The Chemical Weapons Ban in Troubled Waters

The Chemical Weapons Convention is an important achievement of international disarmament policy. However, the states parties to the treaty are increasingly at odds with each other. At the same time, due to new scientific developments, C-weapons might once again gain relevance.

By Céline Barmet and Oliver Thränert

The Chemical Weapons Convention (CWC), which entered into force 20 years ago on 29 April 1997, is a success story: More than 90 percent of reported chemical weapons have since been destroyed. Moreover, the treaty regime has proven very flexible when it came to rendering harmless and disposing of chemical weapons in Libya and especially in Syria. Accordingly, the Organisation for the Prohibition of Chemical Weapons (OPCW) in The Hague, which was founded for the specific purpose of implementing the CWC, was awarded the Nobel Peace Prize in 2013.

In 2013, the OPCW was awarded with the Nobel Peace Prize. Today, the use of chemical weapons in Syria is increasingly becoming a political test for the organization. *Tobias Schwarz / Reuters*

The CWC, a product of the 1990s, is the only agreement to ban an entire category of weapons of mass destruction with intense verification measures. After the end of the Cold War, the aim was on the one hand to destroy superfluous weapons. On the other hand, the cooperative atmosphere that prevailed between East and West at the time was to be used to halt the proliferation of chemical weapons.

In Syria, the chemical weapons ban was not fully enforced. Not only does the country still have legacy stockpiles of chemical agents, but these were even used – by the government forces of President Bashir al-Assad as well as by the so-called "Islamic State" (IS). The debate over how to respond to this state of affairs has politicized and divided the community of CWC state parties. This dispute escalated at a time when scientific and technical progress could open up new prospects for chemical warfare. It is thus unclear whether chemical weapons will remain off the table for most states in the future. Furthermore, there are some states that have refused to join the CWC.

Purpose and Membership

The CWC imposes a comprehensive ban on chemical weapons. The member states make a commitment never to develop, produce, purchase, stockpile, or retain chemical weapons or to pass them on. Moreover, it is illegal to use chemical weapons or to make military preparations for their use. At the time of joining the treaty still existing chemical arsenals must be reported and destroyed. Finally, chemical agents held for riot control purposes must not be used by member states in warfare.

Since chemicals of all kinds have a huge variety of non-military applications, and given the constant advances in chemical re-

search and development, which can also be applied for military purposes, a flexible and adaptable definition had to be adopted for the core concept of the term "chemical weapon". The CWC includes a "general-purpose criterion". Under this concept, toxic chemicals and their precursors as well as munitions, devices, and equipment are banned if they are not consistent with the aims of the CWC by virtue of their properties, quantities, or intended purpose. A toxic chemical is any substance "which through its chemical action on life processes can cause death, temporary incapacitation or permanent harm to humans or animals."

So far, 192 states have signed the CWC, representing 98 per cent of the global population. One of the CWC non-members is North Korea, which in all probability has operational chemical agents on standby, as also suggested by the assassination of Kim Jong-nam, the stepbrother of North Korean dictator Kim Jong-un, with a nerve agent at Kuala Lumpur International Airport in February 2017. In the Middle East, Egypt and Israel have also refrained from joining the CWC.

Non-state actors pose another problem for the implementation of the CWC. For instance, the Japanese Aum Shinrikyo cult released a nerve agent in the Tokyo subway in 1995. Today, the IS appears to have deployed homemade mustard gas during fighting in Syria and Iraq.

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Disarmament: Unfinished Business

More than 90 per cent of the 72,000 tonnes of chemical agents reported overall have already been destroyed. Originally, the aim had been to render harmless all stockpiles within a decade of the CWC's entry into force at the latest, which would have been in 2007. This was not achieved. However, this did not give rise to any disputes between the main actors that still retain chemical weapons, the US and Russia, which are behind schedule in destroying their stockpiles, or between the former and the other states party to the treaty.

Russia was late to start the decommissioning process and provided insufficient funds (despite receiving much support from Western countries). Moscow had originally reported 40,000 tonnes of chemical weapons agents, more than 90 per cent of which have already been destroyed in six installations. Until the end of 2020, the remaining approximately 2,300 tonnes of nerve agent are due to be destroyed in the last operational facility at Kizner.

The US, as the owner of the world's second-largest chemical weapons arsenal, met with unexpected problems such as local resistance to planned destruction facilities. Washington, too, has now reported the destruction of about 90 per cent of its declared 28,500 tonnes of chemical weapons in seven facilities. In October 2016, a facility in Pueblo/Colorado began to destroy about 2,600 tonnes of mustard gas through dilution and bacterial decomposition. This project is scheduled for completion by mid-2020. The neutralization of about 523 tonnes of mustard gas and nerve agents such as sarin and VX in Blue Grass, Kentucky is scheduled to run from 2017 to 2023.

Three other countries have already successfully eliminated their reported C-weapons stockpiles: India (about 1,000 tonnes), South Korea (about 600 tonnes), and Albania (about 14 tonnes). In Syria and Iraq, the situation was considerably more difficult: In Libya, destruction of about 25 tonnes of reported mustard gas and precursors to chemical agents began immediately following the country's accession to the CWC in January 2004. Until the revolt against Gaddafi's regime in February 2011, about half of this stockpile was destroyed. However, the new rulers soon discovered two depots that had not been disclosed by Gaddafi and contained small quantities of chemical warfare agents. Destruction of the chemical agents was completed in February 2014. Two years later, however, there was concern that a depot for chemical agent precursors might be captured by the IS. At the Libyan government's request, these agents were transported to Germany in August 2016, where they are currently being rendered harmless.

Iraq only joined the CWC in 2009. Until then, the remainder of chemical agents developed by Iraqi leader Saddam Hussein's regime had been destroyed by US forces using environmentally unsound methods. In June 2014, IS members took control of two bunkers in al-Muthanna that held chemical agent residues whose disposal had been judged too complicated. According to experts, these agents should no longer be combat-ready.

The Case of Syria

In September 2013, under pressure from the US and Russia, Syria joined the CWC. It declared 1,300 tonnes of chemical agents and precursors, which were officially confirmed on 4 January 2016 to have been destroyed in facilities abroad. But just weeks after Syria's CWC accession, doubts were raised as to whether the Syrian authorities had declared all of their assets. Therefore, Syria was put under a special verification regime. Two different OPCW missions were charged with checking the accuracy of the Syrian declaration and to investigate suspected chemical weapons uses in Syria. To this day, the question of whether Syria's declaration was complete remains open. Moreover, the investigators found proof that there had indeed been further uses of chemical weapons on Syrian territory in 2014 and 2015. In response, the UN Security Council (UNSC) in August 2015 passed Resolution 2235 creating the "OPCW-UN Joint Investigative Mechanism" (JIM), which was tasked with identifying the perpetrators of these proven instances of chemical weapons use in 2014 and 2015. The JIM reports published in August and October 2016 found that the Syrian government had used chemical weapons three times, and the IS on one occasion.

The sanctions proposed by the US in the UNSC were vetoed by Russia. Unlike in the UNSC, however, there are no veto powers in the OPCW Executive Council. Instead, its rules allow decisions to be passed with a two-thirds majority, though most are made by consensus. This is intended to ensure the cohesion of the community of states parties to the treaty, which is crucial for the CWC's implementation. Inevitably, the US-Russian confrontation also spilled over into the OPCW Executive Council. While the US proposed tough sanctions against Damascus, Russia protected the Assad government. It took a contested vote to eliminate the blockade in the Council. However, the only measure able to win support was the introduction of additional and more frequent inspections of the locations identified in the JIM report. On the one hand, this means that the Executive Council set aside the consensus principle that ordinarily guides its decisions. On the other hand, not acting would have been tantamount to tolerating Syria's possession and use of chemical agents

against its own population, which would have been a disgrace for an organization dedicated to the ban on chemical weapons. However, an entrenchment of the confrontation between the two camps would weaken the convention as well as the OPCW as an institution. A key question for the future effectiveness of the organization is whether the OPCW will prove capable of ensuring both the cooperation and the treaty compliance of its member states.

No Comprehensive Verification

Verifying the destruction of chemical weapons and the prevention of clandestine development of new chemical weapons are equally important aims of the CWC. However, in the first years of the convention's existence, much of the OPCW's attention was taken up with verifying the destruction of all chemical arsenals and former C-weapons production facilities (or their permanent repurposing for strictly peaceful aims). As arsenals have shrunk, more time and energy were invested in the second task of industrial inspections. These checks are intended to enhance transparency and verify that the states parties' declarations are accurate. In this way, they help ensure that no clandestine production of chemical warfare agents is possible. Industry inspections are based on three lists of chemicals; nevertheless, chemicals that are not listed are still banned if used for conducting or preparing for warfare. However, in order to keep the inspections regime manageable, the huge domain of chemicals has been categorized in terms of their toxicity, usefulness for chemical warfare, and the extent of their commercial use. All establishments that produce listed chemicals in quantities exceeding the limits set by the CWC must be reported or even routinely inspected, depending on the quantities involved.

From the very beginning, it was obvious that the system of routine inspections is not a watertight one. Therefore, if the states parties suspect noncompliance with the CWC's rules, they have the additional option of initiating challenge inspections in any installation of another state party. Apart from the case of Syria, where a pragmatic approach was helpful in establishing new verification mandates, there have been no challenge inspections so far. The reasons are manifold. In order to corroborate an initial suspicion, states might have to reveal intelligence assets and jeopardize their sources. If the inspection should fail to confirm the suspicion, the requesting state would be severely embarrassed, and would face the prospect of retaliatory challenge inspections on its own territory. All of these scenarios could lead to an inappropriate confrontation between states parties, which would ultimately weaken the CWC.

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The best way of eliminating concerns over challenge inspections, including the aforesaid scenarios, would be to make them a standard instrument of CWC implementation. However, this would likely overstretch the resources of the OPCW with its limited complement of inspectors. On the other hand, many states parties appreciate the absence of challenge inspections, which involve curtailments of national sovereignty.

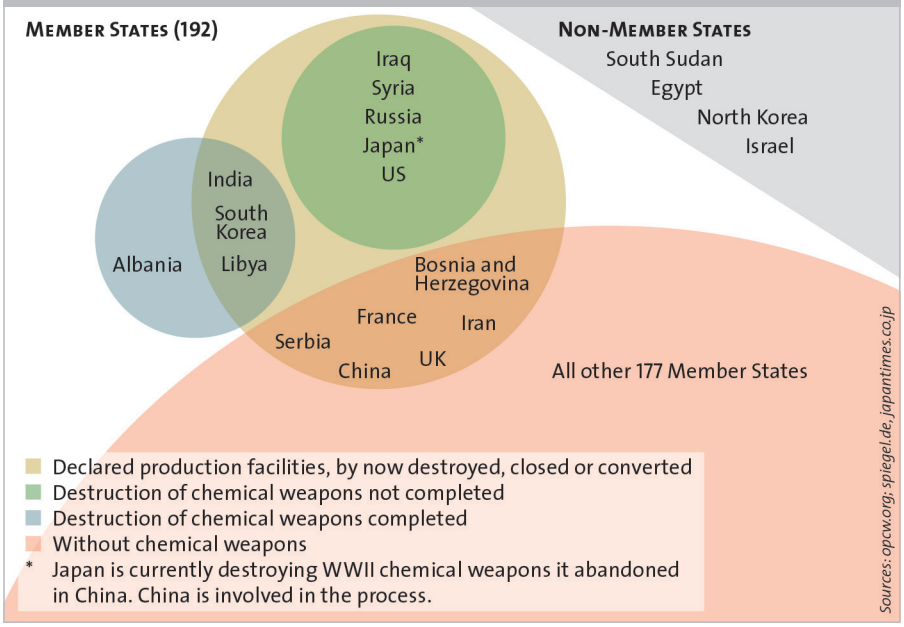
The Dangers of Misuse

Since the entry into force of the CWC, there have been major changes in the scientific-technical world. The biosciences are constantly expanding our understanding of the human body and how it functions. This also reveals new angles for disrupting processes within the body. Advances in therapy and medicine provide new ways of delivering curative substances to the exact location within the body where they are needed. However, this knowledge can also be misused. The increasing convergence of the chemical and biological sciences has revealed biotechnological procedures that allow chemicals to be synthesized faster, more safely, and often also cheaper. Due to all of these factors, the use of toxic substances for non-peaceful purposes could regain importance.

Another example relates to incapacitating agents. A broad range of substances can be used to attack the central nervous system. These agents are often considerably more potent than nerve agents, since the desired effects can be achieved with far lesser doses. Furthermore, advances in the neurosciences have created the possibility of manipulating the human brain. These new prospects could be used to optimize human performance, including in warfare. However, the same process could be exploited in reverse to impair the enemy.

None of this diminishes the prohibition of the CWC, which is intentionally broad and flexible: Chemicals used for the preparation and conduct of warfare are banned, irrespective of the novel methods by which they were produced. Nevertheless, scientific and technological advances are already

The Chemical Weapons Convention and its Member States



Switzerland's Role in the CWC

Switzerland signed the CWC on 14 January 1993 and ratified it on 10 March 1995. Switzerland reported no chemical weapons. Nevertheless, the CWC is important for the country, which has a significant **chemical and pharmaceutical sector**. About 50 companies work with chemicals included on the CWC's list for industrial inspections. Of these, 43 are subject to inspections; Switzerland receives about five CWC inspections per year.

Switzerland maintains the Spiez Laboratory, a leading international institution for NBC protection. Since 1998, the **Spiez Laboratory has been permanently designated as OPCW laboratory** – one of only five worldwide. The laboratory has a key role in CWC verification processes. For instance, in September 2013, as one of four designated laboratories, it was able to show from samples collected by the UN/OPCW mission in Syria that the agent sarin had been used in the country's civil war. The OPCW's Scientific Advisory Board, which advises the director-general, regularly includes Swiss experts. The Spiez Laboratory and the responsible center of competence of the Swiss armed forces are also active in extending training and further education to specialists from various OPCW member states. **Since May 2016, Switzerland has been represented in the OPCW Executive Council** for its third two-year term.

For Switzerland, it is important that the development of new incapacitating agents should not blur the boundaries between policing operations and military hostilities, and thus contribute to the erosion of the ban on chemical weapons. **Switzerland also supports other CWC states in capacity-building** for implementation of the convention's rules. Currently, it is especially actively engaged in Namibia.

having a significant impact on the treaty's implementation, especially for reporting and verification.

From Disarmament to Prevention

What relevance will the OPCW as an international organization retain in the future, once all declared chemical weapons have been destroyed and assuming no new member states join the convention? The OPCW's primary task will be to ensure that chemical weapons do not regain significance again. With its Scientific Advisory Board and its designated laboratories, it must constantly keep a watchful eye on the development of new chemicals and technologies. Moreover, the OPCW is involved in awareness-raising among various target groups through training and information activities. Another topic of crucial importance to the OPCW is the increasing risk of chemical weapons being produced by non-state actors. In this sphere, it is trying to enhance cooperation with other international organizations, the corporate sector, and member states and to adapt the verification system accordingly. The OPCW furthermore supports the states parties in adjusting their national legislation to prevent non-state actors from gaining access to chemical agents or their precursors. Another challenge for the OPCW is the prospect of competing regimes, such as Russia's proposal for a convention against chemical terrorism. This would undermine the organization's competence and diminish the authority it has painstakingly acquired in the past 20 years, further weakening the CWC.

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