

# THE CBW CONVENTIONS BULLETIN

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## BRINGING THE CBW CONVENTIONS CLOSER TOGETHER

*Julian Perry Robinson, Harvard Sussex Program*

In 1968, for reasons that are still not entirely clear, the United Kingdom proposed that biological weapons (BW) and chemical weapons (CW) should in future be treated separately at the Geneva disarmament conference, and that the talks should first concentrate on BW. That is what happened, gradually. The international agreement that already existed in the field, the 1925 Geneva Protocol, had taken chemical and biological weapons (CBW) together. Their new separation led to the 1972 Biological & Toxin Weapons Convention (the BWC) and then the 1993 Chemical Weapons Convention (CWC), so in fact both types of weapon became outlawed, and it is possible that neither would have been without that parting of the ways. Yet the divergence led to two very unequal agreements that have what look increasingly like serious gaps in their combined structure. The remedy may require that we appreciate once again the features that BW and CW have in common. It is heartening, therefore, that 'convergence' is appearing as often as it is now doing on international conference agendas. True, the reference is to the convergence of chemistry and biology as, for example, in 'synthetic biology', but that obliges us to wonder for how long it will be prudent to keep the CWC and the BWC as far apart from one another as they are today.

So it is unhelpful that quite so many people should regard BW and CW as too different to be treated in any way other than separately. We need to understand why that view should be as prevalent as it is and listen attentively to the explanations we are given – thus far political ones, chiefly, but also military and technological, though rarely legal. A supposedly clinching argument that has become popular is that BW but not CW are real weapons of mass destruction (WMD), comparable with nuclear weapons. The present paper offers for attention two countervailing considerations. The first is about the real nature of the danger that CBW present for security, whether that be international, national or human security. The second is about the so-called 'Type C' mode of CW attack that has, in effect, fallen into a gulf that now separates the CWC and the BWC.

### CBW as existential risk

Some CBW are covered by the established UN definition of WMD, which is as follows: *atomic explosive weapons, radio active material weapons, lethal chemical and biological weapons, and any weapons developed in the future which have characteristics comparable in destructive effect to those of the atomic bomb or other weapons mentioned above.* There are indeed some CBW that seem capable of causing casualties among living beings

– people, other animals and plants – on a giant scale. The *Shady Grove* field trials conducted by the United States off Johnston Atoll in the Pacific Ocean during February and March 1964 are said to have demonstrated that, against caged rhesus monkeys, one single-seat aircraft could establish disease-causing dosages of bacterial aerosol at sea level over nearly five thousand square kilometres. That was a biological weapon, but, as is described below, similar areas of effectiveness were anticipated for future chemical weapons as well. Urban areas of like size – the habitat of maybe millions of people – might be no less vulnerable. So, as casualty agents, there may in principle be some comparability between CBW and nuclear weapons.

Yet, dreadful though that is, it is not the primary risk inherent in CBW. Their main danger is precisely that they need not be weapons of mass destruction, for what is unique about them is that they could in principle serve to subjugate or coerce people, even very large numbers of people, *without necessarily threatening their lives.* A capability for exerting that form of force could become attractive in circles where capability for mass destruction is unattractive.

What is it about CBW that could hold out this allure? Answer: the mechanisms of toxicity and infectivity that characterize CBW are the mechanisms through which we can, if we are so minded, exploit for weapons purposes that most impressive feature of today's science – its accelerating understanding of the processes of life. As we comprehend more and more of how life works at the molecular level, so too may we be able to learn to *manipulate* life at the molecular level. That has been conceivable since the early days of CW. The blood gases, for example, target cellular respiration mediated through the blood; the nerve gases target nerve-signal transmission. So it was, back in the 1950s, that the idea started to take hold that other physiological systems might be disrupted, perhaps including those that define the psyche or the will or govern the ability to function properly. That way could lie potent *disabling* chemical weapons,

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perhaps in great variety.

However, beyond 'tear gas', the disabling skin burns that mustard gas can cause, the uncertain promise of the early psychotropic 'incapacitating agents' such as Agent BZ, and one or two other minor novelties, this way forward did not begin to become a serious option until the pace of progress in applicable knowledge had accelerated during the latter part of the last century, around the time of negotiation of the 1972 BWC and its CW follow-on. It was becoming increasingly plain to those who followed such things then that advances in the life sciences, coupled with technologies that allow the analysis and construction of complex biologically active molecules, would eventually make it possible to design a chemical that would interfere with *any* life process that could be understood in molecular terms. And thoughts could also turn to the idea of modifying the genes of factory or vector organisms so as to obtain such chemicals as gene products. Because of this convergence of chemistry and biology, we may eventually be able to manipulate at will the processes of development, inheritance, reproduction, locomotion, sensation, cognition and any other process that keeps us working as normal human beings. Some of the weapons providing such power could carry the identities of both CW (toxic) and BW (infective). For example, as just suggested otherwise harmless viruses might perhaps be modified so as to produce as gene products during the process of infection particular molecules that could initiate such interference. It is the potential for changing human beings and doing so in pursuit of who-knows-what strategy of aggression that makes CBW uniquely menacing: weapons, in the extreme, of dehumanization – a risk, therefore, to the whole human species; an existential risk.

It seems short-sighted, then, to assess the risks of CBW by reference to their capacities as WMD. Indeed, to think of CBW primarily as weapons of mass destruction may actually be to increase the risk they pose, for it offers legitimacy to those toxic or infective weapons that do not kill on a massive scale: those very biological/chemical weapons that may open the door to the dehumanizing possibilities that now press upon us.

More pernicious even than that: the WMD concept itself is being applied in such a way as to erode one of those central principles of international humanitarian law applicable in armed conflict: the principle of discrimination between combatant and noncombatant, and the consequent illegality of weapons or methods of warfare that are liable to have indiscriminate effects. The focus on the unacceptability of weapons of mass destruction belittles that ancient principle – it offers a sound-bite alternative that distracts attention away from the non-nuclear, non-CBW means and methods that can be just as indiscriminate in their effects but which have become an acceptable component of rich-country arsenals. In the public discourses that are now to be heard on the acceptability or otherwise of weapons, it seems almost as though the principle of discrimination has disappeared. Treating CBW primarily as weapons of mass destruction is to ratify that disappearance.

### Lost in the gulf

Other students of CBW history and of technological change may perhaps reach different conclusions about why the CBW Conventions are so necessary. What the foregoing conception does is to point towards molecular dangers from within broad families of toxic chemical that, for the most part, lie outside the CWC Schedules and therefore outside the only routine

international CBW control procedures that, thanks to the OPCW, we currently have. Most obviously these families comprise certain bioregulators and other bioactive chemicals of biological origin, as well as their synthetic analogues and also certain conceivable products of biotechnological processes. Yet in fact they are not beyond control. They are all caught by the 'general purpose criterion' of the CWC. And most if not all of them fall within the category corresponding to what the BWC means by 'toxins'.<sup>1</sup> In other words, these most dangerous of CBW are situated within the area where the CWC and the BWC overlap with one another.

Such overlap ought to mean, one might think, that the weapons are well controlled, being subject not just to one but to two international disarmament treaties. In the real world, however, that is not the way it is. That overlap seems simply to have given people involved in implementing one of the two treaties opportunity to relinquish, even deny, responsibility for anything also covered by the other treaty. The area of overlap thus risks becoming a gulf into which things disappear. It looks like this has been happening to toxins.<sup>2</sup>

Closer scrutiny points to that failure of overlap not being just a happenstance of history but a consequence of deliberate policy. Back in 1960, the Military Committee of NATO tasked what became known as the Von Kármán Committee to "develop an estimate of the possible and probable scientific progress to be expected in the next decade".<sup>3</sup> The task was subdivided among 14 working groups of scientific and operational experts that met in March 1961. One of the groups addressed Chemical, Biological and Radiological Defence. Asked to forecast scientific trends to the 1970-75 period and to predict their practical effect on CBR defence, this working group envisaged different categories of possible CBR attack against which defence was required, the forecasting exercise then proceeding through the following eight areas of defence requirement: (1) detection, (2) active neutralization of attack, (3) protective equipments and materials, (4) palliatives, (5) remedial measures, (6) surveillance, (7) large scale decontamination, and (8) means of agent identification. Each area was considered for each of the different categories of attack. What is instructive for the present paper is not the group's findings but its categorization of attack-modes. For the CW part of the study,<sup>4</sup> there were these three categories:

- *Type A*: "Direct attack on small areas (up to 1 Km<sup>2</sup>, say) with respiratory agents. Rapid coverage of the whole area with vapour or quickly-evolved aerosols would be aimed at, in order to achieve maximum surprise against the enemy in the area (surprise is not essential, however, if the enemy is not provided with respirators)."
- *Type B*: "Direct attack with agents acting through the skin (areas up to the order of 100 Km<sup>2</sup>)."
- *Type C*: "Off-target attack (areas up to the order of 100,000 Km<sup>2</sup>) with respiratory agents of high toxicity or effectiveness (at least an order higher than the present nerve agents). Surprise against an enemy possessing respirators would be achieved by this method, because the attack is not observed and the agent arrives on target in very small but effective concentrations, which are not detected by the senses nor, quickly enough, by artificial means."

Two questions now arise. Where did the categorization come from? And how sound were the categories as predictive aids, especially the astonishing Type C?

NATO was at that time an alliance possessing chemical

weapons: those of France and the United States (but not the UK, which had just got rid of its CW stockpiles and wasn't yet thinking about CW rearmament). It is not unlikely, therefore, that the categorization would have been rooted, if not in actual CW-use doctrine, then at least in an understanding of feasibility. As to the second question, can it be said today that the Type C attack-mode was a real option either in 1961 or during the prospective time period up to 1975? The answer, it seems, is probably yes.

For in 1968 chemical weapons comprising dry-agent spraytanks mounted on American *Phantom* strike aircraft and charged with Agent PG were tested over caged monkeys and other animals at sea off Eniwetok Atoll in the Marshall Islands; this was DTC Test 68-50, and the test data are said to indicate a 30 percent casualty rate over 2,400 Km<sup>2</sup> per weapon. If that report is to be believed, not very many sorties would be needed to bring the area of effectiveness up to the order of 100,000 square kilometres, and it is not inconceivable that, come 1975, there would have been more efficient means of agent-dissemination and even more powerful agents. Agent PG (previously known as UC) is staphylococcal enterotoxin B, an incapacitating agent whose inhalation ED50 in man has been estimated to be at least three orders of magnitude smaller than the corresponding LD50 of nerve-agents such as sarin or Agent VX. Other such superpotent substances falling within the scope of the CWC include botulin toxins such as the preparation known as Agent XR that was weaponized by the United States as part of its erstwhile chemical/biological-weapons programme, but there is no information in the open domain about their estimated efficacy in Type C attacks. Perhaps Agents PG and XR have by now been superseded as the best exemplars of the category, but, even if they have not, any continuing possibility of Type C weapons would seem to constitute a risk that is not being actively managed by the available tools, including those that have been furnished by the CWC.

A year ago, the US State Department published electronically a new volume in its historical series *Foreign Relations of the United States*. It presented a definitive record of US policies towards multilateral arms control during the first administration of President Richard Nixon. It placed in the public domain for the first time hitherto classified documents from the administration's review of CBW policies. One of these documents states that, at the beginning of 1970, the United States maintained production capacity for both PG and XR: 600 pounds per month for the former and 280 lb/mo for the latter.<sup>5</sup>

Those figures correspond to about 3.0 and 1.5 metric tons per year and are therefore greater than the one tonne/year threshold above which CWC states parties are required to declare any CW production facilities they had designed, constructed or used at any time since 1 January 1946. Yet the United States declared neither its PG plant nor its XR plant; nor, so far as is publicly known, was it called to account for failing to have done so.

Perhaps we should not be surprised, then, that neither agent appears on the Schedules of the CWC, meaning that no exemplar of Type C is subject to routine controls. But Type C is a horrendous category, and it is shocking that there should be quite such a gap in OPCW safeguards – the more so given what was supposedly happening during 1974-89 in Project Bonfire, which has been described as an attempt by the USSR to create novel toxin weapons involving human regulatory peptides.<sup>6</sup>

For Agent XR at least, something is known of how this happened. The United Kingdom had proposed during the CWC negotiation that botulin toxin should be included in the Schedules, but the United States had opposed this. One of the main arguments it used in private to explain its position was that inclusion might compromise the US position that the BWC was unverifiable. The endgame of the CWC negotiation coincided with preparations for the start of VEREX.

## Conclusion

Toxins broadly defined present a growing risk to the object and purpose of both the CWC and the BWC even though both treaties prohibit the weaponization of all toxins. This situation seems explicable in terms of reckless pursuit of national interest apparently by at least two states parties combined with heedless *laissez faire* by the other parties. The overlap between the two treaties that toxins occupy has thereby deteriorated into what is effectively a gap. The overlap should surely, as a matter of urgency, be rebuilt through improved implementation of both treaties.

With commercial interests growing in bioactive chemicals of biological origin, the rebuilding might best take the form of bringing legitimate activities involving such toxins more closely into the transparency-enhancing procedures of the two treaties. There have already been proposals on how such convergence could be achieved. For the BWC, one way forward might lie in developing the existing regime of Confidence Building Measures,<sup>7</sup> though this would presumably have to wait until after the 2011 Review Conference. For the CWC there are the possibilities presented by further development of the verification regime for Other Chemical Production Facilities,<sup>8</sup> though these would work only if the states parties that have done so no longer insist that “produced by synthesis” in the sense of CWC VA IX.1(a) and (b) excludes biotechnological processing.<sup>9</sup> There are surely other options as well.

## Notes

- The BWC meaning of ‘toxin’ is set out in an international text published by the World Health Organization: *Public health response to biological and chemical weapons: WHO guidance* (Geneva: WHO, 2004), pp 214-16. It extends to substances that are not called ‘toxins’ in other specialist communities.
- On which see: J P Perry Robinson, “The odd neglect of toxin weapons during the 2004 Meeting of Experts”, a paper presented at the 21<sup>st</sup> Workshop of the Pugwash Study Group on Implementation of the CBW Conventions, Geneva, 4-5 December 2004.
- This was the start of what NATO later called its Long Term Scientific Studies, the subsequent report from the Von Kármán Committee, in 1961, being described on the website of the NATO Research & Technology Organisation, <http://www.rto.nato.int>, as “the first multi-national attempt to estimate the impact of scientific and technological advances on military capability”.
- UK Ministry of Defence Advisory Council on Scientific Research and Technical Development, paper no SAC 1928, 11 February 1969, *Future developments in chemical warfare: Extract from the Report of the von Kármán Committee 1961*, in The National Archive, Kew, file WO 195/16864.
- See *US Policy on Toxins* dated 30 January 1970, which is document 177 in US Department of State, Office of the Historian, *Foreign Relations of the United States: Nixon-Ford Administrations*, volume E-2: *Documents on Arms Control and Nonproliferation, 1969-1972* (2007).
- Ken Alibek, with Stephen Handelman, *Biohazard*, London:

Hutchinson (1999), pp 154-55 & 163-64.

<sup>7</sup> J P Perry Robinson and A P Phillips, "Addressing the toxin problem", a submission to the 27<sup>th</sup> Workshop of the Pugwash Study Group on Implementation of the CBW Conventions, Geneva, 8-9 December 2007.

<sup>8</sup> A P Phillips and J P P Robinson, "The CWC and Chemicals of

Biological Origin", a submission to the OPCW Academic Forum, The Hague, 18-19 September 2007.

<sup>9</sup> J P Perry Robinson, "Toxic biotechnological-process products and chemicals of biological origin", a submission to the 28<sup>th</sup> Workshop of the Pugwash Study Group on Implementation of the CBW Conventions", Noordwijk, 5-6 April 2008.

## Ian Roy Kenyon, 1939-2008

Ian Kenyon, builder of the Organisation for the Prohibition of Chemical Weapons, the OPCW, died in a hospice near his home in Kent on 7 August 2008. He was 69.

Ian had been successively a chemical engineer, a diplomat, an international civil servant and finally an academic. He began nearly two decades of association with chemical industry when, in October 1957, he entered the University of Edinburgh as a student sponsored by Royal Dutch Shell. He graduated in 1962 with a first-class honours degree in Chemical Technology. He joined Lever Brothers UK at Port Sunlight later that year, moving to Birds Eye Foods in Great Yarmouth in 1968.

In his mid-thirties, in 1974, he entered the UK Diplomatic Service, having responded to a newspaper advertisement. He was section leader in the Rhodesia Department until 1976, when he was posted to Geneva as First Secretary in the UK disarmament delegation. That was when his involvement with chemical weapons began. As he put it in an article he wrote for the May 2006 issue of this *Bulletin*: "I decided to try my hand at treaty drafting on the basis of my three months experience in the business. ... Being young and enthusiastic I decided that my elders and betters had got it all wrong." His draft contained important innovations. It found favour with his masters and appeared as the UK draft Chemical Weapons Convention of August 1976. In characteristically modest fashion, that *Bulletin* article of his notes similarities between the UK draft and the final version of the Convention, as signed in 1993.

In 1978 Ian was posted to the British embassy in Bogotá, where he was Head of Chancery. His many anecdotes about that period of his life seemed to flow from a great fondness for Colombia developed then. He returned in 1981 to the Foreign and Commonwealth Office in London, where he worked in the Nuclear Energy Department until 1985, initially as Assistant Head and latterly as Head. During 1986-87 he was an inspector with the Diplomatic Service Overseas Inspectorate. He was posted back to Geneva during 1988-92 as Deputy Leader of the UK disarmament delegation.

Ian took leave from the UK Diplomatic Service in 1993 in order to serve as Executive Secretary of the Preparatory Commission for the OPCW and Chief Executive Officer of the OPCW Provisional Technical Secretariat, for which positions he had been the UK government's candidate. With a small and extraordinarily dedicated international team of helpers, mostly of his own choosing, he transformed a 50,000-word treaty rampant with 'constructive ambiguities' and unfinished negotiating business into a functioning and efficient organization of international civil servants tasked with implementing the treaty by the time 85 states had ratified their signatures thereby triggering entry of the treaty into force. This happened in April 1997. The Preparatory Commission had thus completed its business, and Ian retired.

In actual practice he launched himself into enthusiastic participation in parts of the university world where there was teaching and research on arms control, particularly as it affected nuclear, chemical and missile weapons. This work was in full spate at the time of his death and had yielded several important publications. In 1997 he became Visiting Senior Research Fellow of the Mountbatten Centre for International Studies in the Politics Department of the University of Southampton. Throughout an association that lasted for more than a decade, his Southampton colleagues prized Ian as a source of encouragement and wisdom and as a willing and inspirational lecturer. In 2003 he took on another visiting fellowship, this one at the University of Sussex, where, in SPRU—Science & Technology Policy Research, the UK end of the Harvard Sussex Program is based whose Advisory Board Ian had joined in 1997. The SPRU fellowship had as its primary purpose the production of a detailed history of the OPCW Preparatory Commission. The initial output was an edited volume that included several chapters by Ian himself, published in 2007 to mark the Tenth Anniversary of the OPCW.<sup>1</sup> During 2001-06 Ian served alongside other academics and chemical industry people as well as government officials on the UK CWC National Authority Advisory Committee.

In retirement Ian also continued the main leisure occupation of his years in Geneva and The Hague: carriage driving with the pair of horses he brought home from the Netherlands. He, and his wife, as groom, had competed enough abroad to qualify for national competitions on the UK circuit, so once he had got his HGV licence and bought a large truck, they were off to Brighton, Sandringham, Lowther in the lake District and other venues doing 3-day events, dressage, cross country and narrow-gate competitions. They were not very successful but got a lot of pleasure from the company and the challenge of competition. In between, the horses needed to be exercised and trained every day of the year. The rest of Ian's time was spent at West Kent College of Further Education where he rose to become Chair of the Governors and with his local Parish Council in Brasted, Kent, where he became Chair of the Council.

Ian lives on in the memory of HSP as a generous man, ready to share his experiences and insights, a wellspring of considered guidance and also humour, a masterly chairman of difficult meetings, a draftsman wonderfully economic and precise in his use of words, and, especially, as someone who was fun to be with. He is survived by his wife Griselda and their children Charlotte and David.

<sup>1</sup> Ian R Kenyon and Daniel Feakes (editors), *The Creation of the Organisation for the Prohibition of Chemical Weapons: A Case Study in the Birth of an Intergovernmental Organisation*, The Hague: T.M.C. Asser Press, 2007.

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## The Biological Weapons Convention Meeting of Experts, August 2008

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As reported in the *Bulletin* 74 (December 2006), the Sixth Review Conference of the Biological and Toxin Weapons Convention (BWC) held in Geneva from Monday 20 November to Friday 8 December 2006 agreed an Intersessional Programme for 2007-2010. This required two topics to be considered in 2008 when the mandate is for the one week Meeting of States Parties prepared for by a one week Meeting of Experts to discuss, and promote common understanding and effective action on:

- (iii) *National, regional and international measures to improve biosafety and biosecurity, including laboratory safety and security of pathogens and toxins.*
- (iv) *Oversight, education, awareness raising, and adoption and/or development of codes of conduct with the aim to prevent misuse in the context of advances in bio-science and bio-technology research with the potential of use for purposes prohibited by the Convention.*

It was also agreed at the Sixth Review Conference that the Meetings in 2008 should be chaired by the Eastern Group, and as reported in *Bulletin* 78 (December 2007) it was announced at the Meeting of States Parties in December 2007 that Ambassador Georgi Avramchev of the Former Yugoslav Republic of Macedonia would be the Chairman for the Meeting of Experts on 18 to 22 August 2008 and for the Meeting of States Parties on 1 to 5 December 2008.

### **Meeting of Experts, 18 to 22 August 2008: Opening Plenary Session**

The Meeting of Experts began on Monday 18 August 2008 with Ambassador Georgi Avramchev in the Chair in a plenary session when he welcomed all those present and especially the experts who had travelled from many countries around the world to participate, including the many representatives from the international scientific community, professional associations, and commercial industry. He went on to welcome the three States Parties who have joined this year: Zambia, Madagascar and the United Arab Emirates. The number of States Parties has thereby risen to 162.

The Chairman then turned to procedural matters. In regard to the adoption of the Agenda, he noted that BWC/MSP/2008/MX/1 (all official papers are available at <http://www.opbw.org> and at <http://www.unog.ch/bwc>) had been circulated in all languages. This was adopted. The programme of work (BWC/MSP/2008/MX/2) – which had been developed from the Chairman's letter of 29 July 2008, following consultations with the regional groups and individual delegations – had likewise been circulated. The Chairman said that

he had that morning received a request from a delegation to revise the wording of the programme of work slightly, to better reflect the fact that this is a meeting first and foremost of States Parties. He then read out the alterations which were to change the item scheduled at 15.00 on Tuesday 19 August from "*Presentations from scientific and professional organizations; discussion*" to read "*Expert contributions and discussion, including representatives from scientific and professional organisations*". Similar changes were made to the items for 16.30 on Tuesday 19 August, at 11.30 and 15.00 on Wednesday 20 August and at 10.00 on Thursday 21 August. The orally amended programme of work was adopted and was subsequently issued as BWC/MSP/2008/MX/2/Rev. 1.

The Chairman noted that the Implementation Support Unit (ISU) had prepared four background papers (BWC/MSP/2008/MX/INF.1, INF.2, INF.3 and INF.4), and he pointed out that the purpose of these papers is to provide background information on current circumstances relating to the topics being considered, so that the Meeting can concentrate its discussion not on what the situation is now, but rather on what States Parties might do in future. MX/INF.1 is a 17 page document entitled "*Biosafety and Biosecurity*" setting out previous agreements, understandings and proposals from past BWC meetings. Summary information on relevant activities undertaken by a number of international and regional organizations are included in Annex I, and additional technical information in Annex II. MX/INF.2 is a 6 page document entitled "*Developments in Codes of Conduct since 2005*" providing a survey of developments in codes relevant to the BWC since 2005. The document updates information contained in the background documents for the Meeting of Experts in 2005 which also addressed codes of conduct. MX/INF.3 is an 18 page document entitled "*Oversight of Science*" which introduces the concept of oversight of science. It outlines the need for oversight, the various problems and challenges, and several existing proposals for oversight frameworks, and examines the requirements for effective oversight. Further details on proposed oversight frameworks are in Annex I, and lists of criteria for identifying high-risk activities and resources requiring oversight are included in Annex II. MX/INF.4 is a six page document entitled "*Education, Outreach and Raising Awareness*" which surveys activities relating to education, outreach and raising awareness of the Convention and of biological weapons in general. It examines previous agreements and undertakings by the BWC States Parties on these topics as well as comparable activities carried out by the Organisation for the Prohibition of Chemical Weapons and the International Atomic Energy Agency in the chemical and nuclear fields respectively.

The Chairman also noted that Working Papers submitted would be reproduced in the language of submission only and would be made available on the website [www.unog.ch/bwc](http://www.unog.ch/bwc)

as soon as possible. He then moved on to consider the Rules of Procedure noting that at the 2007 annual meetings, the Rules of Procedure of the Sixth Review Conference had been applied *mutatis mutandis*. He proposed that the present meetings should also operate under the Rules of Procedure of the Sixth Review Conference applied *mutatis mutandis*. However, he pointed out that formal accreditation would not be required for the annual meetings; registration would be sufficient. These Rules of Procedure were agreed.

It was agreed that the following four Signatory States should participate in the Meeting of Experts: Egypt, Myanmar, Nepal, and the Syrian Arab Republic. In addition, it was agreed that three States neither Party nor Signatory should participate as observers: Cameroon, Israel and Mauretania. Seven international organizations also participated as observers: The European Commission, the International Centre for Genetic Engineering and Biotechnology (ICGEB), the International Committee of the Red Cross (ICRC), the Organization for Economic Cooperation and Development (OECD), the United Nations Educational, Scientific and Cultural Organization (UNESCO), the World Health Organization (WHO), and the World Organisation for Animal Health (OIE).

In addition, at the invitation of the Chairman, in recognition of the special nature of the topics under consideration at this Meeting and without creating a precedent, 13 scientific, professional, academic and industry bodies participated as guests of the Meeting of Experts: American Biosafety Association, Asia-Pacific Biosafety Association, Astra Zeneca Plc, European Biosafety Association (EBSA), Glaxo Smith Kline, Interacademy Panel on International Issues, International Biosafety Working Group, International Network of Engineers and Scientists For Global Responsibility (INES), International Union of Biochemistry and Molecular Biology (IUBMB), International Union of Pure and Applied Chemistry (IUPAC), J. Craig Venter Institute, National Academy of Sciences (United States), and The International Council for The Life Sciences. This was a similar arrangement to that which had applied at the Meeting of Experts in 2005 when the topic being considered was codes of conduct.

It was also agreed that, as at previous meetings, this meeting would be suspended on Monday 18 August at 17.00 and resume in informal session with the Chairman remaining in the Chair to hear statements from a number of NGOs. The Chairman then concluded the procedural matters by asking any State Party that wished to make a presentation during the Meeting of Experts to contact the ISU to advise when they would wish to make such a presentation. Because of time constraints, the Chairman asked that such presentations be limited to 10 to 15 minutes so as to allow some time for discussion.

The Chairman also said that there would be three panel discussions: the first, on industry perspectives on biosafety and biosecurity, to be held on Tuesday afternoon; the second, on risk management, to be held on Wednesday morning; and the third, on education, awareness-raising and codes of conduct, to be held on Thursday morning. He said that these discussion panels are modelled on those introduced at the Meeting of States Parties in 2007. The feedback on those panels had been very positive. Many delegations thought that similar discussion panels would be a useful addition to the Meeting of Experts, as a panel is an efficient way of illustrating

the various aspects and facets of issues that have both technical and policy dimensions.

Ninety-six States Parties to the Convention participated in the Meeting of Experts as follows: Albania, Algeria, Argentina, Armenia, Australia, Austria, Azerbaijan, Bahrain, Bangladesh, Belgium, Benin, Botswana, Brazil, Brunei Darussalam, Bulgaria, Canada, China, Chile, Colombia, Costa Rica, Croatia, Cuba, Cyprus, Czech Republic, Denmark, Ecuador, Finland, France, Georgia, Germany, Ghana, Greece, Guatemala, Holy See, Honduras, Hungary, India, Indonesia, Iran (Islamic Republic of), Iraq, Ireland, Italy, Japan, Jordan, Kazakhstan, Kenya, Kuwait, Kyrgyzstan, Lao People's Democratic Republic, Libyan Arab Jamahiriya, Lithuania, Malaysia, Malta, Mexico, Moldova, Morocco, Netherlands, New Zealand, Nigeria, Norway, Oman, Pakistan, Peru, Philippines, Poland, Portugal, Qatar, Republic of Korea, Romania, Russian Federation, Saudi Arabia, Senegal, Serbia, Singapore, Slovakia, Slovenia, South Africa, Spain, Sri Lanka, Sudan, Swaziland, Sweden, Switzerland, Tajikistan, Thailand, The former Yugoslav Republic of Macedonia, Tunisia, Turkey, Ukraine, United Kingdom of Great Britain and Northern Ireland, United States of America, Uruguay, Venezuela (Bolivarian Republic of), Viet Nam, Yemen and Zambia. This was three States Parties more than the number that had participated in the Meeting of Experts in August 2007: Botswana, Brunei Darussalam, Costa Rica, Honduras, Kyrgyzstan, Lao People's Democratic Republic, Malta, Moldova, Oman, Senegal, Slovenia, Sri Lanka, Swaziland and Tajikistan participated in MX 2008 whilst Barbados, Belarus, Bhutan, Bolivia, Bosnia and Herzegovina, Cambodia, Congo, Estonia, Latvia, Lebanon, and Rwanda, who had participated in MX 2007, did not in MX 2008.

There were just over 500 participants at the Meeting of Experts, of whom over 420 came from States Parties, including over 220 participants from capitals. This compared very well with the participation at the Meeting of Experts in 2007 when there were over 410 participants, of whom 365 came from States Parties, including over 160 participants from capitals.

**The Chairman** then made his introductory remarks observing that the two topics being considered have been at least partially covered before, so this Meeting was a good opportunity for review, consolidation and reinvigoration. He went on to say that the aim is *to share information and expertise, to exchange experiences, to discuss options and possibilities, and generally to encourage and promote effective action to strengthen the operation of the Convention in the areas covered by our two topics. We should always keep in mind that we are looking to improve our individual and collective capacity to reduce the risk of biological weapons being developed or used.* He went on to say that *Our two topics are of global relevance, and involve a wide range of actors across many segments of national and international society.* He added that he expected two main types of presentations to this meeting: the first being updates from States Parties on their own national efforts and regional activities, and the second type of presentation being described as thematic, dealing with particular aspects of our topics. He said that *It is these presentations that I expect will provide most of the material for our outcome document, although the national updates may also contain*

*lessons and experiences we could usefully record. He concluded by saying that, as in previous meetings of experts, the various ideas and proposals made in the course of the meeting would be compiled into a list which would be annexed to the factual report – noting that it is not agreed – in order to provide a handy reference for preparations for the Meeting of States Parties in December. Finally he said he was looking forward to a productive and stimulating discussion. I encourage all delegations to contribute freely to the debate, and I hope we will see a continuation of the very constructive and creative spirit States Parties displayed at the Sixth Review Conference and at our meetings last year.*

**France** then spoke on behalf of the **European Union and of the Candidate and other countries**, amounting to some 40 countries in all. It was noted that *The potential for abuse of technological developments in the field of life sciences, as well as the risk of developmental use of a biological weapon by a State or a terrorist organization are major challenges for the international community and require both ongoing adaptation of tools and a strengthening of the sharing of experience among States Parties.* The statement went on to say that *The intersessional programme decided at the last Review Conference of the Biological Weapons Convention represents a clear sign of the international community's will to strengthen the implementation and use by those called upon to apply these provisions of the Biological Weapons Convention.* The European strategy to combat the proliferation of weapons of mass destruction was outlined and it was noted that *the strengthening of the Biological Weapons Convention is a priority for the European Union and it is acting in a number of ways. Seeking in particular to adapt its responses to new challenges and developments in science and technology and to strengthen the effectiveness of the Convention, the European Union is cooperating with all concerned stakeholders and all States Parties, not only through standards but it is also promoting practical cooperation.* In regard to this Meeting, it was noted that *The themes to be discussed during our work this year are part of the questions which must be considered at regular intervals in order to maintain the level of awareness and vigilance that are essential to upholding the goals of the Convention.*

**Cuba** then spoke on behalf of the **NAM and Other States** by recalling the XV Ministerial Conference of the Non Aligned Movement, held in Tehran, from 27 to 30 July 2008, at which the Ministers of the States Parties to the Biological and Toxin Weapons Convention (BWC):

- *Reaffirmed that the possibility of any use of bacteriological (biological) agents and toxins as weapons should be completely excluded, and the conviction that such use would be repugnant to the conscience of humankind.*
- *Recognised also the particular importance of strengthening the Convention through multilateral negotiations for a legally binding Protocol and universal adherence to the Convention. They reiterated their call to promote international cooperation for*

*peaceful purposes, including scientific-technical exchange.*

- *Underlined further the importance to maintain close coordination among the NAM States Parties to the Convention and highlighted that the Convention on Biological and Toxin Weapons forms a whole and that, although it is possible to consider certain aspects separately, it is critical to deal with all of the issues interrelated to this Convention in a balanced and comprehensive manner.*

The statement went on to note that *While acknowledging the significance of Article X of the Convention, the Group also underlines the importance of paragraph 54 of the Final Document of the Sixth Review Conference of the States Parties of the BWC, in which they were encouraged to provide information on how Article X is been implemented.* In regard to the topics for this year's meetings, the statement made a number of points which included the following:

- *We strongly believe that the relevant national authorities should have the responsibility in defining and implementing such concept [biosafety and biosecurity], in accordance with relevant national laws, regulation and policies, consistent with the provisions of the Convention.*
- *While some International Organizations, for instance the World Health Organization (WHO), deal with biosafety and biosecurity issues, the adoption of decisions and recommendations on this matter within the framework of the BWC belongs exclusively to the States Parties of the Convention.*
- *Achieving necessary standards in the fields of biosafety and biosecurity requires and is facilitated by international cooperation and strengthening the implementation of Article X of the Convention.*
- *The Group would like to emphasize that Codes of Conduct by themselves are not sufficient for preventing the potential use and/or threats of use of biological agents and toxins as an instrument of war and terror. The development and adoption of such Codes would be effective and useful, when complemented with the involvement and assistance of the national scientific community. However, it remains the prerogative of the States Parties to decide on the content, promulgation and adoption of the code in accordance with relevant national laws, regulations and policies, consistent with the provisions of the Convention.*
- *Codes of Conduct should avoid any restrictions on exchange of scientific discoveries in the field of biology for prevention of disease and other peaceful purposes. Subjecting scientific research and the free flow of scientific information to undue restrictions may amount to violation of obligations undertaken under Article X of the BWC. Therefore, all necessary precautionary measures need to be taken to avoid hampering the economic or technological development of States Parties to the Convention or international cooperation in the field of peaceful bacteriological (biological) activities, while devising national codes of conduct.*

The statement concluded by looking forward to productive discussions next year on Article X, to which the Group attaches the highest priority.

**Pakistan** then spoke, saying that *the BWC regime is on track. It is moving forward with a measured, confident pace. The yearly meetings of experts and states parties are not formal PrepComs for the 2011 Review Conference; yet in their informal setting they create an enabling environment for exchange of views and information, networking, and preparation for the Review Conference. The smooth rhythm of these meetings is a unique strength of the BWC.* It noted that *The two themes for this year - biosafety and biosecurity and oversight, education, awareness raising and codes of conduct - are pertinent and pressing. They are also closely linked.* The statement then went on to outline the steps that had been taken by Pakistan in regard to the two topics for this year's meeting.

**Japan** then spoke, saying that *it considered both of this year's topics are critical for the full implementation of the BWC, particularly for preventing the development, acquisition and use of biological weapons. Since the States Parties have more or less discussed both topics in the past meetings, Japan thinks that it is important for this Meeting of Experts to conduct discussions, build upon past outcomes and make progress on these topics.* The statement went on to say that Japan had submitted a working paper on the first topic (WP.22) as well as being associated with the working paper submitted by Canada in consultation with JACKSNNZ (WP.17), and that Japan in consultation with JACKSNNZ had submitted a working paper on the second topic (WP.21). The statement concluded by saying that *Japan believes the involvement of all stakeholders, including the relevant international organizations, NGOs, the scientific community, industry and academia is vital. With their presence today, Japan is confident that this meeting will produce input of great worth for the meeting of States Parties in December through the active discussions among experts.*

**Saudi Arabia** then spoke, outlining steps that had been taken by Saudi Arabia to implement the Convention at the national level and going on to say that Saudi Arabia calls upon all countries that have not joined the Convention yet to do so as early as possible.

The **United States of America** then spoke, saying that the agenda for this Meeting of Experts covers two important sets of issues, and noting that *implementation of appropriate measures, mechanisms, and procedures in these areas will have, and indeed in some cases already have had, the important effect of contributing to the prevention of either accidental or deliberate misuse of biology and also of ensuring that the important advances in the bio-sciences are not used for prohibited and nefarious purposes.* The statement went on to make a comment on the structure of the BWC intersessional meetings, and on the 2008 meetings in particular:

*First, we find valuable for the specific issues under our purview, the mix of more formal expert exchanges*

*among States Parties, and intergovernmental organizations, with the more informal opportunities to exchange information and views with interested individuals and organizations provided via the early morning and lunchtime presentations. As such, my delegation looks forward to an informative and lively exchange on the issues before us, between and amongst delegation experts, as well as with other experts in the field from Observer States, International Intergovernmental Organizations, Non-Governmental Organizations, Academic Institutions, and other Guests of the Meeting, either in the meeting room itself, or in the times set aside outside the meeting room proper for such interaction. Our experiences to date have demonstrated the value of a community effort, including as many stakeholders as possible, in moving the issues forward. For our part, we plan to contribute at all levels. Second, we welcome the creative use of poster sessions. Well known in the scientific and academic arenas, these sessions should provide additional opportunities to share information on a variety of related topics, and build on the primary contributions during the Experts meetings themselves. The United States intends to take advantage of this innovative approach ourselves, by providing poster sessions on each of the two agenda items before us.*

The statement concluded by noting that *it is our hope that the fruit of this week's discussions will add further impetus to steps States Parties are taking to enhance biosafety and biosecurity processes in their own countries. We've come a long way, but there's still work to be done, to cover gaps, and to keep up with the ever-evolving and exciting challenges that advances in the biosciences are posing. Education, awareness raising, oversight, encouraging ethical and responsible behavior among those in the field is also an important component in ensuring that the benefits of these advances are put to good use, not malicious use.*

The **Russian Federation** then spoke, noting that *the BWC is one of the cornerstones of disarmament and non-proliferation of the weapons of mass destruction. Its significance is rising in the light of the rapid growth of life sciences whose discoveries may have dual use nature and the danger of use of weaponised new and genetically modified biological agents and toxins for hostile purposes. Russia fully complies with its obligations under the Convention.* The statement went on to consider codes of conduct, saying that *when we examine the matter of the codes of conduct the most important challenge that we are to address is dual use. The professed purpose of such codes is to guide the scientific research in such a way that its peaceful results may not be used for malevolent purposes against the will and intention of scientists. It is believed that the codes must include inter alia such elements as the criterion to define dual use research, a list of fields of science that pose the greatest risk in terms of yielding sensitive discoveries, and - the most difficult one - a framework to monitor and administer dual use research.* It was then noted that *codes of conduct are not suited to preventing intentional violations of the prohibitions set forth by the Convention in the shape of state run offensive*

*biological programmes. It is our firm belief that this presents the greatest danger for the Convention's regime. The only way to minimise it is to return to the multilateral negotiations leading to the adoption of a legally binding instrument of verification. That is why Russia continues to advocate the early resumption of the work of the Ad Hoc Group in line with its existing mandate. Secondly, almost all research projects conducted as part of state sponsored biodefence programmes are dual use. Their implementation is justified by national security considerations and the determination to repulse the threat posed by the hostile use of pathogens and toxins. However, bearing in mind that biodefence scientists are aware of the context and nature of their research and they better than anyone else recognise their responsibility, the adoption of codes of conduct in this setting seems to be unnecessary and superfluous. Thirdly, the codes may not serve as a means of constraining the freedom of peaceful scientific pursuits. In this light, scientists and dual use research oversight bodies face a complex challenge of balancing the likely profit from useful scientific discoveries against potential risks related to them. There is no single recipe that would be suitable for any situation, and decision to go ahead will be taken in each specific case after examining all appropriate aspects of the project and the needs and interests of this or that country.*

**China** then spoke, noting that the Beijing Olympic Games is under way and that China was confident that the Chairman's rich experience and diplomatic skill would make the arena of biological arms control as brilliant as the Olympic Games. The statement went on to say that *the past few years have witnessed the fast development of biological technologies and information techniques. The risks of acquisition of the dangerous biological agents by terrorists and non-state actors is increasing. ... The dimension of the implementation measures of the Convention has been constantly expanded, which not only cover the traditional security issues such as prohibition of biological weapons and prevention of proliferation of such weapons, but also the non-traditional issues including bio-terrorism, biosafety and biosecurity, prevalence of epidemics. Such changes bring about a higher standard for States Parties on the full implementation of the Convention.* The statement continued to say that *strengthening biosafety and biosecurity and improving oversight of the life sciences have been important aspects in the implementation of the Convention and have crucial and practical significance on the prevention of acquiring biological weapons related materials and technologies by terrorists and non-state actors and preventing the life sciences from being used for malign purposes.*

The **Republic of Korea** then spoke, welcoming the progress made by the Sixth Review Conference and at the intersessional meetings in 2007, and went on to say that at the second intersessional meetings in 2008 *we should exert the utmost efforts to carry forward the momentum created last year. It is the sincere hope of my delegation that the planned intersessional work program will eventually*

*make significant contribution to the success of the 7th Review Conference in 2011.* The statement then outlined the actions being undertaken by the Republic of Korea on the two topics being considered in 2008.

**Indonesia** then spoke, noting that there has been *an astonishing development in the fields of research and technology in biological science, including inter alia, the efforts to find a cure for infectious diseases as well as to improve human health. ... At the same time, we also realize that there are some risks associated with research in this field. The intentional and unintentional release of dangerous biological materials and toxins present great challenges, not only to the scientists and practitioners who deal with these materials on a daily basis, but also to society and the environment as a whole.* The statement went on to note the importance in this respect of Article II by saying that *Article II of the Convention requires States parties to observe all necessary safety precautions to protect populations and the environment in all activities not prohibited by the Convention* and in regard to Article IV by saying that *the States parties should take any necessary measures as stipulated in Article IV to prevent and prohibit any activities contrary to the Convention.* The statement then stressed the unique and important role that those engaged in the life sciences have to play in ensuring that their work will benefit society as a whole whilst ensuring that their work is not used for activities to the Convention.

**Nigeria** then spoke, noting that *the dual-use potential of bio-technology will always remain a minefield, requiring a careful balancing act, so as not to deprive states of the benefits of bio-technology. In this regard, my delegation will continue to support all honest and transparent measures which could help improve bio-safety and bio-security, including laboratory safety and security of pathogens and toxins.* The statement went on to express appreciation to the European Union for its continuing efforts to promote the universalization of the BWC in Africa, including the very important area of capacity-building. *Thanks to the EU, Nigeria successfully organised a workshop in Abuja early this year on the drafting of legislation for the domestication of the BWC. The draft legislation, which is currently being fine-tuned by government, would soon be presented to Parliament for consideration.* The statement went on to say that, in relation to education and public awareness, assistance was being sought from the EU to hold a workshop in Nigeria for the sensitization of high-ranking public officials on the BWC.

**Libya** then spoke, setting out the activities that had been undertaken in Libya at the national level in the field of biotechnology, bioethics, biosafety and biosecurity during the intersessional period. In particular several draft pieces of legislation were mentioned.

**Iran** then spoke, associating Iran with the statement of Cuba on behalf of the NAM and stressing the importance of the BWC in combating the threat of biological weapons and the need to strengthen the Convention through the resumption of the negotiation of a legally binding mechanism. The statement

went on to welcome the three new accessions to the Convention and to note that *there are still a number of states which have neither signed nor ratified the Convention. In this regard it should be underlined that among Non-Parties, those with advanced biotechnology which are situated in volatile regions pose a serious threat to the international and regional peace and security. We call upon them to accede to the Convention without delay.* In regard to the first topic to be considered on biosafety and biosecurity, the statement said that *it goes without saying that biosecurity and biosafety should not serve as a pretext to hamper peaceful cooperation enshrined in Article X of the Convention and thus leading to an unbalanced implementation of the provisions of the Convention or to unduly tightening national export controls. In fact, implementation of Article X can contribute, inter alia, to realization of necessary standards for biosafety and biosecurity in each State Party.* The statement went on to say that *biosafety and biosecurity procedures and practices vary enormously from country to country according to level of technological development and access to materials and technology ... Therefore "one size fits all" approach should be avoided in dealing with the issue.* On the second topic, the statement said that *we would like to underline that raising scientific community's awareness in either state or private sectors with respect to the objectives enshrined in the BWC could be an important and effective element in promoting the national implementation of the Convention.* It went on to say that *there is a general need to raise awareness and increase education among the scientific community and the public at large on the prohibitions and requirements of the Convention.* In regard to codes of conduct, the statement said that *given the fact that any code as devised by the States parties shall ultimately be applied to their Subjects, it remains the prerogative of States parties to decide on the content, development and/or and adoption of codes. However, the development and adoption of such codes of conduct could be effective and useful, when complemented with the involvement and assistance of national scientific community.*

The Chairman then closed the morning session noting that the afternoon session would resume at 3pm.

Although, as usual, there were group statements by the EU and the NAM, there was no statement on behalf of a group of Latin American States, and it was noted that although Japan and the Republic of Korea made statements in the opening morning session, neither of these spoke on behalf of the JACKSNNZ group (Japan, Australia, Canada, Republic of Korea, Switzerland, Norway and New Zealand) although Japan pointed out that two of Working Papers submitted to the Meeting of Experts had been coordinated within the JACKSNNZ group.

### **Monday 18 August, Afternoon Session**

The afternoon session began with a statement by **Peru** noting that *currently our political experts and authorities are working intensively on a draft law to implement the Convention. We have been able to benefit from the active*

*participation of technical and legal experts from the European Union's Council who paid two visits to Peru in August 2007 and, more recently, in April this year. ... My Government hopes that shortly this [draft bill] will go before the national parliament for consideration and this will be done before the end of the year.* The statement went on to say that *while primordial responsibility for complying with and ensuring that there is compliance with the provisions of the Convention and that this is incumbent upon States, our national societies and non-governmental organizations as well as the scientific circles are called upon to play a substantive role in the fullest possible implementation and universalization of this international instrument. Their actions in favour of dissemination, education and information, as also to no lesser extent the mobilization of the will of our respective Governments, as also areas such as prevention and monitoring in connection with the precepts of this Convention, should be highlighted and supported. Peru firmly believes that these activities on the part of civil society will help us come up with substance and grant legitimacy in the broader sense of the word to the action taken by States.*

**Colombia** then spoke, reiterating *its full commitment towards disarmament, non-proliferation and the prohibition of the development, production, stockpiling of bacteriological (biological) and toxin weapons and their destruction, as also confirming its readiness to participate in multilateral initiatives intended to ensure the elimination of these weapons of mass destruction.* The statement then outlined the actions being taken in Colombia to implement the Convention, and went on to say that *we are in the process of creating and adopting protocols or codes of conduct at the national level as also verification systems and/or inspection systems for the production of toxins, microbials and biological agents in order to give full implementation to the Convention. As to codes of conduct, we must ensure that these mechanisms do not restrict access to information and technology on the part of the scientific and academic community. For this purpose, for Colombia it is of great importance to promote and facilitate economic and technological development in the field of bioscience and biotechnology in States Parties. In this aspect, international cooperation for the peaceful use of biological activities is of fundamental importance, not just for the exchange of experiences but also in facilitating human, technical and financial resources.* The statement went on to say that *in developing national strategies or programmes for campaigns to educate the public, adopt or develop codes of conduct, it is important to be able to count on the participation of civil society, particularly in the academic and scientific sector in connection with the implementation of the Convention and the peaceful use of biological substances.*

**Norway** then spoke about a Norway/Indonesia seminar on biosafety and biosecurity held in Djakarta on 4/5 June 2008, that is the subject of a jointly submitted Working Paper (WP.20). The statement noted that *this seminar was truly an expression of partnerships, among state parties, with the ISU and with research institutions and enterprises. ...*

*Indeed, we need to forge new and enhance existing partnerships among relevant stakeholders, nationally, regionally and globally. The statement went on to say that we fully recognize the importance of adequate national measures and standards. We should recognise the crucial responsibility of all those working at or with laboratories to be engaged in safety and security. Awareness raising is indispensable for promoting security and safety. In this regard codes of conduct will clearly be of great importance. Such codes must be adapted to the different sectors and institutions. There is no one size fits all, but they should all sustain the norm set by the BTWC.*

**India** then spoke, saying in regard to the intersessional meetings that while these deliberations are useful, only a multilaterally agreed mechanism for verification of compliance can provide the assurance of observance of the legal obligations by the States Parties and can act as deterrence against non-compliance. We also believe that decisions regarding the strengthening of the Biological Weapons Convention should be taken by the Review Conferences based on the principle of consensus. The statement went on to say that Recent advances in biotechnology, genetic engineering and life sciences, and their dual use nature pose particular dangers of proliferation and the hostile use of biological agents. The possibility that non-state actors, including terrorists, could acquire and resort to the use of biological warfare agents and toxins has added a new dimension to this danger. India therefore, supports international cooperation efforts to address these challenges. We have undertaken initiatives at the United Nations General Assembly, including sponsoring a resolution on 'Measures to prevent terrorists from Acquiring Weapons of Mass Destruction.' The statement then went on to outline legislation adopted by India and to consider the topic of biosafety and biosecurity. In regard to codes of conduct, the statement said that We also believe that while evolving Codes of Conduct cannot be a substitute for legally binding measures to ensure the strict implementation and compliance with the provisions of the Convention, an exchange of views to draw up best practices so as to increase awareness, especially with regard to the multi-faceted nature of dual use of material and technologies can be of benefit to all. Our discussions should be aimed at helping States Parties improve their national standards in the fields of bio-safety and bio-security and should be implemented on a national and voluntary basis. We believe that achieving such standards can be facilitated by international cooperation and strengthening the implementation of Article X of the Convention, to which India attaches the highest priority.

**Germany** then spoke, saying that prohibitions and preventive measures are the two cornerstones of the Convention to create and maintain a world free of biological weapons. The Convention is not a treaty that limits the use of biological agents and toxins for prophylactic, protective or other peaceful purposes; it does not restrict research, development or economic use of such materials as long as activities are justified by these purposes. However, based on the inherent risks of

*human, animal and plant pathogens and toxins States have developed and implemented ample legislation preventing accidental exposure to and release of dangerous biological materials and protecting their population and the environment. The measures developed to protect workforce, the population as a whole, animals, crops, the food and feed chains include restriction of access to dangerous biological materials to people with a need to work with such materials. These measures are equally applicable to prevent biological agents and toxins falling in the hands of people who may use them for weapons purposes. We know these measures already for a long time as biosafety measures. New threats and challenges are the reason for improving the protection of highly dangerous biological materials against theft and diversion by biosecurity measures complementing the biosafety efforts. The statement went on to say that on behalf of the EU, Germany had prepared two stocktaking papers: one on relevant EU legislation (WP.16) and the other on the implementation status of biosafety and biosecurity measures in EU member states (WP. 13). In addition, Germany had prepared working papers on registration and licensing of facilities and persons handling biological materials (WP.14), on security vetting of personnel handling dangerous biological materials (WP.15) and the German Research Foundation code of conduct (WP.12).*

**Morocco** then spoke, saying that *The Convention on Biological Weapons is one of the three pillars of non-proliferation of weapons of mass destruction and must be paid particular attention to because of the rapid development of life sciences and the increasing uses of threats of dual usage and in this connection my delegation is pleased [by] the two topics selected this week, reviewing national, regional and international measures designed to ensure biological safety and security, including work safety in laboratories and of pathogens and toxins and monitoring and education, awareness-raising, as well as the adoption or elaboration of codes of conduct in order to prevent the abuse of progress in biological sciences and technologies which could be abused to ends not compatible with the Convention.* The statement then went on to outline steps that had been taken by Morocco in regard to the two topics being considered by the Meeting of Experts.

This completed the introductory statements by the States Parties. The Chairman then invited the World Organisation for Animal Health (OIE) to make its presentation.

Dr. Gideon Brucker, the Deputy Director-General of the **World Organisation for Animal Health** (OIE), then spoke, saying that he was also speaking on behalf of the Food and Agriculture Organisation (FAO) who was unable to be present. He said that OIE together with FAO and WHO had said that *the most effective way of preventing bioterrorism using animal pathogens, is to strengthen the ability and capacity of the national Veterinary Services of countries to early detect, diagnose and respond to incidental or deliberate disease incursions within the guidelines, recommendations and international standards of the OIE that are mandated by the World Trade Organisation (WTO).* He went on to

say that the OIE fully realizes and acknowledge the fact that 60% of human pathogens are zoonotic; that 80% of animal pathogens are multi-host; that 80% of pathogenic agents having a potential bioterrorist use are zoonotic and that animal diseases can today with the effects of globalization and the speed of international traffic, spread faster across the globe than the average incubation period of most diseases. The OIE therefore also accepts the obligation and responsibility of the veterinary profession to create an effective buffer between the animal source of the disease and the need for human and animal safety and health. The prevention of zoonoses, ensuring food security and ensuring that the veterinary services of countries are equipped and capable to face, manage and minimize the threats and possible disastrous effects of incidental or deliberate animal disease incursions - are non-negotiable commitments of the World Organisation for Animal Health. He then made a presentation setting out the actions being taken by the OIE to counteract bioterrorism and concluded by saying that *the OIE shares with all its Member Countries the common concern about the potential devastating effects inherent to any act of deliberate misuse or spread of biological pathogens that can affect human and animal health and food and animal production. The OIE is committed to take hands with its colleagues in the FAO and WHO to enhance the aims and objects of the Biological and Toxins Weapon Convention by assisting countries to acquire the ability and expertise to apply the international standards, guidelines and recommendations of the OIE to cope with not only such unfortunate emergencies but also with any major animal and zoonotic disease that might affect animal or human health.*

The meeting was then suspended and resumed with the Chairman remaining in the chair to hear statements from eleven NGOs who spoke effectively in alphabetical order:

- a. **The BioWeapons Prevention Project (BWPP).** Kathryn McLaughlin spoke, saying that the BWPP looked forward to seeing the States Parties take effective action by identifying common standards and practices that can be applied by each State Party in the oversight of activities that might present or be perceived to present a risk to the Convention. Risk management techniques are an important tool in mitigating and controlling the risks from dual-use science and the BWPP urged States Parties to consider how these tools and techniques can be integrated and adopted at both domestic and international levels.
- b. **The Center for Arms Control and Non-Proliferation/Scientists Working Group on Biological and Chemical Weapons.** Alan Pearson spoke, saying that oversight can serve many functions, from ensuring that individuals engaged in life sciences activities adhere to national laws and guidelines and international norms, to minimizing the potential for dual-use activities to contribute to the use of biology for hostile purposes, to providing increased awareness of and insight into relevant scientific and technological advances. Oversight is also critical for ensuring that national biodefence research and development programs, whether conducted by military or civilian agencies, remain compliant with the BTWC. Recent years have seen significant growth in the biodefence efforts of many states. These include activities aimed at gaining or maintaining cutting-edge bioweapons-relevant knowledge and capabilities.
- c. **Center for International and Security Studies at Maryland.** Elisa Harris spoke about a multi-year project into the potential risks posed by advances in the biosciences and the adequacy of existing biosafety and biosecurity measures for reducing those risks. She said that awareness is growing within both the scientific and policy communities that legitimate science *can* create new dangers – if a cutting-edge experiment has unanticipated results or if findings from work done for benign purposes are misused by someone else. It is also clear that current biosafety and biosecurity measures, which vary greatly within and across countries, do not address this problem, as they are focused largely on preventing exposure to dangerous pathogens or controlling access to them. She concluded by identifying six features that should be included in an oversight system to make it effective.
- d. **The Institute for Security Studies (South Africa).** Noel Stott spoke, pointing out that nine of the twenty states that have not yet signed the BWC and eight of the thirteen who have signed but not yet ratified the BWC are African. This is because the convention is not seen as a priority item whereas disease outbreaks are a primary concern. There is an urgent need to develop and strengthen the capacity, both human and infrastructural, for life sciences research and diagnosis across the continent and to improve the safety practices at laboratories through the formulation of policy and legislation. African governments and scientific associations need to become more involved in national, regional and international discussions and deliberations about biosecurity, and to start developing and implementing policies that promote safe, responsible science.
- e. **Landau Network - Centro Volta and Bradford University.** James Revill spoke about a joint project intended to assess the extent to which biosecurity education and awareness raising is included in life science curricula in European Universities. To achieve this, a representative sample consisting of nearly 60 universities from 29 countries across Europe was identified. In an assessment of over 150 courses, the online syllabi were examined for material dealing with, *inter alia*, biosecurity, dual-use and/or arms control. The results show that bioethics and biosafety components are present in many of the courses identified. However, existing references to biosecurity are limited, and references to dual use issues, the BTWC, or indeed codes of conduct, are minimal. The aim over time is to construct biosecurity and dual-use education modules, supported by the professions to whom they apply.
- f. **The London School of Economics.** Filippa Lentzos spoke, saying we must ask the question why is education required? It is time we moved beyond a simple acknowledgement that ‘education is good’ and consider what education would entail in practice. Other questions are what is it that we want to educate people about? Who are we

trying to educate? And how are we to educate? She went on to say that a real commitment to education requires leadership from States Parties to develop and to sustain national educational activities. Through this year's meetings, States can provide an important signal to those associated with the life sciences regarding the need to maintain and reinforce the prohibition against the deliberate spread of disease. To build a reinforcing synergy between the disparate and fragile educational activities currently underway, States Parties need to actively promote and fund collaborations between countries, institutions and individuals so that their experiences, achievements, problems and concerns can be shared. States Parties, more than most people, are well placed to show national leadership on educational activities, as well as to take co-ordination of national efforts forward on a multilateral level. She urged that it is critically important that the States Parties use this year's opportunity to foster concrete and effective action on education to further the aims of the BWC.

g. **National Defence Medical College of Japan and Bradford University.** Malcolm Dando said that Bradford Briefing Paper No. 16 and Bradford Review Conference Paper No. 18 had shown that there is a very low level awareness of the BWC and its obligations amongst many life scientists around the world. He considered that the need for widespread development of new educational modules to make life scientists in high schools, universities and industry aware of their obligations under the Convention should be a major recommendation of the 2008 Meetings. He went on to describe a joint programme to develop a web-based resource which can be used by other universities around the world to develop courses for their students. This web-based resource will cover the threat of biological weapons and the international regime totally prohibiting such weapons, the dual-use dilemma and the responsibilities of life scientists, national implementation of the BWC and the building of an effective web of prevention.

h. **Pax Christi International.** Enrique Sierra said that Pax Christi International welcomed this year's attention for measures to improve biosafety and biosecurity, and education, codes of conduct and other measures for preventing misuse of life sciences. He went on to set out a number of elements that should be included in such codes of conduct and added that the efforts of the Royal Dutch Academy of Sciences KNAW and other leading professional bodies such as the Inter Academy Panel and the UK Royal Society in developing and discussing codes of conduct were welcomed. It is important that these codes keep being discussed and taught to all new workers in the life sciences. He concluded by noting that scientists and industrialists cannot assume the responsibility of governments, but can contribute to achieve the effective implementation of a sound and effective legal system including biosecurity and biosafety, together with education and codes of conduct.

i. **University of Exeter.** Brian Rappert said that his assessment was that, overall, those associated with the life sciences have given insufficient attention to date to con-

cerns about the misuse of their work in relation to activities prohibited by the BWC. He urged that States Parties could explicitly agree, in December that:

- A fundamental principle in preventing the destructive use of the life sciences is that the benign intent of individuals is not a sufficient response to preventing misuse.
  - All those graduating from higher education in fields associated with the life sciences should be familiar with the international prohibition against biological weapons.
  - All those undertaking professional research careers should have received effective training or instruction related to preventing the misuse of their research.
  - Each government represented at the current meeting should commit itself to initiating a dialogue with their respective national science academies about how the present low level of awareness can swiftly be corrected.
  - The inclusion of those in the life sciences and other professionals within the BWC would be facilitated by increasing the openness of the Convention to non-state actors.
- j. **VERTIC (Verification Research, Training and Information Centre).** Rocio Escauriaza said that VERTIC considers biosafety and biosecurity, including laboratory safety and security of pathogens and toxins, are strengthened and sustained by robust legislative and regulatory frameworks at the national level. National measures in turn complement regional and international initiatives to ensure that pathogens and toxins are only used for legitimate scientific pursuits. She went on to outline the National Implementing Measures Project, under which VERTIC has taken major steps towards assisting States to strengthen laboratory and research facility security through tailored national measures, in tandem with the implementation of their other obligations arising from the BWC. In order to provide legislative drafting assistance to States, VERTIC has finalized two drafting tools which are intended to be used as a starting point and tailored to each State's particular circumstances: the ICRC-VERTIC Model Law which is available in Arabic, English and Spanish, and the VERTIC Sample Act for National Implementation of the Biological Weapons Convention and Related Requirements of UN Security Council Resolution 1540, which is available in Arabic, English, French and Spanish. Both models are available in print copy and on the VERTIC web site [[www.vertic.org/NIM](http://www.vertic.org/NIM)]. She noted that the VERTIC Sample Act includes a number of provisions specifically related to establishing robust biosafety and biosecurity frameworks.
- k. **Asia Pacific Centre for Military Law (APCML).** Paramdeep Mtharu said that APCML is a collaborative initiative between the Legal Division of Australia's Department of Defence and the University of Melbourne Law School, set up in 2001 to facilitate cooperation in the Asia Pacific Region in research, training and the implementation of laws governing military operations. With respect to the BWC, the APCML has played a key role in organizing and convening the first BWC Regional Work-

shop co-hosted by the governments of Australia and Indonesia, held at the University of Melbourne in February 2005, and the second BWC Workshop held in Bali in March 2006. These discussions led to the recognition that while all BWC States Parties have the same basic obligations under the BWC, the most useful approach will be for each State Party to develop a 'tailor-made' solution to its national approach to ensure full implementation of the BWC - it is not a case of 'one size fits all'. She concluded by saying that the APCML is presently assisting in the further development of an 'Implementation Toolbox' which includes: (i) A checklist of legislation requirements and 'drafting elements' covering the various BWC legislative requirements, including biosafety and biosecurity; and (ii) Guidelines on outreach to relevant scientific communities, including drafting elements for codes of conduct for scientists working in the biological sciences and biotechnology.

The Chairman then closed the afternoon session, thanking all speakers for their contributions. He announced that the poster session for the first topic of the Meeting of Experts would start on Tuesday morning at 9 am in the Escargot Bar two levels above the Conference Room, and that the Meeting of Experts would commence its consideration of the first topic *National, regional and international measures to improve biosafety and biosecurity, including laboratory safety and security of pathogens and toxins* at 10 am.

In addition, as at the Sixth Review Conference, the Meeting of Experts 2007 and the Meeting of States Parties 2007, Richard Guthrie in association with the BioWeapons Prevention Project provided daily reports on the Meeting of States Parties that were made available in hard copy to the delegations as well as electronically. These reports are available at <http://www.bwpp.org/2008MX/MX2008Resources>.

### Side Events

During the Meeting of Experts there were side events at lunchtime each day, as well as a morning event at 9 am on Wednesday 20 August 2008. The first lunchtime side event was a Geneva Forum meeting on Monday 18 August to consider *Synthetic Biology: Engineering Life Science*, at which Piers Millet of the ISU introduced a series of audio-visual interventions on synthetic biology (these are available at <http://www.unog.ch/bwc>). This was followed by a presentation on *The implications of synthetic biology* by Robert Friedman, Director of West Coast Operations and Vice President for Public Policy of the J Craig Venter Institute, USA. On Tuesday 19 August, the lunchtime event was a discussion on *Dual-Use at the Cutting Edge: What to do about Oversight*, introduced by Ambassador Georgi Avramchev (Macedonia) with contributions by Malcolm Dando (Bradford), Alexander Kelle (Bath), Kathryn Nixdorff (Darmstadt), David Friedman (Tel Aviv) and Elisa Harris (Maryland). On Wednesday 20 August, the morning event, entitled *Biosafety and Biosecurity*, was organized by the International Biosafety Working Group with contributions by Heather Sheeley, President of the European Biosafety Association (EBSA), Ursula Jenal (EBSA), Christina Thompson of the American Biosafety Association (ABSA), Marie-Louise Graham (ABSA-Canada), and Gary Burns of the Pharmaceutical Biosafety Group. The lunchtime event was a BioWeapons Prevention Project discussion entitled

*BWPP: Meet the Networks* with contributions by Kathryn McLaughlin (BWPP), Kathryn Nixdorff (INES), Alan Pearson (Scientists Working Group, Center for Arms Control and Non-Proliferation), Gert Harigel (GIPRI) and Sergey Batsanov (Pugwash International). On Thursday 21 August, the lunchtime event was a U.S. National Academies of Sciences meeting entitled *2nd International Forum on Biosecurity; Summary of an International Meeting*, which was co-chaired by Sergio Pastrana (Cuban Academy of Sciences) and Barbara Schaal (US National Academy of Sciences), with contributions by Alastair Hay (Leeds), Ben Rusek (US National Academy) and Ralf Trapp (independent consultant). On Friday 22 August the lunchtime event was a VERTIC meeting entitled *National Implementation Measures for Effective Biosecurity and Biosafety*, chaired by Angela Woodward, with introductory statements by Ambassador Johannes C. Landman (Netherlands) and Miss Jacqueline Daley (UK), followed by a presentation by Scott Spence.

### Tuesday 19 August 2008

The Meeting of Experts resumed on the morning of Tuesday 19 August 2008 with a Poster Session, focused on the first topic – biosafety and biosecurity — being considered at the Meeting of Experts. It was held in the Escargot Bar, two floors above the meeting room. The Chairman, Ambassador Avramchev, welcomed all present to the poster session noting that this was the first time that there has been such a session at a BWC meeting. He said that the background to the session was that *feedback had been received from several delegations that previous BWC meetings of experts had been rather frustrating for the experts. These experts had travelled long distances to participate in the meeting, but had then found themselves trapped in a big conference room along with their colleagues, listening to diplomats making speeches. There was no organised way for the experts to meet each other and talk in detail, and so we were not making the most of the valuable opportunity of having so many knowledgeable experts in the same place. To remedy the situation, we introduced the idea of holding poster sessions. This idea was greeted with some bemusement by our diplomatic colleagues in Geneva, who are unfamiliar with the concept. But it was taken up enthusiastically by experts around the world, who knew exactly what a poster session was, and what it could provide. And now here we are, ready for what I hope will be a meeting of diplomatic and scientific minds.*

There were 21 posters (available at <http://www.unog.ch/bwc>) on the following topics:

- i. *Is biodefense research regulation meeting its goal of protecting public health and national security?* Dr Vickie Sutton, Center for Biodefense, Law and Public Policy, Texas Tech. University.
- ii. *National measures to improve biosafety and biosecurity of human pathogens and toxins.* Public Health Agency of Canada.
- iii. *Canada's biosafety association: A key in Canada's capacity building in biosafety and biosecurity.* ABSA Canada.

- iv. *Tackling the Bioterrorism Threat. Global Partnership Program.* Canadian delegation.
- v. *Biosafety / biosecurity officer's curriculum.* Swiss delegation.
- vi. *National implementation measures for effective biosafety and biosecurity.* VERTIC
- vii. *Strengthening biosafety and biosecurity measures by the development of T cell vaccine strategy against infectious agents - Part 1.* National Defense Medical College, Japan.
- viii. *Strengthening biosafety and biosecurity measures by the development of T cell vaccine strategy against infectious agents - Part 2.* National Defense Medical College, Japan.
- ix. *Biosafety and biosecurity in the BSL3 Laboratory of the Centre d'Etudes du Bouchet.* French delegation.
- x. *Compendium of national activities to improve biosafety and biosecurity.* Delegation of the Republic of Korea.
- xi. *Advancing Global Biological Security.* US State Dept. Biosecurity Engagement Program.
- xii. *China's practice on biosafety and biosecurity.* Chinese delegation.
- xiii. *Laboratory Biorisk Management Standard and its applicability under the BWC.* DNV (Den Norske Veritas).
- xiv. *Building partnership through global networks and advisory groups (focusing on emerging and dangerous pathogens).* World Health Organisation.
- xv. *European Union Joint Action on biosafety and laboratory biosecurity.* World Health Organisation.
- xvi. *Enhancing national biopreparedness.* European Union.
- xvii. *Biorisk management.* European Union.
- xviii. *Australia's security-sensitive agents regulatory scheme.* Australian Delegation.
- xix. *Revised International Health Regulations (2005).* World Health Organisation.
- xx. *International Biosafety Working Group.* International Biosafety Working Group.
- xxi. *Biosafety and biosecurity.* European Biological Safety Association.

The Meeting of Experts then resumed at 10 am to consider the first topic: *National, regional and international measures to improve biosafety and biosecurity, including*

*laboratory safety and security of pathogens and toxins.* The morning session focused on concepts and approaches with presentations and statements first from the four intergovernmental organizations – the World Health Organisation (WHO), the Organisation for Economic Cooperation and Development (OECD), the United Nations Environment Program (UNEP) and the European Commission DG-SANCO. These were then followed by presentations and statements by States Parties: Canada, USA, Switzerland, Indonesia and Germany (on behalf of the European Union to introduce WP.13 and WP.19). After each presentation or statement the Chairman invited any questions or comments from participants in the room; there were usually a few such queries raised by representatives of States Parties, of the intergovernmental organisations and by the guests of the meeting, which enabled some of the points made by the speakers to be elaborated and clarified. Most of the presentations and statements made during the Meeting of Experts are available at <http://www.unog.ch/bwc>.

The afternoon session at 3pm continued with further presentations and statements by States Parties: Nigeria, Denmark, Cuba, United Kingdom (introducing WP.7), Pakistan, Bulgaria, USA, Norway, and India. At 4.30 pm, the Chairman introduced the first panel discussion on biosafety and biosecurity with representatives of industry, by noting that *the biological sciences have become big business. The biotechnology sector is, or could be in the future, an important economic driver for many of our countries. Both technology and know-how is spreading around the globe. As we consider issues of biosafety and biosecurity at our meeting here in Geneva, we must not forget that, out there these businesses are pushing at the boundaries of human knowledge. This panel is an acknowledgement of the important role that the private sector has to play – in both the biological sciences and the BWC. I hope that this panel will be another small milestone in our efforts to build an ever more fruitful relationship between the BWC and commercial operations.* The panel members were Gary Burns from Astra Zeneca, John Keddie from GlaxoSmithKline plc, Robert Friedman from the Venter Institute and Shrikumar Suryanarayan from the Association of Biotechnology Led Enterprises of India (ABLE). The panel discussion was followed by further presentations and statements from States Parties: South Africa, Argentina, Australia, Ukraine and Morocco. The Chairman concluded the Tuesday session by expressing apologies to the guests of the meeting who had originally been expected to make their presentations and statements on Tuesday afternoon but would now do so on the Wednesday morning.

### **Wednesday 20 August 2008**

The Meeting of Experts resumed at 10 am with a further presentation and statement by a State Party: Germany introducing WP. 13. Presentations and statements were then made by a number of guests of the meeting from the American Biological Safety Association (ABSA), the Asia-Pacific Biosafety Association (A-PBA), the European Biological Safety Association (EBSA), the InterAcademy Panel on International Issues, the International Network of Engineers and Scientists for Global Responsibility (INES), International

Union of Biochemistry and Molecular Biology (IUBMB) and ABSA Canada.

This was then followed by a panel discussion on risk management which was introduced by the Chairman, who noted that *the BWC deals with deliberately caused disease outbreaks and poisoning. But these are not the only type of incidents to involve biological agents. There are also accidental and natural outbreaks. It is unlikely that should any on these events occur that we would immediately be able to tell them apart. As a result, our work here fits into a broader context – one of biological risk. These biological risks are all connected by their common cause. I believe that just as the risks are connected, so should our responses be. To some extent, this already happens - for example, the WHO responds to biological risks irrespective of whether they have a natural, accidental or deliberate origin. Part of what we are doing here this morning is looking for sets of tools, commonplace in other settings, that can be adapted to meet our needs under the BWC. We should, however, bear in mind that the efforts pursued under the BWC also tie in to other issues and especially this spectrum of biological risk. What we should be aiming to do is to create a mutually benefiting environment where better coordination leads to work in one part of this spectrum benefiting all of it, where wheels are not reinvented and where limited resources are used to their best ability.* He then introduced the panel which was made up of six participants: May Chu (WHO International Health Regulations), Iain Gillespie (Organization for Economic Cooperation and Development (OECD) 's Biotechnology Division), Keith Hamilton (OIE Scientific and Technical Department), Paul Huntley (Den Norske Veritas (DNV)), Brooke Rogers (King's College Centre for Risk Management) and Cathy Roth (WHO Health Security and Environment Cluster).

The afternoon session at 3 pm saw the meeting focus on biosafety and biosecurity capacity-building with presentations and statements from three intergovernmental organizations: International Center for Genetic Engineering and Biotechnology (ICGEB), the UN Security Council Resolution 1540 Committee, and the World Health Organisation. These were then followed by presentations and statements from the following States Parties: France on behalf of the European Union, USA, Japan, China, Nigeria, United Kingdom (introducing WP.6), Indonesia, Cuba, Australia, Turkey, Malaysia, Argentina, Sudan and France.

### **Thursday 21 August 2008**

This day also began at 9 am in the Escargot Bar two floors above the meeting room, with a poster session focused on oversight, education, raising awareness and codes of conduct. There were 11 posters (some available at <http://www.unog.ch/bwc>) on the following topics:

- i. *Development of the Dutch Code of Conduct.* Dutch delegation.
- ii. *The Aum Shinrikyo's biological weapons programs and Japan's response.* Katsuhisa Furukawa, Research Institute of Science and Technology for Society, Japan.

- iii. *A biodefense ethic - a shared responsibility.* Dr Vickie Sutton, Center for Biodefense, Law and Public Policy, Texas Tech. University.
- iv. *Making education happen.* Filippa Lentzos, London School of Economics.
- v. *Biosafety / biosecurity officer's curriculum. Swiss delegation.* [although listed as an education and outreach poster, this appears to be the same as that listed for the biosafety and biosecurity poster session].
- vi. *Strengthening the BTWC through the development of an educational model for life scientists.* National Defense College, Japan & University of Bradford, UK.
- vii. *Awareness raising, education and outreach.* BWPP.
- viii. *Multiple uses of chemicals and chemical weapons: the role of science education in raising ethical awareness.* IUPAC.
- ix. *Life Sciences Awareness and Education.* US DOE.
- x. *Biosecurity in the Life Sciences.* US NSABB.
- xi. *Biosecurity Education in the 21st Century.* Gregory D. Koblenz, George Mason University.

The meeting resumed at 10 am with further presentations and statements by States Parties on capacity building for biosafety and biosecurity: Canada, Kyrgyzstan, France, Cameroon (a State not yet party to the Convention) and France again. This concluded the consideration of the first topic – biosafety and biosecurity – and the Meeting of Experts then moved on to start to consider the second topic – *Oversight, education, awareness raising, and adoption and/or development of codes of conduct with the aim to prevent misuse in the context of advances in bio-science and biotechnology research with the potential of use for purposes prohibited by the Convention.* Attention was first given to oversight of science. One presentation and statement on oversight had been made on the Wednesday afternoon as the representative of France would not be there on Thursday. On the Thursday morning the presentations and statements were made by States Parties, by a guest of the meeting, and by an intergovernmental organization: USA, Japan, Germany (introducing WP.15), UK (introducing WP.11), the International Union of Pure and Applied Chemistry (IUPAC) and the World Health Organisation (WHO). The presentation and statement by IUPAC was on education and codes of conduct, and was made in this session as the representative would not be available for the panel discussion now scheduled for the late afternoon.

The afternoon session opened with the Chairman saying that codes of conduct would be considered on the Friday morning. He also said that a text of the draft report of the meeting had been circulated (this was marked *Chairman 21 August 2008*) and that this followed exactly the model of previous reports of Meetings of Experts. A preliminary list of considerations, lessons, perspectives, recommendations, con-

clusions and proposals marked *draft, as at 12.00 on 21 August* was also circulated with the request that any errors or omissions should be advised to the Secretariat.

The afternoon session continued the consideration of the oversight of science with a presentation and statement by a guest of the meeting, the US National Academy of Sciences, followed by presentations and statements by the following States Parties: Pakistan, Cuba and Brazil. After these, the Chairman said that the meeting would now go on to consider education and awareness raising after considering two presentations and statements relating to codes of conduct. The first was by Germany introducing WP.12 and the second by France. On moving to education and awareness raising, presentations and statements were made by three States Parties: United Kingdom introducing WP.10, Switzerland, and the USA. This was then followed by a presentation and statement by an intergovernmental organization; the UN Security Council Resolution 1540 Committee. This was followed by a panel discussion on education, awareness raising and codes of conduct. The Chairman introduced the four experts on the panel: Robin Coupland (ICRC), John Crowley (UNESCO Ethics of Science and Technology), Decio Ripandelli (ICGEB) and Terry Taylor (International Council for the Life Sciences).

### **Friday 22 August 2008**

The Friday morning session opened with the Chairman noting that the first draft of the compilation document (CRP.1, 21 August 2008), consisting of a list of considerations, lessons, perspectives, recommendations, conclusions and proposals, had been issued together with a draft of the report of the meeting (CRP.2, 22 August 2008). In moving on to consider education, awareness raising and codes of conduct, he noted that Dr. Robin Coupland in a personal capacity had put up a prize of \$2,000 for the winner of a competition for undergraduate students engaged in the life sciences to draft a letter to their University Dean explaining why the 1972 Biological and Toxin Weapons Convention (BTWC) should be included as a mandatory component in the curricular of undergraduate courses pertaining to the life sciences. The letter must be no more than 800 words long, written in English, and submitted to BWPP before 31 October 2008. The Chairman said that this was an excellent initiative making a practical contribution, and the winner would be announced at the Meeting of States Parties in December.

The meeting then continued with presentations and statements by the following States Parties: Australia, Argentina, India, Georgia, Pakistan and Australia again. The Chairman then said that the focus would move on to codes of conduct with presentations and statements made by the following States Parties: Netherlands, USA, Ukraine, China, Bulgaria, Brazil, Republic of Korea, and Sweden. The morning session ended at 12.15 when the Chairman said that the afternoon session would be held at 3 pm to consider the draft report and its annexes and to hear closing statements.

The afternoon session began at 3 pm, with an interim report from the Chairman on universalization. In this he noted that *as we have heard earlier this week, three new members have joined the Convention this year: Madagascar, Zambia and the United Arab Emirates. With the four who joined last year, this makes a total of seven additions since*

*the Sixth Review Conference, and brings the number of States Parties to 162. This is pleasing progress, and is due to the efforts of several States Parties to encourage and persuade these states to join. I would like to acknowledge in particular the efforts of the Depositaries – the Russian Federation, the United Kingdom, and the United States – as well as the recently-concluded Joint Action of the European Union. I would also like to commend the work of the Implementation Support Unit, which is in regular contact with several states not party and is providing advice and encouragement for accession. Among other things, the ISU organized in June of this year an introductory seminar in the French language on the BWC, aimed at better informing francophone states – especially those in Africa – about the Convention and the benefits of joining. I am also grateful to the ISU for its efforts to facilitate Cameroon's participation in this Meeting of Experts, which I am confident will give a boost to the accession process in that country. I am hopeful that we will have at least two more accessions this year. As well as Cameroon, I understand that Mozambique is also advanced in the accession process. Other possibilities over the next twelve months include Myanmar, Nepal, Comoros and Côte d'Ivoire. He went on to say that we cannot afford to sit back and wait for the accessions to come in. We must continue and intensify our efforts. If we average four new States Parties per year, we will still be around 15 states short of universal membership by the time of the Seventh Review Conference in late 2011. So acceleration is what we need. All States Parties can play a part, by raising the issue of BWC accession with states not party, by placing the issue on ministerial agendas, by exploiting contacts at different levels and in different agencies, by using regional forums, and in general by seizing every possible opportunity. Coordination in this effort is vital. I would urge States Parties to use the Implementation Support Unit's secure website to check on the latest news on contacts with states not party, so that contacts and lobbying can be better harmonized and targeted. And I appeal to States Parties to report their own efforts and contacts promptly to the ISU, so that other States Parties can benefit in planning their efforts. He concluded by saying that I myself will intensify my efforts between now and December, and will be working closely with States Parties, and with regional organizations such as the African Union, the European Union and the Organization of American States, to open constructive contacts with states not party and to secure further accessions.*

The Chairman then moved on to the consideration of the report of the meeting (CRP.2) and also the addition to the compilation document (CRP.1/Add.1) which contained additional material compiled from the presentations and statements made on Thursday afternoon and Friday morning. He pointed out that all corrections and additions would be incorporated into the final versions of the compilation which will form Annex I to the report of the meeting. Corrections and additions could be submitted to the ISU up until 6 pm on Tuesday 26 August 2008.

The Chairman then went through the draft report (CRP.2) section by section, and noted that there would be two annexes,

one the compilation document as Annex I, and the other the list of documents of the meeting. There were no comments and the report was adopted. The Chairman then invited any closing statements before he made his closing remarks. One guest of the meeting took the opportunity to express his thanks to the Chairman for allowing the guests of the meeting to participate in the Meeting of Experts. They had valued the opportunity to make their presentations and contributions to the meeting and their participation had been especially valuable as they had benefited greatly from the presentations made by the many experts, as this had enabled them to better understand the challenges faced in the common goal of strengthening the implementation of the Convention.

The Chairman then closed the meeting by saying *I think it is fair to say that we have had a very useful and constructive meeting. We have heard a huge range of material related to our two topics. Participation in the meeting has been impressively broad: 96 States Parties were represented, and just under 500 delegates participated in the meeting. Of these, around 180 were experts who had travelled from capitals. This is an excellent result, and demonstrates both the wide relevance of our topics and the utility of the intersessional work program. He went on: as I have said right from the beginning of my preparations, it was always going to be a challenge to do justice to our two very broad topics in just one week. We could quite easily have devoted one full week to biosafety and biosecurity, and another full week to oversight, education, awareness-raising and codes of conduct. As we have heard, there are many aspects and considerations to both these topics. We have heard many perspectives, from States Parties, from international organizations, from scientific and professional associations, and from NGOs. We have heard broad policy approaches, technical details, and everything in between. Alas, with only one week, we often found ourselves short of time. Some presentations were longer than others, but all were highly relevant and focused on the topic, and made an important contribution to our work. We had no option but to let the discussions run their course, and this led to some intensive and sometimes rather messy rearranging of the schedule. I would like to thank all delegations for their flexibility and graciousness in allowing us to adjust the schedule to accommodate those who had to leave Geneva at particular times.*

He went on to say that *we have enjoyed some very positive interaction, both here in the room, and – just as importantly – on the margins, in the corridors, in the coffee lounge, and over lunches and dinners. This blend of formal and informal interaction among experts is one of the great benefits of the intersessional work programme. The poster sessions – a new innovation for this meeting – proved to be a great success, and the feedback I have received suggests that the sessions were an excellent solution to the challenge of developing greater detailed interaction among experts. The only complaint was that the sessions were too short, so perhaps next time we could look at allowing a more generous timeslot. He noted that in the course of the week we have heard a range of ideas, advice and proposals, and certain themes have consistently emerged. Indeed, it is striking that there was very*

*little in the way of disagreement or contradiction. One clear theme that ran through both topics was that of **balance**: we heard that again and again of the need for **proportional** measures, for **carefully assessing risks**, for **balancing** security concerns against the need for nurturing research and ensuring the peaceful development of biological science and technology. Another central theme was that of 'no one size fits all': no matter whether we are talking about standards for biosafety and biosecurity, or codes of conduct, it is clear that States Parties and other actors recognize that individual and local circumstances must be taken into account when addressing these issues.*

Looking ahead to the Meeting of States Parties in December, he said that *as in previous years, I will prepare a synthesis paper that distills the essence of the many ideas and proposals we have annexed to our report. I think it is important that the Meeting of States Parties produces an outcome that is of practical assistance to States Parties in their efforts on biosafety and biosecurity and education, awareness-raising and codes of conduct. In particular, it should be of practical assistance to those States Parties which are not able to participate in our meetings. The States Parties which participate in our meetings gain significant benefit from the interaction and exchange of information, and would benefit even if the meeting produced no report at all. But we must keep in mind the interests and needs of the entire membership of the Convention, especially the smaller States Parties which are often those most in need of assistance and encouragement. For this reason, a substantive outcome encapsulating our work and collective wisdom is very important.*

### **Outcome of the Meeting of Experts**

During the Meeting of Experts, 35 Working Papers were submitted by 16 States Parties with the numbers submitted by individual States Parties ranging from one to seven; Argentina (33), Australia (26, 30, 31, 32), Brazil (28), Canada (17), China (18, 19), Cuba (29), France on behalf of the EU (27), Germany (12, 14, 15), Germany on behalf of the EU (13, 16), Indonesia (20), Japan on behalf of JACKSNNZ (21), Japan (22), Lithuania (9), Netherlands (8), Norway (20, 34), Switzerland (5, 35), United Kingdom (6, 7, 10, 11), and the United States (1, 2, 3, 4, 23, 24, 25). About two thirds of the working papers address the first of the two topics, biosafety and biosecurity.

On the Thursday afternoon and Friday afternoon, a preliminary compilation (CRP.1 and CEP.1/Add.1) of the proposals made at the Meeting of Experts was circulated. The updated versions were subsequently issued as Annex 1 to the report of the meeting (MX.3). The proposals were grouped under the headings of the two topics considered by the Meeting of Experts.

An analysis of the proposals in the tabulation below shows that for the first topic – biosafety and biosecurity – they came from 27 States Parties, 1 Observer State, 4 international organizations and 4 guests of the meeting; and for the second topic – oversight, education and codes of conduct – they came from 22 States Parties, 2 international organizations and 5 guests of the meeting.

State Party	Topic 1 Biosafety & Biosecurity	Topic 2 Oversight, Education, Codes of Conduct
Argentina	1	-
Australia	1	4
Brazil	8	14
Bulgaria	1	2
Cameroon	2	-
Canada	2	-
Canada on behalf of JACKSNNZ	3	-
China	11	9
Cuba	3	1
Cuba on behalf of NAM	8	4
Denmark	2	-
France	4	4
France on behalf of EU	4	1
Georgia	1	-
Germany	2	3
Germany on behalf of EU	1	-
India	4	6
Indonesia	10	2
Iran	2	9
Japan	15	-
Japan on behalf of JACKSNNZ	-	26
Malaysia	2	1
Morocco	3	-
Netherlands	-	12
Nigeria	6	2
Norway	14	1
Pakistan	7	19
Republic of Korea	-	2
Russian Federation	-	4
South Africa	5	-
Sudan	1	-
Switzerland	2	6
Turkey	1	-
Ukraine	1	7
United Kingdom	12	15
United States	7	22
Total	146 (from 28 States)	176 (from 22 States)

The analysis by international organization and guests of the meeting is provided below

Organisation	Topic 1 Biosafety & Biosecurity	Topic 2 Oversight, Education, Codes of Conduct
OECD	4	-
WHO	6	3
OIE	5	-
1540 Committee	2	1
(Sub-total)	17	4
ABSA	4	-
A-PBA	4	-
IAP	-	4
INES	5	1
IUBMB	1	2
IUPAC	-	5
NAS	-	8
(Sub-total)	14	20
Overall Total (incl. States)	177	200

As already noted, the Chairman has said that, for the Meeting of States Parties, he will create a synthesis paper that distills the essence of the many ideas and proposals contained in Annex I to the report of the Meeting of Experts.

### Reflections

The Meeting of Experts had a splendid participation with over 500 participants from 96 States Parties, 4 Signatory States, and 3 States non-Party, as well as from IGOs, guests of the meeting and NGOs. It was, however, a one-week meeting addressing two topics, and as the Chairman noted in his concluding remarks it had been necessary *to let the discussions run their course, and this led to some intensive and sometimes rather messy rearranging of the schedule*. The poster sessions were a valuable innovation on the Tuesday and Thursday mornings from 0900 to 1000 prior to the morning sessions; with the benefit of hindsight it would have been better to have all the posters available on both days rather than initially calling for posters for biosafety and biosecurity for the Tuesday morning, and for oversight, education and codes of conduct for the Thursday morning – and then announcing that the posters put up for Tuesday would still be available on Thursday. It would also have been helpful if there had been a listing available of all the posters.

There were three panel discussions – the first on Tuesday afternoon on biosafety and biosecurity with guests of the meeting from industry; the second on Wednesday morning on risk management with representatives from international organisations (WHO, OECD, OIE), a guest of the meeting (King's College) and a representative of Norway (DNV (Den Norske Veritas)); and the third on Thursday afternoon on education, awareness raising and codes of conduct with representatives from international organizations (ICRC, UNESCO, ICGEB) and a guest of the meeting (ICLS). It

appears that the panel discussions were regarded as informal sessions, and they are not mentioned in the report of the meeting, although the Chairman in his opening remarks stated that the panel discussions would take place in open sessions. However, unlike the suspension of the formal meeting prior to the statements by NGOs, there was no similar suspension prior to the discussion panels. In addition, the points made in the panel discussions are not recorded in the list in Annex I. The panel discussions nevertheless provided useful wider insights and will have helped the States Parties to appreciate some additional issues relating to both of the topics. The points made in the discussion panels should nevertheless be available to be drawn upon by the Chairman in drawing up his synthesis document.

It was noted that the JACKSNNZ group (Japan, Australia, Canada, Republic of Korea, Switzerland, Norway and New Zealand) had coordinated some of their working papers in a similar way to the EU, which had coordinated working papers as well as working papers by individual members of the EU. However, the JACKSNNZ group did not have a group statement, as they had had at MSP 2007, although three member States had made opening statements (Japan, Republic of Korea and Norway).

An opportunity was missed at the Meeting of Experts in that it is regretted that the group of twelve Latin American States (Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Mexico, Peru and Uruguay) did not continue the practice that they had successfully adopted at the Sixth Review Conference of having a group statement, and of coordinating their working papers. Such group statements are valuable, as they show that the issues being considered are being addressed both nationally and within the group.

It is noted that in the opening statements two countries, Pakistan and the Republic of Korea, looked ahead to the

Seventh Review Conference in 2011. Pakistan noted that *The yearly meetings of experts and states parties are not formal PrepComs for the 2011 Review Conference; yet in their informal setting they create an enabling environment for exchange of views and information, networking, and preparation for the Review Conference. The smooth rhythm of these meetings is a unique strength of the BWC;* and the Republic of Korea said that *It is the sincere hope of my delegation that the planned intersessional work program will eventually make significant contribution to the success of the 7th Review Conference in 2011.* In addition, Switzerland in its two Working Papers (WP.5 *National Data Collection Processes for CBM Submissions* and WP. 35 *Preparing the Ground for the CBM Content Debate: What Information Builds Confidence*) showed that it is carrying out constructive work towards improving the Confidence-Building Measure regime by preparing the ground for the Seventh Review Conference in 2011.

Such an approach of preparing and submitting Working Papers during the intersessional period is to be highly commended. There is much to be said for other States Parties – who in their statements refer to developments that they would like to see occurring at the Seventh Review Conference – taking a similar approach of preparing and submitting Working Papers during the intersessional period, a procedure which can only help to prepare the ground for the Review Conference and to achieving a successful outcome. It would be particularly helpful if Cuba (on behalf of the NAM), Iran and the Russian Federation were each to prepare such Working Papers preparing the ground for consideration at the Seventh Review Conference of resuming consideration of a legally binding instrument.

One point – which embraced both the topic of biosafety and biosecurity and that of education and awareness raising, and which was evident from the statements and presentations during the week – is that there are essentially three international initiatives with closely similar goals; the first being the BWC and its implementation nationally around the world, the second the WHO initiative on laboratory biosafety and biosecurity, and the third the Cartagena Protocol on Biosafety initiative on risk assessment and capacity building in regard to genetically modified organisms. In all three cases, it was evident that effort is being put into education and awareness raising in essentially the same community – those engaged in the life sciences – but it appeared that each of these initiatives rarely mentioned the other two. There would appear to be significant benefits in a coordinated comprehensive approach

being adopted in all three initiatives and in approaches to the life sciences community such as that being pursued by the Inter Academy Panel.

In looking ahead to the Meeting of States Parties in December 2008, the Chairman has undertaken to prepare a synthesis paper that distills the essence of the many ideas and proposals in Annex I to the report of the Meeting of Experts. This paper is likely to include language that can be incorporated into the substantive paragraphs of the report of the Meeting of States Parties. As the ideas and proposals captured in the Annex embrace national implementation and regional cooperation in the broadest sense, the synthesis can likewise be expected to include all aspects of national implementation, including those that are being considered at subsequent intersessional meetings, thereby providing a useful impetus to their consideration. In addition, the Meeting of States Parties can be expected to give some consideration to the promotion of universality, as well as to the second annual report on the Implementation Support Unit. The Chairman for the intersessional meetings in 2009 should be advised by the Western Group to the Meeting of States Parties, and the dates for those meetings should be decided. It would be very helpful if the Chairman for the 2009 intersessional meetings could take the opportunity at the Meeting of States Parties in December 2008 to set out his/her approach to the topic for 2009:

*With a view to enhancing international cooperation, assistance and exchange in biological sciences and technology for peaceful purposes, promoting capacity building in the fields of disease surveillance, detection, diagnosis, and containment of infectious diseases: (1) for States Parties in need of assistance, identifying requirements and requests for capacity enhancement; and (2) from States Parties in a position to do so, and international organizations, opportunities for providing assistance related to these fields;*

so that the States Parties could start their preparations then, instead of having to wait until they receive a letter sometime in 2009. Overall, the Meeting of States Parties can be expected to continue the momentum created by the successful outcome of the Sixth Review Conference.

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*This review was written by Graham S. Pearson, HSP Advisory Board*

What follows is taken from issue 80 of the Harvard Sussex Program CBW Chronicle, which provides a fuller coverage of events during the period under report here, and also identifies the sources of information used for each record. All such sources are held in hard copy in the Sussex Harvard Information Bank, which is open to visitors by prior arrangement. For access to the Chronicle, or to the electronic CBW Events Database compiled from it, please apply to HSP Sussex.

**1 February** From Texas, the Sunshine Project announces that it is ceasing operations [see also 6 Jan 07]. An international non-profit organization with offices in Hamburg, Germany, and Austin, Texas, the Project had been working against hostile use of biotechnology in the post-Cold-War era, engaging in research and publication to strengthen the global consensus against biological warfare and to ensure that international treaties effectively prevented development and use of biological weapons. Within a broad range of other activities that had commenced in 1999, this work had included close attention to the growth of 'non lethal' weapons technology and, most conspicuously, monitoring of safety practices at prominent US microbiological research facilities. In an interview with the journal *Nature*, Sunshine Project Director Ed Hammond says he took the decision to close the project because of a chronic cash shortage: "At some point you come to realize that if you don't have buy-in from the people whose business it is to fund peace and security non-governmental organizations, then you have to recognize reality". Speaking to the Chronicle of Higher Education, he says: "One would have expected that with the billions of dollars being poured into biodefense research, there would be something of a better operating environment for NGOs like this." [See also 29 Aug 06 and 8 Jun 07]. The hugely informative Sunshine-Project website, [www.sunshine-project.org](http://www.sunshine-project.org), lives on, though it is no longer updated.

**2 February** Joshua Lederberg, Nobel Prize winner for his discovery of genetic recombination in bacteria, and science-policy adviser to nine US administrations, dies in New York aged 82

**3 February** The *Los Angeles Times* quotes "current and former US intelligence officials" as saying they believe that al-Qai'da has regenerated at least some of its WMD research and development effort that it lost after the US bombed its Afghanistan bases in 2001, but that its current efforts are focused on developing and using such agents as cyanide and chlorine. The sources say they base their current assessments on anecdotal evidence gleaned from electronic intercepts, information provided by informants and captured members of al-Qai'da, from tracking money flows and from monitoring militant websites. A number of officials are quoted as saying that Abu Khabab Masri – an Egyptian national whose real name is Midhat Mursi al-Sayid Umar [see 11 Jun 06] – is believed to have led efforts to establish rudimentary laboratories in the mountainous regions of Pakistan to undertake research and development, and is training Western recruits for chemical attacks in Europe and possibly also in the USA. In January 2006, the US attempted to assassinate Abu Khabab along with a number of other senior al-Qai'da operatives by means of an air strike while they were attending a meeting in Damadola, Pakistan, near the Afghan border. The strike resulted in the death of at least eighteen people. However, based on evidence from human intelligence and electronic intercepts of conversations, the CIA concluded several months later that Abu Khabab was still alive.

**4 February** In Iraq, a US intelligence operation had indicated that Iraq had shut down its WMD activities prior to the US-led invasion [see 20 Mar 03], but the CIA had discounted information which contradicted other data, so reports Agence France-Presse. Before the invasion, the CIA had identified 30 Iraqi scientists with family members living in the USA some of whom it had been able to question about Iraq's alleged WMD programmes. One engineer, Saad Tawfiq, was visited by his sister Sawsan, a US resident, in Iraq in 2002 with a list of 20 "major" questions from the CIA. He told her that Saddam Hussein had ordered an end to all WMD programmes in 1995 after Hussein Kamel Hassan al-Majid defected to Jordan and disclosed new details of Iraq's biological weapons programme [see 8 Aug 95]. Sawsan says: "I went back [to the CIA] and I reported what he had told me in full detail... In the beginning they listened to me, but then they told me that my brother was lying."

**4 February** US President George Bush transmits to Congress his budget request for FY 2009. The administration is seeking a total of \$11 billion for WMD defence efforts, an increase of 35 per cent from the previous year.

The budget request for the Department of Homeland Security includes \$161.3 million for to support the Health Affairs Office, an increase of \$44.8 million from current levels. The Office is responsible for coordinating biological defence activities inasmuch as it is responsible for overseeing efforts to detect biological attacks, directing the federal response to such events, and securing US food and agricultural supplies. Much of the requested funds would be directed toward planning an expansion of the Biowatch network of biological detection sensors, which have thus far been deployed in more than thirty major US cities, including the purchase and deployment of new automated bio-sensors [see 7 Feb 07]. The funding request for Biowatch is \$111.6 million, a \$35.5 million increase over the FY 2008 enacted level of \$76.1 million. The Department has requested \$146.9 million for the Science and Technology Directorate's laboratory facilities projects, which is an increase of \$43.1 million over last year's appropriation of \$103.8 million. Of this, the National Biodefense Analysis and Countermeasures Center at Fort Detrick would receive \$43 million in new funds to support initial laboratory operations [see 26 Jun 06 and 15 Jun 07]. The Directorate's chemical and biological countermeasure division would, however, receive a reduction in funding of \$7.6 million from \$208 million enacted last year to the \$200.4 requested for FY 2009. The Department has also requested \$19 million to provide the CIA with advanced technology for responding to attacks involving explosives or chemical, radiological or biological weapons. Also, the National Protection and Programs Directorate would receive a \$13-million budget increase for its chemical security compliance programme. Under the request, the FBI would receive \$447.4 million in investments for its counterterrorism, surveillance and WMD response programmes, while \$235.5 million would be allocated to its national security investigations to support, amongst other things, intelligence collection involving WMD-related activities.

The Department of Health and Human Services requests \$4.3 billion to fund biological terror prevention and response programmes, including \$250 million for developing and stockpiling medical countermeasures, \$53 million to create five international quarantine stations and to complete staffing of twenty established domestic sites, and \$30 million to train and coordinate medical emergency teams that would respond to biological attacks. Much of the requested spending would be directed to the National Institute of Allergy and Infectious Diseases (NIAID). The National Institutes of Health is requesting \$1.75 billion for terrorism preparedness activities, an increase of \$20 million from the previous year, to support research in three areas: efforts to prevent, diagnose and treat infections caused by biological weapons; programmes to diagnose and treat exposure to chemical weapon agents; and research to improve medical countermeasures to nuclear and radiological threats. The NIAID is requesting \$1.25 billion to fund outside research into biological defence and emerging infectious diseases, a decrease of 0.6 per cent from the previous year. According to Global Security Newswire, the requested decrease was necessary in order to offset cost increases to the construction of two biodefence laboratories in Maryland and Montana.

The Department of Agriculture is requesting \$277 million for its various programmes under its Food and Agriculture Defense Initiative, which would increase funds for food defence research conducted by the Agricultural Research Service from \$9 million to \$23 million, while increasing agriculture defence research funds from \$25 million to \$39 million. The Animal and Plant Health Inspection Service would have its budget increased from \$63 million to \$98 million for monitoring biological threats to animals and plants; funding for its efforts related to 'select agents' would be increased from \$4 million to \$6 million.

The request made by the Department of Defense includes \$467 million for programmes to defend against chemical, biological, radiological and nuclear weapons, a drop from its \$548.8-million request, and the \$547-million congressional appropriation it received, last year. It has requested \$102 million for measures to protect and decontaminate individuals in WMD attacks and \$39 million for its joint biological-medical defence programmes. The Department proposes increasing funding for its WMD defence-related research and development projects by about \$34 million, to total around \$1.1 billion. The amount requested for the Defense Threat Reduction Agency's non-proliferation programmes in the former Soviet Union is \$414 million, which is less than the \$426 million Congress appropriated for the current fiscal year, but higher than the \$348 requested last year. The request for the Cooperative Threat Reduction (CTR) programme is set at \$414.1 million, which represents a decrease of \$11 million from the amount received, but a \$66 million increase from the amount requested for FY 2008. Of the amount requested, \$184.5 million would be directed towards the biological threat reduction, which is \$26 million more than the \$158.5 million appropriated last year. Of this, \$160.1 million would be directed towards biosafety, biosecurity, threat agent detection, and response activities. Specific objectives for the biological threat reduction in FY 2009 include: supporting bioethics and non-proliferation training courses as needed; constructing central reference laboratories to house pathogens in Georgia, Azerbaijan, and Kazakhstan, and adaptation of an existing facility in Ukraine; establishing twelve regional diagnostic laboratories in many of the same countries, and continuing to train scientists in place at another 32 of these existing laboratories; and completing training of mobile response teams in Ukraine and Uzbekistan to respond to outbreaks in those countries. In addition, \$24.4 million is requested for cooperative biological

research projects, which would allow the launch of fifteen research projects with experts located at former Soviet biological research sites, the continuation of thirteen similar projects already underway, and follow-on funding for three projects on smallpox located at Russia's Vector institute. The Department of Defense has not requested funding for chemdemil in Russia as it states it has now completed installing equipment, systemizing the installed equipment, and training personnel for the Shchuch'ye facility. Similarly, chemdemil projects in Libya and Albania that were funded at \$5 million each in FY 2007 and 2008 have not received a request for funding.

Funding requested by the Department of State (DoS) for programmes related to non-proliferation and anti-terrorism has risen to \$499 million from \$483 million last year. The Non-proliferation and Disarmament Fund (NDF) programme would receive \$40 million, up from the previous \$33 million appropriated. The amount requested for WMD threat-reduction activities is \$155.3 million, which is \$14.1 million more than current funding levels and \$15.2 million greater than last year's request. For Global Threat Reduction (GTR), DoS has requested \$64 million, up from \$56.9 million last year. The request indicates that not less than \$26 million is made available for the Biosecurity Engagement Program, which now comprises 41 per cent of the GTR budget. The Biosecurity Engagement Program was created in FY 2006 to improve pathogen security and facility biosecurity in South Asia, Southeast Asia, and the Middle East as well as the engagement of scientists there. According to the Partnership for Global Security (PGS), funding for the Bio Industry Initiative (BII) appears to be decreasing as BII partner institutes move on from BII support and funds are allocated to other threat areas. PGS estimates that requested funding for the Science Centers sub-programme would be \$15.4 million; which is \$6.2 million less than that requested last year, but \$2.9 million more than appropriated for FY 2008. It also estimates that funding for the Bio-Chem Redirect Program [see 12 May 04] would be \$11.4 million; a \$4.8 million decrease from last year's request, but a \$2.1 million increase from that appropriated for FY 2008 current appropriation. Funding for the Export Control and Related Border Security Assistance (EXBS) has decreased slightly to \$41.3 million from last year's estimated appropriated level of \$45.6 million. EXBS is designed to prevent and interdict the proliferation of WMD, missile delivery systems, and advanced conventional weapons.

**4 February** The US Central Intelligence Agency releases its *Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions* for the period 1 January to 31 December 2005. The country-specific part of the report states:

"Iran is a Party to the [CWC]. Nevertheless, during the reporting period Tehran continued to seek production technology, training, and expertise from foreign entities that could advance its assessed chemical warfare (CW) program... As of 2005, the status of its biotechnology infrastructure indicated that at a minimum, Iran probably had the capability to produce at least small quantities of biological warfare (BW) agents for offensive purposes. Iran continued to seek dual-use biotechnology materials, equipment, and expertise that are consistent with its growing legitimate biotechnology industry but could benefit Tehran's assessed probable BW program.

"[North Korean] firms during the reporting period sought dual-use materials that could be applicable to the production of CW agents. In 2005, the United States and its allies intercepted two deliveries bound for North Korea containing materials that could be used to make CW agents... Pyongyang's resources presently include a rudimentary

biotechnology infrastructure. North Korea has the scientists and facilities for producing biological products and microorganisms, and has the ability to produce traditional infectious BW agents or toxins. North Korea produces conventional munitions that could be used to deliver BW agents. In 2005, North Korea requested, but was subsequently denied, a preventive vaccine manufacturing facility from South Korea.

"Syria continued to seek dual-use technology from foreign sources during the reporting period. Damascus already held a stockpile of the nerve agent sarin, but apparently has tried to develop a more toxic and persistent nerve agent. We assess that Syria remains dependent on foreign sources for key elements of its CW program, including precursor chemicals. During 2005, Syria probably also continued to develop a BW capability."

On terrorism-related activities with regard to chemical weapons, the report states:

"During 2005, al-Qa'ida in Iraq attempted to improve its chemical capabilities in cooperation with other Iraq-based terrorist groups, and anti-Coalition insurgents were blamed for one poisoning. Other international terrorist groups showed active interest in developing a crude chemical attack capability focused on commercially available chemicals, and jihadist websites continued to espouse the use of chemicals in attacks against the West. Historically, al-Qa'ida has maintained a steady effort to develop a capability to use chemicals in attacks, but in 2005 there was no reporting associated with such pursuits beyond some possible chemical-related training in Pakistan... In May 2005, Iraqi insurgents reportedly injected watermelons with common chemicals and distributed them to Iraqi soldiers south of Mosul. Some soldiers became ill but there were no reported fatalities [see 1 Jun 05]."

On terrorism-related activities with regard to biological weapons, the report states:

"The Intelligence Community [IC] received no reliable reporting that suggests al-Qa'ida maintained an active biological weapons effort in 2005. The IC judges, however, that based on the group's longstanding interest in acquiring WMD for mass casualty attacks against the West and previous biological production efforts, it is unlikely that the current leadership will permanently abandon this option. Reports of various credibility indicated that other terrorist groups had a continued interest through 2005 in the use of 'poisons' – predominantly plant toxins such as ricin."

As regards 'key suppliers', the report states:

"Reporting during 2005 showed that Chinese firms continued to provide dual-use chemical production equipment and technology to Iran... In 2005, countries of concern continued to contact Russian entities for dual-use chemical precursors and equipment. Such entities also remained a source of dual-use biotechnology equipment and related expertise. Russia's well-known biological and chemical expertise may make it an attractive target for countries seeking assistance that could be applied to chemical or biological warfare programs."

**4 February** The Congressional Research Service releases a report on *Proliferation Security Initiative (PSI)*. The report provides a background to the PSI; discusses its objectives, methods, and targets; and addresses the legal authorities on which it is based.

**4 February** In the US Senate, the Select Committee on Intelligence holds its annual hearing [see 11 Jan 07] on 'Current and Projected National Security Threats'. In his testimony, Director of National Intelligence J. Michael McConnell says: "We judge use of a conventional explosive

to be the most probable al-Qa'ida attack scenario because the group is proficient with conventional small arms and improvised explosive devices and is innovative in creating capabilities and overcoming security obstacles. That said, al-Qa'ida and other terrorist groups are attempting to acquire chemical, biological, radiological, and nuclear weapons and materials (CBRN). We assess al-Qa'ida will continue to try to acquire and employ these weapons and materials; some chemical and radiological materials and crude weapons designs are easily accessible, in our judgment... We assess that some of the countries that are still pursuing WMD programs will continue to try to improve their capabilities and level of self-sufficiency over the next decade. We also are focused on the potential acquisition of nuclear, chemical, and/or biological weapons – or the production technologies and materials necessary to produce them – by states that do not now have such programs, by terrorist organizations such as al Qa'ida, insurgents in Iraq, and by criminal organizations, acting alone or via middlemen. We also are concerned about rogue or criminal elements willing to supply materials and technology – alone or with a network – without their government's knowledge... We are especially concerned about the potential for terrorists to gain access to WMD-related materials or technology."

Director of the Central Intelligence Agency (CIA) Michael Hayden testifies as follows: "CIA and [the National Counterterrorism Center] have formed a unique combined unit on [the threat from CBRN weapons], which will help us better analyze and undertake operational activities against the CBRN problem. CIA has developed training materials to help its partners overseas to better recognize and take action against CBRN threats – materials that have been shared with domestic US consumers at the federal, state, and local levels... The proliferation of weapons of mass destruction by both state and nonstate actors remains a crucial intelligence priority... CIA is working in innovative ways across all disciplines to collect, analyze, and act upon intelligence on terrorist capabilities and intentions involving the use of weapons of mass destruction."

Also testifying before the Committee are Director of the Defense Intelligence Agency Michael Maples, Director of the Federal Bureau of Investigation Robert Mueller, and Assistant Secretary of State for Intelligence and Research Randall Fort.

**6 February** Indonesian Health Minister Siti Fadilah Supari launches her book *It's Time for the World to Change: the Divine Hand Behind Avian Influenza*, in which she alleges the USA and the World Health Organization are conspiring against developing countries by seizing control of samples of the H5N1 bird flu virus, with samples being sent to Los Alamos National Laboratory, which is under US military control. Supari portrays the conflict as a divinely inspired struggle for justice against western powers bent on using virology for world domination, and on turning bird flu into a weapon. She writes: "Developed countries become richer because they have the capability to develop the vaccine and control the world... Whether they use it to make vaccine or develop chemical weapons, would depend on the need and interest of the US Government. It is indeed a very dangerous situation for the destiny of humanity... [I]t is a matter of choice whether to use the material for vaccines or biological weapon development." In a subsequent interview with the Australian Broadcasting Corporation (ABC), discussing her decision in late 2006 to refuse to share the H5N1 strain with the World Health Organization (WHO) because of fears that any vaccines developed would then be sold for profit to developing countries with no benefit to Indonesia, Supari says: "I never gave permission to send sample to the, send a specimen of the

virus to Australia.” She makes the statement in response to ABC interviewer Geoff Thompson saying that when she took that decision she “effectively accused Australia of stealing Indonesia’s strain of H5N1 to make bird flu vaccines” during an interview on ABC [see also 4 Dec 07].

Two weeks later, the Assistant Director-General for Health Security at the World Health Organization, David Heymann, says that Supari told him that Indonesian President Susilo Bambang Yudhoyono “had made her take [the book] off the market”. Heymann adds: “I don’t understand why they would take this virus to make a biological weapon; it doesn’t transmit from human to human.” Meanwhile, US Defense Secretary Robert Gates describes the allegation that the USA is developing biological weapons from bird flu virus thus: “I think it’s the nuttiest idea I’ve ever heard.” Gates makes his comments after addressing his speech to the Indonesian Council on World Affairs in Jakarta. Later in the day, Gates says he did not discuss the matter when he met with President Susilo Bambang Yudhoyono and Defense Minister Juwono Sudarsono. After the meeting, in response to allegations that the USA would provide military aid for Indonesia as long as the English version of the book was withdrawn, Gates says: “I respectfully and strongly disagree with the minister, and it is not true that the United States offered military equipment if the book was withdrawn.” Meanwhile, Indonesian Presidential spokesman Dino Pati Djalal says that any claim the USA designed the virus as a biological weapon was a personal view of the minister and not the President.

Five weeks later, a statement issued by Counsellor for Public Affairs at the US Embassy in Indonesia Michael H. Anderson reads thus: “As a party to the [BWC], the US has undertaken not to develop, produce, stockpile, or otherwise acquire or retain microbial or other biological agents or toxins of types and in quantities that have no justification for prophylactic, protective, and other peaceful purposes, as well as weapons and means of delivery.”

**8 February** US Acting Deputy Assistant Secretary of State for Threat Reduction, Export Controls and Negotiations Ambassador Donald A Mahley is interviewed at length by *Arms Control Today* on his views as to the priorities and likely results of the Second CWC Review Conference in April.

**9 February** In Baghdad, two children have died after eating cakes laced with the poison thallium, which had been delivered to the Iraqi air force club, so reports BBC News Online. At least eight people, including the secretary of the Iraqi air force club and his daughter who are critically ill, are now being treated in hospital in Amman, Jordan. Those affected were flown to Amman from Baghdad as the necessary treatments and antidotes were not available in Iraq. The UK has since responded to a request for help from the World Health Organization and despatched a consignment of antidotes and medication to Amman. The BBC quotes the manager of the air force club as saying he believed the poisoning was carried out by conspirators with a grudge against the club’s administration. He says that, in what had appeared to be a gesture of goodwill, a former official delivered two cakes laced with thallium, which were taken home by two officials and eaten by their families. [See also 1 Jun 05]

**15 February** In Tokyo, the Supreme Court dismisses the final appeal against the death penalty by a former member of Aum Shinrikyo [see 6 Jun 00 and 5 Dec 03]. Yasuo Hayashi was convicted of crimes including murder and attempted murder in the attack on the Tokyo subway system [see 20 Mar 95], the sarin gas attack in Matsumoto, Nagano Prefecture [see 28 Jun 94], and the cyanide gas attempt at Shinjuku [see 5

May 95]. The court, led by Justice Yuki Furuta says: “The inhumane and cruel nature of the crimes and the gravity of the outcome are unprecedented... The death penalty is unavoidable even when taking into consideration that it was on the orders of a senior member.” A total of five former members of Aum Shinrikyo, including its leader Shoko Asahara, have now exhausted the appeal process against their death sentences [see 26 Oct 07].

**15 February** In Sanremo, Italy, there is a seminar on *The Chemical Weapons Convention between Disarmament and International Humanitarian Law*. The purpose of the seminar – which is jointly organized by the International Institute of Humanitarian Law and the Italian Ministry of Foreign Affairs – is to assess the successes and challenges encountered in the implementation of the CWC over the past decade and to discuss the forthcoming Second CWC Review Conference. The opening address is made by OPCW Director-General Rogelio Pfrirer. [See also 15-16 Dec 05]

**18 February** The Chinese army is training to respond to a chemical or nuclear weapons attack during the 2008 summer Olympics in Beijing, so reports Agence France-Presse. Police, private firms and volunteers are also expected to be involved in security operations during the games. Xinhua news agency quotes an unidentified “officer” as saying “We have massive training programs before the Olympics to better prepare against any possible threat.”

**18 February** In Jerusalem, a group of former Israeli servicemen are suing the Army, the Defence Ministry and the Nes Tsiona biological research institute for having tested antidotes for nerve agent on them without their consent, which they say has since led to cases of heart disease, skin ailments, respiratory and liver problems and hypertension, so reports the Tel Aviv Yedioth Ahronoth. The Army claims that those who participated in the programme had volunteered to do so. Referring to a case dating back to 1971, former serviceman Avi Yogev says: “We were laboratory rats for the army... They told us we were participating in a secret project. They had us swallow pills. We suffered from vomiting and diarrhoea. It was not until years later that we discovered that they had given us medicine against nerve gas after having tested it on animals.” Yogev says that the servicemen were told during training that they had to participate or would not be allowed to serve in a combat unit. According to Yedioth, the tests lasted for 11 days, during which time the recruits were separated into three groups and placed in isolation at Tel Hashomer base, near Tel Aviv. They were then administered “dozens of pills”, which was followed by vomiting and diarrhoea. In response to the lawsuit, the Defence Ministry issues the following statement: “The army’s medical department has set up a special unit to gather complaints from soldiers who say they participated in these laboratory tests. [The department for rehabilitation will be] examining the case files in order to follow up on them.”

**18 February** In the UK, the Foreign and Commonwealth Office, the Department for Business, Enterprise and Regulatory Reform, and the Ministry of Defence release their fifth [see 15 Jan 07] annual report on the Global Partnership (GP).

Regarding the Shchuch’ye chemdemil facility, the report states: “During 2007, the UK made important progress in implementing [chemical weapons destruction] CWD projects at the Shchuch’ye chemical weapons destruction facility (CWDF), many of them in close partnership with Canada, the largest funding contributor at Shchuch’ye after the US and Russia... During the year, the UK: completed delivery of the first key destruction equipment on behalf of Canada, and placed

orders for further packages of equipment; completed delivery to site of a metal parts furnace for the destruction process; completed an inter-site communications project on behalf of Canada; completed manufacture and delivery of electricity supply equipment, and placed a contract for associated construction and installation work, funded by UK, Belgium, the Czech Republic, the EU, Finland, Ireland, the Netherlands, Norway and Sweden; and ordered materials for the destruction facility on behalf of France. Construction of the railway connecting the munition storage and destruction facilities continues, with a major element complete. Work has been delayed significantly and the project will not be completed before Summer 2008. There have also been significant delays in placing implementation contracts for a number of other projects. The reasons have included bureaucratic delays in-country (for example, issuing of permits for construction work) and increasing difficulty in securing acceptable proposals from subcontractors. As a result, the remaining projects implemented by the UK will complete over the course of 2008. Through the UK assistance programme, the UK has continued to offer other donors the opportunity to contribute funding for [CWD] projects in Russia that the UK manages on their behalf. Existing arrangements, primarily with Canada, have continued in effect. During 2007 new arrangements were signed with Belgium, the Czech Republic, the EU, France, Ireland and the Netherlands... The MOD has placed contracts worth a total of some £75 million at Shchuch'ye, of which over £20 million is UK funding, £40 million is funding from Canada, and £14 million is from other donors."

As regards the Kizner facility, the report states: "In July 2006, the UK announced its intention to provide future assistance, in close partnership with Canada, at a new CWDF site at Kizner [see 18 Jul 06]. The UK planned to contribute a minimum of £10 million, primarily for procurement of electricity supply equipment to support the facility [...] building on experience at Shchuch'ye... During 2006 and 2007, the UK negotiated with the [federal Agency for Industry] FAI on the detailed arrangements necessary for implementing assistance projects at Kizner, and consulted FAI on plans for selecting a new UK principal contractor for project implementation. Despite considerable efforts by the UK, it has not been possible to reach agreement with the FAI on assistance arrangements that meet both FAI's timescales and UK requirements for effective management, value for money and transparency. The UK is disappointed at this outcome. The funding planned for Kizner will be reallocated for other projects under the UK's [Global Threat Reduction Programme]. The UK's programme of assistance with CWD destruction in Russia will therefore conclude with the completion of projects at Shchuch'ye, around the end of 2008. The priority over the next year is to complete remaining projects at Shchuch'ye, in particular: procurement and delivery to site of the remaining equipment for the second munitions destruction building, funded by Canada and France; construction of the railway and installation of the Local Public Address System, funded by Canada; construction and installation work on the electricity supply infrastructure, funded by the UK, Belgium, the Czech Republic, Finland, Ireland, the Netherlands, and Norway... The UK does not plan to provide further assistance following completion of projects at Shchuch'ye. The UK will continue to support public outreach efforts, including through Green Cross, for the time being."

On the subject of the redirection of scientists, the report states: "[The] MoD and DSTL have identified areas of common interest with the Health Protection Agency. Projects at the Institute of Plant Immunity and the G. Eliava Bacteriophage Institute in Georgia are continuing... During 2007, MOD provided funding for training and equipment at the Georgian National Centre for Disease Control, Tbilisi [Georgia]. The aim

of this training was to support a small collaborative research project which has been begun by the National Centre and DSTL into treatments for Brucellosis. This is the first commercial project undertaken by the Centre, and is due to complete during 2008. MoD/DSTL were also able to assist the Centre to subcontract with the G. Eliava Institute to carry out elements of the project, thus initiating the first collaborative work between the two institutions... In August 2006, MoD funded a survey visit by UK contractors (including a representative of the Environment Agency) to the Pavlodar Chemical Plant in Kazakhstan which, prior to the collapse of the Soviet Union, had been intended for the production of chemical weapons. The site has a considerable mercury contamination problem, and the possible technical solutions to this problem formed the basis of a workshop that took place in Oxford immediately following the site visit. Since this visit and the subsequent workshop at Oxford, the Pavlodar site has been purchased by new owners. The uncertainty generated by this takeover process has meant that plans for the site's remediation have proceeded more slowly than envisaged... [The] UK continues to engage with Iraqi scientists and engineers, and to liaise closely with the US engagement programme in this region... [The] MoD and DSTL have continued to support engagement with Libyan biological scientists, including in the provision of training... Specific priorities for 2008 [in this area] are as follows: strengthen coordination with the US, Canada and other donors; continue to support the progress of the Institute for Plant Immunity in Georgia towards a sustainable future, by completing technical training and assisting the Institute in identifying future core business; complete a second biological redirection project, at the G. Eliava Institute of Bacteriophage, Microbiology and Virology in Georgia, and continue to provide UK commercialisation expertise to the Institute, through the Institute's advisory board; continue support to collaborative projects between DSTL and the Georgian National Centre for Disease Control; continue engagement with the Georgian Government and relevant institutes, addressing issues such as Intellectual Property Rights and commercialisation, which are essential for the sustainability of the Georgian science sector; develop potential redirection projects at the Pavlodar Chemical Production Facility in Kazakhstan, and continue engagement with scientists from Pavlodar; take part in further UK/US training workshops for Iraqi scientists, and seek opportunities to fund further projects and engagement with scientists in both Iraq and Libya, in conjunction with the US; fund and organise a conference at Wilton Park to address biological non-proliferation and international health security issues in the context of the GP."

**18 February** UK Foreign Secretary David Miliband releases the first draft of a document written by the former Information Director at the Foreign and Commonwealth Office, John Williams, which according to media reports could have been used as the basis for the government's dossier *Iraq's Weapons of Mass Destruction: The Assessment of the British Government* [see 24 Sep 02]. Milliband, however, says the document "was not commissioned as part of the formal drafting process and was not used as the basis for the dossier which the government subsequently published". The request was originally filed in February 2005 by Chris Ames, a journalist for the *New Statesman* magazine, under the Freedom of Information Act. The move follows a decision three weeks previously by the Information Tribunal that the government must publish the document. In its judgment the Tribunal stated: "[I]nformation has been placed before us, which was not before Lord Hutton [see 28 Jan 04], which may lead to questions as to whether the Williams draft in fact played a greater part in influencing the drafting of the Dossier than has previously been

supposed.” On the content of the draft itself, the Tribunal stated that some intelligence-related sections of the published dossier resembled parts of the Williams draft, although this did not “lead on easily to the conclusion that one had been based on the other”. It also stated that the document was “annotated in two different persons’ handwriting, suggesting that at least one person other than the author had reviewed and commented on it”. It did, however, order that one handwritten note, which the Foreign Office claimed would be damaging to international relations, should be redacted. Information Commissioner Richard Thomas originally ruled in favour of the *New Statesman* magazine in May 2007, but the government appealed the decision on the grounds that publication would compromise the confidentiality of advice given to ministers, known as ‘the chilling effect’.

The 30-page document drafted by Williams does not include the oft cited claim that Iraq possessed WMD which could be used within 45 minutes of Saddam Hussein giving an order to do so. It refers to allegations that Iraq had acquired uranium, retained the ability to manufacture chemical and biological weapons and was developing long-range missiles. It also makes reference to atrocities committed by the Iraqi government, and its defiance of the United Nations. Writing in *The* (London) *Guardian* on day the document is published, Williams says: “[I]t seemed to me that the prime minister was making a mistake in planning to produce a dossier on Saddam Hussein’s military capabilities. So I wrote a note that August arguing it should not be for Britain to take on the burden of proof, rather Saddam should be obliged to show he no longer had weapons of mass destruction... I lost without an argument... So if there was going to have to be a dossier, better to influence the argument it made. That is why I volunteered to write a draft from the material then available to the team [Prime Minister Tony Blair’s Communications Director Alastair Campbell] had convened. This is the draft dossier that the government has now been ordered to publish under the Freedom of Information Act... Frustratingly, having been against the whole idea, I am seen by some as a major contributor to the dossier. I hope that a fair-minded reader will conclude that what I wrote was consistent with the UN approach on which I was at the time focused... Although I thought the dossier tactically unwise, I didn’t question the strategic case the government was then making... In the year and a half since I left the Foreign Office, I have thought a lot about how we got such a big thing so wrong. And I have questioned my own role.”

**19 February** The Indonesian House of Representatives endorses a bill that would make the development, production or possession of chemical weapons punishable by anything from four years imprisonment to death. According to the *Jakarta Post*, an offence will be committed under the bill for transferring or using chemical weapons, and for aiding and abetting the use of them. Moreover, in addition to the state being able to claim a company’s assets, revoke its licenses and shut down its production centres, the directors and other company officials could face prosecution where a company acts illegally with regard to the misuse of chemicals.

**19 February** In Israel, Channel 2 television reports that the Defence Ministry has decided to abandon its plan to collect and refurbish nearly seven million gas masks from the public due to insufficient funds. So far, around 4.5 million masks have been collected. However, these have yet to be refurbished. [See also 13 Aug 07]

**19-23 February** In Manila, police officials from China, Bangladesh, Bhutan, Indonesia, Malaysia, Philippines, Thailand, and Vietnam convene to receive training under the

Interpol bioterrorism programme [see 1-2 Mar 05]. Philippine National Police spokesman Nicanor Bartolome says the training will also be conducted at regional and provincial police offices.

**20 February** The US Centers for Disease Control and Prevention releases *Public Health Preparedness: Mobilizing State by State*. The 163-page report presents data that illustrate the progress state health departments have made in disease detection and investigation; laboratory testing capabilities; and planning, exercising and responding to public health emergencies. Resources covered in the report included personnel levels and laboratory capability at local, state and territorial health agencies. The report states that 110 health departments had biological-agent detection capabilities last year, an increase from 83 in 2002. The number of laboratories with chemical agent detection capabilities rose from zero to 47 in the same period. More generally, the report states that all state health departments can now promptly respond to reported urgent health threats compared with only twelve states a decade ago. Notwithstanding this, however, it concludes that improvements are still needed including the need to recruit and retain qualified epidemiologists and laboratory workers, better disease surveillance systems, and the development of a legal framework to share critical public health information with other states and jurisdictions.

**20 February** The US Congressional Research Service releases a report on *Nuclear, Biological, and Chemical Weapons and Missiles: Status and Trends*. The report, which cites various sources in drawing its conclusions, aims to provide an analysis of “NBC weapons programs potential threat patterns around the globe”. On biological weapons capabilities it states: “Examination of unclassified sources indicates that several nations are considered, with varying degrees of certainty, to have some BW capability. These are: China, Cuba, Egypt, Iran, Israel, North Korea, Russia, Syria, and Taiwan. Iraq had a biological weapons program prior to the 1991 Persian Gulf War, but ended the program in the 1990s. Libya had in the past been named as a country with a biological weapons program. But after Tripoli announced in 2003 that it would eliminate its WMD programs, no evidence of a biological weapons program was discovered.” As regards chemical weapons, it states: “Several countries that ratified the CWC have probably terminated their CW programs, but it is suspected that some signatories (such as Iran and China) and several countries that have not ratified the Convention (Egypt, Israel, North Korea, and Syria) may still be developing or producing CW.”

**21 February** In Loftus, New South Wales, Australian Military History Publications publishes *Chemical Warfare in Australia* by Geoff Plunkett [see 20 Jan] as a new title in the Australian Army History Collection, which is a joint venture with the Australian Army History Unit. In the author’s words, the book “tells the story of the men whose job it was during the Second World War to handle and store a million chemical weapons, which were covertly imported into Australia to counter a possible Japanese invasion”. This the book does in great detail, with full citation of its mostly documentary sources and much use of photographs.

**22 February** The Netherlands weekly *HP/De Tijd* reports that B2 Namous, the French CW test-site in the Algerian Sahara [see 23 Oct 97] had been used during 1952-58 by Dutch scientists from RVO-TNO in cooperation with Belgian and French counterparts for open-air trials involving nerve gases. The report is based on documents about the trials found in Netherlands military archives by reporter Mark Traa. Some of the documents are reproduced on the *HP/De Tijd*

website, including the text of a bilateral France-Netherlands agreement that had been signed in Paris on 4 September 1952 to define collaboration on CW-related subjects. These subjects were limited by the agreement to aspects of anti-chemical protection and did not include development of chemical weapons. Among the other web-posted documents are accounts of open-air releases in November 1952 of five different nerve gases – tabun, sarin, soman, cyclosarin and another O-hexyl methylphosphonofluoridate, referred to in the French as “Corps X” – that were disseminated by pressurized sprayers over cages of experimental animals or else by exploding 105 mm artillery shell in which nerve gas replaced the white-phosphorus fills of American M60 smoke rounds. They included Belgian tests using sarin-filled shell and Dutch tests using shell charged with ‘Corps X’.

**22 February** In Paris, the Parliamentary Assembly Council of Europe, Committee on the Environment, convenes for a hearing on chemical munitions dumped in the Baltic Sea. Subjects discussed include environmental considerations in relation to the proposed construction on the seabed of the Baltic Sea of a gas pipeline linking Russia and Germany [see 9 Nov 07]. [See also 21 Dec 07]

**22 February** In New York, the Second Circuit Court of Appeals dismisses the appeals by the Vietnamese Association for Victims of Agent Orange/Dioxin (VAVA) [see 18 Jun 07] and by a group of sixteen veterans and their families against Dow Chemical Co, Monsanto Co and 35 other companies for their role in the production of Agent Orange (AO) used by the US military during the Vietnam War.

In the case of the appeal by VAVA, the court rules that the claims brought under the Alien Tort Statute and domestic law were properly dismissed by the district court, which held that the plaintiffs failed to show that use of AO violated a ban on the use of poisonous weapons in war and that the lawsuit did not prove the plaintiffs’ health problems were linked to AO [see 10 Mar 05]. Writing on behalf of the three-judge panel, Judge Roger Miner says: “Plaintiffs have, at best, alleged a customary international norm proscribing the purposeful use of poison as a weapon against human beings that is inapplicable in this case... We hold that plaintiffs’ claim that ‘defendants manufactur[ed] and suppl[ied] a herbicide laced with poison’ and used as a defoliant fails to satisfy the standard set forth by the Supreme Court in [the case of] *Sosa* for recognition of a tort in violation of international law...”

In two separate, but related, rulings, the court also upholds two other AO rulings of opinions affirming lower court dismissals of sixteen unconsolidated civil cases brought by US veterans and their relatives [see 9 Jun 03]. The first of these relates to a claim by a group of veterans and their families who said their health problems did not become apparent until after a 1984 class-action settlement was reached with a group of veterans. In 1984, seven chemical companies, including Dow Chemical and Monsanto, agreed to a \$180 million settlement with US veterans who claimed that AO caused them to suffer health problems. The plaintiffs were not members of the original class that agreed the settlement and they were not among those who had been part the original class, but whose injuries were manifested after the chance to opt out of the settlement had expired. The sixteen plaintiffs appealed on the grounds that their ill health did not become manifest until after the 1994 cut-off date for filing settlement claims. Judge Robert Sack, writing for the court, states “[N]o reasonable jury could find that the government did not exercise sufficient discretion for it to have been said to have ‘approved’ specifications on the herbicide... [The] government made a discretionary determination regarding Agent Orange’s

toxicity... Since the government continued to order Agent Orange after having evaluated its toxicity levels and declared them acceptable, we ‘cannot second-guess’ the manufacturers’ decision to produce the agents in the manner that they did.” In the other case, Judge Peter Hall, joined by Judges Miner and Sack, writes: “[The] defendants have demonstrated [...] that they were ‘acting’ under a federal officer; that there is a causal connection between the formulation, manufacturing, packaging, and delivery of Agent Orange and the state prosecutions; and that they have raised a colorable defense under federal law... Moreover, removal in these cases fulfills the federal officer removal statute’s purpose of protecting persons who, through contractual relationships with the government, perform jobs that the government otherwise would have performed.”

Speaking after the ruling, the lawyer representing VAVA, Jonathan Moore, says: “We think the circuit was wrong in the conclusion that international law at the time of the use of this chemical during the Vietnam War did not prohibit use of a poison that had no military necessity and had no reason to be in the product except for the greed of the chemical companies... These decisions mean that, if these decisions are not reversed by the Supreme Court, the era of agent orange litigation has ended.” He says that the ruling will be appealed. Meanwhile, spokesman for Dow Chemical Chris Huntley says: “We are pleased with the court’s decision... We have long held the view that issues related to war-time activities should be addressed by the US and Vietnamese governments.” Monsanto spokesman Glynn Young reacts to the ruling thus: “We’re gratified by the appeal court’s decision, which was both extensive and comprehensive in upholding the original decision by the lower court... As we have always maintained, issues related to the military’s use of Agent Orange during the Vietnam War are best left to the appropriate governments to discuss and resolve. Vietnamese government spokesman Le Dung, however, says the Vietnamese people were “very discontented” with the verdict. “It is a pity that the US Court of Appeals issued such a verdict, when the US government had been making efforts to cooperate with Vietnam to heal the consequences caused by Agent Orange,” says Dung.

**26 February** Russian First Deputy Prime Minister Dmitriy Medvedev says the chemdemil process should be under not only state control, but also under public control. Speaking to journalists in Ufa, Volga district, he says: “In the first place, there is state monitoring... But there also needs to be public control... We should know in what conditions these enterprises are operating, and there should certainly be public control over this.”

**26 February** In the UK, the Information Tribunal orders the government to publish the minutes of two Cabinet meetings on the US-led invasion of Iraq [see 20 Mar 03], after the Cabinet Office had previously rejected a request under the Freedom of Information Act. The ruling relates to a Cabinet meeting on 13 March 2003, and a special meeting of the Cabinet held on 17 March 2003 to discuss the opinion provided that day by Attorney-General Lord Goldsmith that the invasion of Iraq was legal under international law. After reports that Goldsmith had changed his mind in the lead up to the invasion, his initial advice given to Prime Minister Tony Blair on 7 March 2003 was eventually published after extracts had previously been leaked to the press [see 27 Apr 05]. Information Commissioner Richard Thomas says disclosure would “allow the public to more fully understand this particular decision of the cabinet” and will help “transparency and public understanding of the relevant issues”. BBC News Online quotes an unidentified government spokesperson as saying that the government is “considering” appealing against the decision. [See also 18 Feb]

**27 February** In South Korea, during a parliamentary hearing on his appointment as foreign minister, Yu Myung-hwan says that "it is appropriate to examine whether there is a way to more actively participate" in the Proliferation Security Initiative. The previous administration had participated in the PSI only as an observer so as to avoid antagonizing North Korea [see 12 Jan]. According to the Associated Press, the new administration has pledged to boost ties with the USA and to take a harder line with North Korea.

**27 February** In the UK House of Commons, responding to a written question addressed to the Foreign Secretary as to "what Government-sponsored collaboration there is between UK (a) scientists and (b) public servants and their counterparts working on Project Coast in South Africa", Minister of State for the Foreign Office Kim Howells says: "There was no Government-sponsored collaboration between UK scientists or public servants and Project Coast in South Africa. However, in the course of their normal duties, including attendance at international conferences, some Government officials and scientists did have contact with South African counterparts who were subsequently identified as having worked on Project Coast. When allegations of UK assistance to Project Coast emerged, full investigations were held. These found no evidence to suggest UK Government officials knowingly provided assistance to any South African Chemical and Biological Weapons Programme. [See also 16 Jan 06]"

**28 February** The US Government Accountability Office releases *Chemical and Biological Defense: DoD and VA Need to Improve Efforts to Identify and Notify Individuals Potentially Exposed during Chemical and Biological Tests*. The purpose of the report is to: assess DoD's efforts to identify individuals who were potentially exposed to chemical and/or biological agents during Project 112 tests; evaluate DoD's current effort to identify individuals who were potentially exposed during tests conducted outside of Project 112; and determine the extent to which DoD and the Department of Veterans Affairs (VA) have taken action to notify individuals who might have been exposed.

The report states: "DoD stopped actively searching for individuals who were potentially exposed to chemical or biological substances during Project 112 tests in 2003, but has yet to provide a sound and documented basis for its decision. In 2003, DoD reported it had identified 5,842 servicemembers and estimated 350 civilians as having been potentially exposed during Project 112, and indicated that DoD would cease actively searching for additional individuals, but that it would investigate any new information that might be presented and share any additional or changed information with VA and the public. In 2004, after reviewing DoD's efforts, we reported that DoD did not exhaust all possible sources of information during its investigation of Project 112, and we recommended that DoD determine the feasibility of identifying additional individuals [see 14 May 04]... In response to our recommendation, DoD determined continuing an active search for individuals had reached the point of diminishing returns, and reaffirmed its decision to cease active searches... While DoD has concluded that continuing an active search for individuals potentially exposed during Project 112 has reached a point of diminishing returns, it has not conducted an informed cost-benefit analysis, which could guide DOD in identifying the extent to which it might need to take additional actions. Without conducting a sound and documented cost-benefit analysis that includes a full accounting of information known and the challenges associated with continuing to search for Project 112 participants, DoD will not be in a position to make an informed and transparent decision about whether any of

the remaining investigative leads could result in meaningful opportunities to identify additional potentially exposed individuals... DoD has taken actions to identify individuals who were potentially exposed during chemical or biological tests outside of Project 112, but we identified four shortcomings in DoD's current effort. First, DoD's effort lacks clear and consistent objectives, scope of work, and information needs that would set the parameters for this effort... Second, until June 2007, [the Office of the Undersecretary of Defense for Acquisition, Technology, and Logistics] had not assigned an official to oversee the contractor's effort, nor had the officials from that office visited any repositories where the contractor had proposed or completed work, resulting in little substantive oversight of the contractor... Third, [the Office of the Undersecretary of Defense for Acquisition, Technology, and Logistics] did not fully leverage all available prior knowledge and research of DoD and non-DoD entities to identify and use information they developed on individuals potentially exposed during DoD's chemical and biological tests... Fourth, DoD had not worked with veterans and veterans service organizations to identify DoD projects or tests outside Project 112 that may have exposed members of the armed forces to chemical or biological substances, as required by the Defense Authorization Act for FY 2003, and has not kept Congress and veterans service organizations fully informed about its efforts. Until DoD addresses these shortcomings, DoD leadership and Congress have little assurance of the reasonableness and effectiveness of DoD's current effort." The report then sets out a series of recommendations that the Office of the Under-Secretary of Defense for Personnel and Readiness; the Office of Under-Secretary of Defense for Acquisition, Technology, and Logistics; and the Secretary of Veterans Affairs should take in order to remedy the shortcomings identified by the GAO. [See also Feb 04 and 30 May 07]

**29 February** In Baghdad, the three-member Iraqi presidential council has approved the execution of Ali Hassan al-Majid, also known as Chemical Ali, so reports Agence France-Presse. A "top Iraqi official" speaking on condition of anonymity, is quoted as saying: "The approval was given two days ago... The prime minister has not made up his mind on the date of the execution... The clock has started to tick since two days." The source suggests, however, that the execution could take place within thirty days following the presidency's endorsement of the sentence. Laith Shubbar, an official in the office of Vice President Adel Abdul Mahdi confirms the decision of the council. Mirembe Nantongo, a spokeswoman for the US embassy in Baghdad, says that US officials are "aware of the presidency council's action" but that they had not yet received a formal request to hand al-Majid over to the Iraqi government. Meanwhile, the Associated Press quotes an unidentified government adviser as saying that US officials and Iraqi Prime Minister Nouri al-Maliki have planned a meeting to determine the date and site of the execution. Majid was sentenced to death for genocide last year – along with former defence minister Hashim Ahmad al-Tai and former armed forces deputy operations director Hussein Rashid Mohammed – after being found guilty by the Iraqi High Tribunal of genocide, crimes against humanity and war crimes for *inter alia* ordering the use of chemical weapons during Operation Anfal [see 24 Jun 07]. However, after the Supreme Court upheld the sentences, the presidency council refused to approve the executions of the three following Sunni objections that al-Tai and Mohammed had only followed the orders of Saddam Hussein under duress [see 4 Sep 07].

One week later, the Associated Press reports that al-Maliki has said he will not approve the execution of Majid unless the

council also endorses the executions of al-Tai and Mohamed. Government spokesman Ali al-Dabbagh says: “[The Prime Minister] refuses to split the death sentences issued by the Iraqi High Tribunal... He wants them to be carried out together. He believes that the death sentences issued by the High Tribunal are irreversible and unchangeable and [...] do not need the approval of the presidency council, which has no right to change the sentences.”

Seven weeks later, Majid is hospitalized after suffering a heart attack as a result of having gone on hunger strike for three days, according to Majid's defence lawyer Badee Izzat Aref. Majid had refused to eat, together with fourteen co-defendants in a separate trial over their detention at a courthouse holding facility in place of their former quarters at the US Camp Cropper detention center. Two days later Majid is discharged from hospital.

Eight weeks later, the Associated Press quotes an anonymous “Iraqi government official” as saying that Majid is too sick to attend his latest trial, commencing the same day, relating to the execution of 42 merchants in 1992. According to the official, Majid is suffering from diabetes and high blood pressure.

**29 February** In Santa Domingo, Dominican Republic, there is an experts meeting on the implementation of UN Security Council Resolution 1540 in Barbados, the Dominican Republic, Haiti, Jamaica, St Kitts and Nevis, and Trinidad and Tobago. The aim of the meeting – which is hosted by the Henry L. Stimson Center in collaboration with the Organization of American States, the Stanley Foundation and the Canadian government – is to identify specific development needs and to pair these with assistance from donor states in accordance with resolution 1540. Specifically, it focuses on citizen security; public health; business and industrial development; disaster prevention and response; and legal training, education and capacity building.

**29 February** In Washington DC, in the ongoing legal dispute between the Department of Defense (DoD) and six of its employees as to the safety of the anthrax vaccine [see 13 Dec 06], a federal judge rules that the DoD can conduct mandatory anthrax vaccinations of troops. Judge Rosemary Collyer says: “The court will not substitute its own judgment when the [Food and Drug Administration] FDA made no clear error of judgment.” The lawyer for the six claimants, Mark Zaid, says the ruling will be appealed on the grounds that the approval by the FDA of the vaccine for use in humans depended on outdated tests using animals. The *Washington Post* quotes him as saying: “This case has repercussions far beyond the anthrax program... Anyone who is concerned about vaccine safety should be wary of this judicial decision.” Three years ago, a federal judge ordered a halt to the mandatory vaccinations on the grounds that an FDA review of the vaccine was insufficient [see 27 Oct 04]. Thereafter, the DoD administered the vaccine on a voluntary basis [see 1 Apr 05], but later announced that it would resume mandatory vaccinations for more than 200,000 troops [see 16 Oct 06], after the FDA had again reviewed the vaccine and approved it [see 19 Dec 05].

**29 February** In Arkansas, the Pine Bluff chemdemil facility destroys the last of its stockpile of 19,608 VX-filled M55 rockets, having commenced the destruction process some four months previously [see 13 Oct 07]. The head of the disposal operation, Clifton Johnston, says: “With both the GB [see 19 May 07] and VX rockets destroyed, the risk to the community has been reduced by 97 percent.” Meanwhile, site project manager Mark Greer says: “With the end of VX rocket processing, the entire rocket stockpile has been eliminated at

the arsenal.” According to the Chemical Materials Agency, the facility will now focus on disposing of VX-filled land mines, which will lead to the eventual elimination of all VX agent “some time in 2009”. The Associated Press says that, following completion of the operation to destroy the VX landmines, there will be a changeover period to prepare for destruction of containers holding mustard gas, which will be the last stage of the disposal campaign at the arsenal.

**29 February** In Las Vegas, vials found in the motel room of a man, who was hospitalized two weeks previously in critical condition after complaining of breathing problems, have tested positive for ricin. Speaking at a press conference, Las Vegas Police Deputy Chief Kathy Suey says that two preliminary tests, one by police and one by the Nevada National Guard, concluded that the substance found in Roger von Bergendorff's room was ricin, a finding which was subsequently confirmed by a local laboratory. She says “there is no information to lead us to believe that this is the result of any terrorist activity or related to any possible terrorist activity”. The police investigation only commenced the previous day after Thomas Tholen, von Bergendorff's cousin, went to von Bergendorff's motel room to retrieve von Bergendorff's belongings and found “several” vials of a powder, which he immediately brought to the attention of the motel manager. Suey says that seven people, including the man who found the ricin, the manager, two other motel employees and three police officers were decontaminated at the scene and taken to hospitals for examination, but none have shown any signs of having been affected by ricin. Speaking at a news conference, Police Captain Joseph Lombardo says the man who brought the substance to the manager told police he had found it in a suite. According to CNN, during their search of the motel room, police officers also uncovered firearms and an “anarchist-type textbook” with an entry bookmarked on ricin.

Four days later, the Centers for Disease Control and Prevention states that its own tests confirm that the powder in the vials is indeed ricin and that no powder has been detected other than that found in the vials. CDC spokesman Von Roebuck says: “At this point, from all the investigation, we don't have any definitive ricin contamination.”

Two weeks later, spokesman for the FBI office in Las Vegas David Staretz tells the Associated Press that von Bergendorff has recovered consciousness and the FBI is “in the process of speaking with him”.

Three weeks later, Bergendorff's younger brother, Erich Bergendorff, tells the Associated Press that his brother informed him during a telephone call from hospital that the ricin “was not intended for anybody”, but “was something that would be used for his own purposes, for self-defense”. He adds that his brother “is under the impression he was contaminated by it,” and talked “as though he just had it there”.

Five weeks later, a federal grand jury delivers a charge of ‘concealing a felony’ against Tholen for failing to report Bergendorff's production of the ricin and of later lying to authorities about the matter. The Associated Press quotes head of the FBI's Salt Lake City field office Tim Fuhrman as saying that the FBI is confident that the ricin was made locally and that Tholen was aware of its production. Within a month, Tholen appears in court and pleads not guilty to the charge, saying that he knew the ricin was being produced in his basement, but did not inform the authorities because he feared it would alert them to other weapons and explosive devices stored there. According to the Associated Press, if convicted, Tholen could face three years imprisonment and a \$250,000 fine.

Seven weeks later, the FBI arrest Bergendorff – shortly after his being released from hospital – on charges of possession of a biological toxin, and on two firearm counts relating to

firearms that were also discovered during a search of Bergendorff's motel room. Appearing in a wheelchair before a federal judge, Bergendorff denies any criminal intent. "I'm not a criminal. I'm not a robber. I'm not a thief. I'm not a rapist. I'm not a child molester. ... It's not in my blood," he says. The judge orders Bergendorff to be held in custody pending his next court appearance. According to a six-page indictment, Bergendorff has admitted to the FBI that he had experimented with ricin since the late 1990s. The Associated Press quotes the indictment as stating: "Bergendorff characterized the production of ricin as an 'exotic idea'... Bergendorff admitted that there have been people who have made him mad over the years and he had thoughts about causing them harm to the point of making some plans... However, he maintained that he never acted on those thoughts or plans." The indictment states that the ricin was "crude" and consisted of only 2.9 per cent "active ricin". If convicted, Bergendorff faces up to thirty years imprisonment. *The New York Times* quotes Las Vegas-based FBI agent Joseph Dickey as saying: "Based on the results of our investigation, we don't believe that the public was ever in danger... Nor do we believe that this was any terrorist plot."

Eight weeks later, Bergendorff appears in court to plead 'not guilty' to charges relating to the possession of ricin and to his possession of other weapons.

Fourteen weeks later, District Court Judge Robert C. Jones puts back the trial of Bergendorff from mid-June until the second week of September after the defence and prosecution agree to more time. Global Security Newswire quotes, Paul Riddle, Bergendorff's lawyer, as saying both sides are discussing a plea bargain.

**March** In the UK, the Harvard Sussex Program releases *Resource Guide for the Second CWC Review Conference 2008*. The Guide comprises material relating to the chemical-weapons regime, including: official documents and other texts; documents from the United Nations and other regional organizations; documents from informal arrangements; and supporting material from various non-governmental organisations. The Guide has been designed first and foremost as a useful source of reference material for delegates during the Review Conference, which will take place from 7 to 18 April in The Hague. It is also hoped, however, that it will also prove a useful resource for anyone interested in the chemical-weapons regime as embodied under the CWC.

**March** In the USA, the JASON Defense Advisory Group releases a report that analyses "the present state of the art in pharmaceutical intervention in cognition and in brain-computer interfaces, and [considers] how possible future developments might proceed and be used by adversaries". In this regard, it says that "the most immediate human performance factor in military effectiveness is degradation of performance under stressful conditions, particularly sleep deprivation". Though the report concludes that "the technical likelihood of such a development is small at present", the Department of Defense, it says, should nevertheless "monitor enemy activities in sleep research, and maintain close understanding of open source sleep research". The report was sponsored by the Office of Defense Research and Engineering. JASON is an independent group of scientists which advises the government on matters of science and technology.

**March** In the USA, a team of researchers from Chicago University say that after analysing over 9,000 genes in 180 people – half of whom were Caucasian and the other half Yorubans – they found differences between the two races in 5 per cent of key genes relating to the immune system,

according to an article published in the *American Journal of Human Genetics*. The team studied the level of activity of genes derived from blood cells from sixty nuclear families, each including a mother, a father and a child. Half the families came from Utah, USA; the other half were Yorubans from Ibadan, Nigeria. Significant differences were found, particularly in immune-system genes involved in producing antibodies to combat bacterial infection as well as those involved in basic cellular processes. Team leader Eileen Dolan says: "Population differences in gene expression have only recently begun to be investigated... We believe they play a significant role in susceptibility to disease and in regulating drug response... Our current research focuses on how these genetic and expression differences play a role in sensitivity to adverse effects associated with chemotherapy."

**2 March** In the Southern Ocean, a Japanese whaling ship, the *Nisshin Maru*, is assaulted by protestors on board the Netherlands-registered vessel *Steve Irwin*, which belongs to the Sea Shepherd Conservation Society. The anti-whaling protestors throw bottles of the malodorant chemical butyric acid and also envelopes containing "slippery powder". The captain of their vessel, Paul Watson, says to reporters: "I guess we can call this nonviolent chemical warfare. We only use organic, non-toxic materials designed to harass and obstruct ... whaling operations." Since November 2007 there have been several clashes between activists and whalers, and this not the first time in which 'non lethal' chemical weapons have been employed.

**3 March** The US Central Intelligence Agency releases its *Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions* for the period 1 January to 31 December 2006. The country-specific part of the report states:

"We judge that Iran maintains a Chemical Warfare (CW) research and development program which began in response to Iraqi use of CW during the Iran-Iraq War during the 1980s. ... [Iran] continues to seek production technology, training, and expertise from foreign entities that could advance a CW program. We judge that Iran maintains a small, covert CW stockpile." This language differs from the report covering the period 1 January to 31 December 2005 [see 4 Feb] by reintroducing the idea of an Iranian CW stockpile in violation of the CWC. On BW it states: "Iran probably has the capability to produce large quantities of some BW agents for offensive purposes, if it made the decision to do so. Iran continues to seek dual-use biotechnology materials, equipment, and expertise consistent with its growing legitimate biotechnology industry but these components could also advance Tehran's BW capability."

"We assess that North Korea has had a longstanding CW program. North Korea's chemical warfare capabilities probably included the ability to produce bulk quantities of nerve, blister, choking, and blood agents. We assess Pyongyang possesses a sizeable stockpile of agents... North Korea has a rudimentary biotechnology infrastructure that could support the production of various biological warfare agents. We judge that North Korea possesses a conventional munitions production infrastructure that could be used to weaponize BW agents."

"Syria continued to seek dual-use technology from foreign sources during the reporting period. Syria has had a chemical weapons program for many years and already has a stockpile of the nerve agent sarin, which can be delivered by aircraft or ballistic missile. In addition, Syria is developing the more toxic and persistent nerve agent VX. We assess that Syria remains dependent on foreign sources for key elements of its CW

program, including precursor chemicals... Syria's biotechnical infrastructure is capable of supporting limited biological agent development. We do not assess the Syrians have achieved a capability to put biological agents into effective weapons, however."

Regarding 'key suppliers', the report states:

"Russian entities [...] remained a source of dual-use biotechnology equipment and related expertise. Such entities have been a source of dual use-use biotechnology, chemicals, production technology, and equipment for Iran."

**3-7 March** In Kenitra, Morocco, there is a practical training course at the Royal Institute of Police in emergency response against chemical weapons for CWC parties of the North African sub-region. In total, twenty-seven officials and experts from the army, police, medical and other government agencies and ministries of Algeria, Libya, Morocco and Tunisia participate in the course. The event is organized by OPCW under Article X with funding support from the EU Joint Action 2007 [see 19 Mar 07].

**4 March** In the UK House of Commons, responding to a written question addressed to the Secretary of State for International Development as to what international guidelines apply to concentrations of dioxin; and what the concentrations of dioxins are in those hotspots of serious contamination in Vietnam, Parliamentary Under-Secretary of State for International Development Shahid Malik says: "The calculation of acceptable dioxin levels in soil/sediment or in humans is complex. For soil or sediment, the Atlanta Centre for Disease Control in the US uses 1,000 parts per trillion Toxic Equivalence Quote (ppt TEQ) as being the maximum allowable level of dioxin contamination permitted before some form of corrective action must be taken to mitigate TEQ exposure. For the human body, the UK Foods Standards Agency has set the Tolerable Daily Intake (TDI) of dioxin at 2 picogram (pc)/kilogramme (kg) of body weight. This is based on World Health Organisation (WHO) guidelines... The concept of a dioxin 'hotspot' was developed by Hatfield Consultants Ltd (Canada) while working with the Ministry of Health in Vietnam [see 30 Oct 98]. They found that the current level of dioxin contamination in and around the former US air bases where dioxin was stored, mixed and loaded onto planes – the hot spots – was much higher than current levels in the areas sprayed during the war. The three major hotspots are in Southern Vietnam at the former US air bases at Da Nang, Bien Hoa, and Phu Cat. Studies conducted between 2000 and 2004 by the Vietnamese Ministry of National Defence found an average dioxin level of about 35,000 ppt TEQ at Da Nang and Bien Hoa airports. This is 35 times higher than acceptable levels recommended by the Atlanta Centre for Disease Control in the US." Responding to a follow-up question from the same questioner as to how many Vietnamese have been identified as victims of Agent Orange both inside and outside areas which were sprayed; and what estimate has been made of the numbers of as yet unborn people who will be affected, Malik says: "There is no agreed accurate information available on how many Vietnamese were victims of Agent Orange and other herbicides, during and since the war, or how many will be affected in the future... The Government of Vietnam states that up to 5 million people may have been affected by Agent Orange. The US suggests that the number is probably much lower and is funding research to provide clearer evidence of the link between dioxins and health and of the number of people affected."

**4-7 March** At OPCW headquarters, the Executive Council convenes for its fifty-second [see 27-30 Nov 07] session, which is chaired by Ambassador Romeo A. Arguelles of

the Philippines.

The Council considers amendments to the agreed detailed plan for verification of the destruction of chemical weapons at the Newport chemdemil facility and decides to consider them further at its next regular session. It considers the agreed detailed plan for verification of the destruction of the Category 1 chemical weapons at the Maradykovsky chemdemil facility and decided to consider it further at its next regular session. The Council also considered amendments to the agreed detailed plan for verification of the destruction of chemical weapons at the Pine Bluff Binary Destruction Facility and decided to consider them further at its next regular session. Finally, it considers the agreed detailed plan for verification of the destruction of the Category 1 chemical weapons at Leonidovka chemdemil facility and decides to consider it further at its next regular session.

The Council notes a Note by Director-General Rogelio Pflirter on the progress made by those States Parties that have been granted extensions of deadlines for the destruction of their Category 1 chemical weapons. Further to decisions made by the Conference at its eleventh session [see 5-8 Dec 0], the Council considers and the following national papers: 'Report on the Progress of Destruction of Category 1 and 2 Chemical Weapons Stockpiles' by Libya; 'Report on Destruction Activities during the Extension Period' by an unnamed State Party; 'Report on CW Destruction Activities during the Extension Period after 29 April 2007' by India; and 'Report to the Executive Council: Destruction Activity As at 31 December 2007, Third Report' by the USA.

The Council considers the report by the Chairperson of the Council on the visit to Anniston chemdemil facility and notes that there was a divergence of views on the report and that both appreciation and concerns were expressed.

Further to a decision by the Conference at its eleventh session, the Council considers and notes a national paper by Russia entitled 'Report on CW Destruction Activity at the End of the Current 90-Day Period after 29 April 2007 (as at 31 December 2007)'. Further to a decision by the Council at its forty-sixth session [see 4-7 Jul 06], the Council notes a national paper by China entitled 'Report on the status of Japanese Abandoned Chemical Weapons in China' and a national paper by Japan entitled 'The Report of the Current Status of the ACW Projects in China (Reporting Period: from 1 October to 31 December 2007)'.

The Council considers a report by the Director-General on the status of implementation of Article XI of the Convention as at 31 December 2007 and decides to consider it further at its next regular Session.

Further to its consideration of this issue at its previous session, the Council considers and approves a facility arrangement between the OPCW and the UK regarding on-site inspections at the Schedule 2 Plant Site, Ellesmere Port Incineration Plant, Cheshire.

The Council considers and notes a report by the Director-General on the implementation of the regime governing the handling of confidential information by the Secretariat in 2007.

The Council considers a Note submitted by the Director-General containing lists of new validated data and decides to consider them further at its next regular session.

The Council requests the Director-General to implement the Director-General's initiative on the OPCW Programme to Strengthen Cooperation with Africa on the CWC as soon as possible, as well as to provide feedback on a regular basis on the activities and progress made in this regard. The Council also notes that further consideration would be given during its fifty-fourth session to the establishment of an OPCW Office in Africa, taking into account the progress achieved in the implementation of the Programme.

The Council considers and concluded agreements between the OPCW and the Republics of El Salvador and Serbia on the privileges and immunities of the OPCW.

In his address to the Council, Head of the US delegation Eric M Javits says: "Effective national implementation has been a priority in the OPCW. While the broad political effort must be maintained, my government believes that it is time to add a new level of cooperation among States Parties. We would like to see the annual two-day meeting of national authorities broadened into a week-long meeting of national implementation professionals with a yearly focus or theme, presenting briefings and comparing experiences on, for example, domestic law enforcement issues associated with the Convention, methods of outreach to industry, or national methods of overseeing imports and exports of toxic chemicals."

**6 March** In Washington DC, the commander of the US Northern Command says the priority of the Command is to help prepare the USA for an act of terrorism involving WMD. During a congressional hearing, General Victor Renuart says: "[The] potential availability of WMD to terrorist groups is of vital concern, especially as terrorists thrive in the 'grey area' where notions of crime and armed conflict overlap." The Northern Command was established in 2002 to lead Defense Department homeland security programmes and to ensure the military is prepared to work alongside civilian agencies during a crisis. [See also 31 Jan]

**7 March** Madagascar deposits its instrument of accession to the BWC in New York, thereby making it the 161<sup>st</sup> [see 15 Jan] party to the Convention. According to the United Nations Office at Geneva, the BWC now has 14 states that have signed, but not yet ratified, and there are 20 states that are not parties.

**7 March** In Washington DC, a federal court holds a former reporter of *USA Today* in contempt of court for refusing to comply with an order that she identify the sources that she used for stories linking Steven Hatfill to the anthrax letters [see 15 Oct 01]. District Judge Reggie B. Walton also orders that if she does not cooperate, Toni Locy must pay fines of \$500 a day for the first week, \$1,000 a day for the second week and \$5,000 thereafter until 3 April when she appears before the Circuit Court of Appeals for the District of Columbia. Walton justifies his decision as follows: "When weighing [...] Dr Hatfill's need to identify the leakers before their memories are exhausted against Ms Locy's desire to preserve her ability to pursue her appeal, her interest, at a minimum, is counterbalanced by Dr Hatfill's." Seven months previously, Walton ruled that five journalists must identify the government officials who discussed details about the case [see 13 Aug 07]. Three reporters cooperated after their sources identified themselves to Hatfill's lawyers. Locy says she cannot remember whom she talked to about Hatfill specifically and is refusing to identify all the sources she spoke to about anthrax generally. According to the Associated Press, Walton is also considering whether to find former CBS reporter James Stewart in contempt of court. [See also 11 Jan]

**10 March** In the USA, Boeing announces that together with the Defense Threat Reduction Agency (DTRA) it has modified a UAV to detect and collect airborne biological agents. In a statement, it says: "[Boeing and the DTRA have] demonstrated successfully that ScanEagle unmanned air vehicles modified to look for biological warfare agents can effectively intercept, detect and fly through simulated biological plumes or clouds to collect airborne agents... Tests also show that UAVs can successfully collect airborne material and data

from a target site that can help US forces combat the threat from biological agents and minimize the danger to friendly forces and civilians." Keith Coleman, project manager for the Biological Combat Assessment System (Advanced Technology Demonstration) programme, says: "We now know that we can use UAVs to find and intercept biological plumes using computerized prediction models, along with location and tracking software and other UAV-based sensors." He says that the UAV would enable US forces to accurately perform, at safe distances, battle damage assessment of plume releases that result from counter-force strikes against facilities dedicated to the research, production and/or storage of biological warfare agents."

**10 March** In San Francisco, a non-governmental organization files a law suit against the Department of Energy (DoE) to prevent work being undertaken at the BSL-3 facility at Lawrence Livermore National Laboratory. Tri-Valley CAREs' is requesting the federal court to grant an interim injunction against the facility while the case is being considered. Among the allegations set out by Tri-Vally CAREs are that DoE failed to prepare an adequate environmental assessment in its 'finding of no significant impact', failed to prepare a full environmental impact statement, and failed to hold public hearings. In 2006, the 9<sup>th</sup> Circuit Court of Appeals blocked the opening of the laboratory until the DoE had considered whether terrorists could attack the laboratory, and whether the possible consequences of the work being undertaken at the laboratory warrant a full environmental review [see 16 Oct 06]. According to Tri-Valley CAREs, DoE started conducting experiments on 25 January 2008 "on the basis of a faulty, unsupported 'finding of no significant impact' without conducting a legally adequate environmental review and public comment process".

**11 March** In Kentucky, construction of the Blue Grass chemdemil facility could be delayed beyond the summer, when construction was scheduled to begin, as a result of questions being raised regarding its design, according to the Associated Press. Spokesman for Bechtel Parsons Bluegrass John Schlatter says that one week previously, the Defense Department Explosive Safety Board informed the company that it had concerns regarding one or more rooms designed to be explosive-resistant. Specifically, the issue relates to the connection of steel beams that support concrete. Schlatter says that executives from the company expect to meet with the board this spring to discuss matters and that if the plans are not approved by June, construction could be delayed indefinitely.

**11-12 March** In Kampala, a meeting to draw East African scientists and policy-makers into discussion and debate of biosafety and biosecurity issues is hosted by the Ugandan Academy of Sciences in collaboration with the Institute for Security Studies in South Africa, the US National Academy of Sciences and, in the person of Brian Rappert, the UK University of Exeter.

**11-13 March** In Phnom Penh, Cambodia, there is a workshop to familiarize Cambodian government ministries, departments and institutions about the provisions of the CWC and its implementation requirements. Attending are more than forty participants from different ministries and institutions, as well as representatives from the Japanese government and the Australian Embassy in Phnom Penh. The workshop, which is organized with the support of a voluntary contribution from the government of Japan, provides an opportunity for bilateral consultations between OPCW technical experts and representatives of the Japanese and Cambodian governments to finalize the draft of Cambodia's national implementing legislation.

**12 March** The Iraqi government issues a statement saying that it has “decided to take legal measures to sue the companies who provided the former government with the chemical weapons used in Halabja [see 18 Mar 88]”, without, however, specifying which companies might be affected. [See also 21 Nov 05 and 2 Apr 07]

**12 March** In the US Senate, testifying before the Armed Services Emerging Threats and Capabilities Subcommittee, Director of the Defense Threat Reduction Agency (DTRA) James Tegnalia says: “I would second the thought that [the greatest terrorist threat today is] a loose nuclear weapon in a city in the United States... The future [threat] is the advancing of biological sciences and the potential for negatives that is associated with that.” Tegnalia’s testimony focuses on the technology being developed by DTRA to combat the threat of WMD. Also testifying is Joint Program Executive Officer for Chemical and Biological Defense Program (CBDP), Department of Defense Stephen V. Reeves on the subject of the measures the CBDP takes to counter WMD.

**13 March** In the USA, the Institute for Defense Analyses, a non-profit private group working under contract to the Department of Defense, releases *Saddam and Terrorism: Emerging Insights from Captured Iraqi Documents*. Amongst other things, the five volume report finds no evidence of a “direct operational link” between al-Qaeda and the former Iraqi government led by Saddam Hussein. It does, however, conclude that Iraq had backed other terrorist organizations. Researchers conducting the study examined more than 600,000 documents that were seized following the US-led invasion in [see 20 Mar 03].

**13-14 March** In Atlanta, there is a meeting at Emory University on the subject of anthrax, which is sponsored by the Centers for Disease Control and Prevention (CDC) in collaboration with the Southeastern Center for Emerging Biologic Threats. Themes discussed include post-exposure prophylaxis (PEP), screening and evaluation, and treatment of the various manifestations of anthrax in humans. The purpose of the meeting is to offer participants the opportunity to review developments in research, exchange views with regard to clinical experience with anthrax prophylaxis and treatment, and to make consensus recommendations for updating guidelines for PEP, treatment, and clinical evaluation of patients with anthrax. Those attending the meeting include representatives and members of academic research and clinical institutions, the UK Health Protection Agency, the Health Protection Agency and Armed Forces of Canada, the US Department of Defense, the US Department of Homeland Security, the US Department of Health and Human Services Office of Research and Development Coordination, the US Food and Drug Administration, the US National Institutes of Health, the Council of State and Territorial Epidemiologists, the American Board of Obstetricians and Gynecologists, the Infectious Diseases Society of America, and the CDC.

**14 March** *The (London) Times* quotes a former UNMOVIC inspector from Australia as saying that the late Dr David Kelly [see 17 Jul 03] believed there to be a 15 per cent chance that Iraq had a continuing biological warfare programme. Peter Prosser says that Kelly made the remark to him during a visit to UN headquarters in May 2003. Prosser says: “He said, ‘Before the war, what was your assessment?’. I said there may be a 15 per cent chance they may have something... He said, ‘I think about the same. I think about 15 per cent.’” [See also 11 Nov 07]

*The Times* also refers to an unreleased one-page document

of “Closing Remarks”, written by Dr Kelly at the end of a bio-weapons inspection in July 1998, which is currently filed in the UN archive. It quotes unidentified “sources” as saying the document was so favourable to the Iraqis that Iraq presented it to the then UNMOVIC Executive Chairman Hans Blix in February 2003. An unidentified “former UN inspector” says: “It’s a completely different assessment than anyone would think of the programme.” According to *The Times*, the document was not subsequently referred to by UNMOVIC as officials discounted its significance.

**14 March** In Washington DC, the district court for the District of Columbia rules that the Department of Defense must reconsider its decision not to alter the military records of two pilots who were forced to abandon their careers after refusing to take compulsory anthrax vaccine shots. Thomas Rempfer and the late Russell Dingle, who also sought compensatory relief for back pay and lost promotions, were among hundreds of service members who had to leave the military after refusing the inoculations between 1999 and 2004 on the grounds that the vaccine programme was illegal. Arguing that they had been improperly forced out, the two officers petitioned the Air Force to correct their military records and grant relief. The Air Force Board for Correction of Military Records, rejected both officers’ applications, claiming that the claimants in a separate case, *Doe v. Rumsfeld*, had failed to prove that the vaccination programme was illegal. Judge James Robertson rules that the Air Force board mistakenly characterized that lawsuit as a victory for the government, when it was not, and cites its conclusion in rejecting the petition. The board, he says, is a civilian entity empowered to review Air Force records “when necessary to correct an error or remove an injustice”. Robertson says that the Air Force board must now reconsider the cases “and explain its conclusions about the merits of plaintiffs’ constructive discharge claims and their accompanying demands for compensatory relief.” [See also 29 Feb]

**16 March** In London, there is a conference on *International Legal Recognition of Crimes of Genocide Committed Against the Kurds*, the purpose of which is to commemorate the twentieth anniversary of chemical attack on Halabja [see 18 Mar 88]. The event is organized by the Anfal and Halabja Working Group

**17 March** In the UK House of Commons, the Innovation, Universities, Science and Skills Sub-Committee convenes to analyse biosecurity in UK research laboratories. The function of the Innovation, Universities, Science and Skills Committee is to examine expenditure, administration and policy of the Department of Innovation, Universities and Skills, and some related matters.

**18 March** In the UK House of Lords, Minister of State for the Foreign and Commonwealth Office Lord Malloch-Brown is asked whether the forthcoming Second Review Conference of the CWC will take into consideration that toxicology is not in every respect an exact science in that certain chemical substances released into the environment may appear innocuous in very small doses, but may be very harmful to the individual in larger doses. Lord Malloch-Brown responds thus: “[It] is certainly correct that there are toxic chemicals that fall outside so-called schedule 1 to this convention. One of the issues for review and for any successor convention after 2012 will be to make sure that there is a more comprehensive list of such chemicals.”

Six weeks later, Lord Malloch-Brown issues the following correction to the above statement: “I should have said that the CWC’s prohibitions apply to all toxic chemicals and their

precursors, unless they are intended for permitted purposes and provided that they are of a type and in a quantity consistent with such purposes. The schedules of chemicals do not limit the scope of the convention's prohibitions; they provide only a framework for the application of verification measures. Reinforcing the comprehensive nature of the CWC has been a key UK objective for the Second Review Conference and the subject of one of the UK's four working priority for the EU as set out in the EU's common position [see 28 Jun 07]."

**18 March** UK Minister of State for the Foreign and Commonwealth Office Lord Malloch-Brown is asked, in the House of Lords, how many of the seven countries that have not signed the CWC have significant stockpiles of chemical weapons and how many of the 183 countries that have signed the Convention have significant derogations from it. He replies thus: "[Of] the 12 that have not signed, I am afraid that I cannot give the noble Lord that answer immediately, but I shall return to it. Of the 183 that have signed, five still have stockpiles, and a further country has destroyed its stockpile." Five weeks later, in a written response, Malloch-Brown says: "None of the five signatories to the CWC (Bahamas, Dominican Republic, Guinea-Bissau, Israel, Myanmar) or seven non-signatories to the CWC (Angola, DPRK, Egypt, Iraq, Lebanon, Somalia, Syrian Arab Republic) have publicly stated that they possess chemical weapon stockpiles. The Government keeps under review the potential offensive chemical weapon military capabilities of other States and takes them into consideration in our approach to the CWC, but it is not our practice to divulge the details of such assessments."

**18 March** In San Diego, a researcher at the University of California School of Medicine says there is increasing evidence that high rates of illness in veterans from the 1990-91 Gulf War can be explained, in part, by exposure to certain chemicals, including pesticides and nerve agents. Writing in the *Proceedings of the National Academy of Sciences*, Associate Professor of Medicine Beatrice Golomb [see 19 Oct 99] says she reviewed 115 studies on Gulf War illness, focusing on acetylcholinesterase inhibitors (AChEIs), which regulate the activity of the neurotransmitter called acetylcholine. She found that the more veterans were exposed to AChEIs the worse their symptoms were likely to be. Golomb notes that the symptoms of Gulf War illness are similar to those reported by agricultural workers exposed to AChEI-containing pesticides. She concludes: "Increasing evidence suggests excess illness in Persian Gulf War veterans can be explained in part by exposure of [the veterans] to organophosphate and carbamate [AChEs], including pyridostigmine bromide, pesticides, and nerve agents." [See also Nov 05, 12 Sep 06, 1 May 07 and 22 Dec 07]

**19 March** The Japanese National Research Institute of Police Science has developed a chip capable of identifying biological agents by way of DNA, so reports the *Yomiuri Shimbun*. The chip contains DNA information on twenty potential biological agents, which can be identified within an hour, as opposed to a much as half a day in the case of laboratory analysis.

**19 March** In the UK House of Commons, Prime Minister Gordon Brown presents *The National Security Strategy of the United Kingdom: Security in an Interdependent World*. The strategy – the first of its kind in bringing together the objectives and plans of all departments, agencies and forces involved in protecting national security – sets out how the government will "address and manage [the] diverse though interconnected set of security challenges and underlying driv-

ers, both immediately and in the longer term, to safeguard the nation, its citizens, our prosperity and our way of life". On the subject of "countering the threat of nuclear weapons and other weapons of mass destruction", it states: "Our approach to the threat of nuclear weapons and other weapons of mass destruction (WMD) is fully integrated across Government, with cooperation across departments and agencies... It links to other national security activity, including our wider foreign policy efforts to reduce tensions in regions where there is a risk of conflict that could lead to the use of such weapons, such as the Middle East and south Asia; and to counter-terrorism. Terrorist networks have made no secret of their desire to acquire and use chemical, biological, radiological and nuclear (CBRN) weapons. We have a comprehensive strategy to try to stop them succeeding... Our approach [...] is based around four strands: dissuade states from acquiring, developing, and contributing to the spread of WMD, and related materials and expertise; detect attempts by states, and terrorists, to develop or acquire this capability; deny access to WMD and the necessary materials, equipment, technology, and expertise to develop them, while promoting commerce and technological development for peaceful purposes; defend our country, our citizens, our Armed Forces and our strategic interests from the threats posed by proliferation... In all those strands, we will focus especially on failed and failing states, countries that pose a direct threat to our core values, and regions facing security challenges... [M]aintaining our independent nuclear deterrent [will be one of our defence strategies], based on our 2006 assessment that we cannot rule out a nuclear threat to the United Kingdom re-emerging over the next 50 years. We will continue to equip our Armed Forces to operate in a CBRN environment, and maintain our capability to deter states from directly sponsoring terrorists... We will work to strengthen international conventions and to press possessor states to meet the agreed 2012 deadline for the destruction of chemical weapons; strengthen the international verification regime; work with experts to minimise the risk of misuse of commercial material; and seek to reduce the risk of CBRN material, including commercial material, falling into the hands of failed and failing states or terrorists, through strengthening codes of conduct and export control regimes, and improving the international monitoring architecture."

**19 March** In Washington DC, US President George Bush says that a rapid military withdrawal from Iraq could aid efforts by Iran or terrorists to obtain weapons of mass destruction. In a Department of Defense address, marking the fifth anniversary of the US-led invasion of Iraq [see 20 Mar 03], Bush says: "An emboldened al-Qaeda with access to Iraq's oil resources could pursue its ambitions to acquire weapons of mass destruction to attack America and other free nations. Iran would be emboldened as well – with a renewed determination to develop nuclear weapons and impose its brand of hegemony across the Middle East."

**20 March** In Russia, scientists have concluded that the destruction of chemical weapons at the Maradykovsky chemdemil facility has no detrimental effect on human health, so reports Interfax news agency. According to Sergey Los, the head of the medical service of the federal directorate for the safe storage and elimination of chemical weapons, over 13,000 adults and nearly 2,000 children living in the vicinity of the facility were examined during 2007. Tests of the atmosphere, drinking water, water from open reservoirs and soil were also conducted. Lead researcher of the Institute of Human Hygiene, Professional Pathology and Ecology, St Petersburg, Elizaveta Oleynikova says: "No influence of the chemical weapons elimination facility on the state of health of

the residents has been established. Neither poison gas nor even decay products have been found in either the air, or soil, or water, or bed deposits. So even if there are illnesses, they have no relation to the facility in Maradykovsky."

**20 March** In Oregon, the Umatilla chemdemil facility commences the destruction of its 155mm artillery projectiles containing VX nerve agent. The Chemical Munitions Agency states that disposal of the projectiles is the 10<sup>th</sup> of 13 destruction campaigns planned at Umatilla. It is set to be followed by disposal of 8-inch projectiles and land mines carrying VX and finally by bulk containers of mustard blister agent. Previously, the facility completed the destruction of its stockpile of M55 VX nerve agent rockets and warheads [see 23 Jan].

**22 March** The Hamburg *Der Spiegel* publishes its investigation of the Iraqi defector codenamed 'Curveball' whose accounts were apparently relied upon by former US Secretary of State Colin Powell when he presented evidence of Iraqi mobile biological weapons laboratories during his speech to the UN Security Council five years ago [see 5 Feb 03]. Curveball, whose identity was revealed five months previously to be Rafid Ahmed Alwan [see 4 Nov 07], has told *Spiegel*: "I am not to blame. I never said that Iraq had weapons for mass destruction. Not at all, not in my entire life." Previously, the US Select Committee on Intelligence had determined that Curveball, whose accounts were passed to the CIA via German intelligence officials, was a fabricator [see 8 Sep 06].

**25-26 March** In Paris, there is a seminar on *The New Challenges of Chemical Proliferation: Possible Impact on the Chemical Weapons Convention and for the Organization for the Prohibition of Chemical Weapons* at the historic Ecole Militaire. Attending the event – which is organized by the Délégation aux Affaires Stratégiques of the French Ministry of Defence and the Fondation pour la Recherche Stratégique – are between 70-80 participants, including a number of international participants as well as representatives of French ministries, ambassadors representing their countries in The Hague, and a number of OPCW officials. The seminar comprises three roundtables on the topics of 'scope of the current threat of the chemical weapons stockpiles', how the CWC regime can take into account scientific and technological developments', and 'Emergence of non-state actors in the context of globalization'. There are also presentations from OPCW Director-General Rogelio Pflirter, from French Ambassador to the OPCW Jean-Michel Gaussoit, and from Ambassador Lyn Parker, the chair of the open-ended working group preparing for the upcoming Review Conference.

**26 March** The UK Defence Ministry explains to the House of Commons its settlement with the Porton Down Veterans' Group [see 31 Jan]:

"The matter has been resolved by way of mediation at which the MOD agreed to pay a global settlement of £3 million in full and final settlement to the entire group of 360 veterans and to make an apology by way of a written ministerial statement in the House, which I did in 31 January 2008... The MOD has therefore paid all known claims from Porton Down veterans.

"That said we recognise that more veterans, some of whom decided against joining the Group Action, might come forward. This is despite being assured by the Claimants' solicitors [Messrs Leigh Day & Co and Messrs Thompson Snell & Passmore] that the Group Action had been publicised and that those who remained in the group had been carefully selected on the basis that each had a meritorious claim for personal injury said to have been caused by exposure to a specific chemical warfare or treatment agent which was supported

by expert evidence. I should make clear that the MOD did not compensate individuals for mere attendance at Porton Down.

"Against this background, the MOD has decided that it will consider any additional meritorious claims that are made on or before 30 June 2008; after that date, the MOD reserves the right to plead a defence based on the provisions of the Limitation Act 1980.

"Any veteran now considering pursuing a claim for compensation might wish [to] seek advice to establish whether they have a reasonable claim against the Department. One option would be to contact the solicitors involved in the Group Action who have considerable experience already in handling such cases." The addresses of the two law firms then follow.

**26-28 March** In Buenos Aires, there is a training-of-trainers course for personnel of CWC national authorities from the Group of Latin America and Caribbean Countries (GRULAC). The course, which is jointly organized by the national authority of Argentina and the OPCW, targets personnel of national authorities who are involved in the inspection process in their respective countries and who may be able to assist with providing such training to others after they have completed the course. The course illustrates how to organize the training of escorts and involves practical exercises, including a mock inspection.

**28 March** In the USA, Fox News reports that the Federal Bureau of Investigations (FBI) has focused its investigation into the anthrax letters [see 15 Oct 01] on "about four suspects", three of whom – a former deputy commander, a leading anthrax scientist and a microbiologist – are scientists connected to the Army's Fort Detrick biological research facility. An unidentified "law enforcement source" is quoted as saying that the FBI has collected writing samples from the three scientists in an effort to match them to the writer of anthrax letters. Fox News refers to an e-mail it has obtained in which some of the facility's scientists say that samples of powdered anthrax collected from letters mailed to Senators Patrick Leahy and Tom Daschle were compared to anthrax produced at Fort Detrick and proved to be nearly identical. The email is quoted as reading thus: "Then he said he had to look at a lot of samples that the FBI had prepared [...] to duplicate the letter material. Then the bombshell. He said that the best duplication of the material was the stuff made by [name redacted]. He said that it was almost exactly the same [...] his knees got shaky and he sputtered, 'But I told the General we didn't make spore powder!'" [See also 11 Jan]

**29 March** In Kazakhstan, the head of the investigations department of the National Security Committee refers to an alleged coup attempt by Rahat Aliyev, the son-in-law of the former president Nursultan Nazarbayev, and Alnur Musayev, the former head of security, which involved the possibility of eliminating certain persons with "poisonous substances that affect one's heart and cause him to die" and with "radioisotopes". In an interview with the Almaty *Vremya*, Marat Kolkobayev says that in May 2001, persons loyal to Aliyev and Musayev created "highly toxic substance in laboratory conditions from various chemical and medical preparations".

**29 March** The London *Daily Mail* reports that MI5 (the domestic intelligence agency) and the police's National Counter Terrorism Security Office are conducting security reviews of around 800 disease research laboratories that handle biological agents, which could be used in acts of terrorism; and are undertaking background checks of the thousands of scientists who work at the facilities including gathering information on their families, acquaintances and political stances.

The *Mail* quotes Paul Logan, an official at Biological Agents Unit of Health and Safety Executive, as saying a week previously before a parliamentary sub-committee on biosecurity: "We [the Health and Safety Executive] work very closely with the security services. We advise them on toxins and pathogens... They are looking at very different things at the moment in terms of vetting of staff, looking at physical security and how easy it is to break into premises and the wider security issues."

**31 March-2 April** In Budapest, there is the second [see 20-22 Mar 05] International Forum on Biosecurity, which is organized by the International Council for Science in cooperation with the Hungarian Academy of Sciences. The meeting brings together individuals from the scientific community and other interested parties to discuss, amongst other things, a number of issues that are relevant to the 2008 BWC meeting of experts. The keynote address is provided by the Chairman for this year's meeting, Georgi Avramchev, the FYROM Ambassador to the United Nations.

**31 March-4 April** In Buenos Aires, the second [see 11-13 Dec 06] regional workshop on assistance and protection against chemical weapons for CWC parties from Latin America and the Caribbean takes place at the Institute of Scientific and Technological Research for Defence. Attending are 43 participants from 21 CWC parties, civil protection and first responder agencies of Argentina, and one observer from Qatar. The aim of the workshop, which is being jointly organized by the government of Argentina and the OPCW, is to train participants in planning and building a support team in civil protection, civil defence, and decontamination operations in contaminated areas, as well as in appropriate management of incidents involving chemical warfare agents.

**April** The US National Research Council Committee on Full-System Testing and Evaluation of Personal Protection Equipment Ensembles in Simulated Chemical-Warfare Environments releases *Soldier Protective Clothing and Equipment: Feasibility of Chemical Testing Using a Fully Articulated Robotic Mannequin*. The report, which was requested by the Department of Defense, addresses the issue of how to effectively test equipment that soldiers use to protect themselves against chemical warfare agents, bearing in mind that testing using human subjects presents major challenges and current human-size thermal mannequins have limited testing capabilities. The report concludes that fulfilling all testing requirements is not currently possible and, in this regard, recommends that the Department consider the following three issues: prioritization of current system requirements, using qualified contractors for particular technical aspects, and incorporating complementary testing approaches to the Protection Ensemble Test Mannequin system.

**1 April** The US House of Representatives adopts a resolution which requests US President George Bush and Secretary of State Condoleezza Rice to press Russian officials to co-operate with the UK regarding the investigation of the death of former KGB agent Alexander Litvinenko [see 11 Nov 06]. The resolution also calls on Bush and Rice to urge Russian cooperation "to ensure the security of the production, storage, distribution and export of polonium-210 as a material that may become dangerous to large numbers of people if utilized by terrorists". The Associated Press quotes Chairman of the House Foreign Affairs Committee Howard Berman as saying that Litvinenko's death raises "disturbing questions about how elements of the Russian government appear to deal with their enemies". [See also 22 May 07]

**1 April** In Washington DC, the Federation of American Scientists launches an online compilation of more than five hundred documents on the US ratification of the CWC. The online archive includes a timeline of CWC negotiations, a history of its signing and ratification, and current news and commentary on the CWC.

**2 April** The Israeli government announces that over the coming months it will issue its citizens with new emergency kits to protect them in the event of chemical, biological or nuclear attacks [see also 19 Feb]. The Jerusalem Newswire quotes unidentified government officials as saying the decision to collect, update and redistribute the kits was "a predictable move", and that there was no need for the public to panic. [See also 16 Jun 04 and 13 Aug 07]

**2 April** In Washington DC, there is the eleventh [see also 17 Sep 04] annual Green Cross legacy forum, this year on Chemical Weapons and Global Security: Implementing the International Chemical Weapons Convention. Among those speaking at the event, which is co-chaired by Representatives Edward Markey and Christopher Shays, is OPCW Director-General Rogelio Pflirer.

**2 April** In the USA, Trust for America's Health releases *Shortcoming America's Health 2008: A State-by-State Look at How Federal Public Health Dollars are Spent*. The report states that federal funding to help US states prepare for bioterrorist attacks and a number of other public health threats varies greatly throughout the USA. For example, funding from the Centers for Disease Control and Prevention ranges from an average of \$13.61 per head in Kansas to \$69.76 per head in Alaska. [See also 12 Dec 07]

**5-6 April** In Noordwijk, the Netherlands, the Pugwash Study Group on Implementation of the CBW Conventions conducts its 28<sup>th</sup> workshop, this being the 54th workshop on CBW to have been convened under the auspices of the Pugwash Conferences on Sciences and World Affairs since 1964 [see 8-9 Dec 07]. The workshop is on *The Second CWC Review and After* and 35 governmental and non-governmental participants from 13 countries (Argentina, Australia, Canada, the Czech Republic, France, Germany, Ireland, the Netherlands, New Zealand, Russia, Sweden, the UK and the USA) have been invited for specialist discussion of an agenda that is focussed on the impending CWC review conference. The proceedings of the workshop are, as usual, conducted under the Chatham House rule, but a report is later produced by the Harvard Sussex Program for publication by Pugwash.

**6-10 April** In Israel, the Army, local authorities, and the health and education sectors participate in a series of security exercises that include bombings, missile strikes and operations using chemical and biological weapons. One such exercise involves a simulated chemical-weapons missile attack on a hospital in the northern city of Afula. According to Al Jazeera, the exercise – codenamed 'Turning Point' is considered to be the largest and most significant of its kind since the Israeli incursion into Lebanon in 2006. It follows a few days after the Lebanese Prime Minister Fuad Siniora stepped up the readiness of the Lebanese military and his request that UN peacekeeping troops posted along its border with Israel be vigilant against the possible launch of "operations capable of increasing tension". At a weekly Cabinet meeting Israeli Prime Minister Ehud Olmert says: "I want to emphasize that this is only a drill, with nothing hiding behind it. All reports about heightened tension in the north are exaggerated; we

have no secret plans. This drill is not part of anything else. It seems to me that the Syrians know this as well; they have no reason to analyze this drill differently. I would like to make it unequivocally clear that this is a routine drill. The State of Israel is not intent on any violent confrontation in the north.”

**7 April** In The Hague, the Second [see 28 Apr and 9 May 03] Review Conference of the Chemical Weapons Convention commences. The Conference appoints Ambassador Waleed Ben Abdel Karim El Khereiji of Saudi Arabia as Chair of the Conference and Ambassador Benchaâ Dani of Algeria as Chair of the Committee of the Whole.

The following 114 States Parties participate in the Conference: Afghanistan, Algeria, Andorra, Argentina, Armenia, Australia, Austria, Azerbaijan, Bahrain, Bangladesh, Belarus, Belgium, Benin, Bolivia, Bosnia and Herzegovina, Brazil, Bulgaria, Burkina Faso, Cameroon, Canada, Chile, China, Colombia, Costa Rica, Côte d'Ivoire, Croatia, Cuba, Cyprus, Czech Republic, Denmark, Ecuador, El Salvador, Eritrea, Estonia, Finland, France, Gabon, Georgia, Germany, Ghana, Greece, Guatemala, Honduras, Hungary, Iceland, India, Indonesia, Iran, Ireland, Italy, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kuwait, Kyrgyzstan, Latvia, Libya, Lithuania, Luxembourg, Malaysia, Malta, Mexico, Monaco, Mongolia, Morocco, Mozambique, Namibia, Nepal, Netherlands, New Zealand, Nicaragua, Nigeria, Norway, Oman, Pakistan, Peru, Philippines, Poland, Portugal, Qatar, South Korea, Moldova, Romania, Russia, Rwanda, Saudi Arabia, Serbia, Singapore, Slovakia, Slovenia, South Africa, Spain, Sri Lanka, Sudan, Suriname, Sweden, Switzerland, Thailand, Macedonia, Tunisia, Turkey, Uganda, Ukraine, United Arab Emirates, the UK, the USA, Uruguay, Uzbekistan, Viet Nam, Yemen, Zambia, and Zimbabwe. Also participating are Guinea-Bissau and Israel, which have signed but not yet ratified the Convention. Angola, Iraq and Lebanon, which are non-parties, are accorded observer status. In addition, the Conference approves the participation of five international organizations and 28 non-governmental organizations.

In his opening statement, OPCW Director-General Rogelio Pflirter says in relation to chemdemil under the CWC: “So far, 26,538 metric tonnes of Category 1 chemical weapons, representing over 38 per cent of the total, have been destroyed under OPCW verification. Fifty-two per cent of the Category 2 chemical weapons have similarly been verified as destroyed, and all Category 3 chemical weapons have been completely eliminated from all inventories. The 65 chemical weapons production facilities (or CWPFFs) declared to the OPCW by 12 States Parties have all been inactivated, with 94 per cent of them having either been destroyed or converted for peaceful purposes.”

In his message to the Conference, United Nations Secretary-General Ban Ki-moon says: “The [CWC] has an undisputed record as one of the world’s most successful disarmament treaties. It now enjoys near-universal membership, with 183 States Parties encompassing 98 per cent of the global population... The impact of this Convention has been momentous. Some twenty-seven thousand tonnes of chemical weapon agents have been destroyed. So have more than 2.9 million chemical munitions and containers.”

The following delegations make statements during the general debate: Slovenia (on behalf of the European Union and associated countries), Netherlands, Cuba (on behalf of the Non-Aligned Movement and China), South Africa (on behalf of the African Group), Kyrgyzstan (on behalf of the Commonwealth of Independent States), the USA, Saudi Arabia, China, Russia, Singapore, Japan, Pakistan, Iran, Serbia, Switzerland, Mexico, Algeria, Canada, New Zealand, South Africa, Ukraine, Indonesia, Turkey, Bangladesh,

Malaysia, Peru, South Korea, Australia, Brazil, Tunisia, Yemen, Norway, Sudan, El Salvador, Mongolia, India, Colombia, Nigeria, Albania, Libya, Thailand, Kuwait, United Arab Emirates, Qatar, Zambia, Uganda, Belarus, Morocco, China (Hong Kong Special Administrative Region), Argentina and Viet Nam.

Amongst those presenting national statements are: Australia, on its experience of hosting Article VI sequential inspections by the OPCW; Japan, on its efforts towards early destruction of abandoned chemical weapons in China, and generally on the promotion of non-proliferation of chemical weapons; South Korea, on a proposal to enhance the efficiency and cost-effectiveness of the inspections of chemical production facilities; the Netherlands, on the need for the OPCW to connect with the wider environment to improve the operation of the CWC; Switzerland, on assistance and cooperation against chemical weapons under Article X of the CWC, on the inclusion of data on non-scheduled chemicals in the OPCW central analytical database to facilitate comprehensive chemical weapons analysis, on riot control and incapacitating agents under the chemical weapons convention, and on risk assessment of the different types of plant sites/facilities under Article VI of the CWC; China, on the implementation of the CWC in China, on challenge inspections under the CWC, on chemical weapons abandoned by Japan in China, and on verification issues under the CWC. The Non-Aligned Movement (NAM) and China also present a position paper on aspects of the CWC that are of special interest to the group.

**9 April** At OPCW headquarters, there is the Open Forum for non-governmental organizations, which takes place during the ongoing Second CWC Review Conference [see 7 Apr]. The opening address is made by OPCW Director-General Rogelio Pflirter and the keynote address is given by Chairperson of the Open-Ended Working Group for the preparation of the Second Review Conference Ambassador Lyn Parker, while Dr Ralf Trapp acts as chairman. The forum is divided into the following three panel discussions: ‘creating a more secure world through the CWC’; ‘peaceful chemistry, i.e. codes of conduct, and economic and technological development’; and ‘the impact of science and technology on the CWC verification regime’. Presentations are given by: Daniel Feakes, Harvard Sussex Program, on ‘universality’; Paul Walker, Global Green, on ‘chemical weapons destruction’; Neil Harvey, Issues Manager at the European Council for the Chemicals Industry, on ‘industry verification’; Angela Woodward, Deputy Director of VERTIC, on ‘national implementation’; Jirí Matoušek, Research Centre for Environmental Chemistry and Ecotoxicology, Brno, on ‘assistance and protection’; Alastair Hay, University of Leeds, on ‘outreach and codes of conduct’; Abdouraman Bary, Head, CWC national authority, Burkina Faso, on ‘economic and technological development’; Mark Wheelis, University of California-Davis, on ‘law enforcement’; and Robert Mathews, Australian Defence Science and Technology Organization, on ‘other chemical production facilities (OCPF) inspections’.

**11 April** In Washington DC, there is a symposium on *Germ Warfare, Contagious Disease, and the Constitution* at the Stanford Constitutional Law Center. The event is jointly sponsored by the Stanford Constitutional Law Center and the Washington-based Constitution Project, a “bipartisan non-profit organization that seeks consensus on controversial legal and constitutional issues through scholarship”. Its aim is to examine federal, state and local legislation affecting government agencies with regard to responding to naturally occurring epidemics or terrorist use of biological weapons,

and constitutional challenges relating thereto. Participating in the event are scientists, public health officials, emergency responders, legal scholars, and experts in counterterrorism. A closed-door tabletop exercise also takes place in which around sixty participants from the current and two previous presidential administrations, public health officials, Stanford academics and law students use a fictitious scenario to explore the federal government's response to an unfolding epidemic as it crossed state lines. The exercise was developed by the Stanford Constitutional Law Center together with the Exercises Division at the Department of Homeland Security. Among those speaking at the event is Department of Homeland Security Secretary Michael Chertoff. In his remarks, Chertoff says: "The essence in [dealing with a major natural pandemic or a major biological attack] will be to act effectively and decisively in an environment in which there will be imperfect information, the loss of potentially hundreds of thousands or millions of lives, and in which the ability to execute will be critical in terms of making sure that we are able to minimize the amount of damage.

**13-18 April** In Lima, Peru, there is a course to provide assistance in the training of a national emergency response team on issues relating to WMD. The course, which is organized by the OPCW, focuses on developing practical skills with equipment in potentially contaminated areas, team building and coordinated response to the use, or threatened use, of chemical weapons. It is conducted to prepare the national police team in charge of emergency response for the APEC Summit in May 2008, and the EU-Latin American Summit in November 2008, both of which will be taking place in Lima. The participants include 22 police officers and observers from Peru's national anti-terrorist units.

**14 April** At OPCW headquarters, on the sidelines of the Second CWC Review Conference [see 7 Apr], a workshop takes place on the subject of European Union support of the OPCW with regard to universality, national implementation and international co-operation relating to the CWC [19 Mar 07]. Presiding over the event, which is organized by the OPCW, are Slovenian Permanent Representative to the OPCW Tea Petrin; OPCW Director-General Rogelio Pflirter; and Personal Representative on Nonproliferation of Javier Solana, the High Representative for the Common Foreign and Security Policy Annalisa Giannella. Presentations are made by Algeria, Bangladesh, Burkina Faso, Finland, Italy, Sri Lanka and Uganda, all of which have benefited from the support of the European Union.

**14 April** In Luxembourg, the Council of the European Union adopts a Joint Action in support of World Health Organisation (WHO) activities in the area of laboratory bio-safety and biosecurity in the framework of the European Union Strategy against the proliferation of Weapons of Mass Destruction. The Joint Action states: "For the purpose of giving immediate and practical application to the relevant elements of the EU Strategy, the EU shall contribute to the implementation of decisions made by the States Parties at the Sixth Review Conference of BTWC [see 8 Dec 06], with the following objectives: ensuring the safety and security of microbial or other biological agents or toxins in laboratories and other facilities, including during transportation as appropriate, in order to prevent unauthorised access to and removal of such agents and toxins; promoting bio-risk reduction practices and awareness, including bio-safety, bio-security, bioethics and preparedness against intentional misuse of biological agents and toxins, through international cooperation

in this area... To achieve [these] objectives [...] the EU shall introduce projects consisting of the following measures: organisation of outreach workshops, consultations and training for competent authorities in the relevant sectors and for laboratory managers/staff at the national, subregional and regional levels, aiming at a deeper understanding of bio-risk reduction practices and their effective implementation in laboratories and other facilities, including during transportation as appropriate; assistance to a selected country to review public health response capacity in the context of enhancing national biological preparedness, to develop and implement a biorisk reduction management plan, particularly concerning laboratory practice and safety, and to harmonise it with integrated national preparedness plans, and to strengthen the performance and sustainability of national laboratories by connecting them with regional and international networks." An annex to the Joint Action provides a detailed description of the projects. The implementation of the projects is to be carried out by WHO. The amount allocated for the projects is EUR 2,105,000, to be funded from the general budget of the European Union. The Joint Action will expire 24 months after the date of conclusion of a financing agreement between the European Commission and WHO, or six months after the date of its adoption if no financing agreement has been concluded by then.

**14-18 April** In Paris, the Australia Group (AG) convenes for its annual plenary session. Amongst other things, the representatives of forty countries and the European Commission agree to form a synthetic biology advisory body as a means of ensuring the AG remains apprised of, and has the capacity to respond expeditiously to, technological developments in the area of proliferation of WMD and related technologies. Several changes are proposed to the AG's chemical and biological control lists, which are adopted or referred for further consideration as appropriate. AG members also exchange information on national measures for screening visa applications as a means of countering Intangible Technology Transfers of concern. A press release by the AG says that whilst no new members were admitted to the Group in 2008, interest in membership from several countries received appropriate attention. Further engagement with these countries is approved by the plenary.

**15 April** In the USA, the Center for Arms Control and Non-Proliferation releases an analysis of US federal funding for biological weapons prevention and defence for FY 2001 to 2009, which concludes that the government has spent or allocated over \$48 billion to address the threat of biological weapons since September 2001. The analysis states that if the Bush administration's proposal for an additional \$9 billion in bioweapons-related spending for FY2009 [see 4 Feb President Bush] is fully funded, total bioweapons-related funding since FY2001 will exceed \$57 billion. It states that funding continues to focus primarily on research, development, acquisition, and stockpiling of medical countermeasures and protective equipment, with over \$23 billion devoted to these functions through FY2009. Improving state, local, and hospital preparedness totals over \$10 billion, and medical surveillance and environmental detection of biological weapons agents totals over \$4.1 billion, through FY2009. \$1.13 billion, i.e. 2 per cent, of all federal bioweapons-related funding through FY2009 is dedicated to prevent the development, acquisition, and use of biological weapons by states and non-state terrorists. The analysis says that funding for prevention has increased significantly in the last year, accounting of 3.4 per cent of total bioweapons-related funding for FY2009, a level not seen since 2001.

**16-17 April** In Rome, there is a meeting in support of the universalization of the BWC, which is targeted at states in the Middle East and Mediterranean basin that are not yet party to the Convention. The meeting is organized by the European Union under its Joint Action in Support of the BWC [see 27 Feb 06]. Attending are representatives of the following eleven regional BWC parties: Algeria, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Qatar, Saudi Arabia and Yemen. Representatives from the following EU member states also attend: France, Ireland, Italy, Lithuania, Malta, Netherlands, Portugal, Romania, Slovakia, Slovenia, Spain and the UK. Also represented are the Council of the European Union, the European Commission, and a number of other international organizations. In addition, representatives of Israel and the United Arab Emirates, both non-parties, also attend.

**18 April** Russian Deputy Head of the Federal Industry Agency Victor Kholstov says Russia has now destroyed 10,500 metric tons, or 27 per cent, of chemical warfare agents, so reports Global Security Newswire. He also points out that the Shchuch'ye and Leonidovka chemdemil facilities are scheduled to begin operations this year and that construction of the Kizner facility will commence this summer. According to Valery Malyshev, an "Udmurt government official", the latter is scheduled to become operational in 2010. Meanwhile ITAR-TASS news agency quotes Head of the Department of Convention Problems of Chemical and Biological Weapons of the Federal Industry Agency Yelena Ratushkina as saying: "The funds allocated by Britain [for the Shchuch'ye facility] will play an important role in the destruction of about 1.9m of artillery munitions containing nerve gas." ITAR-TASS also quotes the deputy director of the UK Ministry of Defence's non-proliferation department, James Harrison, as saying that the general financing of global risk reduction programmes would continue, but more funds would go into disposal of nuclear waste. [See also 18 Feb]

**18 April** In The Hague, the Second Review Conference of the Chemical Weapons Convention concludes, having commenced two weeks previously [see 7 Apr]. Procedurally and substantively, the conference has been contentious, and in fact it closes at 0605 hrs the following day, its clock having been stopped so as to allow more time for the Final Report to be agreed before the mandate of the conference expires. As adopted, the final report states:

"The Second Review Conference noted with satisfaction that since the First Review Conference [see 9 May 03] the total number of States Parties has risen from 151 to 183, leaving only 12 states – Angola, Bahamas, Dominican Republic, Egypt, Guinea-Bissau, Iraq, Israel, Lebanon, Myanmar, North Korea, Somalia, and Syria – still to join the Convention... The Second Review Conference reiterated that the universality of the Convention is essential to achieve its object and purpose and enhance international peace and security. [It] recalled in particular that among the States not Party there are some whose non-adherence is a matter of serious concern... [It] welcomed efforts by Guinea-Bissau, Iraq and Lebanon who are well advanced in the process of accession to the Convention...

"The Second Review Conference reaffirmed the undertaking of States Parties not to use riot control agents as a method of warfare...

"The Second Review Conference stressed the importance of the timely, complete, and accurate submission of the initial declarations required of each State Party under Article III. It noted that, by the end of 2007, all but 13 States Parties had submitted their initial declarations under Article III of the Convention...

"The Second Review Conference welcomed the statements of possessor States Parties reiterating their commitment to meeting the final, extended deadlines established under the Convention by the Eleventh Session of *the Conference* [see 5-8 Dec 06]... The Second Review Conference noted that by 1 April 2008, over 38% of the total stockpiles of 70,000 tonnes of Category 1 chemical weapons initially declared by States Parties had been destroyed. However, the Second Review Conference expressed its concern that more than 60 per cent of stockpiles still remained to be destroyed...

"The Second Review Conference reaffirmed the undertaking of each State Party to destroy all chemical weapons it abandoned on the territory of another State Party in accordance with the provisions of the Convention. It welcomed the existing cooperation between territorial and abandoning States Parties, and noted with concern that a large amount of abandoned chemical weapons remain to be destroyed...

"The Second Review Conference noted that the Secretariat and the States Parties have acquired considerable experience with the conduct of more than 3000 inspections at over 1080 chemical weapons-related and industrial sites in 80 States Parties since the entry into force of the Convention. [It] noted with satisfaction that no case of non-compliance had been brought to the attention of the Council... The Second Review Conference noted that between the entry into force of the Convention and 31 December 2007, the following inspections had been carried out: 182 Schedule 1 inspections were conducted, at an average frequency of 6.7 inspections per declared facility over a period of 10 years; 405 Schedule 2 inspections were conducted, at an average frequency of 2.5 inspections per facility over a period of 10 years; 218 Schedule 3 inspections were conducted, covering 50.2 per cent of declared inspectable facilities; and in total, 521 other chemical production facilities (OCPFs) producing discrete organic chemicals (around 11.4 per cent of the inspectable total) had been inspected after OCPF inspections commenced in 2000, as provided for by the Convention... The Second Review Conference concluded that the allocation of resources to the verification regime for the chemical industry needed to be further optimised, taking due account of the nature of the declared facilities, the inspection experience gathered, developments in science and technology, and based on the principles set out in Article VI...

"The Second Review Conference welcomed the significant progress made in the implementation of Article VII since the First Review Conference... [It] expressed concern that 10 per cent of submissions under Article VII, paragraph 5, are still outstanding. The Second Review Conference expressed concern that 101 States Parties, including over half of the original Parties to the Convention at its entry into force, have not yet fully enacted comprehensive implementing legislation. It recognised that 44 out of these 101 States Parties have informed the OPCW of some legislative or administrative measures taken to implement the Convention and that a further 45 States Parties have informed the OPCW that they are currently developing draft legislation...

"The Second Review Conference also noted with satisfaction that no challenge inspection or investigation of alleged use had been requested since the entry into force of the Convention. It reaffirmed the right of any State Party to request an on-site challenge inspection, in accordance with the Convention, for the sole purpose of clarifying and resolving any questions concerning possible non-compliance with the provisions of the Convention... States Parties shall refrain from requests that are unfounded or abusive in order not to undermine the integrity of the Convention... The Second Review Conference noted that a number of issues related to challenge inspections still remained to be resolved and that their

resolution is important for challenge inspections. It requested the Council to continue its deliberations in order to resolve them expeditiously.

"The Second Review Conference recalled that the Conference at its Ninth Session had adopted a format for States Parties to provide information to the Secretariat annually on national programmes for protective purposes in accordance with paragraph 4 of Article X... The Second Review Conference welcomed the progress made in this area but noted with concern that the number of submissions under paragraph 4 of Article X by States Parties since the entry into force of the Convention remained low. It noted that there were 75 such declarations in 2006 but only 62 in 2007."

**21 April** In the UK House of Lords, responding to a question as to whether the government will propose that the role of incapacitating biochemical weapons in military operations and law enforcement be discussed at the Second CWC Review Conference [see 18 Apr], Parliamentary Under-Secretary of State for the Ministry of Defence Baroness Taylor of Bolton says: "The issues surrounding so-called incapacitating biochemical weapons and their potential impact on the Chemical Weapons Convention are highly complex and most states party to the convention have yet to express clear ideas on the implications for the convention. The UK believes that thorough study of the complex technical and legal implications is required and therefore does not consider the issue ready for detailed discussion at the second review conference. But we are willing to examine, with other states party to the convention, the options for taking forward work after the conference, if it appears that consensus on how to move forward seems achievable, and if a suitable mechanism and scope for discussions can be decided."

**21 April** In Buffalo, New York, a federal court dismisses two counts of mail fraud and two counts of wire fraud against a professor of art for having received bacteria from a scientist to use in a performance art exhibition on biotechnology. Steven Kurtz was arrested nearly four years ago after his wife died of heart failure, leading to a search of his house by authorities and their discovery of the bacteria [see 8 Jul 04]. A federal court subsequently ordered that Kurtz be released from pre-trial supervision despite strong objections from the US Department of Justice (DoJ) [see 17 Nov 05]. District Judge Richard J. Arcara rules that the charges against Kurtz are "insufficient on its face" as the government could not show that Kurtz committed mail and wire fraud by obtaining the \$256 worth of bacteria from Dr Robert E. Ferrell. Two months previously, Ferrell was sentenced to a year of "unsupervised release" by Arcara after pleading guilty to a misdemeanour charge of mailing an injurious article to Kurtz. Lucia Sommer, the Coordinator of the Critical Art Ensemble Defense Fund, which has been raising money for Kurtz' defence, responds to the verdict thus: "[This] decision is further testament to our original statements that Dr Kurtz is completely innocent and never should have been charged in the first place."

The DoJ subsequently fails to take action to appeal within the thirty-day period from the date of the ruling. The Critical Art Ensemble Defense Fund quotes Margaret McFarland, a spokeswoman for the DoJ's attorney, Terrance P. Flynn, as saying that the DoJ will not appeal the ruling and will not seek any new charges against Kurtz.

**22 April** *The (London) Guardian* reports that the government is considering building a £500 million BSL-4 laboratory in the King's Cross area of London, to replace one at the National Institute of Medical Research, Mill Hill, London, which is one of the UK's other ten BSL-4 laboratories. Chairman

of the Health and Safety Executive advisory panel on dangerous pathogens George Griffin says: "People don't need to be alarmed; these labs can be run safely... It should be viewed in the context of a risk assessment. There may be compelling reasons for locating a laboratory at a particular site; for example, a hospital may need facilities for diagnosing hemorrhagic fever." *The Guardian* quotes an unidentified spokesperson for four organizations involved in the project – the Medical Research Council, the Wellcome Trust, Cancer Research UK and University College London – as saying: "Detailed decisions on what the centre will contain, including whether or not to include a Category 4 lab, have not been finalized. This is the work of the project's science planning committee."

**23 April** In Japan, three former presidents of Pacific Consultants International (PCI), a major consultancy firm, are arrested on suspicion of having misused government funds for destroying chemical weapons abandoned in China by the Japanese Imperial Army. The three are Tamio Araki, Shota Morita, and Masayoshi Taga; a fourth suspect is also arrested on suspicion of aggravated breach of trust. Kyodo news agency quotes unidentified "investigative sources" as saying a joint venture, of which PCI is one of the founding members, won research and other contracts related to the chemdemil in China from FY 2000 without undergoing public tenders. PCI's holding company then established a wholly owned subsidiary called Abandoned Chemical Weapons Disposal Corp. In March 2004, the subsidiary took complete control of the project and outsourced part of the work to the joint venture, using a PCI group company, Pacific Programme Management (PPM), to mediate in farming out work to four subcontractors. In the process of remunerating the four subcontractors, PCI paid 270 million yen (about \$2.5 million) into PPM's bank account between September 2004 and September 2005, of which 150 million yen (about \$1.5 million) went to the subcontractors, with PPM pocketing the remaining 120 million yen (about \$1.2 million). According to Kyodo news agency, prosecutors believe that the four suspects designed the scam with a view to boosting the earnings of PPM by siphoning money out of the project. According to the *Mainichi Daily News*, Araki, who was the head of the holding company that controlled the group, reportedly told PCI that it was thanks to him that PCI were able to be the sole firm to take on the order, before demanding the transfer of the money into PPM's bank account. *Mainichi* quotes unidentified "investigators" as saying that Araki denied the allegations against him when questioned, saying, "It was distribution of profits within the group, which was a justified action".

**23 April** In Berlin, the Bundestag's Supervisory Committee for the BND (German Intelligence Service) is scheduled to examine how erroneous information passed by the BND relating to Curveball helped the USA justify its invasion of Iraq. In an interview with *Deutsche Welle*, Vice-Chairman of the Committee Max Stadler says the function of the committee is essentially to make classified recommendations to government, however, there is an exception in that if two-thirds of the committee members think it necessary, a public statement could be issued, notwithstanding that members of the opposition political parties are not in favour of this. Asked whether he suspects the BND might have passed on to the USA information it suspected might be unreliable, as was claimed in a recent report in *Der Spiegel* [see 20 Mar], Stadler says: "That's precisely the reason, in my opinion, that the affair needs to be taken up in the supervisory committee. This impression has in fact been made in the press. On the other hand, the reports also state

that the BND under the previous German government sent a letter to the effect that the information from Curveball hadn't been checked out or confirmed by a second source." Asked about reports that Germany shared intelligence with the USA and thereby indirectly participated in the US war-effort, Stadler says: "That's precisely what the BND investigations committee is looking into. The issue came up two years ago, when it became known that two BND officials were active in Baghdad. The government said they were acting in the national interest. But the government also said the officials reported back information to their central headquarters that was then passed on to the Americans. The government says that's perfectly normal. My personal opinion is that this does represent, if only marginally, an intervention in the Iraq War."

**23 April** In the USA, the Associated Press reports having obtained an intelligence report stating that "the use of a small boat as a weapon is likely to remain [al-Qaeda's] weapon of choice in the maritime environment, given its ease in arming and deploying, low cost and record of success". In this regard, the news agency says that the USA is expected to implement a plan for states to solicit reports on suspicious activities along coastlines, rivers and canals with a view to preventing the possibility of a small craft being used to transport WMD into the country. The plan would target potential WMD-related threats posed by the country's estimated eighteen million fishing boats, dinghies, and cargo vessels weighing less than 300 tons. Head of the Domestic Nuclear Detection Office, Department of Homeland Security, Vayl Oxford is quoted as saying: "We just cannot allow ourselves to get to the point where we're managing consequences."

**24 April** In the US Senate, Ann Calvaresi Barr, Director of Acquisition and Sourcing Management in the Government Accountability Office, testifies before the Homeland Security and Governmental Affairs Subcommittee on Oversight of Government Management, the Federal Workforce, and the District of Columbia on the export-control system, licensing inefficiencies, poor interagency coordination between the Departments of State and Commerce, and limits in these two departments' ability to provide a sound basis for changes to the system. Calvaresi Barr says: "Our past work demonstrates that State and Commerce have not managed the export control system to better ensure its overall effectiveness in protecting US interests [see 26 Jul 07]. Recent actions taken by the departments to begin addressing some of the management issues and vulnerabilities identified in our prior reports are encouraging. However, other recommendations, most notably those related to export control jurisdiction, remain unimplemented."

**24 April** The US Centers for Disease Control and Prevention has awarded Acambis a ten-year contract worth \$425 million, primarily to supply a minimum of nine million doses of ACAM2000 type smallpox vaccine [see 13 Apr 04] per annum for the eight years from the third year of the contract. In years five to ten a maximum of 39 million could be ordered by the CDC, which would increase the headline value of the contract to around \$660 million. It is the second smallpox vaccine contract for the company, which previously supplied the US government with more than \$500 million of standard smallpox vaccines [see 28 Nov 01].

**25 April** At UN headquarters, the Security Council adopts a resolution calling on all UN member states to meet their obligations under resolution 1540 [see 28 Apr 04], and "decides to extend the mandate of the 1540 Committee for a period of three years, with the continued assistance of experts, until 25 April 2011" [see also 27 Apr 06]. Resolution 1810 "encourages all States to prepare on a voluntary basis summary action plans, with the assistance of the 1540 Committee as appropriate, mapping out their priorities and plans for implementing the key provisions of resolution 1540, and to submit those plans to the 1540 Committee". It also "decides that the 1540 Committee shall "continue to intensify its efforts to promote the full implementation by all states of resolution 1540" through a programme of outreach, technical assistance, and the sharing of experience and lessons learned. In addition, it states that "full implementation of resolution 1540 by all states, including the adoption of national laws and measures to endure implementation of these laws, is a long-term task that will require continuous efforts".

**29 April** In Tehran, Iranian Secretary of the Supreme National Security Council Sa'id Jalili and Russian Deputy-Secretary of the National Security Council Valentin Sobolev discuss, amongst other things, nuclear disarmament and chemdemil.

**29 April** In The Hague, a Day of Remembrance for all Victims of Chemical Warfare takes place in accordance with the decision of the tenth [see 7-11 Nov 05] session of the Conference of the States Parties to observe the day on 29 April each year – the date on which the CWC entered into force in 1997. Among those making statements during the commemorative session is OPCW Director-General Rogelio Pfirter. A statement is also delivered on behalf of UN Secretary-General Ban Ki-moon. [See also 29 Apr 07]

**30 April** The US Department of State Office of the Coordinator for Counterterrorism releases its 2007 edition of *Country Reports on Terrorism*, the purpose of which is to set out US efforts, progress and challenges in its war on terror. Amongst other things, the 'strategic assessment' states: "We have seen a substantial increase in the number of self-identified groups with links (communications, training, and financial) to [the al-Qai'da] leadership in Pakistan. These 'guerilla' terrorist groups harbor ambitions of a spectacular attack, including acquisition and use of Weapons of Mass Destruction."

**30 April** In the USA, Trust for America's Health releases *Fixing Food Safety: Protecting America's Food Supply from Farm-To-Fork*. Amongst other things, the report states that shortcomings in current inspection system could lead to acts of agroterrorism – such as contamination of wheat gluten or botulism – going undetected until they become widespread. The general conclusion of the report is that there exist major gaps in the food safety system, including obsolete laws, misallocation of resources, and inconsistencies among major food safety agencies. [See also 2 Apr].

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*This Chronology was compiled by Nicholas Dragffy from information supplied through HSP's network of correspondents and literature scanners.*

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## Recent Publications

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#### Editors

Matthew Meselson  
Department of Molecular and Cellular Biology  
Harvard University  
7 Divinity Avenue  
Cambridge, Massachusetts, 02138  
United States of America  
[Tel: 617-495-2264. Fax: 617-496-2444]

Julian Perry Robinson  
SPRU - Science and Technology Policy Research  
University of Sussex, Freeman Centre  
Brighton BN1 9QE  
England  
[Tel: 01273-678172. Fax: 01273-685865]

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