCTION

Bioterrorism is a reality, and we are all threatened.¹ We need to make critical choices without delay. The recent anthrax attacks of Autumn 2001 have nullified any resort to relaxed deliberation. Because response measures, no matter how elaborate, cannot confine the spread of disease and panic within acceptable limits, our choices must focus on preventing terrorists from acquiring or developing biological weapons.² Thus, there is an inexorable linkage between preventing biological terrorism and controlling biological weapons.

This Article advances two key propositions. First, prevention measures must be international; unilateral measures are incapable of making much direct impact. These international measures must be comprised in a formal and legally binding treaty regime—hence the significance of considering relevant measures in connection with the Bacteriological (Biological) and Toxin Weapons Convention (commonly known as the Biological Weapons Convention or the BWC).³ Second, there are two approaches to preventing international bioterrorism: an approach based on arms control and non-proliferation, and an approach

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1. See Laurie Garret, *The Nightmare of Bioterrorism*, FOREIGN AFF., Jan.-Feb. 2001, at 76. See also Steven M. Block, *The Growing Threat of Biological Weapons*, AM. SCIENTIST, Jan.-Feb. 2001, at 28; Mark G. Kortepeter, Theodore J. Cieslak & Edward M. Eitzen, *Bioterrorism*, J. ENVTL. HEALTH, Jan.-Feb. 2001, at 21, available at <http://www.neha.org/pdf%20files/Bioterrorism.pdf>.

2. For further information, see Barry Kellman, *Biological Terrorism: Legal Measures for Preventing Catastrophe*, 24 HARV. J.L. & PUB. POL'Y 417 (2001).

3. Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction, Apr. 10, 1972, 26 U.S.T. 583, 1015 U.N.T.S. 163 [hereinafter BWC]. Currently, 143 states have joined the BWC.

based on criminal law enforcement. These approaches are not inherently contradictory nor mutually exclusive, but their paths substantially diverge. The latter approach—criminal law enforcement—has distinct advantages, albeit with implications for current concepts of national sovereignty.⁴

This Article briefly portrays the contours of an international criminal law enforcement approach to bioterrorism. It does so against the backdrop of the Fifth Review Conference for the Biological Weapons Convention,⁵ which has accelerated a global debate over the efficacy of various tactics to cope with biological weapons.⁶ That debate is likely to be shrill; whether it will be analytical remains to be seen. This Article's purpose is to establish a conceptual framework to systematically appraise various arguments that have arisen concerning the direction that international policy should take. More explicitly, this Article's thesis is that the simple but altogether accurate key to combating biological terrorism is to find and stop terrorists, whether state or non-state, from getting or using biological weapons. Everything else is surplus.

II. THINK GLOBALLY

As of this writing, it is not known whether the anthrax attacks of Autumn 2001 have domestic or foreign origins, whether those attacks are finished, or whether the perpetrators of those attacks have access to other biological weapons. It was determined that the anthrax used in the attacks was weapons quality. The United States is still starkly vulnerable to a terrorist attack involving pathogens that are produced and weaponized in some distant corner of the world and brought here by a single traveler. There is no way to prevent someone

4. See generally Barry Kellman, *International Terrorism and International Human Rights*, 17 INT'L ENFORCEMENT L. REP. 263 (2001).

5. BWC, Article XII provides that the BWC States Parties shall review the operation of the convention, taking into account new scientific and technological developments, every five years. BWC, *supra* note 3, art. XII, 26 U.S.T. at 591, 1015 U.N.T.S. at 168. See generally Graham S. Pearson, *Opportunities for the Fifth Review Conference*, 4 DISARMAMENT F. 27 (2000), available at <http://www.unog.ch/unidir/e-df0-4.htm>.

6. See Barry Kellman, *WMD Proliferation: An International Crime?*, NONPROLIFERATION REV., Summer 2001, at 93. An analogous debate is beginning with regard to chemical weapons. The Organization for the Prohibition of Chemical Weapons, established by the Chemical Weapons Convention, is considering initiatives for addressing threats of chemical terrorism.

from carrying a perfume bottle of pathogens through customs at any international airport. It is difficult, without close examination, to distinguish power-form pathogens from make-up or perfume, and no airport metal detector can screen for pathogens. Once the biological weapon is here, if sufficiently virulent, there may be no way to contain its consequences. That the United States cannot prevent the importation of pathogens does not prove, of course, that the anthrax involved in recent attacks is from a foreign source, but it suggests America's vulnerability to future attacks from a foreign source. Various biological weapons experts have described the former Soviet and Iraqi bio-weapons programs and have alleged that the security of these country's weapons and the accounting for these country's weapons are deficient.⁷

The ease with which pathogens can be carried or shipped means that unilateral action cannot prevent bioterrorism. Investigators may uncover a secret laboratory in the United States, but a laboratory in most other parts of the world could easily escape detection, and operations could proceed with minimal risk. Robust domestic regulatory and law enforcement capabilities alone would have negligible ability to detect foreign terrorists who are developing biological agents nor to prevent someone from bringing weaponized agents to the United States.

In view of the potential magnitude of casualties,⁸ it makes sense to consider ways of reducing the risk that weapons quality biological agents from a foreign source will be used against the United States.⁹ Successful measures to combat bioterrorism should include attempts to identify covert biological weapons activities and to interdict those activities as well as transnational

7. See U.S. DEP'T OF DEF., *PROLIFERATION: THREAT AND RESPONSE* (Jan. 2001), at www.defenselink.mil/pubs/ptr200101110.pdf. See also Eileen Choffnes, *Germes on the Loose*, BULL. ATOM. SCIENTISTS, Mar. 1, 2001, at 57, available at <http://www.bullatomsci.org/issues/2001/ma01choffnes.html>.

8. If smallpox is used against the United States, the spread of contagion would be difficult to limit, and the death toll could far exceed that of September 11. The implications of a smallpox attack were explored in the *Dark Winter* mock exercise. See generally *Combating Terrorism: Federal Response to a Biological Weapons Attack: Hearing Before the House Subcomm. on Nat'l Sec., Veterans Affairs and Int'l Relations, House Comm. on Gov't Reform, 107th Cong.* (2001); The ANSER Institute for Homeland Security, *Dark Winter*, at www.homelandsecurity.org/darkwinter/index.cfm (last visited Feb. 2, 2002).

9. See John J. Stanton, *Should Approach to Bioterrorism Change?*, SECURITY MGMT., June 1, 2001, at 138, available at http://www.securitymanagement.com/library/view_june01.html.

movements of deadly pathogens. The current capabilities to detect or interdict pathogens are worse than inadequate; these capabilities are virtually non-existent.

III. THE ARMS CONTROL APPROACH: THE BIOLOGICAL WEAPONS CONVENTION AND ITS PROTOCOL

The arms control approach (including non-proliferation) provides an effective set of measures to cope with a dangerous threat to international security: vertical and horizontal weapons proliferation among national militaries, with concomitant acceleration of both the likelihood that war among nations will erupt and that, if and when war does break out, the consequences will be catastrophic.¹⁰ These measures make considerable sense for controlling nuclear weapons and, to a lesser degree, chemical weapons because these weapons tend to be developed by state-operated militaries; development of these weapons is perceived to offer strategic advantages in waging military campaigns. Because it is technologically difficult to make these weapons effective for military purposes, states employ elaborate facilities either directly under their control or in the private sector. Moreover, these weapons tend to be developed covertly; national security is often thought to be augmented by secrecy and ambiguity. International norms condemning the development of such weapons reinforce the need for secrecy. Despite this secrecy, non-proliferation strategies are effective because weapons production activities at these facilities are identifiable upon inspection, even if they are concealed, and even after production and development have ceased.

Arms control conventions bolster the international norms against use or possession of a class of weapons and often include measures to deny states access to the scarce materials and complex technology that might enable them to develop those weapons. To thwart cheating, arms control conventions often include verification measures that are designed to: (1) prove a state's compliance with international norms; (2) deter a state from cheating by raising the likelihood of discovery; and (3) alert the international community to covert weapons programs.

10. See generally John A. Nagl, *Defending Against New Dangers: Arms Control of Weapons of Mass Destruction in a Globalized World*, *WORLD AFF.*, Mar. 22, 2000, at 158; James Kitfield, *Is Arms Control Dead?*, *NAT'L J.*, July 14, 2001, at 2219.

Accordingly, verification measures include declaration obligations whereby states provide information concerning both relevant military and private sector activities to an international organization. To obtain required information, States Parties must impose a reporting requirement on relevant private sectors participants—a requirement that may be perceived as burdensome and threatening to the confidentiality of business secrets. Arms control conventions also compel states to permit agents of an international organization to visit public and private facilities in order to verify declarations. Each State Party must provide access to relevant facilities, further risking privacy intrusions. There may also be an obligation to allow investigations that are based on a suspicion of non-compliance, the so-called special or challenge inspections.

A. *The Biological Weapons Convention*

The Biological Weapons Convention (BWC), Article I, prohibits development, production, stockpiling, or acquisition of: (1) biological agents that cannot be justified for prophylactic, protective, or other peaceful purposes; and (2) weapons designed to use such agents for hostile purposes or in armed conflict.¹¹ This prohibition articulates a clear and unequivocal norm against the use of biological weapons, binding on the treaty's States Parties and arguably stating a *jus cogens* principle of customary international law.

Article III extends this prohibition to international transfers and assistance to manufacture or acquire biological agents or weapons.¹² Article VI authorizes any State Party to lodge a complaint with the United Nations Security Council concerning another State Party's breach of its obligations; all States Parties must cooperate in investigating the complaint.¹³ Article IV requires each State Party to extend the Article I prohibitions to persons within its jurisdiction or control.¹⁴ Article X provides that States Parties are to facilitate in exchanges of equipment, materials, and scientific and technological information for the use of biological agents for

11. BWC, *supra* note 3, art. I, 26 U.S.T. at 587, 1015 U.N.T.S. at 166.

12. *Id.* art. III, 26 U.S.T. at 587, 1015 U.N.T.S. at 167.

13. *Id.* art. VI, 26 U.S.T. at 588-89, 1015 U.N.T.S. at 167.

14. *Id.* art. IV, 26 U.S.T. at 588, 1015 U.N.T.S. at 167.

peaceful purposes.¹⁵

The BWC does little more than express a norm; it lacks capabilities to verify compliance. Moreover, it is directed exclusively at the problem of state-run military programs involving biological weapons; that non-state actors might develop or use biological weapons is scarcely within the treaty's ambit. Even as to states, the BWC propounds no enforcement mechanisms whatsoever.¹⁶ The BWC was, therefore, essentially useless in preventing the Soviet Union and Iraq from developing sophisticated bio-weapons capabilities over a sustained period.¹⁷ Finally, the BWC does not address regulatory initiatives that could restrict access to essential bio-weapons materials or equipment.¹⁸

B. *The BWC Protocol*

In 1994, a Special Conference of the BWC States Parties established the Ad Hoc Group (AHG) to consider appropriate measures, including possible verification measures, and to draft a legally binding instrument to strengthen the effectiveness and improve the implementation of the BWC.¹⁹ In July 2001, the negotiations were nearing consensus on the basis of the compromise text drafted by the AHG's chairman, Tibor Toth of Hungary.²⁰ The composite text calls for States Parties to declare certain facilities and activities if they had or used biological weapons in the past and to disclose whether they have national biological defense programs or activities.²¹ States parties must disclose other relevant facilities, such as maximum biological containment facilities.²² To help ensure the accuracy of declarations, declared facilities would be subject to randomly selected transparency visits.²³

15. *Id.* art. X, 26 U.S.T. at 590, 1015 U.N.T.S. at 167-68.

16. See generally NICHOLAS A. SIMS, *THE EVOLUTION OF BIOLOGICAL DISARMAMENT* (2001).

17. See Kellman, *supra* note 2, at 423-24.

18. BWC, *supra* note 3.

19. See *Germ Warfare Talks Fold in Wake of U.S. Withdrawal*, CHI. TRIB., Aug. 5, 2001, at C5; Elizabeth Olson, *Conference on Biological Weapons Breaks Down Over Divisions*, N.Y. TIMES, Dec. 8, 2001, at A7.

20. See Olson, *supra* note 19.

21. See Ad Hoc Group of the BWC, Procedural Report (2001), www.brad.ac.uk/acad/sbtwc/ahg56/doc56-1.pdf.

22. *Id.*

23. *Id.*

The proposed Protocol also outlines procedures to investigate suspicious outbreaks of disease²⁴ and suspected bio-weapon facilities. To encourage states to join, it guarantees States Parties assistance and protection against the use or threat of use of biological weapons and establishes measures to promote scientific and technological cooperation exchanges in peaceful biotechnology, including genetic engineering, biological agents, toxins, and capabilities to combat disease.²⁵ The Protocol also calls for the development of an international system for the global monitoring of emerging disease.²⁶ The Protocol requires states to review and report on their national export controls and declare data on the export of certain dual-use equipment.²⁷

In late July 2001, the U.S. rejected the proposed Protocol, claiming that it is ineffective for several reasons.²⁸ First, the absence of external signatures on biological warfare facilities makes it impossible to identify all of the facilities capable of conducting illicit bio-weapons activities.²⁹ Thus, only a small fraction of the pool of facilities in a country that potentially could be used for offensive biological warfare purposes would be declared and subject to routine inspection. The U.S. argues that states conducting offensive biological warfare activities either will not declare such facilities or will imbed illicit activities at declared facilities beneath an effective cover of legitimate biological activities.³⁰ Even if a bio-weapons facility is visited, illicit biological warfare work could easily be concealed or cleaned up, rendering it highly improbable that international inspectors would detect evidence of non-compliance. The U.S. also faults the mechanism of investigating suspicious facilities and disease outbreaks.³¹ The delay in securing approval for an investigation request from the implementing organization and getting a team physically on the ground may be enough time to

24. See Mark Wheelis, *Investigating Disease Outbreaks Under a Protocol to the Biological and Toxin Weapons Convention*, EMERGING INFECTIOUS DISEASES, Nov. 1, 2000, at 595, available at <http://www.cdc.gov/ncidod/eid/vol6no6/wheelis.htm>.

25. See Ad Hoc Group of the BWC, *supra* note 21.

26. *Id.*

27. *Id.*

28. See Ambassador Donald Mahley, Statement by the United States to the Ad Hoc Group of Biological Weapons Convention States Parties (July 25, 2001), at <http://www.state.gov/t/ac/bw/rm/2001/index.cfm?docid=5497>.

29. *See id.*

30. *See id.*

31. *See id.*

clean up or otherwise conceal evidence of a BWC violation. A signatory of the Protocol could also avoid its application by having non-party states, not subject to the Protocol, conduct the prohibited activity. The U.S. rejection of the Protocol set off a wave of condemnation among states that had actively negotiated the Protocol as well as non-governmental organizations that had long supported efforts to strengthen the Convention.³² All this set the stage for the Fifth BWC Review Conference a few months later.

IV. ESSENTIAL REALITIES OF BIOLOGICAL WEAPONS AND PREVENTING BIOTERRORISM

A strategy for combating bioterrorism must be grounded in an understanding of the realities of biological weapons. During the last decade, if not before, at least two conditions have become strikingly evident, and these realities are decisive in determining the appropriateness of alternative control measures.

First, the deliberate spread of plague or ebola now has little military utility for states with sufficient technology to prepare such weapons. Although state military programs have developed biological weapons and can do so again, the implications of devastating retaliation against such activity provide a significant safeguard. Acquisition of biological weapons by non-state terrorists, however, is a rapidly growing concern because deterrence is less effective in dealing with terrorists. Biological weapons are devastatingly effective against civilian populations, whether against one's own subjects or foreigners. Moreover, biological weapons are uniquely effective at spreading panic, which is often a prime terrorist objective.³³ Biological weapons can also be inflicted discreetly, enabling terrorists to flee after an attack, but before law enforcement personnel are on full alert. The important point here is that disarmament and non-proliferation measures are likely to be inapposite for addressing biological weapons threats—a control strategy that does not

32. See, e.g., Peter Capella & Ewen MacAskill, *U.S. Thwarts Deal On Biological Weapons*, GUARDIAN (London), July 26, 2001, at 14; Toby Harnden & Fiona Fleck, *Lone Stand By Bush Ruins Germ War Pact*, DAILY TELEGRAPH (London), July 26, 2001, at 16.

33. See Paul Kraemer, *The Theology of Biological Warfare*, WORLD AND I, May 1, 2001, at 306.

focus on terrorist acquisition and use of biological weapons is wrongly directed.

Second, capabilities for producing biological weapons are ubiquitous, but capabilities for verifying their non-production are illusory. Any reasonably-equipped biological research laboratory or bio-pharmaceutical facility has the capacity to make biological weapons quickly and, just as quickly, to eliminate any trace of that activity.³⁴ In view of the large number of these facilities, deciding what to look for and where to examine is tantamount to guessing.³⁵ Even if a robust inspection scheme could be conceived, it could be easily circumvented. Moreover, while weaponizing biological agents is far from a trivial undertaking, it is not so difficult that terrorists, much less a state, would be compelled to employ observable bio-pharmaceutical facilities. On the contrary, biological weapons can and would likely be made in covert facilities unrelated to any declared sites, especially if legitimate bio-pharmaceutical enterprises are subject to international monitoring. Even the most effective and lowest-cost verification system directed at the legitimate bio-pharmaceutical sector would not likely detect, prevent, or reduce the risk of bioterrorism to any substantial degree.

Combined, these realities of biological weapons signify that the Protocol is the right answer to the wrong problem. It propounds a reasonably balanced scheme to verify the unverifiable, while being significantly inattentive to dangerous behavior pursued covertly by non-state terrorism.³⁶ There is no point in arguing, therefore, whether the proposed BWC Protocol is more or less effective, burdensome, or intrusive than alternative verification tactics. Once we understand that the inherent nature of the problem does not lend itself to an arms control approach, then the important discussion must focus on alternative approaches.

V. THE CRIMINAL LAW ENFORCEMENT APPROACH TO BIOTERRORISM

The remainder of this discussion sets forth a criminal law

34. See Daniel Byman, *A Farewell to Arms Inspections*, FOREIGN AFF., Jan.-Feb. 2000, at 119.

35. See *id.*

36. See Michael Moodie, *Fighting the Proliferation of Biological Weapons: Beyond the BWC Protocol*, 4 DISARMAMENT F. 33 (2000), available at <http://www.unog.ch/unidir/e-df0-4.htm>.

enforcement approach to the problem of bioterrorism. Its premise is that bioterrorism shares more characteristics with illicit smuggling operations than with state weapons development programs.³⁷ Accordingly, anti-bioterrorism efforts should be directed at denying necessary materials and equipment to bioterrorists and at interdicting their networks before there is an attack. A criminal law enforcement approach would, therefore, comprise the following four categories of initiatives: (1) criminalization of both the use of biological agents and unauthorized possession of pathogenic agents; (2) regulation of possession and transfer of pathogenic agents, including oversight of basic bio-research and tracking of sophisticated weaponization equipment; (3) anti-smuggling initiatives, including authority to undertake investigations; and (4) empowerment of an institution capable of directing the entire set of efforts.

A. Criminalization

At this time, the following conditions are beyond dispute: (1) weaponization of pathogens by terrorists is not an international crime; (2) weaponization of pathogens by terrorists is not a national crime under the laws of all but a handful of nations; (3) no restrictions apply to the international distribution of pathogens or critical equipment; (4) no oversight system exists anywhere with regard to biological research or the activities of bio-pharmaceutical laboratories generally; (5) no aspect of international law authorizes any law enforcement activity to detect or interdict terrorists' preparation of bio-weapons; and (6) even if such law enforcement activity were authorized, there is no institutional capability to carry out law enforcement obligations.

1. Use of Biological Weapons

Using pathogens to cause death or disease must be a crime, regardless of where that use takes place or the reason for that use. Like slavery or torture, hostile infliction of biological agents is outside the limits of civilized behavior, and therefore must be a *jus cogens* crime against humanity. This designation serves

37. See generally *The Threat Posed by the Convergence of Organized Crime, Drug Trafficking, and Terrorism: Hearing Before the Subcomm. On Crime of the House Comm. on the Judiciary*, 106th Cong. (2000) (statement of Raphael F. Perl).

important purposes, including the clear and forceful articulation of a norm against such behavior and the facilitation in enforcing the norm and directing world public opinion. Criminalization should also serve to establish universal jurisdiction. The analogy here is piracy, and, as in piracy law, any state that can apprehend bioterrorists or investigate their activities should be legally obligated to do so and should have legal authority to prosecute them.

International criminalization can also be helpful when it is unclear whether the prohibited conduct is carried out pursuant to a state policy. If conduct is clearly criminal under international law, then each state must abstain from assisting the wrongdoer. Thus, criminalization might restrain questionable activities by states that are otherwise in good standing. Moreover, if a state refuses to conduct an investigation into or request support in addressing alleged illegality, then it will be effectively signaling through its inaction that it does not find the illegal conduct to be objectionable.

The current provisions of the BWC are clearly inadequate for the task of criminalization. The BWC's prohibitions apply only to States Parties. Although States Parties are obligated, under Article IV, to take necessary measures to apply those prohibitions against private parties, no mention is made of extending jurisdiction.³⁸ The far more serious problem is that most states have not enacted criminal penalties for individuals who conduct biological-weapons-related activities such as production or transfer of deadly biological agents.³⁹ In many states, there is no legal authority to investigate private biological weapons activities, nor is there any legal way to deprive private groups access to whatever materials they might need to carry out their plans.⁴⁰

38. See BWC, *supra* note 3, art. IV, 26 U.S.T. at 588, 1015 U.N.T.S. at 167.

39. The United States, in the Biological Antiterrorism Act of 1989, 18 U.S.C. §§ 175-178 (1994), provides criminal penalties up to life imprisonment, as well as fines, for anyone convicted of knowingly developing, producing, stockpiling, transferring, acquiring, retaining, or possessing any biological agent, toxin, or delivery system for use as a weapon. The penalties also apply to anyone who assists a foreign state or any organization to conduct any of these activities, or who attempts, threatens, or conspires to commit these activities. 18 U.S.C. § 175(a). The legislation provides for extra-territorial federal jurisdiction over an offense committed by or against a United States national. *Id.*

40. Moodie, *supra* note 36, at 40.

The implication that non-criminalization has on mutual legal assistance and on prosecution, either domestically or subsequent to extradition, is dramatic. Cooperative efforts to gather evidence, conduct investigations, immobilize evidence or proceeds of a crime, and produce evidence and witnesses for trial can operate effectively only if the conduct in question is criminal under the laws of both the requesting and requested states. If the status of behavior as a crime in various states is ambiguous, if national laws are not harmonized, then dual criminality may not be sustained. This problem is especially pronounced in those states where proliferation and terrorist activities are more likely.

Some states refuse to pursue persons who use biological weapons if such persons assert a motivation of political opposition to their government. Although the "political offense exception" in connection with biological weapons is unprecedented, and the development and use of such weapons have never been accepted as legitimate tools for expressing domestic political opposition, a global effort toward criminalization is needed to help ensure that no accused perpetrator may successfully hide behind the claim that he or she is entitled to the exception's protection.⁴¹ A clear international prohibition can obligate states to enact strict penalties and to harmonize extension of the prohibition to a broader range of conduct such as conspiracy, attempt, or aiding and abetting the crime.

2. *Preparation or Acquisition of Biological Weapons*

Even if international law explicitly prohibits the use of biological weapons, the effects of such use are too cataclysmic to delay employing law enforcement until after the fact. A more preventative criminal law enforcement system to address the bioterrorist threat should, therefore, focus on weapons production or on acquisition of dangerous biological capabilities. The bad news is that gaps in relevant international law— notably, the absence of a primary prohibition against personal possession of biological agents— marginalizes law enforcement, at least until

41. Raphael F. Perl, Cong. Research Serv., *CRS Issue Brief: Terrorism, the Future, and U.S. Foreign Policy*, at CRS-8 (Dec. 9, 1996), available at <http://www.fas.org/irp/crs/95-112.htm>.

the deficiency in law enforcement becomes a catastrophe. Remedying this gap in international law is itself problematic. Pre-use interdiction is complicated by the fact that most biological agents have legitimate research uses (if nothing else, for developing sensors or vaccines). All equipment relevant to producing and weaponizing those agents is similarly dual use. After an attack, everyone will know what those biological capabilities were used for, but ascribing the status of *jus cogens* criminality to advance preparations for actual use of deadly agents raises the risk of snaring legitimate, even compelling, activities within the prohibition; the prospect of universal jurisdiction poses a serious risk of creating vulnerability to unjust legal processes.

The resolution offered here is a combination of national penal legislation and international regulatory standards, as discussed below. National penal legislation should criminalize preparation, assistance, and construction of relevant facilities to produce biological weapons, and strict penalties for such activities should be enacted. Each state would thereby be responsible for pre-attack interdiction within its jurisdiction and would be obligated to implement and use appropriate measures of legal assistance and cooperation with foreign-initiated investigations. Each state would also accept the obligation to extradite or prosecute suspected perpetrators (in contrast to the universal jurisdiction of a *jus cogens* international crime).⁴²

National penal legislation has two limitations. First, each state could pursue terrorists within its jurisdiction, but there would not necessarily be a way to pursue terrorists operating in a state that lacks law enforcement capabilities or in a state that is unwilling to cooperate in an investigation. Most states lack capabilities (technical, financial, and know-how) to implement mutual legal assistance obligations, even if obligatory under an international convention. Therefore, mechanisms should be advanced whereby states with highly developed law enforcement resources can help other states to

42. This idea is the premise of the draft treaty put forth by the Harvard-Sussex Program on CBW Armament and Arms Limitation. James Crawford et al., *Draft Convention on the Prevention and Punishment of the Crime of Developing, Producing, Acquiring, Stockpiling, Retaining, Transferring or Using Biological or Chemical Weapons*, CBW CONVENTIONS BULL., Dec. 1998, at 2, available at <http://fas-www.harvard.edu/~hsp/bulletin/crimconv.pdf>.

develop the necessary capabilities.

Second, to be effective the content of national penal legislation must have some mechanism of distinguishing legitimate from illegitimate behavior prior to actual use. That is, there should be a mechanism to assert that mere possession or acquisition of designated items by certain persons is illegal, while at the same time allowing commercial and research facilities to possess or acquire the same materials without violating the law. This dilemma calls for development of an international regulatory system.

*B. Regulation of Access To Pathogens and
Critical Equipment*

The bio-pharmaceutical sector that has capabilities to make biological weapons must be subject to some legal oversight. This industry has resisted the specter of the BWC Protocol's verification mechanisms, but oversight need not be based on the assumption that weapons producers will avail themselves of the industry's resources. Indeed, that assumption should be discarded in favor of a subtler recognition that it is complicated to distinguish legitimate biological activities from terrorist or illegal military activities without being intrusive. On the other hand, myriad uncontrolled entities engaged in biological activities with no effective oversight is a recipe for illegitimate weapons production.

To make crucial policy choices with regard to developing an effective international system capable of distinguishing legitimate from illegitimate activity involves a calculation of two variables: (1) the likelihood that biological weapons producers will employ facilities or capabilities controlled by otherwise legitimate bio-pharmaceutical enterprises; and (2) the ancillary costs of different types of controls, including the risk to confidential information and the implications that the costs of controls have on efforts to engage the bio-pharmaceutical sector in active cooperation with counter-terrorism efforts. The logic of the proposed law enforcement approach is that biological weapons producers will probably not employ facilities controlled by otherwise legitimate companies.⁴³ No less important is the effect of control efforts on

43. See *supra* Part III (discussing the risk of biological weapons production at state-sponsored facilities).

the bio-pharmaceutical industry, which would be significantly dire. Accordingly, regulatory efforts should be directed primarily at criminal activity; the bio-pharmaceutical sector, instead of being the object of those efforts, should be enlisted as a partner in detecting and interdicting illicit conduct. In contrast to the proposed BWC Verification Protocol, an international regulatory system for biological activity would not have to verify activities at legitimate biological facilities, minimizing the need for monitoring and intrusive inspections at those facilities. It would, however, need a capability to detect covert activities that are outside that system.

The first requirement for achieving the capability to detect covert activities is that legitimate facilities or companies should be required to be registered. Transfer of weapons-capable pathogens (this list has been developed in connection with the Protocol negotiations) would be limited to registered entities. That is, it would be illegal to sell or distribute a listed pathogen to an entity that has not subjected itself to registration. At the same time, all legitimate transfers should be reported with the name and location of both the transferor and the transferee. If the transfer is transnational, the report should go to the international entity; if the transfer is national, the report should go to domestic authorities, which would then declare the information to the international entity. Moreover, equipment that is critical to effective weaponization should be tagged so that it can be traced. The purpose of information obtained from tagging would be to identify the location and purposes of biological research and development and to control the transfer of requisite materials and technologies.

There are numerous difficult problems with even a minimal registration requirement accompanied by an obligation to report transfers of pathogens. For instance, would there be criteria that an applicant would have to satisfy in order to be eligible for registration; if so, who would determine compliance? Without monitoring of compliance, there is a possibility that a biological weapons producer could seek and obtain registration and thereby be a legal recipient of pathogens. Nevertheless, registration is a good policy because sales are completely unrestricted currently and, under the registration procedure, at least sales to unregistered entities would be prohibited. Moreover, pathogen transfers, even if not prohibited, could be

more easily tracked. Thus, while it is hypothetically true that a weapons producer could voluntarily enroll in an oversight system and, at least superficially, meet its criteria, the likelihood of this happening is less than the likelihood of a weapons producer trying to stay outside the system altogether.

The great virtue of establishing a global registration system is that any unregistered entity found to possess controlled pathogens would be presumptively in non-compliance, without regard to whether evidence can be produced as to that entity's intent. As argued above, national penal legislation should target pre-attack preparations of biological weapons and provide a capability to interdict dangerous activities. Specifically, national law should provide that receiving, supplying, or smuggling weapons precursors, critical materials, or critical equipment is presumptively criminal, unless that activity is declared. The second requirement for achieving the capability to detect covert activities is a set of international guidelines concerning biological research that could have direct implications for weapons production, especially constructing and handling recombinant DNA. These guidelines should serve two distinct purposes: (1) to provide a framework for assessing risk, and (2) to propound appropriate containment and handling practices. In contrast to current national regulations that seek to ensure the safety of laboratory workers and the surrounding community, these guidelines would seek to prevent the use of genetic engineering techniques for biological weapons development.⁴⁴ Because of this proposal's obvious implications both for the freedom of scientists to pursue research without government interference and for the potential revelation of valuable confidential information, the question of who should promulgate guidelines and oversee their implementation is crucial.

A corollary to these guidelines would be a worldwide code of ethical conduct for scientists and laboratory personnel concerning the scope and purpose of their activities, the safety and containment practices that they employ, and the transfer of the products of their work, including their newly acquired

44. See generally Joseph Christoff, U.S. Gen. Accounting Office, *Weapons of Mass Destruction: State Department Oversight of Science Centers Program* (GAO-01-582) (May 10, 2001).

knowledge. This code should be extended to a code of corporate conduct for all participants in the bio-pharmaceutical sector. Implementing such a code would raise sensitivity to the implications of biological research, help clearly distinguish permissible from impermissible activity, and stigmatize weapons-related behavior. Perhaps most importantly, a code of ethical conduct would encourage the vast majority of scientists to inquire into and report illegal weapons activities.

C. *Investigations and Anti-Smuggling Initiatives*

At the core of the law enforcement approach is a capability to detect and interdict terrorists. Not focusing verification efforts at the bio-pharmaceutical sector implies the need for efforts to obstruct and hunt criminals, terrorists, and smugglers. These efforts have at least the following three dimensions.

First, we should strengthen the activities of the World Customs Organization because bioterrorism is likely to involve transnational movement, initially of the materials and pathogens necessary to produce deadly agents, and later of the biological weapons to the target destination.⁴⁵ As international regulatory efforts limit access to legitimate supplies and transportation systems, terrorists will increasingly make use of smuggling networks that are currently used for drugs, guns, or other contraband.⁴⁶ Improved border and customs controls can help protect against smuggling; customs authorities must have efficient means to communicate with intelligence agencies.⁴⁷ Customs enforcement agents must acquire information from well-informed sources, and customs posts must be equipped with sufficient detection equipment. Police organizations that operate near borders and customs services need capabilities to cooperate with their counterparts in neighboring states.

Second, we should develop elaborate systems of information sharing to enable law enforcement personnel to compile information on covert activity. The international community should have the capability to gather information with regard to

45. See generally Barry Kellman & David S. Gualtieri, *Barricading the Nuclear Window—A Legal Regime to Curtail Nuclear Smuggling*, 1996 U. ILL. L. REV. 667.

46. See generally William F. Wechsler, *Follow the Money*, FOREIGN AFF., July-Aug. 2001, at 40.

47. See Stephen E. Flynn, *Beyond Border Control*, FOREIGN AFF., Nov.-Dec. 2000, at 57.

bioterrorism from a wide array of international organizations, private bio-pharmaceutical enterprises, NGO's, and intelligence sources.⁴⁸ Information on transfers of lethal pathogens that is generated by the regulatory system discussed above can be combined with information on suspected terrorist groups. Interpol has long compiled and analyzed terrorist-related data, but that information is currently not correlated with information concerning the destination of agents or sophisticated biological equipment. In the nuclear field, information sharing between Interpol and the International Atomic Energy Agency (IAEA) has improved measures to address smuggling. The absence of an agency analogous to the IAEA for biological activities complicates systematic interaction to address bioterrorism. A more significant complication is the absence of formal mechanisms for national law enforcement officials to share information on suspicious biological activities. While *ad hoc* communication is always possible, such cooperation is cumbersome, time-consuming, and unpredictable.

The most important and most controversial aspect of the law enforcement approach to bioterrorism is the development of a capacity to conduct investigations of suspicious activities. Only two international security treaties provide for investigations, the Nuclear Non-Proliferation Treaty and the Chemical Weapons Convention, and these provisions have essentially never been used. Yet, because biological weapons could be produced in a building without any specific distinguishing features and could consist of a few mere pounds of agent, an investigatory capability is imperative. Safeguards against abuse or harassment, such as pre-approval by the Security Council, are worth consideration, but the need for safeguards should not neutralize prospects for actually conducting investigations. Moreover, because these investigations are designed to enforce criminal laws, they should be both sufficiently broad and backed up by sufficient force to ensure that this objective is satisfied.

Difficult questions must be resolved for this investigatory system to work responsibly: What should be the grounds for demanding an investigation, especially if an investigation is

48. See generally Harvey Black, *Diagnosing Bioterrorism*, SCIENTIST, July 23, 2001, at 8.

sought before actual use of biological agents? If the threshold of demanding an inspection is too low, investigations could jeopardize the confidentiality of private confidential information or government security information. If that threshold is too high, inspection will become effective only post-use, which is obviously inadequate for prevention. Who should conduct investigations? As discussed below, only if investigators are affiliated with an international organization will they have the appearance of objectivity. What are the implications of a refusal to permit an investigation? A strong law enforcement approach to bioterrorism would imply that a state's refusal to permit an investigation signifies its responsibility for the wrongful activity within its jurisdiction that the investigation is intended to reveal.

D. Institutionalization

An essential feature of an effective international law enforcement approach to bioterrorism is an institution authorized to undertake the above-specified functions. An arms control approach can function with a set of mutual obligations; indeed, the Biological Weapons Convention has done exactly that for three decades. But it is impossible to conceive of a vigorous regulatory system supported by anti-smuggling initiatives and information-sharing capabilities without an established institution to carry out requisite tasks. Moreover, carrying out inspections without an institutional infrastructure on an ad hoc basis would undermine their propriety and diminish the likelihood that investigations would in fact be conducted. An institution would provide a venue for aggregating expertise as well as data, and decisions by such a body would carry an imprimatur of objectivity. An institution would also provide a structure for maturing the various tools described here into increasingly more powerful systems and adapting to changing technologies and political conditions.⁴⁹

Currently, no institution exists that has the capabilities to carry out relevant law enforcement functions. The World Health Organization (WHO) has obvious expertise with regard to disease, and it is the world's repository of information on

⁴⁹. *But see generally* August Reinisch, *Securing the Accountability of International Organizations*, *GLOBAL GOVERNANCE*, Apr. 1, 2001, at 131.

outbreaks of epidemics, but it has no law enforcement capabilities; indeed, it is designed to be non-confrontational. Interpol is the closest that the international community has to a law enforcement agency, but it is actually a formal association for multilateral police cooperation, without capabilities to enforce international law on its own.⁵⁰ To be effective in combating bioterrorism, Interpol should have access to relevant information and the ability to conduct investigations. Of course, neither the WHO nor Interpol currently has an institutional capacity to monitor transfers of pathogens. The World Customs Organization (WCO) has some of those capacities, but, like Interpol, it is designed to be more an association of customs organizations than a direct law enforcement agency.⁵¹

Of course, the problem here is deeper than just the absence of an appropriate agency. International criminal law is an indirect system whereby states are obligated to enforce, under their national law, international legal prohibitions. The indirect enforcement system depends on national criminal justice systems to investigate, apprehend, prosecute, and adjudicate accused persons within their jurisdictions and to punish those found guilty. But the combined effect of weapons segmentation, whereby weapons are developed in stages in multiple states, along with the likelihood that terrorists tend to operate in states with weak national law enforcement capabilities, creates the need for an international capability. The obvious implications of bioterrorism for the well-being of all humanity further strengthens the basis of this assertion.

VI. THE FIFTH BIOLOGICAL WEAPONS CONVENTION REVIEW CONFERENCE

The little-heralded BWC Review Conference in December 2001 could have been a unique opportunity to change the direction of humanity's efforts to cope with weapons of mass destruction and to diminish risks of terrorism. As an alternative to the Protocol that it rejected months earlier, the U.S. put forth

50. See Interview by *Foreign Policy* with Raymond Kendall, Sec'y Gen. of Interpol, in *Meet the World's Top Cop*, FOREIGN POL'Y, Jan./Feb. 2001, at 31.

51. See Brochure, World Customs Org., *The Institution of Customs* (2001), available at http://www.wcoomd.org/ie/En/AboutUs/OMD_GB.pdf (discussing the mission of the WCO and focusing on the encouragement of cooperation between states).

a nascent set of proposals in the direction of a law enforcement approach, beginning with an overt statement condemning terrorism in the "purposes" introduction to the Convention.⁵² Although making biological weapons use an international crime was not included, strengthening national criminal legislation and legal assistance and improving cooperation capabilities were at the core of its initiatives.⁵³ Also included was support for multilateral controls on basic biological research.⁵⁴ No international regulatory system was advocated, however, despite recognition that such a system would be the only way to distinguish legitimate from illegitimate activities.⁵⁵ With regard to efforts to combat smuggling, the only relevant initiative was a proposal to make controls on transfers of weapons-relevant equipment and materials more vigorous.⁵⁶ Most questionable was the omission of any institution to undertake law enforcement responsibilities.⁵⁷

With the abrupt suspension of the Review Conference in its final hours after the United States shocked the Conference with an unanticipated proposal to terminate the Ad Hoc Group, however, no action was taken on the U.S. proposals or on any other matter. The Review Conference is due to resume after a one year suspension, in November 2002.

VII. CONCLUSION

Development and acquisition of biological weapons, and most certainly the use of such weapons, should be a crime regardless of whether or not the perpetrator is a state. In fact, once a criminal law enforcement approach becomes operative, the status of the culprit should be irrelevant. That is one of many advantages that this approach has over an alternative that is based on arms control concepts. First, while the BWC contains a powerful norm against the use of biological weapons, criminalization of bioterrorism sends a direct and

52. John R. Bolten, Remarks to the 5th Biological Weapons Convention RevCon Meeting (Nov. 19, 2001), available at http://www.state.gov/t/us/rm/2001/aug_nov/6231.htm.

53. *See id.*

54. *See id.*

55. *See id.*

56. *See id.*

57. *See id.*

unequivocal signal of the world's condemnation of anyone's use of biological agents to advance a political agenda. Second, a criminal law approach means that responsibility for combating global bioterrorism will, in each state, be centered in ministries of justice instead of ministries of foreign affairs, thereby enlisting more powerful and less politicized resources. Third, the criminal law enforcement approach enlists the cooperation of the private bio-pharmaceutical sector, which shares a common interest in ensuring that its activities are not associated with deliberate attempts to spread diseases. The absence of burdensome reporting requirements and inspections to verify the legitimacy of the sector's activities should be viewed as encouraging that cooperation.

There are two additional advantages that deserve special recognition. A criminal law enforcement approach makes no distinction between terrorist exploitation of biological agents and the proliferation of biological weapons among states. That is, if production or use of biological weapons is a crime, it is just as much a crime for a state as for a non-state group. Closely related is the idea that a criminal law enforcement approach can strengthen the role of international criminal law generally by reinforcing mutual legal assistance obligations as well as the role of international policing institutions.

There is a conceptual casualty in the law enforcement approach to preventing bioterrorism: the unilateral pursuit of national security as an attribute of sovereignty. Bio-weapons that can be made in nondescript facilities can be devastating in small quantities. With smuggled materials and expertise that know no boundaries, a terrorist group can pose a catastrophic threat to humanity. Arms control measures and national law enforcement capabilities can contribute to combating this threat, but ultimately there is a disconnect between either of these approaches and the problem to be solved.

Bioterrorism is an international problem that demands an international solution. Persons who subscribe to a unilateralist view of security will, no doubt, find deeply troubling the prospect of international law enforcement, linked to transnational information sharing and regulation of biological transfers. That perspective should not be lightly dismissed, but alternatives are likely to be ineffective, and failing to act is unacceptable.