

International History and Politics

AN ORGANIZED SECTION OF THE AMERICAN
POLITICAL SCIENCE ASSOCIATION

MESSAGE FROM THE PRESIDENT - STACIE GODDARD

I hope that all of you are having a restful and productive start to the summer, and finding at least some time to recover from the second year of pandemic academics. In a few months, we hope to gather together at the APSA annual convention, held this year in Montreal from September 15-18, 2022. For the first time in two years, the International History and Politics section will be holding both its business meeting and our reception (in partnership with Politics and History) in person. We hope to see you there on Friday, September 16 at noon for our business meeting, and on that same day from 6:30-8 for our reception. We'll be sending out more information about IHAP's panels at the conference. I thank Kyle Lascurettes for all of his efforts in organizing the panels for this year's program.

At these events, we'll be recognizing the winners of our Outstanding Article Award and the Robert L. Jervis and Paul W Schroeder Best Book Award (and if you can't stand the suspense, look for the announcement of our award winners in the pages of this newsletter). Congratulations

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CALL FOR ANNOUNCEMENTS

Section members are invited to send their announcements about upcoming workshops, recent books, or anything else of general IHAP interest to the editor: John Emery -
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to our award recipients! These awards would not be possible without the service of our book and article award committee members. Steven Lobell, Julia Costa Lopez, and Lora Viola took on the work of our Jervis-Schroeder Award this year, and Orfeo Fiortes, Lindsey O'Rourke, and Yasu Izumikawa evaluated nominations for the Outstanding Article Award. We are all grateful for their efforts.

Our newsletter focuses on the fiftieth anniversary of the Biological and Toxin Weapons Convention (BWC), which opened for signature in April of 1972 and commits parties to refrain from developing, producing, stockpiling, acquiring, or retaining biological weapons. With 184 signatories, the BWC is considered among the most successful arms control treaties, on par with the Chemical Weapons Convention and the Nuclear Non-Proliferation Treaty. Later this year, parties to the treaty will gather at the Ninth Review Conference of the Convention in order to evaluate the treaty's past successes and failures and lay out the future of the BWC.

Our newsletter editor, John Emery, has done his usual excellent work assembling an outstanding group of scholars to analyze the history and future trajectory of the BWC. Jean Pascal Zanders notes that contention around the treaty's provisions at the global level has not stopped regional cooperation, which has enforced the core norms of the convention. Vivienne Zhang, Maria Garzon Macenda, and James Revill point to the urgency of a review conference that addresses the increase in dual-use technology in order to make sure that research does not become weaponized. Malcolm Dando takes us on a journey through his own research on biological weapons and arms control and the ways in which obstacles to effective arms control have shifted over the last five decades. Our last three contributions situate the treaty in its historical context. Rachel Rogers highlights the importance of Nixon's efforts to assemble a diverse group of experts that crossed the military, scientific, and political communities during treaty negotiations. Brian Balmer, Caitríona McLeish, and Alex Spelling provide an overview of their four-year dive into U.S. and UK archival material on the creation of the BWC. And finally, Brett Edwards situates the BWC in a broader history of how humanity has thought about the use of poison and pathogens as weapons of war.

All of our authors acknowledge the challenges surrounding the creation and continued operation of the BWC. They also uniformly reinforce the significance of the BWC's existence, not only as an important step in arms control, but also as an example of international cooperation more generally. At a time when actors struggle to cooperate around key global challenges—from climate change to nuclear proliferation to pandemics—their arguments prove particularly salient.

Roundtable - The Biological Weapons Convention at 50

STILL SEEKING VERIFICATION AFTER 50 YEARS...
BY DR. JEAN PASCAL ZANDERS, FOUNDER OF *THE TRENCH*, AN
INDEPENDENT RESEARCHER AND CONSULTANT

On 10 April 2022, the international community celebrated the 50th anniversary of the opening for signature of the Biological and Toxin Weapons Convention (BTWC). Negotiation of the BTWC concluded in September 1971. The UN General Assembly (UNGA) commended it three months later, after which the document was opened for signature in the capitals of the three depositary states, the Soviet Union, the United Kingdom, and the United States, in April 1972. Entry into force required the ratification of 22 countries, including the three depositary states. The BTWC took effect on 26 March 1975.

At the time of writing, the BTWC counts 184 parties,[1] the latest accession being Namibia on 22 February 2022. It is the third most successful weapon control treaty, after the 1993 Chemical Weapons

Convention with 193 states parties[2] and the 1968 Nuclear Non-proliferation Treaty with 191.[3]

GRUMBLING IN THE PAST

When delegates in Geneva agreed on the final text of the BTWC in 1971, an entire category of weaponry became outlawed. While the 1925 Geneva Protocol already proscribed bacterial methods of warfare, the BTWC forbids the development, production or other ways of acquisition, and stockpiling of biological (comprising more sources of contagion than just bacteria) and toxin weapons. In addition, parties had to destroy or convert to peaceful purposes existing stockpiles and may not transfer biological weapons (BW) or toxins to any recipient unless intended for purposes not prohibited under the convention. The BTWC is a global disarmament treaty with equal obligations and rights for all parties to it. It also seeks to prevent future armament or rearmament with BW. To that end, by organising a review conference, it expects



[1].<https://treaties.unoda.org/t/bwc>

[2].<https://treaties.unoda.org/t/cwc>

[3].<https://treaties.unoda.org/t/npt>

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to look not only at the treaty's operation but also to assess scientific and technological developments that may affect its future relevancy. Review conferences have become a quinquennial event (with exceptions in 1986 and, because of the COVID pandemic, in 2022).

Notwithstanding this milestone in weapon control, grumbles arose immediately, mainly because of the absence of any verification provisions. Whereas in the mid-1960s British officials believed that a BW ban was unverifiable, in 1968, the UK's outline for a future treaty in a working paper[4] to the Eighteen Nation Disarmament Committee contained some verification elements, including a mechanism to investigate alleged use. The first version of the draft convention submitted in July 1969 included verification procedures. However, the United States strongly opposed any verification from the outset, which was reflected in the weakened language of the second version London circulated a month later. Negotiations made little headway until both the United States and the Soviet Union tabled separate but identical draft treaties in August 1971. Absent were any references to verification. When negotiations concluded the next month, France balked and abstained when the UNGA commended the BTWC in December. China did not even participate in the UNGA session and did not follow France's example of promulgating domestic legislation based on the treaty provisions. Both permanent members of the UN Security Council, France and China eventually acceded in September and November 1984, respectively[5]. Sweden, too, then a highly influential

member of the Non-Aligned Movement (NAM), voiced strong criticism. Sweden did not sign the treaty before February 1975 – a month before entry into force – and became a party only one year later.



THE 'ALMOST THERE' THAT NEVER WAS

After entry into force, some states parties looked into ways of strengthening the BTWC. Notably, Sweden took the lead in this endeavour, announcing in 1979 its intention to amend Articles V (consultation) and VI (complaint to the UN Security Council) of the treaty at the First Review Conference the next year. It failed in its bid, but the effort initiated a process through review conferences to clarify how formal consultations among states parties could address compliance concerns.

Meanwhile, the superpower détente of the early 1970s that had allowed the conclusion of the BTWC negotiations collapsed with the Soviet invasion of Afghanistan in December 1979. Earlier, in

[4]. <https://www.the-trench.org/btwc-emergency-assistance>

[5]. <https://treaties.unoda.org/t/bwc>

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April, reports of an anthrax outbreak[6] linked to a military facility at Sverdlovsk exposed the BTWC's weakness due to the lack of verification tools. Soon thereafter, in 1981, the USA accused the USSR[7] of supplying trichothecene mycotoxins to Viet-Nam as a counter-insurgency weapon. Independent investigation later attributed the so-called Yellow Rain to natural mass bee defecation. While no state party pursued concrete action under the BTWC, the events stimulated efforts to enhance transparency and confidence in compliance. These led to the implementation of confidence-building measures[8] (CBMs), a set of self-reporting documents essentially on activities not prohibited by the convention and international cooperation and assistance, after the 1986 and 1991 Review Conferences.

With the Chemical Weapons Convention (CWC) negotiations concluding in September 1991, BTWC parties became more ambitious in their quest for verification. The Third Review Conference that same month established VEREX, an ad hoc group to look into possible verification measures from a scientific and technical standpoint. Over the next two years, its work led to a Special Conference in 1994, which set up the Ad Hoc Group (AHG) with a mandate to transpose the 21 possible verification measures identified by VEREX into concrete proposals. The AHG received a negotiation mandate for a legally binding protocol at the Fourth Review Conference (1996).

The AHG process ended abruptly in the summer of 2001 when the United States

formally announced that the draft document as consolidated by the AHG chairperson after four years of negotiations did not serve its interests. The United States also saw no value in continuing the deliberations. At the Fifth Review Conference in December, it sought to terminate the AHG mandate. While many countries loudly protested the US' move, negotiations had been languishing for a while. Initially inspired by the CWC verification machinery, discussions had seriously weakened proposed measures and procedures relative to those in the CWC. In view of accelerating advances in the life sciences and biotechnology, the draft protocol also seemed increasingly preoccupied with yesterday's challenges.

However, the US' move followed soon after the inauguration of the George W. Bush administration, and suspicions of ideological rather than technical motives abounded. This allowed the emergence of a narrative that the United States was solely responsible for the failure of the negotiations. It ignored that, in reality, the draft document was far from finalised. Many NAM members harboured strong reservations against key aspects. Yet when they sensed Washington's shift from reticence to objection, they swiftly embraced the draft protocol as it stood. Given the text's many bracketed passages with alternative formulations and footnotes reflecting national views, it was never clear what they actually supported.

[6].<https://journalhistoryknowledge.org/article/download/11369/12458/22321>

[7].<https://www.nonproliferation.org/wp-content/uploads/npr/81tucker.pdf>

[8].<https://documents-dds-ny.un.org/doc/UNDOC/GEN/G16/108/62/PDF/G1610862.pdf?OpenElement>

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A DYNAMIC TREATY NONETHELESS...

The absence of verification tools is the principal argument for many people to view the BTWC as a weak treaty. From a diplomatic viewpoint, the situation is polarised, and no significant progress seems possible. Since the end of the Cold War, there has been no appetite for negotiating complex verifiable treaties. However, utilising the consensus principle, some parties continue to block even modest proposals unless there is a return to the protocol negotiations.

After events in 2001, the BTWC states parties embarked on annual meetings of

experts (MX) and states parties (MSP) between review conferences. These have focused primarily on improving national implementation of the treaty provisions and contributed to expanded agreements and common understandings. In turn, these have promoted concrete action programmes, stimulated international cooperation and assistance to prevent BW acquisition or use, advanced effective national legislation and regulations, addressed emergency situations resulting from BW use, stimulated legitimate research and biotechnology development, and supported the implementation of biosecurity and -safety measures.

Similarly, UN Security Council resolution 1540 (2004)[9] addressing terrorist threats promotes the promulgation of national regulatory measures.

States parties have taken ownership of the BTWC despite the stagnation in Geneva, and the different continents see high levels of regional cooperation in areas covered by the BTWC. These dynamic interactions testify to the strength of the norm embedded in the treaty.

[9].<https://www.un.org/disarmament/wmd/sc1540/>

OPTIONS TO ENHANCE THE BIOWEAPONS CONVENTION AT 50?

BY VIVIENNE ZHANG, MARIA GARZON MACENDA, AND JAMES REVILL

In 2022, the international community celebrates the 50th Anniversary of the Biological and Toxin Weapons Convention (BWC) opening for signature. Late 2022 will also witness the Ninth Review Conference of the Convention. This event provides an opportunity for 184

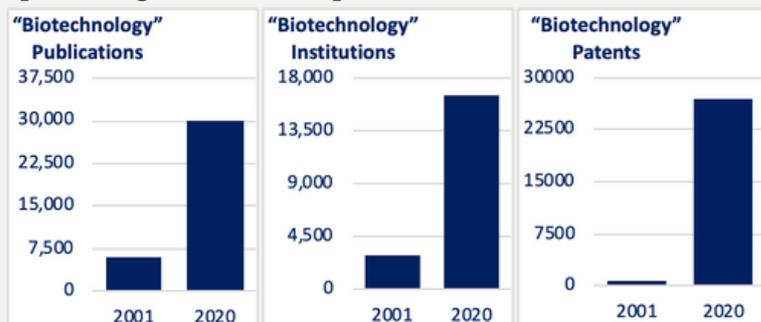
BWC States Parties to take stock of the past five years and chart the future of this increasingly important Convention, under which States Parties commit never, under any circumstances, to develop, produce, stockpile, acquire, or retain biological weapons.

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Success at the rescheduled Ninth Review Conference will be crucial. Advances in dual-use life science and related technologies are creating great opportunities in public health, food security, and sustainable energy. But with these opportunities come new risks in the form of improvements in past generations of biological weapons or the creation of new forms of biological weapons.[10] This dual-use challenge is compounded by changes in the life science research landscape, in which ever more actors and institutions around the world are engaged in research intended for peaceful purposes but in some cases could be exploited for hostile purposes.

Figure 1. *Changes in biotechnology publications, publishing institutes and patents, 2001–2020*[11]



These changes take place amidst growing geostrategic tensions, something that has become more acute since the war in Ukraine, a country that the Russian Federation accused of developing biological weapons with support from other states.[12] Ukraine and others have

vociferously denied such allegations. And the United Nations is “not aware of any biological weapons programme in Ukraine.” This is neither the first nor the last time such allegations will emerge, and these “demonstrate the need to strengthen the BWC” and avert the prospect of biological arms racing.[13]

In this context, it is encouraging to see that there is no shortage of ideas for advancing the Convention. The challenges in the coming months will be to develop and socialize them across regional groups and political divides, bring these ideas together as a balanced package of measures to advance the BWC regime, and set in motion steps to strengthen the Convention at the Review Conference later this year. States and stakeholders will need to achieve this in the face of an extremely busy disarmament calendar as the world of disarmament diplomacy prudently resumes post-pandemic in-person summitry.

Unfortunately, there are some longstanding roadblocks in the BWC’s path. Discussions around strengthening the Convention are tied to wider discussions and deeply entrenched views about the Protocol negotiations, which collapsed in 2001. Many States,

[10] Warmbrod, K. L., Revill, J., Connell, N. 2020. “Advances in Science and Technology in the Life Sciences: Implications for Biosecurity and Arms Control”. Geneva, Switzerland: UNIDIR. <https://www.unidir.org/sites/default/files/2020-08/Advances%20in%20Science%20and%20Technology%20in%20the%20Life%20Sciences%20-%20Final.pdf>

[11] J. Revill, J. Borrie and R. Lennane, “Back to the Future for Verification in the Biological Disarmament Regime?”, UNIDIR, Geneva, 2022, <https://doi.org/10.37559/WMD/21/BWC/02>

[12] J. Revill, J. Borrie and R. Lennane, “Back to the Future for Verification in the Biological Disarmament Regime?”, UNIDIR, Geneva, 2022, <https://doi.org/10.37559/WMD/22/BWC/02>. P. 18.

[13] “United Nations Not Aware of Any Biological Weapons Programmes, Disarmament Chief Affirms as Security Council Meets to Address Related Concerns in Ukraine | Meetings Coverage and Press Releases,” United Nations (United Nations, March 11, 2022), <https://www.un.org/press/en/2022/sc14827.doc.htm>.

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particularly from the Non Aligned Movement, believe the only sustainable means of bolstering the Convention is via the resumption of multilateral negotiations on a legally binding verification protocol. For others, the idea of returning to the Protocol negotiations is objectionable.

Notwithstanding the different visions for biological disarmament, stakeholders need to consider what has changed in the 20 years since the protocol negotiations. Science and technology have advanced considerably since the traditional verification measures were discussed in the early 1990s. Additionally, new methods for monitoring compliance and investigating allegations have emerged, like bio forensics and open source intelligence. One useful step in this regard could be an exploration of new options to build confidence in compliance that take into account the 21st century challenge of dual-use biology.

Exploration of new technologies for the purpose of building confidence in compliance will be of little value without further agreement on functioning channels to address compliance concerns. To this end, there are provisions within the Convention that could be applied if suitable processes could be reaffirmed, developed, and operationalized through agreement at the Review Conference. For example, under Article V, States Parties undertake to consult one another and co-

operate in solving any problems related to the convention,[14] and indeed, such consultations have been undertaken in the past.

These tools are unlikely to have significant success without the development of a compliance infrastructure. A key part of this will be the progress of Article X on the exchange of equipment, materials, and information for peaceful purposes. This article has long been recognized as a key component of the BWC but remains a divisive topic. Many States from the Non Aligned Movement demand more in terms of international cooperation and an end to what some see as an unfair and exclusive export control regime. Past action plans on Article X and recent work by UNIDIR have identified several possible steps to advance international cooperation. These steps include, for example, establishing a voluntary fund to support scientific cooperation and exchange, creating a systematic review of existing cooperation to better identify priorities and gaps, or even forming a cooperation committee. [15]

A further part of any compliance ecosystem would be a more systematic process of reviewing science and technology. Advancements in these fields can have implications - both positive and negative - for several articles of the Convention. A better understanding of the implications of scientific and technological change would leave States Parties better

[14] See BWC article V. "Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction," United Nations, April 10, 1972, https://www.un.org/genocideprevention/documents/atrocities-crimes/Doc.37_conv%20biological%20weapons.pdf.

[15] James Revill and María Garzón Maceda (eds.) "Options for International Cooperation under Article X of the Biological Weapons Convention", UNIDIR, Geneva, 2022. <https://doi.org/10.37559/WMD/21/BWC/04>.

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placed to respond to risks and exploit opportunities. To this end, several States have submitted proposals for science and technology review mechanisms, and there appears to be support, in principle, from a range of States.[16] For progress, States will need to build consensus on how such a mechanism could function in practice taking into account the context and end-user requirements of the BWC.

Finally, the BWC could be further bolstered through advancing Article VII, which makes provision for assistance to States that have been exposed to biological weapons, and bolstering collective capacity to dampen the impacts of any biological weapon. Much has been learned from responding to disease outbreaks, including Ebola and Covid-19, and there are several ideas on the table to develop processes for the provision of assistance in the event of a biological attack. These ideas include the development of guidelines for States Parties to request assistance and a database that helps identify assistance resources from States and International Organizations. In looking at this issue, it is important to understand the gendered

consequences of any biological attack and take this into consideration in the efforts to enhance the effectiveness of assistance.[17]

With only four months left until the BWC Review Conference brings together State Parties and stakeholders, it is clear that there is much to be done in terms of advancing the BWC. However, the BWC has consolidated a norm against biological weapons that has served the international community well over the course of its first fifty years. In this period of rapid technological change and geostrategic tension, progress at the Review Conference will be important to ensure that we can effectively prevent the hostile exploitation of biology over the next fifty years.

Research Team

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[16] See the US, Germany, and Russia's papers as examples: Eighth BWC Review Conference, Preparatory Committee, "Science and Technology Review for the BWC: Features of an Effective Process", Submitted by the United States, BWC/CONF.VIII/PC/WP.3, 11 April 2016, <https://undocs.org/BWC/CONF.VIII/PC/WP.3>; Meeting of Experts on Review of Developments in the Field of Science and Technology Related to the Convention, "Rethinking the BTWC Science and Technology Review: A Renewed Case for a BTWC Scientific and Technological Experts Advisory Forum (STEAF)", Submitted by Germany, co-sponsored by Netherlands and Sweden, BWC/MSP/2019/MX.2/WP.1, 1 July 2019, <https://undocs.org/BWC/MSP/2019/MX.2/WP.1>; Eighth BWC Review Conference, Preparatory Committee, "Strengthening the Biological Weapons Convention: Proposal for the Establishment of a Scientific Advisory Committee", Submitted by the Russian Federation, BWC/CONF.VIII/PC/WP.2/Rev.2, 4 July 2016, <https://undocs.org/BWC/CONF.VIII/PC/WP.2/Rev.2>, as seen in J. Revill, A. Anand and G. Persi Paoli, Exploring Science and Technology Review Mechanisms Under the Biological Weapons Convention, Geneva, Switzerland: UNIDIR, 2021, <https://doi.org/10.37559/SECTEC/2021/SandTreviews/01>.

[17] "Enhancing Gender Equality and Women's Empowerment as an Integral Part of the Institutional Strengthening of the Biological Weapons Convention (BWC)." United Nations. United Nations, August 30, 2021. <https://documents-dds-ny.un.org/doc/UNDOC/GEN/G21/238/57/PDF/G2123857.pdf?OpenElement>.

THE BIOLOGICAL AND TOXIN WEAPONS CONVENTION (BTWC): A PERSONAL REFLECTION ON THE FIRST 50 YEARS AND A LOOK FORWARD

BY DR. MALCOLM DANDO, UNIVERSITY OF BRADFORD

"The time has come to formulate guidelines for the ethical conduct of scientist, perhaps in the form of a voluntary Hippocratic Oath. This would be particularly valuable for young scientists when they embark on a scientific career..."

Joseph Rotblat (1965) Remember Your Humanity. Nobel Lecture, Stockholm

In 1972, when the BTWC was signed, I had just returned to the UK after two years of post-doctoral research in the United States. My PhD at St Andrews had been a footnote to the famous neuroanatomical work of J. S. Alexandrowicz,[18] who I had the good fortune to meet at the Plymouth Marine Laboratory in the UK to discuss my studies of the Crustacean stomatogastric nervous system. My research in the US at the University of Michigan and the University of Oregon was with Professor Donald Maynard, who had initiated electrophysiological work on this simpler neuronal network.[19] This wonderful experience was marred only by my concerns about the ongoing Vietnam War and my growing understanding from reading the works of systems scientists, particularly Sir Geoffrey Vickers,[20] on the impact of human activities on the natural and social world. So, I spent most of the 1970s investigating how conflicts might best be prevented from degenerating into violence and warfare at the University of Sussex. I then spent the 1980s working on the problems of nuclear disarmament at Bradford University.[21] It was only in the early 1990s that I became

more interested in the BTWC when I was sent to represent the University at a meeting at the UK Foreign and Commonwealth Office called to warn Universities to be careful about the selection of research students from countries that could be of concern in relation to the misuse (dual use) of the capabilities gained.

It had taken almost 100 years from Darwin's elucidation of the nature of evolutionary change to the description of the structure of DNA by Watson and Crick in the 1950s. However, it took a far shorter time for that knowledge to lead to the beginnings of genetic engineering and concerns to arise in the 1980s that, for example, genes for toxins might be inserted into the genomes of bacteria and the toxins produced on an industrial scale.

[18] Bone, J (1970) Obituary: Professor J.S. Alexandrowicz. Journal of the Marine Biological Association of the United Kingdom, 51(4), 1007 – 1011.

<https://doi.org/10.1017/S0025315400018117>

[19] Maynard, D. M. Simpler Networks. Annals of the New York Academy of Sciences, 193, 59 -72;

Maynard, D. M. and Dando, M. R. (1974) The structure of the stomatogastric neuromuscular system in *Callinectes sapidus*, *Homarus americanus* and *Palinurus argus* (Decapoda Crustacea). Phil Trans Roy Soc B Biol Sci, 268, 161 – 220; (for modern work on this system see Nassim, C. (2018) Lessons from the lobster: Eve Marder's work in neuroscience. The MIT Press, Cambridge, Mass.)

[20] Blunden, M. and Dando, M. R.(Eds.) (1995) Rethinking Public Policy-Making: Questioning Assumptions, Challenging Beliefs. Sage Publications, London; Novossioilova, T., Whitman, J. and Dando, M. R. (2019) Altering an appreciation system: Lessons from incorporating dual use concerns into the responsible science education of biotechnologists. Futures, 108, 53 – 60.

[21] Rogers, P., Van Den Dungen, P. and Dando, M. R. (1981) As Lambs to the Slaughter: The Facts about Nuclear War. Arrow Books, London.

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In 1994, I tried to summarise the coming problems in Biological Warfare in the 21st Century: Biotechnology and the Proliferation of Biological Weapons.[22] The use of chemical and biological weapons had been banned in the 1925 Geneva Protocol. The BTWC had added the prohibition of the development, production, and stockpiling of biological and toxin weapons and their destruction in the 1970s, but it took until the 1990s to conclude the Chemical Weapons Convention to add such additional impediments for chemical weapons. Thus, toxins and other mid-spectrum agents, such as bioregulators, were covered by both Conventions. With my background in neuroscience, I was interested in preventing the use of such agents to attack the nervous system, so I also wrote *A New Form of Warfare: The Rise of Non-Lethal Weapons*[23] in 1996.

After the Third Five-Year Review Conference of the BTWC in 1991, the whole of the decade was taken up with efforts by the States Parties to agree to some form of verification for the Convention that would, in effect, make it more equivalent to the then modern Chemical Weapons Convention agreed at the end of the East-West Cold War. Despite hopes at the time,[24] this did not prove to be possible. My colleague Simon Whitby and I at Bradford, together with many other authors, under the leadership of Graham Pearson and Nicholas Sims, closely monitored and commented on these negotiations in a long series of Bradford Briefing and Review papers and NATO Advanced Research Workshops and Advances Studies Institutes.[25] I thought that it was a grave mistake for the US to

close down these negotiations in 2001,[26] but we continued to carefully follow the intersessional processes through the first decade of the new century.[27]

However, my interest became more focused first on the history of the 20th century offensive biological weapons programmes[28] and then increasingly on the problem of dual use, as described in the influential Fink and Lemon-Relman reports of the US National Academies and the growing number of experiments that were causing concerns. At that time, I was struck by Matt Meselson's argument that we would get an increasingly detailed mechanistic understanding of the physiology of living systems during this century and that this knowledge could be put to diverse forms of misuse.[29]

[22] Dando, M. R. (1994) *Biological Warfare in the 21st Century: Biotechnology and the Proliferation of Biological Weapons*. Brassey's, London.

[23] Dando, M. R. (1996) *A New Form of Warfare: The Rise of Non-Lethal Weapons*. Brassey's, London.

[24] Rogers, P. and Dando, M. R. (1992) *A Violent Peace: Global Security After the Cold War*. Brassey's, London.

[25] See, for example the report of the papers presented at the ASI held in Budapest in 1997, Dando, M. R., Pearson, G. S. and Toth, T. (2000) *Verification of the Biological and Toxin Weapons Convention*. Kluwer Academic Publishers, Dordrecht.

[26] Dando, M. R. (2002) *Preventing Biological Warfare: The Failure of American Leadership*. Palgrave, Basingstoke.

[27] See for example, Sims, N. A. (2009) *The Future of Biological Disarmament: Strengthening the treaty ban on weapons*. Routledge, London.

[28] Wheelis, M., Rozsa, L. and Dando, M.R. (2006) *Deadly Cultures: Biological Weapons Since 1945*. Harvard University Press, Harvard.

[29] Meselson, M. (2000) Averting the hostile exploitation of biotechnology. *The Chemical and Biological Weapons Conventions Bulletin*, 48, 16 – 19.

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I was also influenced by Petro's suggestion that this would allow a paradigm change in the way biological weapons were produced. Instead of just being able to manipulate agents, it would be possible to design agents that could attack specific targets within organisms.[30] I thought that this applied particularly to neuroscience as I was interested in the problem of dealing with incapacitating weapons. So, rather than considering dual use just in regard to microbiology, I followed the possibilities of misuse of the increasing capabilities of neuroscientists in cooperation with Kathryn Nixdorff and Alex Kelle.[31] At Bradford, along with colleagues like Brian Rappert at Exeter University,[32] we also began our long involvement with research on the lack of awareness and understanding about the problem of dual use amongst the life science community and what might be done to correct that gap. This necessarily drew us into the debates and discussion at meetings of States Parties to the BTWC on Codes of Conduct for life scientists that began back in 2005. Now, they have produced the proposals by China and Pakistan for the endorsement and agreement to implement the Tianjin Guidelines at the upcoming 9th Review Conference of the Convention in late 2022.[33]

Where does that leave me thinking about the next 50 years of the Biological and Toxin Weapons Convention? Well, first, I believe that we must expect warfare to continue, probably in its recent hybrid form in which many different forms of hostile activity are possible (for example, disinformation about biological weapons programmes). Second, the rapid convergent advances in life and associated

sciences will continue and will be subject to dual use if we cannot find ways to prevent it.

This makes Codes of Conduct under the Convention and responsible science education crucially important as some of the tools and mechanisms that we need to enhance.[34] Finally, we have to think about arms control and disarmament in a more holistic way, seeing the 1925 Geneva Protocol, the Biological and Toxin Weapons Convention, and the Chemical Weapons Convention together with International Humanitarian Law and International Human Rights Law as integrated means of restricting the misuse of benignly-intended research in the life sciences.[35]

[30] Petro, J. B., Plasse, T. R. and McNulty, J. A. (2003) Biotechnology; impact on biological warfare and biodefense. *Biosecur Bioterror*, 1(30), 161 – 168.

[31] See for example, Kelle, A., Nixdorff, K. and Dando, M. R. (2012) *Preventing a Biochemical Arms Race*. Stanford University Press, Stanford; Dando, M.R. (2020) *Neuroscience and the Problem of Dual Use: Neuroethics in the New Brain Research Projects*. Springer/Nature, Switzerland.

[32] Rappert, B. (Ed.) (2011) *Education and ethics in the life sciences: Strengthening the Prohibition of Biological Weapons*. ANU E Press, Australian National University, Canberra.

[33] China and Pakistan (2022) *The Tianjin Biosecurity Guidelines for Codes of Conduct for Scientists*. BWC/CONF.IX/PC/WP/10, United Nations, Geneva, 7 April.

[34] World Health Organisation (2022) *Global Guidance Framework for the Responsible Use of Life Sciences*. WHO, Geneva. Available at <https://www.who.int/news-room/articles-detail/call-for-comments---who-global-guidance-framework-for-the-responsible-use-of-the-life-sciences>.

[35] Crowley, M., Dando, M. R. and Shange, L. (Eds.) (2018) *Preventing Chemical Weapons: Arms Control and Disarmament as the Sciences Converge*. Royal Society of Chemistry., London.

THE BIOLOGICAL AND TOXIN WEAPONS CONVENTION (BTWC): A PERSONAL REFLECTION ON THE FIRST 50 YEARS AND A LOOK FORWARD

BY DR. MALCOLM DANDO, UNIVERSITY OF BRADFORD

It seems to me that even the COVID-19 pandemic will not lead States Parties to significantly strengthen the Biological and Toxin Weapons Convention quickly, but that does not mean that in the coming years we will be unable to reduce the dangers of chemical and biological warfare by other developments both within and around the Convention.



A BWC BACKSTORY: AMERICA, NIXON, AND COMING TO THE NEGOTIATING TABLE

BY RACHEL ROGERS, UNIVERSITY OF OKLAHOMA

Just over fifty years ago, President Richard Nixon faced a critical international issue head-on by renouncing the use of biological and toxic warfare entirely and putting into motion procedures to eliminate existing U.S. biological and toxic weapons (BW) stockpiles. Prior to the Nixon administration, American policy on chemical and biological weapons (CBWs) was patchy at best. While many nations signed the Geneva Protocol in the wake of WWI, the U.S. Senate had yet to address the convention outside the Senate Committee on Foreign Affairs, let alone ratify it. By not ratifying the Geneva Protocol, the use of poisonous or asphyxiating gases (often known more broadly as chemical weapons or CWs), as well as bacteriological warfare, were still approved for U.S. military application during wartime. American policy on these types of warfare existed in a shadow realm of diplomatic support for the Protocol without agreeing to its legal governance or obligation to its principles for the next forty years.

Between WWI and Nixon's pledge to ascend to the Geneva Protocol and support the creation of precursors to the Biological Weapons Convention (BWC) on a fateful day in November 1969, the United States developed offensive biological and toxic weapons programs. The crux of these programs existed in a triad of primary locations: Camp Detrick (R&D), Pine Bluff Arsenal (production), and Dugway Proving Ground (open-air testing). Additionally, in 1965 and 1969, secret testing operations in the Pacific Ocean involving live monkeys as test subjects took place. The open-air testing operations at Dugway Proving Ground and in the Pacific Ocean proved that the U.S. was researching dispersal methods for offensive chemical weapons programs. The startling results of the live testing denoted a successful application of offensive measures.

While American Cold War programs existed within a sense of heightened urgency for national defense and protection against foreign enemies, increased public awareness and

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subsequent dissent would be a turning point for policy in the late 1960s. An accident at Dugway Proving Ground caused over 3,000 sheep in the aptly-named Skull Valley, Utah, to die. Army officials admitted to spraying VX over the testing range just four days before the sheep incident was reported but refused to accept responsibility for the incident. An NBC documentary highlighted this incident in 1969, along with an exposé on Operation CHASE (Cut Holes And Sink 'Em). Operation CHASE transported old CW agents by rail to disposal in the Atlantic Ocean via loading onto old ships that were scuttled a few miles offshore. National outrage over these incidents led to a Senate resolution in 1969 for more oversight into “domestic transportation or open-air testing of lethal chemical agents or of any biological warfare agents,” along with requirements for the Department of Defense to provide semiannual reports into U.S. CW and BW programs.

During this period of mounting domestic disapproval, the U.S. also encountered international pushback for its utilization of tear gas and herbicides, such as Agent Orange, in Vietnam. Beginning in 1964, the Soviet Union and Warsaw Pact allies argued that U.S. use of such chemicals in conflict was a violation of the Geneva Protocol, which neither the U.S. nor North Vietnam had ratified. Furthermore, over the duration of the 1960s, several UN Disarmament Committees had increasingly called for extensive reviews of chemical and biological weapons and reaffirmations of the Geneva Protocol. While the United States upheld its stance to support the Protocol's goals, it was still

not a signatory, and the debates over the lawful application of riot control agents in Vietnam were increasingly isolating the U.S. on the issue.

When President Nixon entered the White House in January of 1969, he faced political pressure from the Senate Foreign Relations Committee Chairman J. William Fulbright to clarify U.S. policies on chemical and biological weapons, as well as other congressional inquiries. A National Security Study Memorandum, NSSM-59, was issued on May 28, 1969, to address the concerns of Congress. NSSM-59 was comprised of three analytical questions: what are foreign CBW capabilities, what are the military options for employing CBWs, and what are the diplomatic options for the U.S. to potentially ratify the Geneva Protocol and negotiate additional arms control treaties? The NSSM involved months of intensive review and evaluation by a wide breadth of government agencies and stakeholders, such as the CIA, DIA, INR, JCOS, State's Bureau of Political-Military Affairs, as well as the President's Science Advisory Committee (PSAC). The PSAC provided technical support on the scientific specificities of chemical and biological weapons, while different combinations of government agencies formed working groups to tackle the three main issues addressed by NSSM-59.

In November 1969, the National Security Council (NSC) met to discuss and create final decisions for the investigation. Besides the Army Chemical Warfare Service, very few military leaders supported maintaining an offensive

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biological weapons program. The majority consensus agreed that biological warfare was not as applicable as other forms of warfare. PSAC reports heavily influenced this decision as they emphasized biological weapons' dependence on proper wind and weather conditions, as well as the reliance on an incubation period for human hosts to feel symptoms of infection. Matthew Meselson, a molecular biology professor at Harvard, was a member of the PSAC and proved to be influential in swaying his personal acquaintance, National Security Advisor Henry Kissinger, convincing him to take the concluding reports of the PSAC seriously. The secret open-air testing conducted in the Pacific had additionally shown that the proliferation of such weapons and employment in unprotected civilian populations could "present a major threat to the U.S. and indeed to all mankind."^[36] The teams working on NSSM-59 came to the consensus that biological weapons had limited military efficacy, while also proving to be a potential threat to populations worldwide, and, therefore, should be removed from the U.S. arsenal to promote global disarmament measures.

On November 25, 1969, President Nixon released the Statement on Chemical and Biological Defense Policies and Programs, declaring that "biological weapons have massive, unpredictable and potentially uncontrollable consequences" and that the Geneva Protocol would be re-submitted

to the Senate for ratification.^[37] The U.S., Nixon said, would "renounce the use of lethal biological agents and weapons, and all other methods of biological warfare," in addition to confining "biological research to defensive measures such as immunization and safety measures."^[38] Furthermore, Nixon announced that the DoD would begin to dispose of existing stockpiles. Finally, Nixon stated the U.S. would support the U.K. Draft Convention Prohibiting Use of Biological Methods of Warfare (a precursor to the Biological Weapons Convention) on the condition of additional safeguards.

While renouncing offensive biological warfare, Nixon's statement divorced the linkage between chemical and biological weapons. The U.S. was eliminating an entire option for warfare while also preserving the possibility of another. The use of riot-control agents in Vietnam (and U.S. reluctance to include CW in the treaty) would remain a point of contention between the U.S. and the USSR during negotiations leading up to the final draft at the 1971 Conference of the Committee on Disarmament. Although the final version of the BWC pertains only to biological and toxic weapons, the U.S. simultaneously submitted the BWC and the Geneva Protocol for Senate ratification, where they were approved unanimously on December 16, 1974.

America's path to the BWC accentuates

[36] Meselson, Matthew. "Chemical and Biological Weapons." *Scientific American* 222, no. 5 (May 1970): 17.

<https://www.jstor.org/stable/10.2307/24925799>

[37] Nixon, Richard. "Statement on Chemical and Biological Defense Policies and Programs. November 25, 1969." U.S. Department of State, Public Papers of the Presidents.

[38] Nixon, Defense Policies and Programs.

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BY RACHEL ROGERS, UNIVERSITY OF OKLAHOMA

what happens when policies in need of thorough reassessment remain on the backburner. The fact that U.S. policies on biological and chemical weapons had remained virtually untouched since the First World War is a stark parallel to a modern world, where a lack of thorough preparedness and timely reevaluation of

U.S. health defenses and policies came to the grim forefront during COVID-19. The Nixon administration successfully blended expert advice from military, political, and scientific communities to create a safer, more stable world via policy change. Fifty years later, the demand for similar cooperation remains.

THE HISTORICAL CONTEXT OF THE BIOLOGICAL WEAPONS CONVENTION

BY DR. BRIAN BALMER, DR. CAITRÍONA MCLEISH, AND DR. ALEX SPELLING

This roundtable article provides a brief overview of our research project, 'Understanding Biological Disarmament: The Historical Context of the Origins of the Biological Weapons Convention.' This was a four-year project (2013-2017), funded by the UK Arts and Humanities Research Council (AHRC), which set out to study the historical context of the origins of the 1972 Biological Weapons Convention (BWC). Our research aimed to go beyond a blow-by-blow account of the negotiations and provide a far deeper and richer historical analysis of the context and conception of the BWC - a treaty that was tied to and yet, strikingly distinct from, the Cold War. This discussion piece is drawn from the project's final report.[39]

CONTEXT

Despite its significance as the first treaty to completely outlaw an entire class of weapons, there is surprisingly little scholarly research on the origins of the Biological Weapons Convention (BWC). Even less research focuses on how this treaty was shaped by its broader political

and social context. Perhaps more strikingly, most scholarship on the Cold War ignores the BWC. 'Understanding Biological Disarmament,' therefore, aimed to draw on a wide range of archival and oral sources to understand the context in which the treaty was born. The research was, of necessity, based heavily on UK and US archival sources and amassed an indexed database of c.10,000 jpeg files of relevant documents. This was supplemented with some oral history, in particular a witness seminar involving a small group of people who were actively engaged in BW disarmament activities at the time. [40]

FILLING IN THE GAPS

The historical roots of the BWC are

[39] AHRC Grant AHRC grant AH/K003496/1.

[40] Guillemin, J et al (2016) 'Witness Seminar:Origins of the Biological Weapons Convention'. Chapter edited by Balmer, B, Spelling, A, McLeish, C in Lentzos, F (ed) Biological Threats in the Twenty-First Century: The Politics, People, Science and Historical Roots (London: Imperial College Press), pp.357-84.

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intimately bound up with the Cold War and other wider concerns, specifically Anglo-American relationships; nuclear and chemical weapons policy; varying attitudes to US chemical agent use in Vietnam; the different obligations and interpretations of the 1925 Geneva Protocol; and the complex roles of experts, both scientific and social scientific, individual and collective, civil and military, in shaping events.

In this respect, prior to the project, we knew that existing accounts gave an adequate overview, but there remained crucial gaps in description and analysis. In particular, there was scant account of the BWC discussion's foundations, the negotiations, and the period until the BWC's 1975 entry into force. Many potentially important direct and indirect influences on the BWC had not been explored. For example, the full influence on treaty negotiations of the use of tear gas in Vietnam, and the wider repercussions of tear gas use, remained unexplored. Existing accounts of the BWC were only suggestive about the role of non-governmental groups such as Pugwash, religious organisations, and the women's peace movement in raising awareness. By addressing these gaps, we proposed that a more thorough historical account would contribute far more than added layers of description to existing analyses. In short, our study sought to write the BWC into the historiography of the Cold War, specifically the period of détente.

KEY FINDINGS

Close examination of the archival record revealed the continuing influence of the earlier 1925 Geneva Protocol (GP). This ran

through all considerations when proposing and negotiating the BWC. Throughout, it was recognised that any arms control initiative would have to consider the GP's parameters, mainly where use was concerned.[41] A second finding concerned the significant roles and requirements of different types of expertise, which were instrumental in bringing the BWC to fruition, namely scientific, legal, and diplomatic specialties.

We undertook the most intensive archival research in the UK National Archives, Kew. While this evidently presents a partisan picture, it did reveal something about the role of the UK relative to other nations in ensuring the BWC was negotiated. The UK Foreign and Commonwealth Office (FCO) wanted to show the BWC as a British success story and generate positive publicity on the back of this achievement. At the UN, the Eighteen Nation Disarmament Committee / Conference of the Committee on Disarmament provided a forum for many nations to air their opinions and offer suggestions or drafts. So, what began as a British treaty, and was ultimately co-sponsored by the USA and USSR, nevertheless received much input from other members in the drafting stages.

With hindsight, it seems like chemical and biological weapons have always been interlinked. Our archival material pointed to a wider inseparability of chemical and biological weapons (CBW) issues, particularly in the public sphere. This happened despite the technical separation of the two classes of weapons within the

[41] Spelling, A (2016) "'Driven to tears": Britain, CS Tear Gas and the Geneva Protocol, 1969-75', *Diplomacy and Statecraft*, 27(4), pp. 701-725

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expert communities. As a result, CBW issues typically dominated debate, often relating to the Cold War. The status of tear gas (and herbicides) garnered much attention and publicity because of their use in Vietnam and debate in the UN. This issue was arguably more immediate but was frequently associated with both chemical and biological weapons in public discourse.[42]

Besides the mass media, civil society had a role in keeping the issue of CBW control in the public eye. Civil society played an important educational and advocacy role. It pushed for CBW disarmament and engaged the public, drawing on individuals with technical and legal knowledge. Press reporting of CBW issues and disarmament was fairly regular, although not front-page news necessarily. Likewise, specialist civil society organisations like the Bernal Peace Library and the Women's International League for Peace and Freedom (WILPF) held meetings, and some local and regional organisations, like the British Council of Churches, maintained an interest in disarmament.[43]

Despite media attention to the signing of the BWC, the archival record revealed the isolation of the BWC from wider geopolitical diplomacy. The BWC was tied to, and yet strikingly distinct from, the Cold War. The planning and subsequent negotiation of the BWC happened in a compartmentalized fashion, separate from the other business of government and diplomacy. It did not form an integral part of discussions with other countries or feature in high-level general foreign policy briefings.

In conclusion, we need to recognise the BWC as a historically unique entity. That said, the BWC should not be seen as a static Cold War product per se but rather a long-term, dynamic development with continuing relevance today.[44]

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[42] B. Balmer, A. Spelling, C. McLeish, 'Preventing A Virological Hiroshima: Press Coverage of Cold War Biological Disarmament', *Journal of War & Culture Studies* (2016) 9(1), pp. 74-90.

[43] Balmer, B (2020) "Science was digging its own grave": the Women's International League for Peace and Freedom and the campaign against chemical and biological warfare, *The Nonproliferation Review*, 27 (4-6), 323-341, DOI: 10.1080/10736700.2020.1838703

[44] Chevrier, M and Spelling, A (2016) 'The traditional tools of biological arms control and disarmament', in Lentzos, F (ed) *Biological Threats in the Twenty-First Century: The Politics, People, Science and Historical Roots* (London: Imperial College Press, 2016), pp.331-356.

THE CLOUDS OF HISTORY, OR REMEMBERING THE ROADS
NOT TRAVELLED IN CHEMICAL AND BIOLOGICAL WARFARE
BY DR. BRETT EDWARDS, UNIVERSITY OF BATH AND POISONS AND
PESTILENCE PODCAST HOST

This year is one of the happier anniversaries in the history of biological and chemical weapons - the 50th anniversary of the Biological Weapons Convention opening for signature. This is as good a moment as any then to think about the relationship between humanity and the use of poison and pathogens as weapons of war.

Both chemical and biological forms of warfare are, in some ways, ancient. They have also almost always been niche, and it might be added, largely historically incidental. The use of poison arrows in warfare perhaps goes back as far as 70,000 BC, and there is evidence that humans have at the very least fantasised about unleashing disease on their enemies as far back as the written word. However, biological and chemical weapons, as well as the moral proscription against them, are modern creations. And over the past 100 years or so, the technical and doctrinal

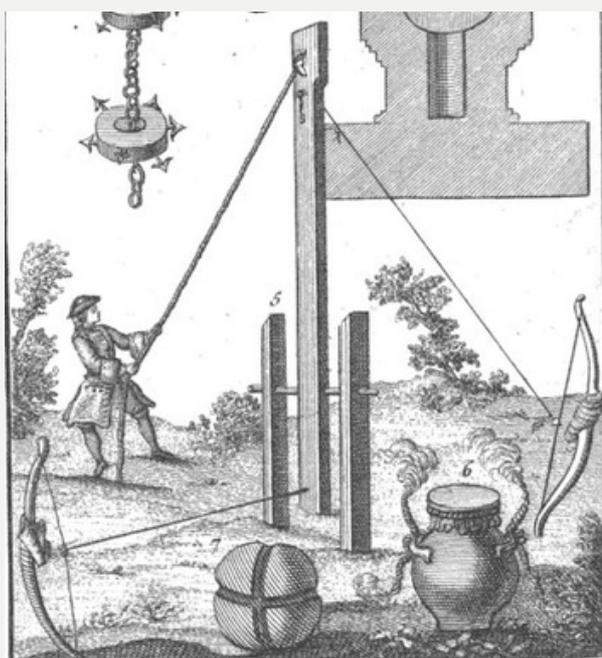


Image: A depiction demonstrating the use of the Chinese stinkpot shown in the *Traité sur les feux d'artifice pour le spectacle et pour la guerre* by French pyrotechnician Jean-Charles Perrinet d'Orval, 1745

niche these weapons have occupied, along with the moral obliquity against them, have continued to evolve.

The history of state programmes, as well as the global diplomacy surrounding these weapons, has been well traced by several dedicated historians. Since the end of the Cold War, the emergence of new sources - often as a result of declassification - has been a key motivator for historians to reconstruct the histories of various state programmes, as well as the cultural and political context in which they have operated. The coverage is voluminous but patchy, with the most notable gap being the absence of a substantive English language history of Chinese biological weapon-related programmes. Neglecting political reasons for such gaps, doing good work in this area also demands a significant investment of one's time. Many of our leading scholars in this area have been dependent on unusual combinations of skills, fortuitous professional placement in addition to a sense of commitment to the area. Any scholar today then, when researching these weapons, and seeking to read good substantive histories on the topic, are very much at the whim of historical happenstance, in as much as it encouraged or deterred previous generations of scholars from working in the area.

In addition to the vagaries of the interests of the academy and funders in the area, the shifting vantage points of society more broadly have also been important. After the First World War, the gas injuries sustained by returning veterans provided a powerful memorial to the horrors of chemical warfare. Throughout the 1920s

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Image: German horse gas masks being used by transport horses. Note the absence of protection for the horses' eyes reflecting the animals' less vulnerability to the effects of gas.
© IWM Q 55085

and 1930s, the public image of chemical and later biological weapons was shaped by advocates within the military and associated industry, disarmament, and peace movements. Both biological and chemical warfare also featured in the work of Western writers in this era, including 'The Permanent Death Gas' of H.G. Wells, and mass-air dropped Anthrax in the post-apocalyptic writing of Aldous Huxley.

As history would have it, the large-scale battlefield use of chemical weapons was constrained to the Eastern theatre in the Second World War. And while preparations were made to employ chemical and biological weapons by both Allied and Axis powers - these weapons were not used beyond localised clandestine operations. In the aftermath of the conflict, the discovery of the extent of Nazi progress with nerve agents, along with the nuclear arms race, continued to motivate state interest in massively destructive chemical and biological weapons. Cold War military competition would drive the emergence of large research and development programmes

in this field as well.



Image: Prototype chemical warfare (gas cape) protection for British Army horses and mules developed at Porton Down, 1938.
© IWM HU 102420

Shifts in the public vantage point on biological and chemical warfare have also come in response to public revelations and campaigns. In the 1960s, concerns about animal, human, and environmental testing, as well as disarmament and anti-war campaigns, would leave their mark. However, the international and domestic drivers, which would eventually lead to the global renunciation of biological (1972) and later chemical weapons (1993), were certainly not straightforward. While there has undoubtedly been a solidification of the norms against these weapons globally, there seems little reason to believe that the motivation and opportunities for states to develop and utilise such weapons will ever entirely disappear.

For this final reason, at least in part, I have established a new podcast examining the history of these weapons. The podcast aims to provide a synthesis of major histories but also scavenge many of the partial and

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incidental treatments of different parts of this area's history. This extends past the technical characteristics and uses of these weapons into the broader cultural and political context. We will walk a steady plod from the pre-historic to the present day (we are currently at around 1450), with each episode focusing on some aspect of a specific era.

This is in addition to meeting invited guests and collaborators in specials, which look not only at pivotal (and not so pivotal) historical events

and figures but also the process through which such histories are still being unearthed.

It is no longer controversial to argue that the world is a better place without these weapons- and that a future without biological and chemical warfare is possible. However, the reasons and experiences which have enabled such weapons to be largely externalised from modern warfare are all too easily obscured or forgotten. And, in a small way, that the show will tend to this history.

CONGRATULATIONS TO THE 2022 SECTION AWARD WINNERS!

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The Outstanding Article Award in International History and Politics recognizes exceptional peer-reviewed journal articles representing the mission of the International History and Politics Section of the American Political Science Association, including innovative work that brings new light to events and processes in international politics, encourages interdisciplinary conversations between political scientists and historians, and advances historiographical methods. The Outstanding Article Award is given to a published article that appeared in print in the calendar year preceding the APSA meeting at which the award is presented



Committee members: Orfeo Fioretos, Lindsey O'Rourke, and Yasu Izumikawa

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Committee Members: Steven Lobell, Lora Viola, and Julia Costa-Lopez

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Sinja Graf for the book *The Humanity of Universal Crime: Inclusion, Inequality, and Intervention in International Political Thought* [Available Here](#)

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