

# THIS WEEK

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## The power of treaties

*International weapons conventions may not be perfect, but they are a vital mechanism for making wars less barbaric and less frequent — a cause that should galvanize scientists and others.*

The apparent use of sarin to kill more than 1,400 civilians in Damascus on 21 August may highlight the limits of the Chemical Weapons Convention (CWC) — but that does not mean that the world can afford to turn its back on such treaties.

The role of international treaties in restricting the proliferation of nuclear, chemical and biological weapons has not had a good press in recent years. Conventional wisdom tends to scorn the value of such 'pieces of paper' in real politick. Critics from both the left and the right heap derision on their selective reach and implementation.

Yet these treaties are crucial to everyone who is interested in making wars less barbaric and less frequent. Pieces of paper they may be, but large powers adhere to their contents with care, as do the smaller ones who crave international respectability.

As Hans Blix, the former chief United Nations weapons inspector, has pointed out, even regimes that are regarded as political outliers are highly sensitive to treaty adherence. That is why, for example, North Korea withdrew from the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) in 2003, before resuming its nuclear-weapons programme. It is also why Syria is one of just seven countries (including Egypt and Israel) not to join the CWC.

These treaties also matter to scientists, or ought to, because only scientists have the technical expertise and institutional basis to devise their content and implementation. That is not true of diplomats or soldiers, or of other parties, such as the unfortunate victims of chemical weapons in Syria. As the US physicist Herbert York said of his peers' role in the development of the first, limited nuclear test-ban treaty half a century ago: if not us, who?

The CWC has its origins in the 1925 Geneva Protocol, which held the use of chemical weapons to be illegal. Since it came into effect in 1997, the CWC has been a considerable success, with its secretariat supervising the destruction of some 78% of known chemical-weapons stocks in signatory nations — a figure that is expected to reach 99% by 2017.

Three questions will remain after that milestone is reached: what to do about non-signatories; how to deal with non-state actors; and how to extend the CWC's progress to the problematic field of biological weapons.

The position of non-signatories, at least, should become less tenable. As this group diminishes in number, precedent suggests that the terms of the treaty are likely to become accepted as international law, opening violators up to possible criminal prosecution. It is not unreasonable to hope that pressure on non-signatories will eventually bear fruit.

Non-state actors — terrorists among them — have never really fallen under the remit of treaties. However, the CWC does include provisions, thus far never invoked, for 'challenge inspections' to be conducted when weapons violations are suspected. It is conceivable that such inspections could be used if non-state actors were suspected of stockpiling chemical agents.

The last question regards the relationship between the CWC and its

older but weaker cousin, the Biological Weapons Convention (BWC). The CWC office has several hundred staff in The Hague in the Netherlands, but the BWC has only a tiny secretariat in Geneva, Switzerland — and no verification regime. That is partly on account of long-standing US resistance to the idea: because biological agents grow or die, they are hard to inventory, and sceptics contend that a verification regime would result in an orgy of commercial larceny.

**“International treaties ... are more true to the cause of peace than a fusillade of cruise missiles.”**

One suggestion is to merge the two (see L. K. Sydnes *Nature* **496**, 25–26; 2013) and adapt the CWC's powerful verification infrastructure to tackle the BWC's mission. But diplomats are sceptical that two international treaties could ever be successfully merged. What is clear is that biologists —

whose international representation is more fragmented than that of chemists or physicists — could work harder towards the augmentation of the BWC, and the eventual development of a verification regime.

In the meantime, large political powers need to be less selective in their pursuit of disarmament treaties, and more forthcoming in providing the resources necessary for their implementation. It is hard for Britain and the United States to strengthen the CWC, for example, while they continue to drag their feet in implementing their existing nuclear obligations under the NPT.

International treaties, in the end, will never be entirely fair, or equitable, or implemented consistently. They are nonetheless more impressive than the barrage of platitudes that passes for political discourse on international security — and more true to the cause of peace than a fusillade of cruise missiles. The BWC, CWC and NPT are all imperfect but they are the instruments that we have in our hands. They can each play a part in making war less likely, as well as less ghastly. ■

## Nuclear error

*Japan should bring in international help to study and mitigate the Fukushima crisis.*

The radioactive water leaking from the site of the wrecked Fukushima Daiichi nuclear power plant in Japan is a stern reminder that we have not seen the end of the world's largest nuclear crisis since the Chernobyl meltdown in Ukraine in 1986. After an earthquake and tsunami crippled the Fukushima plant in March 2011, it became clear that efforts to decontaminate the area would be long-lasting, technically challenging and vastly expensive. Now it turns out that the task has been too big for the owner of the plant, the