Education, Outreach and the OPCW: Growing Partnerships for a Global Ban

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Abstract

The Chemical Weapons Convention remains a landmark international treaty. It was the first multilateral agreement to ban an entire class of weapons of mass destruction and include a strict verification regime to monitor compliance. Scientists were not only deeply engaged in the negotiation of the Chemical Weapons Convention, but have been central to the life of the Organisation for the Prohibition of Chemical Weapons (OPCW) ever since it came into existence almost 20 years ago. Over that time, during which the OPCW focused primarily on its mission to oversee the destruction of chemical weapons stockpiles, the organisation has relied on a very committed core of scientific expertise – from within and outside – to help guide it. As that core task comes to a close, the Organisation faces a new challenge: ensuring that chemical weapons do not return. Meeting that challenge will require new approaches to the OPCW’s mission.
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We begin this Confchem as the Organisation for the Prohibition of Chemical Weapons (OPCW) celebrates its founding at the inaugural OPCW Day event in The Hague:¹ an event that reflects back on the organisation’s nineteen year journey to 2016 and looks toward the future and the evolving nature of chemical disarmament. OPCW Day brings together diplomats, experts in disarmament and security, leaders in science and industry and more. It is an event with a public face, intended to engage those working both within and beyond disarmament. Why does an organisation focused on security issues seek to engage broader audiences and in particular, scientific audiences? The answer lies within the broad range of issues and activities required for the implementation and effectiveness of a science based disarmament treaty. From 2 May to 1 July 2016, Confchem presents papers from scientists involved in the work of the OPCW and this August OPCW will feature in a symposium at the 24th IUPAC International Conference on Chemistry Education.² These events support OPCWs objectives of engaging with those who practice and study science, as well as the Organisation’s broader outreach goals, which we describe in this opening paper of the Spring 2016 Confchem.

The OPCW – where science and diplomacy meet

The OPCW is one of a handful of international organisations that exist at the intersection of science and diplomacy.³ Its success underpinned by through partnership between the scientific and diplomatic communities that serve the Chemical Weapons Convention (CWC)⁴ – which the OPCW was set up to oversee – since its entry into force in 1997. Today, after nineteen years in force, the CWC has one-hundred and ninety-two States Parties (The nations supporting the treaty); only four States are not subject to the obligations of the CWC (see Figure 1).

¹ International Day for the Foundation of the Organisation for the Prohibition of Chemical Weapons (http://www.opcwday.org/).
² 24th IUPAC International Conference on Chemistry Education (http://www.icce2016.org.my/).
The CWC is a unique international instrument: it is the first – and remains the only – multilateral disarmament treaty that prohibits a whole category of weapons of mass destruction in a verifiable way. The CWC was a huge step forward for international peace and security – the then-UN Secretary-General described the CWC in 1997 as “a momentous act of peace”.\(^5\) And it only came together through the efforts of scientists and diplomats working toward a commonly-held goal.\(^6\)

Treaty implementation has four key areas of focus, as illustrated in Figure 2: destruction of chemical weapons; non-proliferation and the prevention of re-emergence of chemical weapons (this includes verification activities such as declarations, inspections and investigations); capacity building and training in assistance and protection; and promoting international cooperation in the peaceful use of chemistry for economic and technological development. Across these areas, verification is has been key to the CWC’s success. Verification goes right to the heart of the trust and confidence that multilateral treaties, particularly those that touch on peace and security, need to work. These allow all parties to the treaty to verify each other’s compliance.

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\(^6\) For an overview of the historical development of the CWC, see: www.opcw.org/chemical-weapons-convention/genesis-and-historical-development/
Figure 2: Areas of focus for the OPCW in the implementation of the Chemical Weapons Convention.

The CWC’s verification regime allows international chemical weapons inspectors to verify the destruction of military stockpiles (of which States Parties are under obligation to destroy) and to inspect chemical production facilities (including commercial facilities) meeting certain criteria within the territories of the States that have joined the treaty. These inspectors, who have deep technical knowledge of chemical production processes, chemical weapons destruction techniques, and chemical analysis, have carried out over 6,000 inspections around the world since 1997. Their work, which is reported back to the States Parties that meet regularly in The Hague to review the operation of the CWC, has been critical to ensuring the treaty’s integrity. An example of the how the CWC can draw scientific and diplomatic worlds together.

This connection was created through the CWC’s negotiation, during which scientific principles were used to help define the kinds of weapons and chemicals the treaty should be concerned with and to construct a viable verification regime. And we see the science and diplomacy connection throughout the work of the OPCW today. The Scientific Advisory

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7 Several OPCW staff members with scientific backgrounds, including an inspector, featured in a recent article in the jobs section of Chemistry World, see http://www.rsc.org/chemistryworld/2016/02/organisation-prohibition-chemical-weapons-jobs-insider.
Board, an independent body of twenty-five scientific experts nominated by States Parties and appointed by the Director-General, renders specialised advice on science and technology that could affect the operation of the treaty. The OPCW works closely with the chemical industry on matters of mutual concern. And the CWC fosters international cooperation in the peaceful use of chemistry through its capacity building programmes.

There are other international treaties that ban categories of weapons of mass destruction, most notably the Biological and Toxin Weapons Convention (BTWC). But that treaty – which entered into force much earlier than the CWC, in 1975 – contains no verification provisions.

**A changing Organisation in a changing world**

While the CWC is a strong example of science serving the cause of global peace and security, for many years the OPCW’s achievements were little known beyond those directly involved in implementation, particularly those involved in the complex verification regime. The Organisation’s work was focused primarily on ensuring the destruction of declared stockpiles of chemical weapons, and it has been very successful: today, fewer than 10% of the original stockpiles are now left, and within the next few years all will be destroyed. At the same time, 192 States are now party to the Convention, making it the most widely subscribed disarmament and non-proliferation treaty in history. The CWC’s verification system continues to support States Parties’ confidence in treaty compliance, and for “its extensive efforts to eliminate chemical weapons” the OPCW was awarded the 2013 Nobel Peace Prize. Recent events in Syria have likewise pushed the OPCW onto the world stage.

The OPCW and its accomplishments have raised an important question: in an era when the declared global stockpiles of chemical weapons have been all but destroyed, what is the role of an Organisation dedicated to their abolition? The answer to that question lies in the CWC itself, in which the treaty’s States Parties state clearly their determination “for the sake of all mankind, to exclude completely the possibility of the use of chemical weapons”. What does this mean today, in a world where we are constantly reminded of the threat of chemical weapons in ways that were certainly unanticipated in 1997?

The first part of answering this question lies in the word “declared” – while those chemical weapons that have been declared to the Organisation by its current States Parties will soon be

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8 See [www.opcw.org/about-opcw/subsidiary-bodies/scientific-advisory-board/](http://www.opcw.org/about-opcw/subsidiary-bodies/scientific-advisory-board/)

9 In this regard, OPCW offers a number of capacity building programmes for science in developing countries; more information is available at [https://www.opcw.org/our-work/international-cooperation/capacity-building-programmes/](https://www.opcw.org/our-work/international-cooperation/capacity-building-programmes/)


13 See, for instance, Ahmet Üzümcü “Syria’s Continuing Chemical Fallout” [https://www.project-syndicate.org/commentary/syria-chemical-weapons-attacks-by-ahmet-uzumcu-2016-02](https://www.project-syndicate.org/commentary/syria-chemical-weapons-attacks-by-ahmet-uzumcu-2016-02)
destroyed, there remain States outside the CWC. The possibility of new States joining with stockpiles of chemical weapons is one that the OPCW must continue to plan and prepare for. And we will continue to work on the important issue of the recovery and destruction of old and abandoned chemical weapons – one of the most pernicious ongoing legacies of past conflicts.14

This also means ensuring that the States Parties to the CWC continue to live up to their obligations. We do this through the operation of the CWC’s verification system, which applies not only to chemical weapons stockpiles and related facilities, but also to commercial chemical sites and production of relevance to the CWC. Every year, our States Parties file declarations about these sites and about production levels of certain chemicals. And every year teams of OPCW inspectors go to over 240 industrial chemical production facilities around the world to verify those declarations.15 At the same time, our inspectors are ready to deploy at short notice in case of compliance concerns or when the use of chemical weapons has been alleged.

As has recently become all too apparent, working to ensure that chemical weapons do not re-emerge goes beyond looking at the actions of governments. Non-State actors have recently shown themselves to be all too willing to use chemical weapons. The confirmed use of chemical weapons in the conflict in Syria and in Iraq poses new challenges for the CWC regime and the norm it enshrines16. And the evocation of the possible use by terrorists of chemical weapons in attacks in Europe17 and elsewhere18 has heightened public awareness of the continuing threat of chemical weapons.

Confronting these challenges will require the OPCW to adjust its priorities, to look beyond its traditional networks, and to enlist a new generation in the service of its mission. Our science engagement must go beyond the small circle of committed scientific experts – both from within and outside the Organisation – that have helped to guide our work until now. Our industry outreach will need to engage not only those who are directly involved in implementing the treaty’s complex verification regime, but also those who regularly use, transport, trade in or store toxic chemicals. Our work with educators and young people will need to focus on building better global citizens as well as responsible future scientists.

Above all, we know that ensuring chemical weapons do not return is a task that the OPCW cannot do on its own. And while science (and its practitioners) will remain central to our

14 References on legacy chemical weapons (which include old, abandoned and sea dumped chemical weapons can be found in the two most recent issues of The OPCW Science and Technology Monitor (issues 3.1 and 3.2, www.opcw.org/fileadmin/OPCW/Science_Technology/Monitor/OPCW_S_T_Monitor_3_1.pdf and www.opcw.org/fileadmin/OPCW/Science_Technology/Monitor/OPCW_S_T_Monitor_3_2.pdf)
15 Annual Reports summarise yearly verification activities of the OPCW including both chemical demilitarisation and industrial inspection activities (www.opcw.org/documents-reports/annual-reports/).
16 See reference 13.
17 http://www.independent.co.uk/news/world/europe/paris-attacks-french-pm-manuel-valls-issues-isis-chemical-weapons-warning-a6740156.html
mission, it is just one part of a much broader undertaking in which education and outreach will play a growing role.

Education and outreach for peace

So while there is much work to be done, we already have a good base to build on. The OPCW’s website is generally the first port of call for anyone interested in the Organisation – it has special sections describing our work,19 with a particular emphasis on our scientific engagement. A set of factsheets, now available in all six OPCW official languages (Arabic, Chinese, English, French, Spanish and Russian)20, detail the various facets of the Organisation, the history of chemical weapons and efforts to control and eradicate them, and the functioning of the Convention and its verification regime.

The OPCW website also hosts a set of e-learning resources, with modules focused on general information about the Organisation and the Convention as well as more specialist courses to training those involved in CWC verification.21 And it showcases an innovative initiative designed to connect with new audiences: the FIRES project, a series of short films about personal stories linked to chemical weapons.22 These films aim to engage a broad range of audiences in the story of the OPCW and international efforts to eradicate chemical weapons.

The Organisation’s website also provides links to science education projects, like the Multiple Uses of Chemicals project23 developed by IUPAC with the cooperation of the OPCW. We will be doing more of this kind of work – aimed at supporting educators – in the future.

To round off our engagement in the digital space, the Organisation is active across a range of social media platforms. We are now working at ramping up our activities in this area, starting with a redesigned website. For those interested in both scientific and educational focused materials available from the OPCW, Figure 3 provides an interactive guide to find a variety of materials available for download and social media accounts.

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19 www.opcw.org/our-work/
20 www.opcw.org/documents-reports/factsheets/
21 www.opcw.org/special-sections/education/e-learning/
22 https://www.thefiresproject.com/
23 http://multiple.kcvs.ca/site/index.html
OPCW continues to work closely with its States Parties on building support and engagement on for outreach and engagement. In 2016, four regional meetings are to be held with representatives of States Parties to discuss and make recommendations on how the OPCW

Figure 3: Online resources available from www.opcw.org and OPCW social media accounts; this figure is interactive with hyperlinks to the indicated materials and information.
can support member states in this area, and vice versa.\textsuperscript{24} These regional meetings also provide the opportunity for officials in our States Parties to think about their own national stakeholders on CWC implementation and to share ideas about how to reach them most effectively.

At the same time, OPCW works to engage the global chemical industry more. Industry has always been a key player in the operation of the CWC’s verification regime (and industry representatives participated in treaty negotiation), but its importance is assuming a new dimension in the fight against chemical terrorism. The chemical industry, and the individuals that work in it, are a key to the success of the OPCW in tackling this troubling issue.

Looking beyond the chemical industry, the OPCW has also supported work to engage chemical practitioners on the topic of responsible practices. To this end, in 2015 the Organisation coordinated the drafting by a diverse group of scientists of The Hague Ethical Guidelines, a set of elements considered important, from a CWC perspective, in relevant professional codes. The guidelines can be found on the OPCW website in all official languages.\textsuperscript{25}

Reaching out to young people is one of the most important facets of our education and outreach work. To that end, the OPCW has established partnerships with Leiden and Groningen Universities in the Netherlands, and runs an annual WMD Summer School, in association with the TMC Asser Institute, in The Hague.\textsuperscript{26}

Finally, one of the most important new initiatives that the OPCW has taken over the last year is the decision to bring in outside expertise to advise us on how we scale up OPCW education and outreach to support the Organisation’s strategic priorities. The Advisory Board on Education and Outreach is a group of 15 experts from around the world, appointed by the OPCW Director-General to advise both the OPCW Secretariat and CWC States Parties on this important work.\textsuperscript{27} Its mandate covers not only high-level strategic advice but also ensuring that the OPCW’s education and outreach activities are coordinated and cost effective – to do this it will monitor global science education and disarmament and non-proliferation education initiatives, as well as propose partnerships with other stakeholders. It will also be tasked with developing a portfolio of activities and projects, so that the widest possible range of audiences can benefit from them.

But the most important aspect of the establishment of the new Advisory Board – which met for the first time on 28 and 29 April in The Hague– is that it represents a potential sea-change

\textsuperscript{25} www.opcw.org/special-sections/science-technology/the-hague-ethical-guidelines/
\textsuperscript{26} Summer Programme on Disarmament and Non-Proliferation of Weapons of Mass Destruction in a Changing World (http://www.asser.nl/education-events/summer-programmes-2016/disarmament/).
\textsuperscript{27} The formal decision to establish the Advisory Board, and its terms of reference, can be found at www.opcw.org/fileadmin/OPCW/CSP/C-20/en/c20dec09_e.pdf; the current membership of the board can be viewed at www.opcw.org/fileadmin/OPCW/EC/81/en/ec81dg09_e.pdf.
in the way that the OPCW interacts with the world. It represents the recognition that achieving the aims of the CWC will in the future require a whole new kind of engagement – one that is underpinned with robust strategies, with flexible and modern educational tools, and with the support of new stakeholders. Most importantly it means that education and outreach has a clear strategic role in the future of the Organisation.