Scientists Against Biological Weapons

In the wake of the anthrax attacks over the past few weeks, scientists across the world have the opportunity to unite in a bid to create a less dangerous world. As the Royal Society emphasized in a report last year,* the international scientific community has a crucial role to play in tackling the threat from biological weapons, and it is essential that this challenge be met directly on many fronts.

Scientists need to support policy-makers in negotiations to secure an effective international instrument banning the development, production, and use of biological weapons. This could be achieved almost immediately at the Fifth Review Conference of the 1972 Biological Weapons Convention (BWC), to be held in Geneva between 19 November and 7 December, where the 144 states party to the BWC will be seeking to gain consensus on the most effective means of reinforcing the existing ban. It is vital that all the parties to the BWC, including the United States, find a way forward together to reach a positive outcome. It is not possible for any single nation to protect itself fully from the malign use of biological agents without complementary action by all other countries.

The Chemical Weapons Convention (CWC), now in its fourth year of full implementation, demonstrates that international instruments can be put into practice. Unlike the BWC, the CWC provides an elaborate international verification system, which is operated from The Hague by 500 staff members at its headquarters and in its inspectorate at the Organisation for the Prohibition of Chemical Weapons. The CWC verification system applies both to military facilities for chemical weapons defense and to the civil manufacturing industry, providing insurance against maleficent uses of technologies that have beneficial applications, without at the same time unduly burdening, endangering, or otherwise constraining industry. The key to introducing this system was the involvement of the chemicals industry worldwide in the negotiation of the CWC from the mid-1980s onward. Likewise, full cooperation with the biotechnology and pharmaceutical industries is essential to any verification system for an international instrument banning biological weapons.

The international scientific community has a crucial role to play in tackling the threat.

Scientists can play their part in implementing such an instrument by providing the tools for diagnosis and detection through which compliance can be monitored and by the innovation of countermeasures, including novel vaccines and better computer models to elucidate the source and dissemination of infectious agents and their impact in the body. These endeavors cannot be restricted to government research facilities alone. Scientists in industry and academe have expertise that must be engaged in finding the best protection against biological weapons, and concerns about security or commercial confidentiality should not override a concerted effort by the scientific community.

An immediate task for scientists is to analyze the global spate of anthrax attacks. There are no confirmed cases previously recorded of a biological agent being used deliberately by terrorists to kill people. There are lessons to learn that should help all nations to rigorously assess the danger posed by anthrax and how it can be countered. Scientists also have a responsibility to engage in a dialogue with the public as well as with each other and with policy-makers. Anxiety has been generated worldwide by the anthrax attacks, sometimes inflamed by ill-judged media coverage. All scientists have a duty to facilitate access to information that is both accurate and comprehensive enough for the public to properly weigh the risks posed to them by biological weapons.

The anthrax attacks have demonstrated that the use of biological weapons is no longer a theoretical threat. Coming as they have after 11 September, the world now seems a much more dangerous place. Scientists can and must help to address this fear by working closely with policy-makers to reduce the threat from biological weapons.

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**Measures for Controlling the Threat from Biological Weapons* (Royal Society, July 2000). Available at www.royalsoc.ac.uk.