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VERTIC BRIEF • 4 • FEBRUARY 2004

B R I E F

Biological weapons: minding the verification gap

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Introduction

The pursuit of a ban on biological weapons (BW) has always been hindered by the difficulty of distinguishing between biotechnology for peaceful and military purposes. This has posed a particular challenge for verification, resulting in claims that any proscription on BW is inherently unverifiable. While this assertion is contestable, what is not debatable is that, in the past three decades, international diplomatic efforts have failed to achieve consensus or even a workable compromise on a comprehensive verification and compliance system for biological weapons. This paper explores the strengths and weaknesses of the 1972 Biological Weapons Convention (BWC) and the tortuous (some would say tortured) attempts to rescue it from verification limbo.

Origins of the BWC

Efforts to ban the acquisition and use of biological weapons have always taken a back seat to attempts to control chemical weapons (CW). Early endeavours at arms control tended to lump BW and CW together indiscriminately. Prior to the BWC, the most notable initiative to control BW was the 1925 Geneva Protocol, which forbid the use in war of 'asphyxiating, poisonous or other gases, and of bacteriological methods of warfare'. No attempt was made to separate 'B' from 'C'. But the protocol had many flaws: it only banned use, not research, manufacture or other means of acquiring BW; many countries reserved the right to retaliate against the use of chemical and biological weapons (CBW) by others; and the treaty lacked a verification or compliance system.¹

In view of the Geneva Protocol's weaknesses it was natural that there should be further pressure for more effective arms control or disarmament regimes for both chemical and biological weapons. The initial prevailing

assumption was that they would be dealt with together, given the overlap between them and the apparent similarities in terms of weaponisation and delivery. By the mid-1960s, though, several Western countries were beginning to argue that BW should be hived off (from CW) and that a separate proscription on biological weapons be negotiated rather than waiting for consensus to emerge on banning CBW in toto. The reasoning was that BW seemed to have, at least for the time being, much less military utility than CW, which had already 'proved' itself on a number of occasions. In addition, at that stage, no state was known to have acquired a workable BW arsenal, meaning that a ban would not involve actual disarmament, as it would in the case of CW. And finally, it was believed that a verification system would not be required because the risk of violation was much less in regard to BW because of its perceived military disutility.

In 1969 the United Kingdom submitted a draft BWC to the then Conference of the Committee on Disarmament (CCD) in Geneva, Switzerland. The negotiations were greatly boosted by the announcement by United States President Richard Nixon in November 1969 that the US would unilaterally and unconditionally renounce BW, that all of its BW stocks would be destroyed, and that, henceforth, its BW programme would be dedicated to defensive purposes only. In February 1970 Washington extended this unilateral declaration to toxins.

The reasons for this extraordinary volte-face by a Republican president at the height of the Cold War are still somewhat clouded in mystery. Nixon's advisors had apparently convinced him that biological weapons were of dubious utility and hence that the US was not surrendering much in the way of a military option. Yet there was a danger that, because biological agents could be readily acquired by less powerful nations, they might attempt to do so as a means of countering US nuclear and conventional military power. As Susan Wright points out,

1. A verification system is one that gathers and analyses information, obtained through monitoring and other means, in order to make a judgement as to whether treaty parties are complying with their legal obligations. A compliance system is a structured procedure that allows states to bring non-compliance or other implementation questions before their fellow treaty parties. This may result in further investigations, such as through on-site inspections, a judgement being made about an alleged violation, and, potentially, action, such as sanctions, to deal with the situation.

‘a possibly decisive reason for the change of policy was that advances in biological weaponry were unlikely to serve us interests’.² In relinquishing BW the US would seize the moral high ground and put strong pressure on others to act likewise. There also seemed to be at least a hope that, if other countries saw the world’s greatest military power openly concluding that BW held no military utility, this would be sufficient to dissuade them from attempting to investigate the efficacy of BW themselves. The Director of the Arms Control and Disarmament Agency, Fred Ickle, testified before the US Senate Foreign Relations Committee that:³

Understand that this isn't highly verifiable, and yet what we also believe is that other nations will make the same decision as the U.S. that these are not useful weapons of war and that any nation that pursued them and was discovered pursuing them would have the weight of world opinion fall down upon their heads.

In retrospect, given what we now know or suspect about the programme of the former Soviet Union, which was ratcheted up after the conclusion of the BWC, this appears naive.

Additional factors behind the change in US policy were rising political controversy, internationally and domestically, about the use by US forces of herbicides and tear gas in Vietnam, domestic unease about several accidents at CBW proving grounds in the US, and mounting concern about the role of science generally in creating weapons of mass destruction (WMD).

Apparently prompted by Nixon’s announcement, the Soviet Union, in early 1971, dropped its previous insistence that CW and BW be jointly banned, thereby breaking the deadlock on the issue in the CCD. Rapid progress followed and the BWC was agreed in September 1971 and opened for signature in April 1972. The three depositary states were the Soviet Union, the UK and the US. As of 20 January 2004, the treaty has 150 states parties and 16 signatories.

BWC: strengths and weaknesses

The BWC prohibits the development, production, stockpiling or other forms of acquisition or retention of biological weapons, and reaffirms the ban on use contained in the Geneva Protocol. A great strength of the BWC is that it employs a ‘general purpose criterion’, as does the 1993 Chemical Weapons Convention (CWC), in banning all biological agents and toxins intended for hostile purposes. Consequently it outlaws an entire class of so-called weapons of mass destruction. A complication, though, is that all other purposes are permitted, including for ‘prophylactic, protective or other peaceful purposes’. Moreover, ‘research’ is not banned explicitly. Thus the BWC permits research into means of bio-defence. In the BW realm, the line between what is defensive and offensive can be thin to the point of invisibility.

The greatest lacuna in the BWC, however, is the lack of a dedicated verification and compliance system. The convention has no international verification organisation akin to the Organization for the Prohibition of Chemical Weapons (OPCW) established to verify the CWC. It therefore has no inspectorate, no monitoring agency, and no standing body that states parties can approach regarding a suspected case of non-compliance. Each state party is obliged to take steps nationally to ensure that it complies with the treaty, such as passing national implementation legislation. The parties undertake to consult each other and to cooperate in resolving compliance difficulties.⁴ Naturally, as with any treaty, states parties may refer matters to the United Nations (UN) Security Council, which can take action under Chapter VII of the UN Charter to enforce compliance, although the five permanent members wield a veto in that body which could prevent them or their allies from being investigated.

Just why verification and compliance were so neglected in negotiating the BWC is hard to fathom. Most states clearly felt—France

‘In the BW realm, the line between what is defensive and offensive can be thin to the point of invisibility’

2. Susan Wright, ‘The evolution of biological warfare policy: 1945–1990’, in Susan Wright (ed.), *Preventing a Biological Arms Race*, MIT Press, Cambridge, MA, 1990, pp. 39–41.

3. Quoted in US Department of State, Transcript: Compliance diplomacy takes on greater emphasis in arms control (State’s DeSutter says U.S. must better explain proliferation concerns), 8 August 2003, arms-control@lists.state.gov.

4. At their First Review Conference the states parties clarified this to mean that a party that remained dissatisfied after trying to resolve a problem bilaterally could request a consultative meeting of states parties at the expert level (Nicholas A. Sims, ‘The Second Review Conference’ in Susan Wright, p. 268).

'One of the most significant and lasting initiatives of the 1980s to strengthen the BWC emerged at the Second BWC Review Conference in 1986, when a series of so-called confidence-building measures (CBMs) was agreed'

and Sweden were notable exceptions—that good faith, self-interest, and commitment would be enough to ensure compliance.⁵ But why, in such an internationally fraught period, it was thought that this could be assured, is unclear. The Soviets, in the era preceding the presidency of Mikhail Gorbachev, were vehemently opposed to intrusive on-site inspections (OSIs) or even transparency measures that could be used to prise open their totalitarian society. For its part, the US, which normally favoured intrusive verification, believed that to press for such a system to assess the extent of the suspected Soviet BW programme and to ensure its closure would have resulted in the United States having to permit similar verification activity on its territory. There was also the longstanding assumption that verification might be difficult if not impossible due to the challenge of distinguishing between peaceful and non-peaceful biological research—although this had never been proved by research or trial inspections but, rather, was accepted as an article of faith.

Early rescue attempts

Each Biological Weapons Review Conference (BWRC) has attempted to rectify some of the accord's verification and compliance shortcomings (see the table on p. 11 for a summary of measures relating to the treaty's compliance article, Article IV, which have appeared in BWRC final declarations). As the 1970s proceeded there were disturbing developments indicating that the BW threat had not disappeared, leading to public and diplomatic pressure for BWC verification and compliance to be revisited. One startling occurrence was the anthrax outbreak at Sverdlovsk in the Soviet Union in 1979, which the US alleged (correctly as it turned out) was caused by an accidental release from a secret BW facility that was operating in contravention of the BWC. The Soviets refused

to allow OSIs to investigate the allegation. There were also claims that the Soviets and/or their surrogates were using mycotoxins as weapons in Afghanistan, Cambodia and Laos.⁶ The so-called yellow rain allegations were investigated—outside the framework of the BWC—by a UN Group of Experts dispatched, in 1991–92, by the UN Secretary-General following the passing of a UN General Assembly resolution. The results proved inconclusive. Later, national investigations revealed the 'yellow rain' to be bee faeces—a conclusion that was farcical or a triumph for verification depending on one's perspective.

Confidence-building measures

One of the most significant and lasting initiatives of the 1980s to strengthen the BWC emerged at the Second BWC Review Conference in 1986, when a series of so-called confidence-building measures (CBMs) was agreed in order to increase transparency in relation to activities or events with implications for compliance with the convention. These CBMs are set out below.

- An exchange of data on high containment research centres and laboratories, including their name, location and scope and a general description of activities.
- An exchange of information on unusual outbreaks of disease.
- Encouragement of the publication of the results of biological research.
- Active promotion of contacts between scientists engaged in biological research, including joint research.

An Ad Hoc Experts Meeting in 1987 clarified what would be required under the data exchanges and recommended that they be submitted annually to the UN Secretary-General, who would make them available to all states parties.⁷ The Third BWC Review Conference in 1991 supplemented these CBMs

5. Susan Wright, p. 41.

6. Leonard A. Cole, 'Sverdlovsk, yellow rain, and novel Soviet bioweapons: allegations and responses', in Susan Wright, pp. 199–219, and Julian Robinson, Jeanne Guillemin and Mathew Meselson, 'Yellow rain in Southeast Asia: the story collapses', in Susan Wright (ed.), pp. 220–238.

7. See Erhard Geissler (ed.), 'Strengthening the Biological Weapons Convention by Confidence-Building Measures', SIPRI Chemical & Biological Warfare Studies, no. 10, Oxford University Press for the Stockholm International Peace Research Institute (SIPRI), Oxford, 1990.

by requesting annual reports on research and development pertaining to BW defence programmes and BW offensive activities back to 1946. These measures were aimed at increasing transparency in the areas of greatest concern. Vaccine production facilities were also to be reported. An additional CBM sought information from states parties on their national implementation legislation to ensure that the BWC was enforceable within their territories.

Unfortunately, the convention's CBMs have remained only politically binding rather than legally binding and have attracted a poor response even from those states that initially advocated them. Moreover, even states that have reported regularly have been found to have submitted incomplete returns. In September 2001 *The New York Times* revealed that the US, one of the great advocates of the CBM declarations, had four bio-defence research programmes that it had never reported in its declarations.⁸

The VEREX process

If the US favoured transparency CBMs, it greeted proposals for improved BWC verification with great scepticism. This was paradoxical given strong US support for verification in other contexts, notably in relation to nuclear and (especially relevant to BW) chemical weapons. In 1993, after decades of talks and negotiations, the CWC was finally agreed and opened for signature. It provided for a full-scale, comprehensive and intrusive verification system, including declarations and on-site inspections—although, even here, the US had to be cajoled into accepting what it had for so long promoted, namely something approaching anytime, anywhere OSIs. In regard to BW, however, the US took a completely contrary approach, arguing that the BWC was not verifiable. The US warned that a verification system could give potential or actual violators an undeserved 'clean bill of health', thereby giving compliant states a false sense of security.

In 1986 the US rebuffed a formal Soviet proposal for a verification protocol to the BWC. In 1991, though, French-led Western pressure for improved verification led to a compromise, whereby a technical and scientific study of possible verification measures was launched.⁹ The Ad Hoc Group of Verification Experts (VEREX), which met from 1992–93, was restricted to identifying, examining and evaluating 21 initiatives. It concluded that a combination of on-site and off-site measures was worth pursuing. In 1994 a Special Conference of States Parties, decided, after considering the VEREX report, to establish a new, more political, Ad Hoc Group (the AHG). Open, like VEREX, to all states parties, the AHG was mandated to consider appropriate initiatives, including possible verification measures, and to draft proposals. These would be included, as appropriate, in 'a legally binding instrument', which everyone assumed would be a protocol to the BWC.

The ill-fated BWC protocol

The AHG commenced its work in 1995 and moved into negotiating mode in 1997, producing an unwieldy compilation of 'measures to promote compliance'. At the behest of the US the word verification was avoided, even though the draft clearly contained many of the pet verification measures that proponents wanted. The chief advocates were Australia, Brazil, Canada, South Africa and the members of the European Union (EU), especially the UK. Sceptics included China, Iran, Pakistan and the US, and on particular issues, Japan, Germany and Russia. Negotiations on the draft took place between 1997 and 2001 and intensified as the deadline of the Fifth BWC Review Conference approached in November 2001. In April 2001 the Chairman of the AHG, Ambassador Tibor Tóth of Hungary, tabled a 200-page compromise draft text.¹⁰

8. Judith Miller, Stephen Engelberg and William J. Broad, 'In secretly fighting germ warfare, US tests limits of a 1972 treaty', *The New York Times*, 4 September 2001, www.nytimes.com.

9. The following draws on the account by Nicholas Sims, 'Verifying biological disarmament: towards a protocol and organisation', in Trevor Findlay (ed.), *Verification Yearbook 2000*, The Verification Research, Training and Information Centre (VERTIC), London, 2000, pp. 93–94. 10. See Oliver Meier, 'A biological weapons protocol: verification lite?', *Trust & Verify*, no. 97, May–June 2001, pp. 1–2.

The draft envisaged the establishment of an international Organization for the Prohibition of Biological Weapons (OPBW), on a lesser scale than the OPCW, but which would nonetheless be charged with monitoring and verifying compliance with the BWC. States parties would be required to declare certain facilities, such as commercial research and production plants and larger bio-defence establishments. ‘Triggers’ for such declarations would include the facility’s bio-safety level, as well as whether it worked with specified agents that could be used to develop biological weapons. Declared facilities would be subject to non-challenge ‘visits’ to enhance transparency and to increase confidence in the accuracy of the declarations. Consultations could be held to clarify ambiguous or suspicious information. Field investigations could be instigated in the event of an unusual outbreak of disease or suspected use of BW, while facility investigations could be launched to assess whether production of biological weapons was occurring. The draft also envisaged measures to strengthen technical cooperation and to increase scientific exchanges among states parties.

While less than perfect, the protocol would at the very least have:

- created greater transparency than currently exists;
- increased the possibility of challenge OSIs in the case of suspected manufacture or use of BW;
- provided a standing international forum for any state party to air its compliance concerns; and
- established a relatively cheap verification organisation tasked with keeping global attention focused on the BW threat.

Although no delegation endorsed Tóth’s draft in its entirety, no delegation rejected it either and de facto it became the negotiating text.

At the July 2001 meeting of the AHG, the last scheduled gathering, the US delegation

dropped a bombshell. It rejected both the draft protocol and the entire ‘approach’ that it represented.¹¹ Extraordinarily, the US announced that it could not conceive of any changes that would improve the draft text to make it acceptable. It was both too strong and too weak. Paradoxically, the relative weakness of the verification regime was of the United States’ own making. It had continuously sought to water down the draft on the grounds that it regarded the BWC as inherently unverifiable.

US arguments against the protocol

The arguments made against verifiability were, in the view of many, specious, both in logic and in practice. First, the US contended that the protocol would not ‘improve our ability to verify BWC compliance’. This is clearly inaccurate: the provisions for OSIs in case of alleged use or manufacture of biological weapons would surely have improved verification. The data exchanges, which had begun as part of the CBM process, but which the protocol would enhance and make compulsory, would also surely have increased verifiability by providing a baseline of declared peaceful activities, against which aberrations could be detected.

Second, and revealingly, the US asserted that the on-site verification provisions could never be strengthened to provide ‘useful, accurate, and complete information to the international community’. According to US Ambassador Donald Mahley, even the ‘most intrusive and extensive on-site activities physically possible’ could not do so. This is also unconvincing. Complete transparency of all BW-related activities and total intrusiveness would, of course, produce complete reassurance and verifiability, although no one was arguing for that. On practical grounds, to expect ‘complete information’ from any politically acceptable verification system is unrealistic. As a result of its unparalleled verification experience, especially with a difficult interlocutor like the

11. See Trevor Findlay, ‘Bush ditches the BW protocol’, *Trust & Verify*, no. 98, July–August 2001, pp. 1–3.

Soviet Union, the US knows better than any other country that verification systems can never be designed to be 100 percent effective in detecting non-compliance. What they aim for is a high probability of detection and early exposure of non-compliance in order to deter potential violators.

The third US contention, the converse of the argument that the protocol was not intrusive enough, was that it was too intrusive. Ambassador Mahley stated that the protocol would 'put national security and confidential business information at risk'. Yet the draft contained more safeguards to protect classified data, at US insistence, than the CWC, to which the US is a state party. The question is, as always, how to balance effectiveness and intrusiveness with the costs and the potential for espionage or inadvertent release of confidential information. The UK had worked diligently to incorporate safeguards in the draft, including so-called managed access arrangements, to meet the concerns of the United States. The US had not, until the last minute, rejected the British proposals, which are also incorporated into the CWC. In the case of the CWC, the OPCW has reported that, since the verification system began operating in 1997, there has been no significant case of loss of restricted data.

The argument that the BWC is inherently unverifiable has never been satisfactorily tested. The US conducted two trial inspections in 1995 and 1996 under what it describes as realistic circumstances. It claimed that these confirmed that the level of verification was unsatisfactory and that intrusive measures would lead to the loss of confidential proprietary information and national security data. Details of only the second trial have been released, and only in limited form. The UK, too, conducted trials, which indicated to it that managed access techniques could guard against the possible leakage of confidential information. But, as yet, there has been no large-scale, transparent exercise to demonstrate the case either way.

In 2002 the Henry L. Stimson Center assembled a group of individuals from the US pharmaceutical and biotechnology industries, with 280 years of experience between them, to examine the United States' reasons for shunning the verification protocol. They agreed that the US was correct to reject it, on the grounds that it was too weak, but they also maintained that it could have been strengthened with more intrusive inspections that would permit effective verification while protecting proprietary information. The group concluded that:¹²

... if multidisciplinary inspections teams are allowed sufficient time on site and empowered to use pre-inspection research and analysis, site tours, document reviews, interviews, and sampling, they can discern legitimate from cheating facilities. Moreover, the industry experts stated that the operators of commercial facilities, well versed in hosting all manner of regulatory inspections, would be able to protect their proprietary business data during such inspections at the same time that they helped the inspectors achieve their aims.

The group urged that the requisite research and 'field trials' be carried out, noting that both the administrations of President Bill Clinton and President George W. Bush have ignored a 1999 congressional law that requires trial investigations at, and visits to, a variety of biological and related facilities.¹³

A fourth US administration claim was that the draft protocol did 'not provide anything remotely resembling a deterrent function on a proliferator, even less a non-state actor'. Yet, even simply providing for 'investigations' in the case of alleged production or use of BW, the equivalent of 'challenge inspections' found in other regimes, would give a potential violator pause. To deny that such a provision has any deterrent value calls into question the deterrent effect of the CWC and other arms control and disarmament agreements. Moreover, it was misleading to suggest that the protocol would not deter

12. The Henry L. Stimson Center, 'Compliance through science: US pharmaceutical industry experts on a strengthened bioweapons non-proliferation regime', The Henry L. Stimson Center, Washington, DC, report no. 48, September 2002, p. 25.

13. The Henry L. Stimson Center, 'Compliance through science', p. 26, fn. 22.

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non-state actors. It would, for example, have legally required states parties to enact domestic penal sanctions in response to non-compliance by individuals and non-state actors within their jurisdiction. Ironically, this is one of the key planks of current, post-protocol US BW policy.

A fifth argument, one that the US had been making for some time, was that a BW verification system would have a lulling effect, giving the international community a false sense of security that the BW problem had been tackled. This again seems unfounded. If anything, it could be averred that the existing convention, without verification, has proved to be soporific. A standing verification organisation, like those for chemical weapons (the OPCW) and for nuclear testing (the Comprehensive Nuclear Test Ban Treaty Organization (CTBTO)), would have the opposite of a lulling effect if well managed: it would maintain constant attention on the BW issue and give it the institutional home that it currently lacks. Moreover, international verification organisations never, contrary to what the US has contended, issue clean bills of health: they simply note that, in a particular case, no evidence has been found to indicate non-compliance, quite a different proposition. In any event, the US would presumably continue, even with a perfect protocol, to rely on its own 'national technical means', such as intelligence and technical surveillance methods, to detect BW programmes worldwide and to feed information into the international system as it chose.

Finally, the US argued that had it continued with the protocol negotiations it would have been forced to accept demands from non-aligned states for unlimited scientific and technical assistance and cooperation as a quid pro quo for effective verification. This is absurd. The US, backed by the rest of the West, successfully resisted such attempts in the context of the CWC negotiations, and although the Western group may have been forced to concede more in the protocol negotiations, it would still have been able

to reach a reasonable compromise. Had a BWC protocol regime been implemented, the US would have undoubtedly continued to support the Australia Group, a coalition of 'likeminded', mostly Western states, currently numbering 33, which seeks to coordinate members' national CBW export policies to prevent the proliferation of chemical and biological weapons. In any event, developing country opposition to the Australia Group is increasingly becoming ritualistic, as nations like Brazil, China and India develop their own biotechnology industries and begin themselves to see that unlimited and open exchanges of information, materials and technology in this field are unrealistic.

Motivations behind US policy

So what are the true motivations behind US policy? To begin with, the Bush administration has a general antipathy to multilateral arms control and disarmament agreements and is opposed to constraints on US freedom of action in the sphere of national security. This has been apparent in relation to its withdrawal from the 1997 Kyoto Protocol to the 1993 United Nations Framework Convention on Climate Change, the 1972 Anti-Ballistic Missile (ABM) Treaty and the International Criminal Court. While the United States does not, presumably, want to reclaim the option to produce biological weapons, it genuinely fears BW proliferation, especially since the terrorist attacks of 11 September 2001, and wishes to take advantage of all options to counter the threat, including all possible defensive measures. Yet this objective would not seem incompatible with and indeed would seem to demand binding, verifiable, multilateral treaty-based arrangements as part of the 'toolkit' for tackling the problem.

The Bush administration seemingly truly fears that the level of verification envisaged in the protocol (or indeed any level of verification) would not be sufficient to provide

it with the confidence that the illicit BW programmes of other states would be detected. The experience of the so-called Trilateral Agreement, under which the UK and the US attempted unsuccessfully between 1992 and 1996 to verify the nature and extent of the past Soviet programme, in the face of Soviet and then Russian procrastination and prevarication, increased longstanding US suspicion regarding BW verification.¹⁴ The ease with which Iraq managed initially to hide its BW programme from the outside world, including from the United Nations Special Commission (UNSCOM) and its inspectors, further increased US scepticism—even though the Iraqi programme was eventually, to a large extent, uncovered. Such sentiments were even apparent in the Clinton administration and are certainly present in Congress, which would have to assent to US ratification of a BWC protocol.

However, the US also clearly fears a strong BW verification system. US policy appears to reflect the influence both of the biotechnology and pharmaceutical industries and of the Pentagon, not only over the administration but also over Congress. The most vocal industry body, the Pharmaceutical Research and Manufacturers of America (Pharma), is overly preoccupied with the effect that intrusive verification might have on its members and their profits. The experience in 1994, under the Trilateral Agreement, of an on-site inspection by the Russians of the Pfizer Corporation's facilities in Terre Haute, Indiana, created long-lasting suspicion. The inspection was mishandled by the US authorities and cynically exploited by the Russians, who used it to make false accusations.

The Pentagon, meanwhile, is worried about protecting its bio-defence programmes, which have been gearing up since 11 September 2001. They are now causing serious concern, however, in terms of whether they have crossed the line and are now at least appearing, to the outside world, to constitute an offensive BW capability.

The 'new process'

Ultimately the AHG membership was unwilling to try and proceed with a BW protocol in the absence of the US, as had occurred with the Kyoto Protocol. Instead the states parties acceded to American wishes and effectively abandoned the negotiations. This suited many other states, such as China, Iran and Russia, which, while unhappy with the protocol, would not have opposed its adoption outright had the US supported it. For their part, many developing countries see the BW problem as irrelevant to them, or at least of low priority, and had been attempting to use their agreement to improved verification as a bargaining chip to obtain increased assistance from the West in the biotechnology field. In the end, no states were willing to 'go to the wall' to save the protocol. While in theory still in place, the AHG was not given a new mandate by the November 2001 Fifth BWC Review Conference and has essentially been terminated.

In November 2002 a resumed session of the Review Conference agreed on a 'new process', a minimalist work programme involving annual expert meetings, followed by meetings of states parties to consider the outcomes of such discussions. This process aims to promote 'common understanding and effective action' on five issues. The Sixth Review Conference in 2006 is to consider the product of this intersessional work programme and to decide on further action. For once, the Western Group stood firm against a US demand, on this occasion its insistence that nothing at all occur between 2001 and the Sixth Review Conference in 2006. The United States appeared to realise that this demand was simply untenable given its repeated and often dramatised expressions of concern about the BW threat.

The issues to be discussed under the 'new process' are:

- adoption of necessary national measures to implement the prohibitions set forth

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14. See David Kelly, 'The trilateral agreement: lessons for biological weapons verification', in Trevor Findlay and Oliver Meier (eds.), *Verification Yearbook 2002*, VERTIC, London, 2002, pp. 93–109.

‘Essentially, comprehensive, traditional verification is now off the political agenda in regard to the BWC, at least until there is a change of government in the US’

- in the convention, including enactment of penal legislation;
- national mechanisms to establish and maintain security and oversight of pathogenic micro-organisms and toxins;
 - enhancing international capabilities to respond to, investigate and mitigate the effects of alleged use of biological or toxin weapons or suspicious outbreaks of disease;
 - strengthening and broadening national and international institutional efforts and existing mechanisms to survey, detect, diagnose and combat infectious diseases that affect humans, animals and plants; and
 - the content, promulgation and adoption of codes of conduct for scientists.

dations for future work. Although there was a useful exchange of information and views at both meetings, the chance of significant progress emanating from the ‘new process’ is, at this rate, remote.¹⁶

Just how the other topics on the discussion list will fare is unclear, but some, including the establishment of international mechanisms for investigating alleged use of BW or suspicious outbreaks of disease, are likely to be controversial. Even if all of the discussions result in agreed and workable initiatives, collectively they will come nowhere near amounting to effective verification of the BWC. They will increase transparency somewhat, improve national implementation and possibly establish some form of multilateral cooperative endeavour, but it will be a far cry from the CWC model. A change of heart by the United States is the only way that the situation will alter dramatically.

The current situation

Essentially, comprehensive, traditional verification is now off the political agenda in regard to the BWC, at least until there is a change of government in the US. The Bush administration is now so averse to any multilateral effort to improve the BWC that it has exerted strong influence over the Expert Meeting process that began in 2003 in order to ensure that discussions do not stray and become negotiations and that no substantive outcome materialises.

This was tested in the first of the Expert Meetings, held in Geneva from 18–29 August 2003, which discussed national implementation legislation¹⁵ and bio-safety and security. Although the US is strongly in favour of both measures, it wishes to pursue even these relatively benign initiatives outside of a multilateral framework, dealing instead with states bilaterally and within groupings of ‘likeminded’ nations. The first annual Meeting of States Parties to consider the work of an Expert Meeting, held in Geneva from 10–14 November 2003, was thus anodyne in its conclusions, simply providing a factual account and no recommen-

15. See *Time to lay down the law: national legislation to enforce the BWC*, VERTIC, London, October 2003.

16. See Jez Littlewood, ‘Back to basics: verification and the Biological Weapons Convention’, in Trevor Findlay (ed.), *Verification Yearbook 2003*, VERTIC, London, 2003.

Article IV measures in the final declarations of BWC Review Conferences

REVIEW CONFERENCE YEAR	FIRST 1980	SECOND 1986	THIRD 1991	FOURTH 1996	FIFTH 2001
<i>Noted</i> requirement to take any necessary measures	—	—	—	—	—
<i>Called</i> upon states parties which have not taken necessary measures to do so immediately	—	—	—	—	—
<i>Invited</i> states parties to submit their legislation and regulations to UN for consultation	—	—	—	—	—
<i>Noted</i> the importance of legislative, administrative and other measures designed to guarantee compliance within the territory of a state party and in territory under its jurisdiction or control		—	—	—	—
<i>Noted</i> the importance of legislation regarding the physical protection of laboratories etc., to prevent unauthorised access to or removal of agents, toxins or materials		—	—	—	—
<i>Noted</i> the importance of education and the inclusion in textbooks of the prohibitions relating to BW		—	—	—	—
<i>Invited</i> states parties to consider the application of its necessary measures to apply, if possible, to actions taken anywhere by its nationals			—	—	—
<i>Welcomed</i> agreement on an additional CBM on 'Declaration of legislation, regulations and other measures'			—	—	—
<i>Invited</i> states parties to provide any useful information on their measures			—	—	—
<i>Welcomed</i> regional measures, e.g., the 1991 Mendoza Declaration			—	—	—
<i>Reaffirmed</i> the commitment of states parties to take necessary national measures				—	—
<i>Recognised</i> the need to ensure that legislation and regulations exclude the use of biological/toxin weapons in terrorist or criminal activity				—	—
<i>Reaffirmed</i> that use of BW under all circumstances is effectively prohibited by the convention				—	—
<i>Encouraged</i> the adoption without delay of measures to prevent terrorists from acquiring agents, toxins, equipment and information that could be used for BW*					—
<i>Stressed</i> the importance of efforts by industry and the scientific community to develop codes of conduct and/or ethical standards for work relevant to the BWC and its prohibitions*					—
<i>Called</i> for the adoption of measures to establish protection of agents and toxins which the state party believes to be dangerous and relevant to the BWC, including regulations on their possession, acquisition, handling and transfers, and enforcement of such measures by penal measures*					—
<i>Urged</i> the provision of appropriate legal assistance in criminal proceedings, and enhancement of the ability to prosecute and extradite individuals where appropriate*					—

* Although no Final Declaration was agreed at the 2001 Fifth Review Conference, the final draft indicated no outstanding disagreement over Article IV measures. These have therefore been included here to demonstrate the potential for continued evolution of the article's implementation.

Chart taken from Jez Littlewood, 'Back to basics: verification and the Biological Weapons Convention', in Trevor Findlay (ed.), *Verification Yearbook 2003*, The Verification Research, Training and Information Centre (VERTIC), London, December 2003, p. 92.

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Design and production

Richard Jones

Printer

CCP, London

ISSN

1740-8083

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About this paper

Trevor Findlay explores the strengths and weakness of the 1972 Biological Weapons Convention (BWC), focussing on attempts to improve its ineffective verification and compliance system. These include the work of the Ad Hoc Group of Verification Experts (VEREX) in 1992 and the Ad Hoc Group (AHG) in 1994. The latter was tasked with negotiating a verification protocol to establish an international Organization for the Prohibition of Biological Weapons (OPBW) charged with monitoring and verifying compliance with the BWC.

This brief examines the political context for the failure of these negotiations, due to the opposition of the United States and others. The US, once a leader in renouncing biological weapons, has since become the chief opponent of a comprehensive, traditional verification system for the BWC. This paper critically analyses the evolution of the US position and the key arguments that it has made. It concludes by examining progress on the minimalist work programme agreed by a resumed session of the Fifth BWC Review Conference in 2002.

Building trust through verification

VERTIC is the Verification Research, Training and Information Centre, an independent, non-profit making, non-governmental organisation. Its mission is to promote effective and efficient verification as a means of ensuring confidence in the implementation of international agreements and intra-national agreements with international involvement. VERTIC aims to achieve its mission through research, training, dissemination of information, and interaction with the relevant political, diplomatic, technical, scientific and non-governmental communities.

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Current funders Esmée Fairbairn Foundation, Ford Foundation, John D. and Catherine T. MacArthur

Foundation, Joseph Rowntree Charitable Trust, Oak Foundation, Ploughshares Fund, Polden-Puckham Charitable Trust.

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