HISTORICAL NOTES

CHALLENGING ENTRENCHED POSITIONS

Efforts to Strengthen the BTWC with a Legally Binding Protocol

Reflections of a former CBW Disarmament Negotiator

A WORKING PAPER SERIES ON THE HISTORY OF CHEMICAL AND BIOLOGICAL WARFARE
ISSUE # 3
17 JUNE 2022

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The ***HISTORICAL NOTES*** working paper series contains passages from an ongoing, wide-ranging research project into the history of chemical and biological warfare whose story starts out with the question when our ancestors began manipulating poison. The research project focusses less on the discussion of individual incidents than on identifying and characterising social, cultural, political and scientific trends that helped to shape narratives of chemical and biological weapon use and the control of such warfare through human and civilisational evolution. It also aims to critically review our present-day (re-)construction and understanding of past events.

Being research in progress, the working papers do not necessarily reflect future conclusions. As part of the overall effort, new sources of information may be found. Or work on other parts of the project may lead to new insights or uncover trends and linkages between historical trends. As a result, certain sections may require revision.

From this perspective, questions, comments or criticism on the ***HISTORICAL NOTES*** are welcomed and encouraged.

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Introduction

In the optimistic days following the conclusion of the negotiation of the Chemical Weapons Convention (CWC) in 1992,[1] the CWC was seen as something of a case study for future approaches to arms control and disarmament.[2] After the Biological and Toxin Weapons Convention (BTWC),[3] the CWC was the second multilateral treaty designed to destroy an entire class of weapons, but the first to include a comprehensive verification system.[4] Together with the euphoria following the end of the Cold War, this success generated a sense of optimism about concluding new arms control treaties and improving existing treaties.

Thus, many within the disarmament community felt that the time was right to negotiate a legally binding instrument that would strengthen the BTWC, agreed twenty years earlier with no verification measures. They intended to use the CWC verification provisions as a 'blueprint' for a verification mechanism to be included in a broader legally binding protocol to the BTWC. This negotiation process commenced with the Ad Hoc Group of Governmental Experts to Identify and Examine Verification Measures from a Scientific and Technical Standpoint (VEREX). Following the 1994 Special Conference, states parties established an Ad Hoc Group (AHG) to negotiate a legally binding protocol to the BTWC.

When the AHG began its work in January 1995, some negotiators were sufficiently optimistic to consider that they might conclude the protocol prior to the Fourth BTWC Review Conference, scheduled for late 1996.[5] Notwithstanding, more than 6 years later, in August 2001, the AHG negotiations had come to a grinding halt without an agreed protocol. And subsequent efforts by some BTWC states parties to recommence negotiations, including during the Seventh Review Conference in 2011, have also failed to succeed.

This article commences with a review of the negotiation of the BTWC, including the early rationalisations that led to a BTWC without verification provisions. It then briefly discusses the unsuccessful efforts to strengthen the BTWC through the efforts to negotiate a protocol which would have included verification provisions. Next, it considers the unsuccessful attempts of several states parties to have this divisive issue reconsidered in the lead-up to and during the Seventh BTWC Review Conference in 2011. The article finally considers whether there may be value in attempting to revisit these issues during the 9th Review Conference scheduled for 2022, more than 25 years after the establishment of the AHG, with the aim of either achieving a strengthened BTWC through a protocol, or whether states parties should consider less ambitious procedures to strengthen the convention.

Negotiation of the BTWC

The conclusion of the negotiation of the Nuclear Non-Proliferation Treaty (NPT)[6] by the Eighteen Nation Disarmament Committee (ENDC)[7] in Geneva in 1968 heralded a new era in the verification of multilateral arms control treaties. Each non-nuclear weapons State party to the NPT is under obligation to submit all nuclear materials under its control to the International Atomic Energy Agency (IAEA) safeguards and to conclude comprehensive safeguards agreements with the IAEA.

That same year, following the release of a report commissioned by the UN Secretary-General which included a call for the conclusion of an agreement to eliminate chemical and biological weapons,[8] the decision was made for the ENDC to negotiate a treaty prohibiting both chemical weapons (CW) and biological weapons (BW). However, it soon became apparent that a treaty to ban BW could be achieved relatively quickly if it was treated separately from a ban on CW, and if the ban on BW did not incorporate intrusive verification of compliance provisions.

It was recognised, even before the negotiation of the BTWC had commenced, that verification of the BTWC would not be a trivial task since significant quantities of biological agents can be produced in small and readily concealable facilities. Most of the equipment required, including fermenters, centrifuges and freeze-dryers, are standard items in the biotechnology and pharmaceutical industries. Thus, when the provisions of the future BTWC were first considered by the ENDC, many states were uncertain or dubious about the feasibility of verification of the prohibition of BW.

A major factor in the approach adopted by the major powers was the recognition that it would not be possible to 'verify' the BTWC with the same level of accuracy and reliability as the verification of the nuclear arms control treaties. For example, the stated position of the US was that possession of BW would not significantly affect the military balance between nuclear powers or provide political advantage.[9] So the arguments provided by the major powers to justify a BTWC which did not incorporate verification provisions included that: BW were of little military utility;[10] BW had not been used in war on any significant scale; and cheating under a BW ban would not yield important advantages to the cheating party.[11]

Subsequent negotiation in the Conference of the Committee on Disarmament (CCD) led to an agreed text for the BTWC, which the CCD then commended to the UN General Assembly in December 1971. However, a significant number of other states, believing that the BTWC should have included verification provisions, disagreed with the US and Soviet justifications.[12]

Although it marked an important landmark in arms control, several developments between 1975 and the early 1990s resulted in assessments that the BTWC was seriously weak and lacked credibility because it contained no effective verification provisions.

Unresolved allegations of clandestine BW production or use seriously undermined the BTWC's credibility. For example, in 1979 an anthrax outbreak at Sverdlovsk (today Yekaterinburg) raised questions about Soviet compliance with its BTWC obligations. And the revelations by the UN Special Commission (UNSCOM) in the 1990s about an Iraqi offensive BW programme, in which Iraq had spent several years developing, producing, weaponising and testing several biological agents, provided further evidence of the need to strengthen the BTWC.[13] At around the same time, intelligence assessments from USA[14] and Russia[15] concluded that about eight countries either had, or were seeking, an offensive BW capability.

To compound the problem, the same advances in biotechnology since the mid-1970s that had increased the capability to manufacture many highly useful biological products on an industrial scale, including agricultural and pharmaceutical products, could also enable large-scale production of biological agents for weapons purposes.[16]

By the early 1990s, many BTWC States parties had come to the view that the BTWC needed additional strengthening with verification or compliance-monitoring procedures.[17]

Early attempts to strengthen the BTWC

At the First BTWC Review Conference convened in Geneva in March 1980, many states parties believed that the procedures in Articles V and VI for consultation and complaints should be strengthened. Sweden proposed the establishment of a permanent consultative committee to arrange fact-findings, including on-site visits. However, the Eastern European countries strongly opposed the proposal.[18]

Following the lack of resolution of the concerns about the Sverdlovsk incident, and the allegation of BW use in Afghanistan and Southeast Asia in the early 1980s, the Second Review Conference held in September 1986 heard renewed calls to strengthen the BTWC with a legally binding verification regime. Several other delegations preferred to finalise the CWC negotiations first, and then use the CWC provisions as a possible model for the BTWC. As a compromise, participants agreed on the desirability of increasing transparency in biological activities, and thus confidence in those activities' *bona fide* nature. So, as an interim measure the Review Conference agreed to adopt a series of Confidence Building Measures (CBMs) to encourage the exchange of information about certain biological activities and facilities.[19]

At the Third Review Conference in September 1991, verification became the most contentious issue. This was based on the continuing concerns about possible non-compliance by the former Soviet Union, [20] as well as growing concerns about Iraq's suspected BW programme.[21] Several states parties wanted to press ahead immediately with

developing a 'Verification Protocol.' However, several other states parties were less enthusiastic. As a compromise, the Third Review Conference agreed to establish VEREX.

VEREX

VEREX held four sessions during 1992-93. Its mandate was to identify and examine potential verification measures from a scientific and technical standpoint that could determine:

> (i) Whether a State Party is developing, producing, stockpiling, acquiring or retaining microbial or other biological agents or toxins, of types and in quantities that have no justification for prophylactic, protective or peaceful purposes.
> (ii) Whether a State Party is developing, producing, stockpiling, acquiring or retaining weapons, equipment or means of delivery designed to use such agents or toxins for hostile purposes or in armed conflict.

The first session amounted to a brainstorming session to identify potential verification measures. Participants identified 21 such measures and divided them into several categories under on-site and off-site measures.[22] During the second session, they evaluated each potential verification measure in accordance with the mandate, against the following six criteria:

- Its strengths and weaknesses based on, but not limited to, the amount and quantity of information it provides (and fails to provide);
- The ability to differentiate between prohibited and permitted activities;
- The ability to resolve ambiguities about compliance;
- The technology, manpower, material and equipment requirements;
- The financial, legal, safety and organisational implications; and
- The impact upon scientific research, scientific cooperation, industrial development and other permitted activities, and the implications for commercial proprietary information (CPI).

The second session examined the measures individually and in combination. It concluded that no measure, on its own, could verify compliance. However, some measures applied in combination could potentially do so. At the final session, VEREX concluded that BTWC verification was feasible, at least from a scientific and technical viewpoint.[23]

The Ad Hoc Group

States parties convened a Special Conference in September 1994 to consider the VEREX report. Despite considerable disagreements on the nature and content of any further work and divergent views on the verification issue, the Special Conference, managed to reach a 'last minute' agreement to establish an AHG. Its mandate included consideration of:

- Definitions of terms and objective criteria, such as lists of bacteriological (biological) agents and toxins, their threshold quantities, as well as types of activities where relevant, for specific measures designed to strengthen the Convention;
- The incorporation of existing and further enhanced confidence building and transparency measures, as appropriate, into the regime;
- A system of measures to promote compliance with the Convention, including, as appropriate, measures identified, examined and evaluated in the VEREX Report, and
- Specific measures designed to ensure effective and full implementation of Article X, which also avoid any restrictions incompatible with the obligations undertaken under the Convention.[24]

The AHG met for its first session in January 1995. There were typically four sessions per year, each typically lasting three or four weeks. As the negotiations proceeded, many delegations began increasingly to refer to the 'legally binding instrument' as a 'verification protocol'. However, even at this early stage, the word 'verification' was seen as a stumbling block in efforts to negotiate an instrument to strengthen the BTWC. In particular, the USA viewed the word 'verification' as having specific meaning, based on its usage in the context of nuclear arms control.[25] As a consequence, a number of delegations started referring to 'compliance monitoring' rather than 'verification'.[26]

During the early sessions of the AHG in 1995 and 1996, a core group of states parties[27] recognised the potential benefits of a protocol to strengthen the BTWC. They developed the view that for the protocol to be effective, the following elements would be required (drawing on the CWC verification provisions as a 'blueprint'):

- *Declarations of 'relevant activities'* - to provide transparency about activities and facilities of potential relevance to the convention, including biodefence, high biological containment facilities, other facilities working with listed agents, and other 'relevant' parts of the biotechnology industry;
- *Visits (Routine Inspections)* - a system of routine non-accusatory inspections to declared facilities designed to encourage complete and accurate declarations, to deter

violations in declared facilities, and provide assurance that declarations are accurate;

- *Facility investigations* - a short-notice investigation to any facility within a state party triggered by another state party concerned about possible activities violating the BTWC;
- *Field investigations (Alleged Use)* - that a state party may request if it has concerns about BW use against it;
- *Confidentiality Provisions to protect sensitive information* - appropriate safeguards to satisfy legitimate concerns about the possible loss of National Security Information (NSI) and CPI; and
- *International Cooperation and Assistance* - including provisions to facilitate international cooperation and the exchange of scientific and technical information on biotechnology for peaceful purposes, and assistance to a state party under threat of attack with BW.

The Fourth BTWC Review Conference (November 1996) requested the AHG to 'intensify its work with the view to completing it as soon as possible before the commencement of the Fifth Review Conference', scheduled for late 2001. At its Seventh Session in June-July 1997, the AHG transitioned to a 'Rolling Text' format. The document represented an integrated draft protocol that incorporated the language developed in the earlier AHG sessions.

By the end of 1997, it had become clear that there was a range of views on declarations, visits, Investigations and International Cooperation (Article X).

Regarding declarations, several states parties[28] expressed concern that for the overall regime to be workable, affordable, and have minimal impact on legitimate activities, the types and numbers of declarable facilities should be more limited than the proposals put forward by the 'Reformists'. Proposals designed to limit the numbers of declared facilities included whether a facility should be required to be declared only if it possessed above a specified threshold quantity of a listed agent.

Similarly, by the end of 1997, there was still not unanimous support for the concept of visits (routine inspections), with a number of delegations supporting on-site activity only in situations where there were genuine compliance concerns. A number of other delegations considered routine visits would be useful for transparency, including to enable inspectors from the envisaged international organisation to become more familiar with biotechnology and other declared facilities (e.g. to assist the organisation with assessments of declarations and to better prepare the organisation's staff to conduct a facility investigation, if required). By the end of 1998, three types of 'visits' had been proposed: randomly-selected transparency visits; clarification visits; and voluntary visits.[29]

Likewise, there was a range of views on procedures associated with facility investigations (analogous to CWC challenge inspections), with several delegations expressing concerns about the potential abuse in requesting a facility investigation. This resulted in the development of a list of 'objective indicators' that some delegations argued must be met before a facility investigation could be requested. Some delegations also indicated that they would only accept facility investigation provisions in the protocol text if consultation, clarification and cooperation procedures had been exhausted prior to a request for a facility investigation, and then only if the Executive Council of the envisaged organisation would agree to a facility investigation taking place by the 'green light' decision-making procedure, rather than the 'red light' procedure previously agreed for challenge inspection requests under the CWC.[30]

Operationalising BTWC Article X through the protocol was another issue with a range of views, including whether the Australia Group[31] should be abolished after the protocol's entry into force. A second controversial proposition envisaged the establishment of an Article X Cooperation Committee that, among other things, would consider whether the refusal by one state party to supply a dual-use item to another state party would breach the first party's Article X obligations.

In the subsequent sessions of the AHG, the Chair (Ambassador Tibor Tóth of Hungary) and the Friends of the Chair tried to move towards agreement on these various divergent issues. However, by the end of 1999, after five years of detailed and frustrating negotiations, few signs of convergence had emerged. The rolling text reflected this range of divergent positions by alternative formulations in square brackets and footnotes – by this time, the Rolling Text contained 310 pages, with much of the text within square brackets (often multiple-square brackets) and/or footnoted.[32] The net result was that the BTWC Protocol Rolling Text contained, in effect, many alternative packages between the two contrasting alternatives at each end of the spectrum:

- one set of provisions more or less as intrusive as those agreed for the CWC (which, at the time, was considered by many to be 'just acceptable' for the effective verification in the CWC); and
- an alternative set of draft provisions significantly less intrusive than the provisions of the CWC, leading many negotiators and commentators to argue that such a protocol would contribute very limited, if any, value in the strengthening the BTWC.

A further complication was that it was sometimes difficult to know the actual positions of some delegations on particular issues. For example, some participants would say in public presentation 'Our bottom line is [option a]'. Privately, however, they would say 'Well, we might be able to live with [option b], providing we can also get [option c]'. So, by the end of 1999, there already appeared to be 'end-game' negotiating tactics in play.

It was thus difficult to judge whether the AHG was actually approaching an 'end-game'.[33] The vexed question was whether the negotiators could find the appropriate balances between providing enough transparency to provide satisfactory levels of assurance of compliance with the BTWC, and at the same time, provide sufficient protection on non-BW-related information to satisfy the concerns of government agencies and the biotechnology industry. Put another way, would it be possible to craft a protocol from the 310 pages of rolling text with its maze of square bracketed text and footnotes into a document acceptable to the then 143 BTWC states parties that would provide:

(a) Sufficiently intrusive field and facility investigation regimes to deter and detect BTWC violations;
(b) Sufficiently broad declaration regimes and effective visits regimes to significantly raise the barriers to potential BW proliferation activities;
(c) Sufficient safeguards to satisfy government agencies and the biotechnology industry that NSI and CPI, including information unrelated to BTWC compliance concerns, would be adequately protected; and
(d) Sufficient provisions to facilitate effective international cooperation programmes between states parties, including developing countries?

By the end of 2000, after another year of strenuous efforts by AHG Chair Tibor Tóth and the Friends of the Chair, the AHG had been unable to produce a consensus text through the normal negotiation process. Moreover, many delegates and observers recognised that achieving this goal would be highly unlikely before the Fifth Review Conference. With this in mind, Tóth prepared in early 2001 the Chair's Composite Text as a compromise to the various preferred options in the rolling text. He presented the new document at the 23rd session of the AHG in May and requested delegations to carefully consider the finely crafted balances and compromises in the effort to reach consensus.

At the commencement of the 24th session of the AHG on 25 July 2001, the US delegation rejected the Chair Composite Text, arguing that it did not offer rigorous enough verification measures, and at the same time would expose the US biodefence programme and pharmaceutical industry to unacceptable levels of international scrutiny.[34] Subsequently, this session descended into acrimony, finishing without agreement even on a procedural report of the AHG's work.

At the Fifth Review Conference in November 2001, the US Under-Secretary of State for Arms Control and International Security John Bolton attempted to have the AHG Mandate, which had been agreed at the 1994 Special Conference, terminated. This was not successful, so the AHG Mandate has survived. However, at the subsequent review conferences states parties have been unable to agree on resuming negotiations through the AHG.

Why was the AHG not able to achieve an agreed BTWC Protocol text in 2001?

General considerations

Following the US announcement in July 2001 that it was not prepared to support the proposed protocol text, several states parties opportunistically tried to allocate sole blame to the US for the failure of the AHG to achieve an agreed BTWC Protocol text. Likewise, some media reports also left the impression that had the US been prepared to accept the composite text, then a protocol would have been agreed.[35] However, this is far from certain, as several other states parties had serious ongoing difficulties with some provisions proposed in the Chair Composite Text, including the scope of declarations, visits, investigation procedures, and national export licensing arrangements.[36] Indeed, during the 'End-Game' process a number of these states parties had also advised other delegations that they would block consensus if some of their preferred positions, especially related to Article X and export control issues, were to be not included as part of the final compromise text.

So, the failure to achieve an agreed compromise text was rather more complicated than the 'It's all the fault of the US' narrative that subsequently developed. It was therefore most unfortunate that US senior policy-makers in the Bush Administration chose to prematurely close down the end-game negotiations in mid-2001 before other states parties had declared their own positions.[37] However, achieving an agreed protocol text was very unlikely to have been 'smooth sailing', even if President Clinton had still been in office, as several other states parties may also have been unwilling to accept all of the compromise language proposed in the Composite Protocol text.

The remainder of this section will explore three themes relevant to any future efforts to strengthen the BTWC: political will; engagement with the biotechnology industry; and capital-based activities. For readers interested in a comprehensive analysis of the AHG negotiations and their failure in 2001, there are several useful publications.[38]

Insufficient 'political will'

Only nine years earlier the Conference on Disarmament (CD) had successfully concluded the CWC negotiations. Despite the hard work of many delegations, why did the AHG fail to achieve an agreed protocol text? One short answer was the absence of a similar level of 'political will' in the AHG. It is useful to briefly consider some of the reasons for this shift.

By the late 1980s, the world had witnessed extensive CW use in the Iraq-Iran war, there were assessments that other countries including Libya may have been producing

CW, and CW was increasingly being characterised as the 'poor man's atomic bomb'.[39] In addition, the two major CW possessor countries, the former Soviet Union and the US, had both indicated their commitment to destroy their substantial stockpiles of CW under strict international verification if or when the CWC was concluded. However, there was no guarantee that either country would destroy its CW stockpile in the absence of an agreed CWC.

So when France offered to host a high-level international conference in an attempt to obtain high-level political support to conclude the CWC, there was encouragement from the other member countries of the CD.[40] The 'Paris Conference', convened from 7-11 January 1989, with representation at the Foreign Minister level, issued a Final Declaration which called on the CD to 'redouble its efforts, as a matter of urgency, to resolve expeditiously the remaining issues and conclude the Convention at the earliest possible date'.[41] This resulted in greater enthusiasm and motivation by the negotiators for a concluded CWC. And just over three years later, no individual country, or group of countries, chose to block consensus during the subsequent End-Game process (although a number of CD members stated their lack of complete satisfaction with some of the finally agreed provisions, while others stated they would not be able to sign or ratify the CWC until other regional security issues had been resolved).[42]

However, this was in stark contrast to the situation in the AHG in the late 1990s. There had been no large-scale BW use since the Second World War.[43] The BTWC entered into force in 1975 already containing a comprehensive prohibition of BW. So, the AHG's task was to strengthen an existing prohibition.

The two major BW possessors since 1945, the US and former Soviet Union were generally believed to have destroyed their BW stockpiles in the late 1960s and early 1990s, respectively, and Iraq's BW stockpile was generally considered to have been destroyed in the early 1990s.[44] And while intelligence assessments from the US[45] and Russia[46] suggested that several other countries may have been displayed interest in BW, there were no known BW stockpiles in the late 1990s.

A number of BTWC states parties also appeared to have been lulled into a sense of complacency about BW and the necessity and feasibility of a strengthened BTWC, based on the ongoing perception, at least among some states parties, dating back to the early 1970s when the US and former Soviet Union had argued that BW were of little military value, and that it would not be possible to verify the BTWC.

So there was not the same level of motivation by some of the BTWC States Parties in 2001 to make the compromises that would have been necessary to conclude a protocol to strengthen the BTWC, as there had been within the CD in 1992 to conclude an effective CWC.

Another factor was that during the 1990s, there had been a gradual loss of the sense of goodwill that had been felt, at least by many countries, at what was being described in the

early 1990s as 'the end of the Cold War'. In particular, some of the Cold War political tensions resurfaced as the decade progressed. While these tensions did not specifically relate to chemical and biological weapon (CBW) issues, they played out both during the preparations for implementing the CWC by the Organisation for the Prohibition of Chemical Weapons (OPCW) Preparatory Commission in The Hague[47] and in the BTWC AHG in Geneva.

The combination of the complacency among some states parties about BW and apparent lack of enthusiasm by many other states parties to conclude an effective BTWC Protocol also resulted in less regional engagement activities being undertaken by BTWC states parties during the negotiation of the BTWC Protocol.[48] A further result of the complacency and lack of enthusiasm was the lack of effective engagement with biotechnology industry associations,[49] and the limited amount of 'capital-based activities', which had also been key factors in the conclusion of the CWC.[50]

To build a greater sense of political momentum for the AHG negotiations, Australia convened an Informal Ministers Meeting in the margins of the UN General Assembly in New York in 1998.[51] Despite the meeting's apparent success, no noticeable difference in the negotiating practices ensued in subsequent AHG meetings. Australia had also intended to organise a formal high-level meeting of Foreign Ministers in early 2000, but did not proceed because of concerns that attempts at bridging the divergent positions might have locked some Foreign Ministers into their country's existing national positions. This, in turn, might have complicated 'end-game' compromises even more.

Suggestions by several states parties in so-called corridor discussions that they might not join the consensus unless certain provisions were included was another unfortunate effect of the lack of political will. While difficult to judge whether at least some of those exchanges might have been end-game tactics, whether those states parties might have agreed to a final package deal with sufficient encouragement from other states parties endorsing the draft protocol text will remain unknown.

Lack of effective engagement with biotechnology industry associations

It is useful to recall that in the lead-up to the 'End-Game' of the CWC, the chemical industry had become increasingly involved, including at meetings of treaty negotiators with chemical industry representatives.[52] This resulted in a much closer understanding between the negotiators and representatives from the chemical industry and industry associations. The valuable input provided by the latter helped to shape the final verification package, which made the CWC both more workable and less of a burden for the chemical industry.

While several government officials who participated in BTWC Protocol 'practice visits' organised to test proposed verification measures generally reported high levels of cooperation with the management of the 'visited facility'[53], major industry associations, the

Pharmaceutical Research and Manufacturers of America (PhRMA) and the Forum for European Bio-industry Coordination (FEBC) in particular, expressed serious concerns about intrusion into current and future commercial and technical proprietary areas, and the potential loss of intellectual property considered as unpatented 'know how'. Neither PhRMA nor FEBC opposed the declarations envisaged under the protocol provided their scope was narrow. In their view, the declaration forms should not be complex or require submission of any confidential business information. However, neither PhRMA nor FEBC supported the concept of routine transparency visits, preferring a challenge inspection (facility investigation) in situations of serious alleged violations. However, PhRMA endorsed 'truly voluntary educational visits to familiarise staff-members of the BTWC Organisation with industry operations'.[54]

So unfortunately, a cooperative relationship similar to that which had developed between the CWC negotiators and chemical industry representatives did not develop between the AHG negotiators and the biotechnology industry.

Insufficient capital-based activities

Following the visit by a large contingent of CD members to the Soviet CW facility at Shikhany in September 1987, a sense of optimism swept through the disarmament forum that agreement on a convention was not only possible, but also that it may be achieved within a year or two. This optimism motivated the negotiators in Geneva and their expectations prompted officials in capitals to undertake practical activities to support the CD negotiations.

This resulted in most CD members and many of the increasing number of observer states to the CD undertaking a range of 'capital-based activities' whose results would better inform the diplomats and advisers in the final stages of their negotiations. Thus, following a German proposal in April 1988[55], countries undertook national surveys of production and use of chemicals relevant to the future CWC and reported their results to the CD. These surveys provided a very useful indication of the extent of national production, use and trade in the chemicals and thus assisted in the development of the CWC declaration provisions.

In early 1988, following a Soviet proposal,[56] most CD members conducted one or more National Trial Inspections (NTIs) at chemical industry facilities, most of which followed the draft procedures then being developed for routine inspections of Schedule 2 facilities. Experiences from the approximately 70 NTIs conducted and reported to the CD[57] allowed the fine-tuning of the draft inspection procedures. This resulted in increasing convergence of views among the negotiators in the value of the types of inspections under consideration.[58]

The UK undertook several 'Practice Challenge Inspections' (PCIs) to evaluate and further develop the challenge inspection procedures under consideration. These PCIs

were conducted at military facilities, including nuclear weapons storage areas, a nuclear weapon R&D establishment and a signals establishment.[59] Many other countries subsequently also carried out PCIs and reported their results to the CD or CWC workshops.

By 1991, several CD members had established an embryonic 'National Authority'.[60] These agencies prepared for the national implementation of the future CWC. This included outreach and guidance to industrial facilities that may need to be declared (and possibly receive routine inspections), under the provisions then being finalised in Geneva.

These capital-based activities by the CWC community contributed substantially to the final shape and effectiveness of the CWC verification provisions, including refinement of the declaration thresholds and verification procedures, providing an indication of the likely numbers of facilities that would be subject to declaration and routine inspection, raising awareness among the facilities likely to be affected, and preparing defence agencies for the possibility that one of their facilities may be subject to a challenge inspection request.

Unfortunately, the majority of BTWC states parties did not embrace capital-based activities along the above lines. For example, only a small number of states parties undertook surveys of their biotechnology industries and reported the results to the AHG. Similarly, only a relatively small number of states parties conducted either 'practice visits' or 'practice facility investigations' to evaluate and refine the provisions being developed by the AHG.[61] In the formal meeting room few assessed the utility and efficiency of the provisions under consideration. And unlike the situation several years earlier with the CWC verification proposals, reporting of experiences did not result in any observable convergence of views or appear to convince those states parties opposed to 'visits' to accept them.

And it was apparent that very few states parties had established even a preliminary National Authority arrangement pending conclusion of the negotiation of the protocol.

Such activities might have provided useful background information to better appreciate which triggers would have been the most useful and to determine which ones could function as stand-alone triggers or would acquire greater utility in combination with other triggers.

Notwithstanding, lack of capital-based activities did not necessarily indicate lack of interest among government officials. Historically, many government departments have maintained considerable overlap between chemical and biological disarmament responsibilities, meaning that officials allocating time to one area almost inevitably could afford less time for the other area.[62] Thus, their heavy load to support the work of the OPCW Preparatory Commission between January 1993 and May 1997 and the early CWC implementation phase from June 1997 until December 2001 meant less time and resources available to support the diplomats meeting in the AHG in the critical stages of the protocol negotiations.

Picking up the pieces – Proposal for a conceptual discussion of compliance

During the intersessional process (ISP) of annual meetings of experts (MX) and states parties (MSP) that flowed from the reconvened Fifth Review Conference in 2002, and in particular during the lead-up to the Seventh Review Conference in 2011, many states parties maintained the view that a compliance protocol remained their medium- to long-term objective as the most effective means to strengthen the BTWC. For example, the NAM states parties regularly expressed their long-held position that 'a legally binding instrument with verification mechanism' is the only sustainable method to strengthen the convention.[63] And European Union members remained 'committed towards identifying effective mechanisms to enhance and possibly verify compliance with the Convention.'[64] In contrast, the United States stated in 2010 that it remained 'convinced that a verification regime is no more feasible than it was in 2001, and perhaps even less so, given the evolution of technology and industry.'[65]

Members of some delegations involved in the AHG negotiations realised that returning to a formal negotiation process for a BTWC Protocol or even less ambitious measures made little sense while the divergent views expressed in the AHG meetings persisted. A successful outcome would be no more likely following the Seventh Review Conference as it had been between the Fourth and Fifth Review Conferences. Some states parties also recognised that returning to an AHG process would distract from the ISP which was seen as providing some useful outcomes, including progress with national implementation measures and various international cooperation projects. In addition, negotiation of a multilateral security instrument through the UN system is expensive because of conference costs (interpretation, documentation, etc.); the salaries of Geneva-based diplomats; and salaries and travel costs of officials coming from capitals. Many people therefore felt that the limited UN resources would be better spent supporting meetings with more likelihood of achieving useful outcomes.

It had become clear at least to some participants that all states parties first had to move beyond their disappointment and frustrations with the failure of the AHG negotiations and the acrimony at the 2001 Review Conference before any a constructive discussion on BTWC compliance mechanisms could resume. These thoughts lay behind a proposal to establish a Compliance Working Group to initiate a conceptual discussion on compliance. First presented at the Pugwash CBW Study Group meeting in December 2010[66] and the Montreux BTWC Workshop in April 2011,[67] the proposal appeared as a Seventh Review Conference Working Paper by Australia, Japan and New Zealand.[68]

This working paper noted that full compliance with the BTWC is in the interests of all states parties, as this would reduce risks of BW proliferation and raise barriers to bioterrorism. It was carefully crafted so as not to question or pre-judge the diverse range of views on compliance issues that had stymied progress during the AHG negotiations.

Rather, the proposed Compliance Working Group would, among other things, discuss and develop common understandings based on two broad questions:

- What constitutes compliance with the BTWC?
- How can a state party better demonstrate its compliance with the BTWC and thereby enhance assurance for other states parties?

The Working paper specifically mentioned issues that would benefit from a conceptual discussion, including: consideration of the role of declarations in demonstrating compliance; the possible role for consultation and cooperation mechanisms under Article V, including consideration of mutually agreed visits to sites of compliance concern; mechanisms for the investigation of alleged use of BW under Article VI; and the potential impact of advances in the life sciences on demonstrating compliance and enhancing assurance of compliance.

However, the document remained deliberately neutral on the issue whether the BTWC should be strengthened via a protocol or incrementally.[69] In this way the conceptual discussion itself may have guided states parties towards the most useful way forward.

Assuming that the Compliance Working Group might meet for one day during the annual MX process, the working paper also suggested a selection of issues to be agreed by the MSP for consideration by the working group in the following year. This approach left open the possibility for the Compliance Working Group to constructively consider several other problematic issues, including clarification of the terms 'verification' and 'compliance monitoring' in the context of the BTWC to move beyond long and tedious 'debate' about the applicability or otherwise of the term 'verification' in the context of BTWC compliance monitoring. One way forward might have been, as a starting point, consideration of the verification definition developed by a UN panel of government experts in 2007.[70] Underlying the working paper was the hope that Compliance Working Group discussions could remain technical and thus avoid re-hashing old political views.

Discussion items in its second year could have included other relevant issues, such as:

- The value of declarations, including whether additional information beyond that requested in the CBMs would provide improved confidence of compliance; and
- The value and cost-effectiveness of the various types of 'visits' as envisaged in the draft protocol, including consideration of the arguably low level of assurance to be gained by an occasional randomly-selected transparency visit to a facility about which there were compliance concerns, compared with a clarification visit, or even a facility investigation in cases of a serious compliance concern.

In this context, the hope was that the discussions in the Compliance Working Group would have encouraged states parties to take up the capital-based activities of the types already discussed above, including:

- Surveys of their biological facilities captured by the various declaration triggers; and
- The conduct of practice visits and practice facility investigations, based on the provisions developed by the AHG negotiators during the 1990s.

The Compliance Working Group would also have provided an opportunity for states parties who genuinely believe that a legally binding instrument may provide useful additional measures to strengthen the BTWC to explain their reasoning – hopefully backing up their preferred approach with technical arguments and empirical results from national 'practice visits' and other 'field exercises'.

States parties uncomfortable with certain aspects of the Composite Text (e.g. randomly-selected transparency visits) could have used the Compliance Working Group to lay out their concerns and suggest alternative measures that would provide assurance that information provided in declarations was correct and activities were in compliance with the BTWC.

Many significant developments relevant to the BTWC since the mid-1990s could have been reviewed by the Compliance Working Group. These included major shifts in the international security environment, such as the end of the Cold War and increasing concerns about bioterrorism after the 9/11 attacks. The Compliance Working Group could have considered how these developments affected compliance monitoring and whether the focus of compliance-monitoring activities should be adjusted. Likewise, the Compliance Working Group could have considered the major advances in biological sciences since the mid-1990s,[71] including whether the rapid advances in the life sciences related to the production of pathogenic materials (e.g., through synthetic biology) may complicate monitoring of BTWC compliance, or whether the rapid advances in bio-forensics may enable more effective compliance monitoring of BTWC-related activities.[72] Another development the Compliance Working Group could have usefully considered were the implications of the increasing globalisation of the biotechnology sector with its rapid expansion in many developing countries since the mid-1990s.[73]

Many felt great disappointment when the Seventh Review Conference failed to adopt the proposal for a 'Conceptual Discussion of Compliance'. It was another missed opportunity to have states parties share their perspectives in an informal, yet informed environment.

The Compliance Working Group / Conceptual Discussion of Compliance proposal was intended to be a technical discussion among states parties. The lack of agreement by

states parties to this proposal has led some of the friends of the BTWC from civil society to propose that civil society conducts its own Conceptual Discussion of Compliance. That may turn out to be a useful endeavour, particularly if such a Conceptual Discussion of Compliance among civil society were to subsequently encourage states parties to become more involved.[74]

But the bottom line is that ultimately, there needs to be a conceptual discussion of compliance among states parties, including those states parties which have historically held the most divergent views. Only then can they progress, whether via a legally binding instrument or by means of incremental measures.

Concluding comments

In *an ideal world*, the AHG would have concluded an agreed protocol before the Fifth Review Conference in 2001, all BTWC states parties would have participated in a Protocol Signing Ceremony in early 2002, and the protocol would have entered into force in 2005, thereby establishing an Organisation for the Prohibition of Biological Weapons (OPBW). And by 2021, there would have been more than 190 states parties to both the BTWC and BTWC Protocol, all with their various BTWC-related national implementation measures in place.[75] All parties would be working together cooperatively and utilising the compliance measures in the protocol, and any subsequently agreed measures to assure other states parties that they are in full compliance with the BTWC, and endeavour to secure a world free of BW. The BTWC community would have been responding responsibly to BW threats and other challenges alongside the OPCW in its efforts to have a world free of CW. The world would have marvelled at what could be achieved in the post-Cold War, post 9/11 era.

But *in the real world*, as the 184 BTWC states parties prepare for the Ninth Review Conference, there is no BTWC Protocol and no OPBW. Approximately one-third of the states parties have fully enacted the required national laws and regulations to implement the BTWC. Approximately another third have some of the necessary measures in place, and the remainder are apparently yet to make substantial progress in fulfilling their national implementation requirements.[76] Only approximately 50% of the 184 states parties are providing the annual CBM information.[77] The BTWC still suffers from its 'institutional deficit'.[78] And, the efforts at the Seventh Review Conference to initiate a Conceptual Discussion of Compliance have so far come to naught.

When the decision was taken 50 years ago to separate the prohibition of CW and BW and to then negotiate within a short time frame the text of the BTWC without meaningful verification or other compliance-monitoring provisions, some within the disarmament

community felt a sense of pride at what many others then saw as 'low hanging fruit'. Little did they realise that the BTWC states parties would spend much of the next five decades agonising about strengthening their treaty, including through CBMs in the 1980s, then VEREX and the AHG in the 1990s, and then through ISP meetings since 2002.

So where do those efforts leave the BTWC today? None of the current 184 parties to the convention are known to have BW stockpiles. Of the states having neither ratified nor acceded to the BTWC, only a few are judged as having a possible interest in pursuing BW programmes.

But strengthening the BTWC through either verification or compliance monitoring appears no closer to agreement than at the end of the 2001 Review Conference. It is perhaps worth reflecting that the Fifth Review Conference was an artificial deadline for finalising the protocol text. There was absolutely no reason why states parties could not have extended the AHG process. For example, the period between 2002 and 2006 could have included an ISP to encourage all states parties to fulfil their national implementation obligations. It could also have included an agreement for states parties to conduct capital-based activities, so that by the Sixth Review Conference in 2006, they might have developed a better appreciation of what they were trying to negotiate, thus enhancing the chances for an agreed protocol text shortly after.

One promising development over the past 20 years is that events have largely overtaken the obstacles concerning export licensing and international cooperation issues raised in the 1990s. Dual-use materials, equipment and technology are now available from many countries that have no association with the Australia Group. Some states with concerns about CBW export licensing measures in the 1990s have in the intervening years developed advanced and sophisticated biopharmaceutical and biotechnology R&D and manufacturing capabilities. In some instances, they have themselves become major global suppliers, and are now required under UN Security Council Resolution 1540 (and subsequent resolutions) to implement their own national export control measures.[79]

In the CD in Geneva between 1984 and 1992, most CWC negotiators were familiar with what they were talking about.[80] Those delegates with opposing views on particular issues were involved in difficult, sometimes protracted negotiations, but there remained a strong sense of commitment to achieve a CWC. Unlike the CWC negotiators, many delegates in the AHG appeared to have had limited understanding of biological warfare, the biotechnology industry, or experience with relevant capital-based activities, and many did not appear to take the threat of BW seriously. So, it is perhaps not surprising that the sense of purpose, of working together towards a commonly shared goal was lacking among some of the more influential BTWC parties, some of whom appeared content to play games and appeared more interested in scoring political points than strengthening the BTWC. This makes any progress in a consensus-based decision-making process impossible.

Perhaps the COVID-19 pandemic that has caused so much disruption and misery since the beginning of 2020 will provide BTWC states parties with a better appreciation of what might be expected if there was ever to be a large-scale BW attack, and will perhaps encourage more BTWC states parties to take the threat of BW (including terrorism with BW) with the seriousness that the issue deserves. The COVID-19 pandemic, and other developments relevant to the BTWC (as discussed above) may help to encourage states parties to agree to a Conceptual Discussion of Compliance at the Ninth Review Conference. And such a discussion may eventually lead to agreed mechanisms to strengthen the BTWC, if not through a legally binding protocol, then at least through 'incremental strengthening measures'.

Addendum

At the BTWC Meeting of States Parties convened in November 2021, which took place some months after the preparation of this Historical Note, Ambassador Bonnie Jenkins, the US Under-Secretary for Arms Control and International Security, Department of State, proposed a two-pronged approach to overcome the political impasse of the last twenty years. She suggested that the Ninth BTWC Review Conference should take near-term, concrete action to strengthen the Convention and benefit States Parties, including: further operationalising assistance under Article VII; establishing a voluntary fund for technical cooperation; creating a mechanism to review advances in science and technology; deepening collaborations on biosafety and biosecurity; staffing the Implementation Support Unit to carry out these roles; and enabling more agile decision making. As the second part of the way forward, Jenkins suggested that the Review Conference also take steps to address the harder issues, including the establishment of a new expert working group to examine possible measures to strengthen implementation of the Convention, increase transparency, and enhance assurance of compliance.[81]

The expert working group proposed by Ambassador Jenkins contains several elements in common with the proposal for a Compliance Working Group contained in WP.11 presented at the Seventh Review Conference in 2011, which is considered in some detail on pages 14 to 17 of this Historical Note. Jenkins' proposal offers an encouraging sign that the US will be prepared to work with other States Parties during and beyond the Ninth Review Conference to strengthen the BTWC compliance measures. It is hoped that the discussion of the Compliance Working Group proposal contained in this chapter will assist States Parties as they consider her proposal during their preparations for the Ninth Review Conference.

Notes

1 Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction, (CWC), opened for signature 13 January 1993; entered into force 29 April 1997.

2 M. Letts, R.J. Mathews, T.L. McCormack, T.L. and C. Moraitis, "The Conclusion of the Chemical Weapons Convention: An Australian Perspective", *Arms Control*, 14, 311, (1993).

3 Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, (BTWC), opened for signature 10 April 1972; entered into force 26 March 1975.

4 The CWC goes further than any other treaty in the scope of prohibition, and the depth, extent and intrusiveness of verification provisions. Verification under the CWC includes compulsory national declarations about relevant industrial and military activities, and a regime of routine inspections of declared industrial and military facilities. It also provides the unprecedented right to a 'challenge inspection', under which a State Party can request at short notice an inspection of any site in any other State Party.

5 For example, in the UK, the government informed the Parliament that it was planning for the drafting of the BTWC Verification Protocol to be completed in time for the 1996 Fourth Review Conference. See: Harvard Sussex Program News Chronology, 21 July 1994.

6 *Treaty on the Non-Proliferation of Nuclear Weapons*, (NPT), opened for signature 1 July 1968, entered into force 5 March 1970.

7 The Eighteen Nation Committee on Disarmament (ENDC), established in 1962, was the forerunner to the current Conference on Disarmament (CD) based in Geneva. In 1969, its name was changed to the 'Conference of the Committee on Disarmament (CCD).

8 See Report of the Secretary-General, 'Chemical and Bacterial (Biological) Weapons and the effects of their possible use', (United Nations, New York: 1969). The report urged 'all States to accede to the Geneva Protocol of 1925', and 'all countries to reach agreement to halt the development, production and stockpiling of all chemical and bacteriological (biological) agents for purposes of war and to achieve their effective elimination from the arsenal of weapons'.

9 In 1976, the US Arms Control and Disarmament Agency (ADCA) suggested that the extent of verification required is related to the degree of risk posed by possible violations. Referring to the BTWC as a case in point, the ACDA analysis stated: 'Its prohibitions on the development, production or stockpiling of biological weapons are difficult to verify, particularly in countries with relatively closed societies. On the other hand, the utility of such weapons is at best questionable... and possession of them would not significantly affect the military balance between nuclear powers or provide a political advantage. Accordingly, the agreement was judged to be in the interests of the United States in spite of the difficulties of verification.' ACDA, *Verification: The Critical Element of Arms Control*, US ACDA Publication No 85 (US Government Printing Office, Washington, DC, March 1976), p.7 (Quoted from A.S. Krass, *Verification: How Much is Enough?* (SIPRI, Taylor and Francis 1985), p. 126).

10 T. Dashiell, 'A Review of US Biological Warfare Policies', in *Biological Weapons: Weapons of the Future*, (Ed. B. Roberts) (Significant Issues Series, Vol. XV, Number 1, 1993). p. 4.

11 By contrast, chemical weapons were regarded as of military significance as they had been stockpiled and used on a large scale in war, so compliance with a ban on chemical weapons would have be monitored through intrusive verification methods to ensure the security of all States Parties.

12 For example, Sweden was one of the more active members of the CCD with respect to the requirement for verification measures for the BTWC. See: A. Myrdal, 'The Game of Disarmament: How the United States and Russia run the Arms Race' (New York, Pantheon Books, 1976) p.273.

13 Iraq's BW program embraced a comprehensive range of agents and munitions. Agents included lethal agents (e.g. anthrax, botulinum toxin and ricin), incapacitating agents (e.g. aflatoxins, mycotoxins and rotavirus) and 'economic' agents (e.g. wheat cover smut).

14 US Congress, Office of Technology Assessment (OTA), 'Proliferation of Weapons of Mass Destruction: Assessing the Risks', OTA-ISC-559, (Washington, August 1993), p.65.

15 Y. Primakov, 'A New Challenge after the Cold War: The Proliferation of Weapons of Mass Destruction', Report by the Foreign Intelligence Service of the Russian Federation, (Moscow, 1993).

16 For example, using recombinant techniques, toxin producing genes could be spliced to a common host organism, enabling large scale production (within a short time) of toxic agents which have previously only existed in nature in small quantities.

[17] Particularly noteworthy was the UK which, despite appearing relaxed about a BTWC without verification in the early 1970s, by the early 1990s had become a major proponent of verification of the BTWC, and a very active participant in the VEREX and AHG negotiations.

[18] The US delegation chose not to raise the issue of the Sverdlovsk incident during the Review Conference. However, at the conclusion of the Conference, the US representative declared that his country had started consultations with the Soviet Union regarding the incident. See B. Ter Haar, 'The Future of Biological Weapons', *The Washington Papers No. 151*, 1991, pp. 17-21.

[19] At the time, it was hoped that these CBMs would increase transparency of biological activities in a state party and thus strengthen the Convention. In reality, they have had limited effect. The CBMs are not legally binding and participation has been poor. For example, in 2019 only 82 out of the then 183 states parties provided CBM information.

[20] In 1992, President Yeltsin admitted that there had been an offensive BW program in the former Soviet Union during the previous 20 years, and acknowledged that the Sverdlovsk anthrax outbreak was the result of military research to make biological weapons. See SIPRI *Yearbook on World Armaments and Disarmament*, 1993, pp. 287-288.

[21] In the late 1980s, there were strong suspicions that Iraq was attempting to develop an offensive biological weapons program, based on information from international traders that Iraq was seeking to acquire the types of biological materials and biotechnology equipment that would be needed for an offensive program. See R. J. Mathews, "The Development of the Australia Group Export Control Lists of Biological Pathogens, Toxins and Dual-Use Equipment," *CBW Conventions Bulletin*, No. 66 (December 2004), pp. 1–4.

[22] These measures were: information monitoring (namely surveillance of publications; surveillance of legislation; data on transfers, transfer requests, and production; multilateral information sharing; exchange visits; and declarations, including notifications); remote sensing (or surveillance by satellite or aircraft or with ground-based means); inspections (including sampling and identification, observations, and auditing); on-site measures (meaning exchange visits and international arrangements, interviews, visual inspection, identification of key equipment, auditing, sampling and identification, and medical examination); and continuous monitoring (by instruments and personnel).

[23] 'Final Report', BWC/SPCONF/1, Special Conference of the States Parties to the BTWC, Geneva, September 19-30, 1994, pp. 9-10.

[24] The AHG was given the mandate to consider: Definitions of terms and objective criteria, such as lists of bacteriological (biological) agents and toxins, their threshold quantities, as well as types of activities where relevant, for specific measures designed to strengthen the Convention; The incorporation of existing and further enhanced confidence building and transparency measures, as appropriate, into the regime; A system of measures to promote compliance with the Convention, including, as appropriate, measures identified, examined and evaluated in the VEREX Report, and Specific measures designed to ensure effective and full implementation of Article X, which also avoid any restrictions incompatible with the obligations undertaken under the Convention. See:
'Final Declaration of the BWC Special Conference', BWC/SPCONF/1, Part II, 1994, p.10.

[25] See for example, M. Moodie, 'Bolstering Compliance with the Biological Weapons Convention: Prospects for the Special Conference', *Chemical Weapons Convention Bulletin*, 25, (September 1994), p.1. In his article, Moodie argues his preference to avoid the term 'verification' so as to avoid a debate about what degree of detection of non-compliance is required to consider a measure as providing genuine 'verification'.

[26] See for example, A. Duncan, and R.J. Mathews, 'Development of a Verification Protocol for the Biological Weapons Convention', in *Verification 1996*, (Verification Technology Centre: London 1996), pp.151-170.

[27] This group of States Parties has subsequently been referred as 'The Reformists'. See J. Littlewood, 'The Biological Weapons Convention: A Failed Revolution' (Ashgate 2005), pp. 9-15.

[28] This group of States Parties has subsequently been referred as 'The Minimalists'. See J. Littlewood, 'The Biological Weapons Convention: A Failed Revolution' (Ashgate 2005), pp. 9-15.

[29] The concept of 'Visits' became one of the most contentious aspects of the AHG negotiation, with views ranging from no 'Visits' regime, to each State Party being obliged to receive a certain number of 'Visits' in any year. In an effort to avoid this issue becoming a 'treaty stopper', a proposal was made to postpone the commencement of the 'Visits' regime until agreed by a future Conference of BTWC Protocol States Parties (as was the agreement with the commencement with some types of routine industry inspections in the CWC Verification Regime). See: R.J. Mathews, 'Approaching an "End-game" in the Negotiation of the BWC Protocol: Lessons from the Chemical Weapons Convention', *CBW Conventions Bulletin*, 47, 1-4, (March 2000).

[30] The 'Red Light' procedure means that the Facility Investigation would commence within a specified number of hours after receipt of the request unless the Executive Council voted against the investigation proceeding; whereas the 'Green Light' procedure means that the Facility Investigation would only proceed after the Executive Council had voted in favour of the investigation taking place.

[31] R. J. Mathews, 'CBW Export Controls and the 'Web of Prevention': A Practitioners Perspective' in B. Rappert and C. McLeish (eds), *A Web of Prevention: The Life Sciences, Biological Weapons and the Governance of Research* (Earthscan 2007).

[32] In some cases, the drafting had produced a text which expressed more succinctly the major different views (and hence a slight reduction in the number of brackets and footnotes). However, despite the reduced number of brackets and footnotes, a comparison of the various provisions of the successive Rolling Texts indicated that that there had been little convergence on key differences.

[33] For example, my estimate was that less than 50% of the BTWC Protocol Rolling Text represented agreed positions, compared to an estimated 80% of agreed text in the CWC Rolling Text at the start of the 'End-Game' of the CWC negotiations in late 1991.

[34] K.D. Ward, 'The BWC Protocol: Mandate for failure', The Non-Proliferation Review, 2004 (Summer), pp. 1-17.

[35] See, for example, J. Rissanen, 'BWC Update: A Turning Point to Nowhere? BWC in Trouble as US Turns its Back on Verification Protocol', Disarmament Diplomacy, No 59, July-August 2001).

[36] Indeed, several States Parties stated that they did not wish to use the Chair Composite Text as the basis for the 'end-game' negotiation. See for example: BWC/AD HOC GROUP/WP.451 Working Paper submitted by China, Cuba, Islamic Republic of Iran, Indonesia, Libyan Arab Jamahiriya, Pakistan and Sri Lanka 'Joint Statement on the Process of the BTWC Ad Hoc Group Negotiations (4 May 2001).

[37] The US response to the Chair Composite Text may have been quite different had President Clinton still been in office at that time. For example, Clinton had expressed strong support for a Protocol to strengthen the BTWC, including in his State of the Union message to the US Congress in 1998, in which he stated that 'Now we must act to prevent the use of disease as a weapon of war and terror. The BWC has been in effect for 23 years now. The rules are good but the enforcement is weak. We must strengthen it with a new international inspection system to detect and deter cheating." See: Harvard Sussex Program News Chronology, 27 January 1998.

[38] In particular, the following book provides a detailed, informed and balanced account of the AHG negotiations: J. Littlewood, 'The Biological Weapons Convention: A Failed Revolution' (Ashgate 2005).

[39] US Congress, Office of Technology Assessment (OTA), 'Proliferation of Weapons of Mass Destruction: Assessing the Risks', OTA-ISC-559, (Washington, August 1993), p.65.

[40] The objectives of the Paris Conference, convened by France, the depositary of the 1925 Geneva Protocol, were to reaffirm the 1925 Geneva Protocol, support the CWC negotiations, strengthen the role of the UNSGM for alleged use of CW, and encourage more States to implement CW-related export controls. Those parts of the Final Declaration relating to the CWC negotiations were seen by many governments and commentators as the most important outcome of the Paris Conference.

[41] See for example: Harvard Sussex Program, News Chronology, 11 January 1989.

[42] See for example, H. Mashadi, 'How the negotiations ended', CBW Conventions Bulletin, Issue 17, September 1992.

[43] See for example, P. Williams and D. Wallace, 'Unit 731: The Japanese Government's Secret of Secrets', (Free Press, USA, 1989). It has been reported that hundreds of thousands of Chinese civilians were killed by BW attacks during WW2, including the use of cholera and plague.

[44] R. Ekéus, 'Shifting priorities: UNMOVIC and the Future of Inspections in Iraq', Arms Control Today, March 2000 (http://www.armscontrol.org/act/2000_03/)

[45] US Congress, Office of Technology Assessment (OTA), 'Proliferation of Weapons of Mass Destruction: Assessing the Risks', OTA-ISC-559, (Washington, August 1993), p.65.

[46] Y. Primakov, 'A New Challenge after the Cold War: The Proliferation of Weapons of Mass Destruction', Report by the Foreign Intelligence Service of the Russian Federation, (Moscow, 1993).

[47] See for example, R. J. Mathews, 'Entry into force of the Chemical Weapons Convention, SIPRI *Yearbook on World Armaments and Disarmament*, 1998, pp. 490-500.

[48] This was in contrast to the years leading up to the conclusion of the negotiation of the CWC, during which several countries became involved in regional activities designed to share information and build greater support for the CWC. For example, Australia conducted a number of activities under its "Chemical Weapons Regional Initiative" including seminars, workshops and a multilateral trial inspection at a civil-industry

facility. See: Australia, Trial Inspection of a Schedule 3/'Other Relevant' Facility, CD/1128 of 20 February 1992.

[49] As discussed in Section 6.2.

[50] As discussed in Section 6.3.

[51] This informal meeting produced a declaration co-sponsored by 57 countries in which ministers affirmed their strong support 'for strengthening the effectiveness and improving the implementation of the Convention' and calling on all States Parties to 'accelerate the negotiations and redouble their efforts' to conclude the Protocol. See: Harvard Sussex Program News Chronology, 23 September 1998.

[52] This included meetings of industry officials with diplomats within the CD, and subsequently in the Government-Industry Conference against Chemical Weapons (GICCW) convened in Canberra from 19-24 September 1989. This conference, with 375 delegates from 66 countries and 4 international organisations, including representatives of national chemical industries, represented approximately 95% of the world's chemical production capacity. The industry participants adopted a collective statement in which they 'expressed their willingness to work actively with governments to achieve a global ban on chemical weapons, and their willingness to contribute additional momentum to the Geneva negotiating process'. See: Harvard Sussex Program News Chronology, 19 September 1989.

[53] Indeed, the comments by biotechnology industry personnel who took part in the practice visits conducted in Australia were that, compared to the frequent inspections that their facilities already receive from various national and international regulatory bodies (such as Therapeutic Goods Administration, the Food and Drug Administration, and various Occupational Health and Safety agencies) that an occasional relatively non-intrusive BTWC Protocol visit would not be a problem.

[54] PhRMA, Statement of PhRMa's Position on a Compliance Protocol to the Biological Weapons Convention, Distributed to the AHG on 24 September 1998. R. van Sloten, Biotechnology and the Strengthening of the BTWC: The View from West European Industry', Working Paper presented at Pugwash CBW Meeting No 246, Noordwijk, The Netherlands, 15-16 May 1999.

[55] Federal Republic of Germany, 'Provisions of Data Relevant to the Chemical Weapons Convention', CD/828, 12 April 1988.

[56] Plenary Statement to the CD by Soviet Deputy Foreign Minister Petrovsky, CD/PV.441 (18 February 1988).

[57] See R.J. Mathews, 'Verification of Chemical Industry under the Chemical Weapons Convention', *Verification 1993*, (Verification Technology Information Centre: London), pp. 41-54.

[58] R. Trapp, 'CW Technical Expert Meeting to Evaluate Experiences from National Trial Inspections' (Rapporteurs report), 17th Workshop of the Pugwash Study Group on Chemical Warfare, 15-16 June 1991, Geneva, Switzerland.

[59] During this series of PCIs, the UK developed the concept of 'managed access', to provide negotiated access to very sensitive installations, sufficient to demonstrate compliance while at the same time allowing the inspected State Party to protect unrelated National Security Information. United Kingdom, "Verification of the Chemical Weapons Convention: Practice Challenge Inspections of Government Facilities: Analysis of Results", CD/1012, 11 July 1990.

[60] Australia, Australian National Secretariat: Survey of Chemical Industry, CD/1129 of 20 February 1992.

[61] J.R. Walker, 'Update: Verification of the Biological and Toxin Weapons Convention and the UK's Practice Compliance Inspection Programme', *Verification 1993*, (Verification Technology Information Centre: London), pp. 193-196.

[62] N. Sims, 'The Diplomacy of Biological Disarmament: Vicissitudes of a Treaty in Force, 1975-85', (Macmillan Press, London, 1988), p. viii.

[63] See, for example: NAM Statement at the First Committee of the United Nations General Assembly, New York, 19 October 2008.

[64] See, for example: 'EU statement at the Annual Meeting of States Parties of the Biological and Toxin Weapons Convention,' BTWC Meeting of States Parties, Geneva, December 6, 2010.

[65] L. Kennedy, 'US Statement at the Annual Meeting of States Parties of the Biological and Toxin Weapons Convention,' BTWC Meeting of States Parties, Geneva, December 6, 2010. <geneva.usmission.gov/2010/12/06/1206-bwc/>.

[66] R. J. Mathews, 'Looking Forward: Reflections from the 2007-2010 BWC Intersessional Process', Presented at Pugwash CBW Study Group 'Getting Ready for the Seventh Review Conference', Geneva, 4-5 December 2010.

[67] R. J. Mathews, 'Looking Beyond the Seventh Review Conference: A Compliance Working Group?' Presented at the BWC Workshop 'Developing Practical Proposals for the Seventh Review Conference', Montreux, 9-10 April 2011. See also: 'Special HSP Report from Montreux', May 2011 (HSP Website).

[68] BWC/CONF.VII/WP.11, 'Proposal for a working group to address compliance issues', Submitted by Australia, Japan and New Zealand, (19 October 2011).

[69] For a very useful discussion on possible approaches to the incremental strengthening of the BTWC, including through a 'potential verification layer', see: F. Lentzos, 'Compliance and Enforcement in the Biological Weapons Regime', Paper Four in 'UNIDIR WMD Compliance and Enforcement Series' (2019).

[70] The report provided the following definition: 'Verification is a tool to strengthen international security. It involves the collection, collation and analysis of information in order to make a judgement as to whether a party is complying with its obligations. Such obligations may come from treaties, agreements or arrangements or from decisions of competent multilateral organs such as the Security Council.' Report of the Panel of Government Experts on Verification in All Its Aspects, Including the Role of the United Nations in the Field of Verification," A/61/1028, United Nations, August 15, 2007, paragraph 9.

[71] For a recent summary of advances in biological sciences, see: J. Revill, 'Revisiting BWC Verification: Changes in Science and Technology since VEREX', King's College London Policy Brief No. 2 (August 2018).

[72] This could include review of the developments in verification methods, procedures, and technologies that have taken place since the mid-1990s, including advances in data collection, remote monitoring, data-capture technologies, and sampling and analysis techniques, which may make some of the twenty-one verification measures identified in the VEREX report more effective. See for example, "Report of the Panel of Government Experts on Verification in All Its Aspects, Including the Role of the United Nations in the Field of Verification," paragraphs 41–44.

[73] As was the case with the CWC, the detailed compliance monitoring provisions developed for the BTWC would need to be flexible and adaptable, designed to enable the treaty to remain relevant in a changing world. See: R.J. Mathews, 'The Regime for Other Chemical Production Facilities', in the Harvard Sussex Program CBW Conventions Bulletin, Issue 83-84, (July 2009), pp. 5-13.

[74] For example, the Pugwash SIPRI Thiodiglycol project conducted by members of civil society between 1989 and 1991 played a very useful role in helping the negotiators to shape the verification provisions of the CWC. See: 'Verification of Dual-Use Chemical Weapons under the CWC: The Case of Thiodiglycol', S.J. Lundin, (ed), (Oxford University Press, 1991, New York).

[75] As specified in the Protocol, as well as the BTWC and UN Security Council Resolution 1540.

[76] This includes the enactment of domestic legislation and associated regulations necessary to fully translate the BTWC prohibitions into domestic law. This situation is despite agreements at the various 5-yearly Review Conferences of the importance of these measures in securing and maintaining a world free of biological weapons, and despite the recognition particularly since the early 2000s that such national measures are also highly relevant to raising the barriers to bioterrorism.

[77] Based on discussions by the author with various States Parties during the 2019 MSP, and other information provided at that meeting. The low level of response to the CBMs, agreed in the late 1980s and slightly modified since, is at least in part because many States Parties regard CBMs as 'voluntary', despite the CBMs being agreed by consensus at various Review Conferences.

[78] N. Sims, 'Strengthening structures for the Biological and Toxin Weapons Convention: Options for Remedying the Institutional Deficit' (2006) *Disarmament Forum* no 3, 17.

[79] R. J. Mathews, 'Chemical and Biological Weapons', Chapter 12 in Routledge Handbook on the Law of Armed Conflict, (Eds R. Liivoja and T. McCormack), (Routledge, London, 2015), pp. 224-226.

[80] As discussed above, many delegates had visited CW storage facilities, been involved in 'trial inspections' of chemical industry and/or 'practice challenge inspections'. Many of their capital-based officials had conducted surveys of relevant parts of their chemical industry. And all knew of the terrible suffering that CW had caused (and was still causing) to the many thousands of CW victims in the Iraq/Iran war.

[81] B. Jenkins, 'Remarks to the 2021 Biological Weapons Convention Meeting of States Parties', Geneva, Switzerland (November 22, 2021). < https://geneva.usmission.gov/2021/11/22/remarks-to-the-2021-biological-weapons-convention-meeting-of-states-parties>