

THE CBW CONVENTIONS BULLETIN

News, Background and Comment on Chemical and Biological Weapons Issues

ISSUE NO. 56

JUNE 2002

Quarterly Journal of the Harvard Sussex Program on CBW Armament and Arms Limitation

THE CHEMICAL WEAPONS CONVENTION AND OPCW: THE CHALLENGES OF THE 21st CENTURY

Ian R Kenyon

formerly Executive Secretary, Preparatory Commission for OPCW

The Special Conference of States Parties to review the operation of the Chemical Weapons Convention in accordance with Article VIII.22, scheduled to begin on 28 April 2003, provides the international community with both an opportunity and an obligation to step back from the day to day business of the Organization for the Prohibition of Chemical Weapons (OPCW) and to consider whether the regime is in the proper shape to meet the challenges of the current decade and the foreseeable future. This should involve not only checking if the intentions of the negotiators, working in the late 80s and early 90s of the last century in the immediate aftermath of the Cold War, are being followed but whether, within the spirit of the Preamble and the text of the Articles of the Convention, the needs of our current world are being met. Before setting out on an Article by Article review of the detail of operations to date there is surely a need to review broad priorities of the operation to rid the world of chemical weapons and to prevent their re-emergence; to assess the resources which member states are ready to provide to OPCW for these purposes; and to revise the operations of the organisation accordingly.

The successful negotiation of the CWC occurred in parallel with, and was made possible by, fundamental changes in the strategic relationships between the world's most powerful states, which had previously been stable for forty years in a state of mutual antagonism of political systems and a "balance of terror". While the Conference on Disarmament was doing its specialised work on the draft convention in Geneva, the political systems in the USSR and the states under its influence were undergoing the fundamental changes which led to what we now loosely term "the end of the Cold War" and to the emergence of a large group of states with new, independent, democratic governments, of which the Russian Federation was the largest. Russia assumed the role of successor state to the USSR, which gave it a permanent seat on the UN Security Council, the full former Soviet stock of chemical weapons but much reduced financial resources.

The dramatic reduction in East-West tension made possible a series of arrangements between the United States and the Soviet Union (later assumed by Russia) in the late 1980s leading to the 1990 bilateral agreement to implement

chemical disarmament under a regime of strict verification. Whilst these understandings made the CWC possible, they led the negotiators to produce a structure designed to accommodate a parallel bilateral process and built on late Cold War views of appropriate verification standards. The assumption was that relatively large teams of US national inspectors would verify Russian chemical weapon destruction activities and vice-versa with smaller teams of international inspectors from OPCW auditing their work (and paid from the regular budget). This assumption remained the basis for planning the workload of OPCW right through the Preparatory Commission phase in The Hague up to the point of entry into force of the CWC in 1997. In fact the bilateral arrangements have not been ratified; no national inspectors have been deployed; and the full verification burden has fallen on OPCW. Under the terms of the CWC, where there is no bilateral regime in place, the inspected states are required to reimburse the OPCW for the cost of these inspections but, despite this apparent financial advantage, the full inspection requirement has been an important factor in the OPCW's financial difficulties and causes a very high proportion of trained inspector manpower to be deployed for this one task. As more destruction plants come on stream in the rest of the decade this problem can only get worse, if current practices remain unchanged.

Meanwhile, the nature of the threats faced by the different member states of the OPCW has changed dramatically. The relative importance to world security of the old superpower confrontation has been sharply reduced, if not eliminated, while the relative importance of regional tensions has remained high or even increased. In addition, the events of 11 September 2001 have caused a fundamental

<i>Invited Article by Ian Kenyon</i>	1-2
<i>Invited Article by Nicholas A Sims</i>	2-7
<i>Progress in The Hague: 38th Quarterly Review</i>	7-15
<i>News Chronology February-April 2002</i>	15-48
<i>Forthcoming Events</i>	48
<i>Recent Publications</i>	49-52

rethinking of the relative importance of state and non-state actors.

Against this background, it would seem important to reassess the relative amounts of resource which are to be deployed in confirmation of destruction of declared stocks of chemical weapons; security of such stocks before destruction; inspections of different types of industrial facilities; activities related to control of access to dangerous chemicals (not necessarily only those on the CWC Schedules); and the necessary support to member states, particularly the developing countries.

How real a threat is posed by the stocks of chemical weapons in the four countries which have made declarations of possession (especially in states whose legislatures have obliged their elimination)? It is certainly important that they be destroyed within a reasonable time frame; that their storage be properly supervised; and that these activities be adequately confirmed by OPCW. But the operation can surely be made much more efficient in terms of manpower deployed without reducing to an unacceptable level confidence that all is proceeding to plan. For example, four-man teams of inspectors, working as two pairs, could adequately monitor the operations of a destruction site and its associated storage site, provided they had unlimited access whenever they requested it and worked a random shift pattern, which guaranteed that there would never be more than a specified time gap when inspectors were not present.

Similarly, it is important to decide the level of resource to be applied to inspections under Article VI and then to ensure that this is distributed as widely as possible across facilities in different Member States, while providing the Technical Secretariat with the ability to target particular types of installation which might be seen, from time to time, as of increased risk to the Convention. Where the Convention requires repeated inspections (Schedule 1) these should be carried out with a lighter touch when several inspections have shown clear compliance but with, perhaps, a requirement to record all changes made to equipment or operation and with the TS retaining the right to mount a full inspection whenever it so chooses. This should certainly apply to those Schedule 1 facilities producing very small quantities of material.

The above proposals are designed to release resources. Where should extra resources be used? The first instance is

Article IX. One of the most powerful components of the Convention is the deterrent to non-compliance provided by the challenge inspection regime. If this deterrent is to retain its credibility, particularly if formal challenges are used rarely, if at all, the Technical Secretariat's ability to carry them out should continue to be regularly exercised, but using more topical and realistic scenarios, both to demonstrate the current state of effectiveness of such inspections and to assist further development of techniques, such as sampling and analysis.

Another of the CWC's provisions in need of strengthening is the tracking of transfers of scheduled chemicals. One of the main tools within the Convention for impeding non-party state access to scheduled chemicals is the reporting and certification of transfers. Member states should continue their efforts to make this system as efficient as is feasible, given the complexity of modern commerce. If access by non-state actors to dangerous chemicals (not necessarily confined to those on the schedules) is to be impeded, it will be necessary to cooperate in the development of systems to spot unusual purchases. Assistance will need to be given to member states with less developed commercial intelligence systems to prevent their becoming conduits for such traffic. Collaboration with the United Nations' system for impeding traffic in narcotic chemical precursors might be worthwhile in this regard.

Any redeployment of resources should of course ensure that activities under Articles X and XI are maintained at the appropriate level.

A radical rethink, such as that proposed, is likely to be necessary in any event as the new destruction facilities in Russia and the United States come on stream and if unacceptable pressures on the budget and staffing of the Inspectorate are to be avoided. The main changes required in OPCW in the next quinquennium of its operation, however, are likely to be in member states themselves, as an effective Organization needs, above all, effective decision taking by the policy-making organs, the Executive Council and the Conference of States Parties.

Ian Kenyon, a member of the HSP Advisory Board, is a Visiting Senior Research Fellow, Mountbatten Centre for International Studies, University of Southampton.

ROUTE-MAPS TO OPBW: USING THE RESUMED BWC FIFTH REVIEW CONFERENCE

*Nicholas A. Sims
London School of Economics*

Why is there no Organization for the Prohibition of Biological Weapons (OPBW)? The world has had its OPCW for 5 years. No one would want to suggest that biological weapons constitute a lesser threat than chemical weapons, or that biological disarmament is less in need of strengthening than chemical. Yet that is the signal which governments and their disarmament diplomats risk sending out, if they abandon their efforts of 1995–2001 to create an OPBW. Even putting those plans on indefinite hold

suggests a complacency strangely out of kilter with the times we live in.

OPBW is a casualty of the stalling of the BWC Protocol, blocked by deadlock in the Ad Hoc Group at its 24th session (July–August 2001). This occurred after the United States announced that it could not accept the current Chairman's Composite Draft for the Protocol or any amended version of it, when in the recriminations which followed the Group was unable even to agree a procedural report.

Without the Protocol, there will be no OPBW. It is therefore an urgent task for the projected Second Special Conference to be convened, to adopt the Protocol and open it for signature. This conference, for which London remains on offer as a venue, has long been key to the majority view among states parties of how the BWC is best strengthened: by a legally binding instrument, including possible verification measures and other strengthening measures, which would be additional and supplementary to the Convention itself.

The procedure for concluding such an instrument, now known as the Protocol, was laid down at the First Special Conference in 1994, which took the scientific experts' findings of the VEREX exercise (1992–93), converted them into political proposals and propelled them on to the diplomatic agenda by formulating the mandate for a new Ad Hoc Group of BWC States Parties.¹ Under the 1994 mandate it was to a Second Special Conference that this new Ad Hoc Group was to report when it had successfully concluded its labours. But the Group can only proceed by consensus. And after six and a half years' work, from 1995 to 2001, it found its route to consensus blocked. Hence the current impasse.

This article offers two route-maps towards OPBW. One route-map passes through a 25th session of the Ad Hoc Group. The other assumes the Group to be wrecked beyond repair and, by substituting the authority of the Fifth Review Conference for that of the First Special Conference, transmits the draft Protocol direct to a Second Special Conference. Either way, the routes converge on London where a Second Special Conference is overdue to adopt the Protocol, open it for signature and launch a Preparatory Commission for an OPBW composed of the signatory states.

Both routes require creative use to be made of the forthcoming session of the BWC Fifth Review Conference, to be resumed in Geneva 11–22 November 2002. Even if it cannot be expected to register immediate, substantive advances in the BWC treaty regime, the November session can at least take decisions which will enable subsequent gatherings to steer that regime towards recovery after the shocks to which it was repeatedly subjected in the second half of 2001.

Decisions and majorities: the November options

One decision could be to encourage the Chairman of the Ad Hoc Group to convene its 25th session, at the same time giving a strong steer to the Group to use that session to conclude the Protocol on the basis of the Chairman's Composite Draft and to forward it to a Second Special Conference for adoption. Such a decision might include firm dates for both gatherings, or time limits within which they must take place.

The other decision, which would be all the more necessary if it appeared likely that the consensus rule in the Ad Hoc Group would continue to be used to block further negotiation of the Protocol, or even to obstruct the Chairman in his efforts to convene a 25th session, would be to convene the Second Special Conference in London in 2003, directly under the authority of the Fifth Review Conference. The Second Special Conference would then be mandated by the Fifth Review Conference, as the First Special Conference had been mandated by the Third Review Conference. By having the original 1994 mandate for the conference replaced

with a 2002 one, the Second Special Conference would be freed from the obligation to receive the draft of a legally binding instrument, for adoption as the Protocol, from the Ad Hoc Group and that Group alone. Instead, under its new mandate it would be free to receive the text forwarded to it by the Fifth Review Conference. The latter could also include in this new mandate a decision-making procedure for the Second Special Conference which would stop it being blocked by the same inflexible application of the consensus rule which had paralysed the Ad Hoc Group in 2001 and rendered its revival doubtful in 2002.

At first sight the two decisions may appear to be alternatives. However, there might be value in taking both decisions, with the second to be applied only if the first is not implemented by the dates specified. The effect of this would be to give the Ad Hoc Group one last chance, thereby respecting the procedure envisaged in 1994, but if it turned out that the Ad Hoc Group route to a Second Special Conference remained blocked then the second decision would come into play. The 1994 procedure would then be superseded by a mandate for the Second Special Conference to be convened under the direct authority of the Fifth Review Conference.

It should be helpful that the President of the Fifth Review Conference is concurrently the Chairman of the Ad Hoc Group, and was also in 1994 the President of the First Special Conference following his 1992–93 chairmanship of the VEREX Group. Clashes of personalities involved in the replacement of mandates are thereby averted: which is not to deny that Ambassador Tibor Tóth has a delicate task ahead of him in presiding over the resumed session of the Fifth Review Conference in November, especially if it comes to the mandatory 48-hour deferment of vote required under Rule 28.3 before, if necessary, a two-thirds majority vote is taken under Rule 28.4.

For these decisions may have to be taken by two-thirds majorities. Consensus is not sacrosanct, and all BWC review conferences have possessed the fall-back provision for voting in Rule 28 ever since the rules were first devised in 1979 [see Annex Box]. Until 2001 voting was seldom, if ever, considered; but the precarious state of the BWC now requires fresh thinking about its decision-making procedures, and this November a rule left unused for 23 years may come into play for the first time. A temporary abandonment of the consensus tradition may be a necessary price to pay for relaunching the stalled diplomatic process of strengthening the BWC, if that is the only way to get the Protocol negotiations unblocked — with the goal, among many other benefits, of creating an OPBW.

If consensus is being relentlessly blocked, voting may be the only way around the blockage. It should not be applied to more decisions than absolutely necessary: in particular, as much as possible of the Final Declaration should continue to be adopted by consensus. The arguments for resorting to a vote at all are finely balanced. On the one hand, there is a proper reluctance to resort to voting because it is seen as divisive; because it might encourage recourse to voting under the equivalent rule in nuclear Non-Proliferation Treaty (NPT) Review Conferences; and because, if used to overcome a US veto, it risks driving the US government even further into the corner of its self-imposed isolation from the mainstream of BWC diplomacy. On the other hand, majority

voting is preferable to serial suspension as the fate of the Review Conference; the interests of the BWC should not be subordinated to speculative NPT considerations; and the credibility of the Convention could be damaged by any further adjournment or indecision on the part of the Conference. Voting is best avoided, under most circumstances; but persistent intransigence in US positions can only bring nearer the prospect of voting on 22 November 2002.²

Towards OPBW: without the US at first?

One common objection to bringing the Protocol into force, even without the United States, is that it would leave the rest of the world bearing the burden of compliance costs which industry located within the United States and US biodefence programmes would entirely escape; and for that reason alone EU and other pro-Protocol governments may come under pressure from relevant industrial and biodefence interests to save them from such an inequitable fate. However, it is not necessary to bring the Protocol into force to begin to reap the fruits of the OPBW harvest.

Consider the stages which would follow completion of the Protocol. Opening it for signature would enable signatory states to constitute themselves as a Preparatory Commission for the OPBW. The Preparatory Commission could appoint an Executive Secretary and the Executive Secretary could recruit staff to a Provisional Technical Secretariat. Between them, the PrepCom and the PTS could start shaping the embryonic OPBW.

This is what happened before the Chemical Weapons Convention entered into force, and what has been happening since the opening for signature of the Comprehensive Test Ban Treaty. The PrepCom/PTS phase for OPCW in The Hague lasted from 1993 to 1997. For the CTBTO in Vienna it has lasted since 1997.

Experience from both shows that the PrepCom/PTS phase is an active one, which the governments of signatory states — and NGOs — take seriously. It is, after all, their best chance to shape the future Organization and through it the application of the Protocol. Especially where the negotiators (whether the Conference on Disarmament for the CWC and CTBT or the Ad Hoc Group for the BWC Protocol) have left gaps or ambiguities, the scope for active diplomacy in the PrepCom is considerable. So too is the scope for their nationals to seek employment in the PTS and mould the definitive Technical Secretariat of the eventual Organization.

Institutional capacity would grow during the years following the Protocol's opening for signature. The OPBW would become ever more concrete a project. BWC states parties would come under some pressure to define their stance towards the Protocol, some standing aloof, some signing but not ratifying, and the keenest ratifying. This definition of attitudes itself would create a dynamic process within the BWC. There follows the likelihood of diplomatic alignments emerging around the prospect of an earlier or a later date for entry into force, and interacting with domestic debates within the United States with the possibility of new policy reviews eventually replacing the hostile stance of 2001 with a more positive US attitude towards the Protocol.

So enabling the Protocol to be opened for signature would not commit governments to an early entry into force, yet OPBW benefits could begin to flow during this interim period, to the advantage of a recovering BWC regime.

US policy not the only obstacle

The discussion in this article so far may have implied that only the United States stands between the BWC and its Protocol, and hence current US policy is the only obstacle on the road to an OPBW. However, an important corrective to this over-simplified view has recently been offered by Daniel Feakes and Jez Littlewood. They make the point, from close observation of the negotiations, that

In terms of the AHG [Ad Hoc Group], the perception that the Protocol was agreed until the US rejected it has to be replaced by a recognition that other countries besides the US had put significant obstacles before the AHG which still had to be overcome.³

They cite as a significant obstacle the tension of April–July 2001 over whether the Chairman's Composite Draft should supersede the Rolling Text: "a small, but politically powerful, group of states" wanted negotiations to continue on the Rolling Text. Had they been willing instead to welcome the Chairman's Composite Draft as a necessary compromise, the 23rd session and the intervening weeks could have been used to get closer to agreement at the opening of the 24th. In the event, however, US intransigence at the 24th session fortuitously obscured their reservations and they acquired an undeserved credit by default. The significance of continuing to focus exclusively on the Rolling Text was that it denied an early conclusion to the negotiation of the Protocol. "Reaching agreement in 2001 was not important to these states."

Feakes and Littlewood cite, as a key document in this resistance to the Chairman's Composite Draft taking centre-stage, a working paper of 4 May 2001, the *Joint Statement on the Process of the BTWC Ad Hoc Group Negotiations*⁴ submitted by China, Cuba, Islamic Republic of Iran, Indonesia, Libyan Arab Jamahiriya, Pakistan and Sri Lanka. This small group, a minority among the 56 states participating in the 23rd session:

maintained that the rolling text was the sole basis of the negotiations and issued an explicit call for a return to negotiations based on this.⁵

Since the US rejection, however, some movement in favour of the Protocol has been noted, and it may be that a move to reinvigorate the Protocol would gather support among this group of states. The new situation may have superseded the Joint Statement: this remains to be seen.

Implications for the November options

Would those states be ready now to promote the Chairman's Composite Draft as the definitive text of the Protocol, without need of much further negotiation? If the answer is yes, the Fifth Review Conference could expect to vote by a larger than two-thirds majority for going down the route outlined above, of (a) setting dates or time-limits for a 25th session of the Ad Hoc Group to conclude the Protocol on the basis of the Chairman's Composite Draft and for the Second Special Conference to adopt it, and (b) in case of continued

failure of the Ad Hoc Group to reach consensus, conferring a direct mandate on the Second Special Conference, to be convened under the authority of the Review Conference, and commending the Draft directly to that body for adoption under its new 2002 mandate.

If however the answer is no, the Review Conference might still be able to get the negotiations reopened. This would require a decision, probably again by a two-thirds majority, to refer further negotiation to a 25th session of the Ad Hoc Group and, if US refusal of consensus continued to block that route, to a substantive session, in addition to the usual procedural session, of the Preparatory Committee for the Second Special Conference (not to be confused with the subsequent OPBW Preparatory Commission of states signatories to the Protocol). That would be an unusual use of a PrepCom, but a necessary one, if on the one hand the US continues to block the Ad Hoc Group route and on the other the states responsible for the Joint Statement of 4 May 2001 are not yet ready to commend the Chairman's Composite Draft as superseding the Rolling Text. It would be necessary in order to get the Protocol negotiations back on the road.

Those governments which have "talked up" the Protocol despite the US rejection will have a special responsibility in November to give effect to their words. If they really believe that the Protocol is the key to strengthening the BWC, the resumed session is their opportunity to improve its chances of survival, with or without the United States, and with or without the Joint Statement group.

The Madrid Commitment and the BWC Protocol

European and Latin American states can be seen as the core of a two-thirds majority to rescue the Protocol in November, especially after the Madrid summit of 17 May 2002. This European Union meeting with the states of Latin America and the Caribbean issued a 33-page political declaration, the *Madrid Commitment*.⁶ Significantly they declare, after reaffirming the struggle against proliferation of CBW, an equal commitment to "the reinforcement of disarmament instruments in this field." [Emphases added.]

The *Madrid Commitment* continues: "We will continue to work together for the complete eradication of chemical and biological weapons." The BWC and CWC are the

RULES OF PROCEDURE FOR THE BWC REVIEW CONFERENCES

SECTION IV: VOTING AND ELECTIONS

Rule 28

Adoption of decisions

1. Decisions on matters of procedure and in elections shall be taken by a majority of representatives present and voting.
2. The task of the Review Conference being to review the operation of the Convention with a view to assuring that the purposes of the preamble and the provisions of the Convention are being realized, and thus to strengthen its effectiveness, every effort should be made to reach agreement on substantive matters by means of consensus. There should be no voting on such matters until all efforts to achieve consensus have been exhausted.
3. If, notwithstanding the best efforts of delegates to achieve consensus, a matter of substance comes up for voting, the President shall defer the vote for 48 hours and during this period of deferment shall make every effort, with the assistance of the General Committee, to facilitate the achievement of general agreement, and shall report to the Conference prior to the end of the period.
4. If by the end of the period of deferment the Conference has not reached agreement, voting shall take place and decisions shall be taken by a two-thirds majority of the representatives present and voting, providing that such majority shall include at least a majority of the States participating in the Conference. [paragraphs 5 and 6 are not reproduced here]

Source: United Nations, *Report of the Preparatory Committee for the Fifth Review Conference of the Parties to*

the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction, BWC/CONF.V/PC/1, Annex II, *Draft Rules of Procedure* (1 May 2001). Available at <http://www.opbw.org>

Historical note: Rule 28 of the BWC Review Conferences has remained unchanged since the Provisional Rules of Procedure were recommended to the original (1980) Review Conference by its Preparatory Committee. Those Rules were adapted by the Preparatory Committee, at its session in Geneva, 9–18 July 1979, from the Rules of Procedure which had governed the First Review Conferences of the Nuclear Non-Proliferation Treaty in 1975 and of the Sea Bed Treaty in 1977. The Preparatory Committee reported that it had made five changes, including simply changing the word 'Treaty' to 'Convention'. But no other of these changes affected Rule 28, which can therefore safely be regarded as having governed the review process for all three instruments, in respect of their decision-making procedures, as a standard rule. Its origins in United Nations conferences and its wider use outside the field of arms control and disarmament fall outside the scope of this article but suggest an interesting subject for research.

Sources: United Nations, Review Conference of the Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction, *Provisional Rules of Procedure for the Review Conference*, BWC/CONF.I/2 (2 January 1980); *Report of the Preparatory Committee*, BWC/CONF.I/3 (2 January 1980) paragraph 9.

“disarmament instruments” in need of reinforcement; and in the case of the BWC:

We underline that it is our conviction that the latter Convention is best enhanced by the adoption of a legally binding instrument to oversee the prohibition of the development, production and stockpiling of biological and toxin weapons and their destruction. We continue to support the objective of attaining a regime that would enhance trust in compliance with the Biological Weapons Convention in accordance with the mandate of the Ad Hoc Group set up under the said Convention.

The language is sufficiently specific to commit both Europe and Latin America to something closely resembling the Protocol. If they are genuine in this commitment — and there is no reason to doubt it — we have here the nucleus for a two-thirds majority in November and for the original signatories to the Protocol and hence members of the OPBW PrepCom. Significant levels of additional support from outside those two regions could be expected, based on their statements in 2001, from such States Parties as Australia, Canada, Japan, New Zealand and South Africa.

Since the European Union first started taking “common positions” in the Ad Hoc Group — positions with which almost all non-EU members in the region, whether candidates for EU membership or not, were happy to associate themselves — it has raised its profile and intensified its political activity around the quest for the Protocol.⁷ These trends continued under the recent Belgian and Spanish presidencies and seem likely to be maintained when Denmark assumes the EU presidency for the second half of 2002.

In the *Madrid Commitment* the Europeans and Latin Americans gave equal value to disarmament with non-proliferation. This is a timely reminder that the disarmament obligation is central to the BWC and will be central to its Protocol and OPBW.

Treaty relationships and reciprocity

At this point it may be worth restating some basic propositions about disarmament treaties, which may have been in danger of being overlooked. They underscore the case for the Protocol and for beginning to build an OPBW.

Treaty relationships are about reciprocity. We (in AnyState) want to make sure that no one attacks us with certain weapons so we want to make sure that no one has any. By the same token we want to reassure everyone else that we do not have any. They must be open with us and we must be open with them.

This reciprocity is the logic of verified disarmament; but in the absence of full verification it can also be the logic of a strengthened regime for the demonstration of compliance, which is essentially the regime embodied in the Protocol with its three pillars of declarations, visits and investigations, underpinned by purpose-built institutions.

Treaties are not just about constraining or deterring the enemy (whether ‘rogue states’ or ‘terrorists’). They have other functions too. The Protocol, through its interlocking machinery of OPBW and National Authorities, will embody and promote reciprocity among its states parties. They will be able to reassure one another, more reliably and systematically than hitherto, that they are fully committed to

biological disarmament and that all their industrial activities and biodefence programmes are demonstrably consistent with this commitment.

As important as reassuring one another (as government to government) is reassuring the attentive public. This may well require better solutions to the problem of confidentiality between OPBW and governments than OPCW has come up with in the first five years since the CWC’s entry into force. Governments in the 21st century are not accountable exclusively to one another. Greater openness about permitted activities, combined with legislative scrutiny and National Authority advisory committees, should serve to reassure healthily sceptical citizens that their government is fully in compliance with its international obligations.

Treaty relationships solidify an agreed norm of behaviour and make it harder to overturn. Each state party stands guard over the others, and the watchfulness of treaty partners discourages backsliding. The relevance of this to the Protocol is that the latter would have value even if initially confined to a core group of states most strongly committed to the BWC and least likely to be suspected of undermining it. They would be mutually supportive in reinforcing, and giving organised expression to, their shared commitment.

They would bear the costs, of the Organization and of compliance more generally; but they would also be in charge. Governments want to be where key decisions are being taken. They would be in a strong position from the start to shape an OPBW which both served their own interests as a core group and turned an open face to the rest of the world so as to attract steadily widening participation. Moreover, as noted already, they could hold back from entry into force and keep the OPBW in its PrepCom/PTS phase if they judged it prudent to await particular ratifications. Formal numerical conditions for the entry into force of a treaty do not eliminate the network of informal understandings whereby some unofficial preconditions are judged more essential than others: it is in this light that the tolerability of an OPBW without US participation will eventually have to be judged.

Conclusion

Institutions are never a panacea for international problems. But without appropriate institutions problems can just get worse. To get the Protocol back on track and thereby relaunch the agenda of building the National Authorities and OPBW should be the aim of the Fifth Review Conference in its resumed session. Institution-building could give a psychological boost to the BWC. It is high time that a sense of purposeful forward movement replaced the current sense of drift, awaiting the next shock, which has nearly paralysed the diplomacy of biological disarmament.

References and Notes

1. Nicholas A. Sims, *The Evolution of Biological Disarmament* (Oxford: OUP for SIPRI, 2001) p 104.
2. Nicholas A. Sims, ‘Return to Geneva: The Next Stage of the BTWC Fifth Review Conference’, Review Conference Paper No. 5 (April 2002) in Graham S. Pearson and Malcolm R. Dando (eds.), *Strengthening the Biological Weapons Convention: Review Conference Papers* (Bradford: University of Bradford, Department of Peace Studies, 2002) p 5.

3. Daniel Feakes and Jez Littlewood, 'Hope and Ambition turn to Dismay and Neglect: The Biological and Toxin Weapons Convention in 2001', *Medicine, Conflict and Survival*, vol. 18 (2002) p 170.

4. BWC/AD HOC GROUP/WP.451 (4 May 2001)

5. Feakes and Littlewood (2002), p 163.

6. European Union, Latin American and Caribbean Summit, *Political Declaration: The Madrid Commitment*, 8802/02 (Presse 133), Madrid, 17 May 2002.

7. On this see Daniel Feakes, 'The Emerging European Disarmament and Non-Proliferation Agenda on Chemical and Biological Weapons', *Disarmament Diplomacy*, no. 65 (July/August 2002)

Nicholas Sims is a Senior Lecturer in International Relations at the London School of Economics and Political Science, University of London.

Progress in The Hague

Quarterly Review no 38

Developments in the Organization for the Prohibition of Chemical Weapons

The period under review, from mid-March 2002 through early June 2002 was an historic one for the Organization for the Prohibition of Chemical Weapons (OPCW) and international disarmament efforts. On 29 April 2002, the OPCW marked the fifth anniversary of the entry into force of the Chemical Weapons Convention (CWC). In the last five years, the Convention and its implementing body have achieved remarkable success in eliminating chemical weapons; although the path has not always been smooth.

One such bump in the road of CWC implementation came on the eve of the fifth anniversary with the convening of a special session of the Conference of the States Parties — the first such occasion — with the purpose of voting on a motion to end the tenure of the current Director-General of the Technical Secretariat of the OPCW. The states parties voted 48–7–43 (yes-no-abstention) to remove the first Director-General, whose term of office would have otherwise run until May 2005. The states parties took this action at the end of a two-month long coordinated effort by one state party to convince the others that the Director-General had lost the confidence of the states parties and thus should be removed from office and replaced by an individual in whom the states parties had greater faith and trust, and who would focus the work of the Technical Secretariat to concentrate on the core tasks of CWC implementation, especially verification and non-proliferation.

Conference of the States Parties

The first special session of the Conference of the States Parties was requested by the United States and met on 21 April; it adjourned on 24 April and will reconvene at a later date in 2002. The agenda for this special session contained two substantive items, the tenure of the Director-General of the Technical Secretariat and further action regarding the Secretariat (i.e., measures in relation to the appointment of a new Director-General). The special session was opened with a statement by the Director-General in which he stressed the equitable nature of the Convention, which as the first non-discriminatory, multilateral disarmament treaty provides equal treatment for all states parties, regardless of the size of their budgetary contribution. He asserted the

independence of international organisations and of international civil servants, and rejected the precedent-setting actions of the United States in unilaterally seeking the removal of the sitting head of an international organization. The Director-General had refused to resign at the behest of the United States, stating that if he were to leave it would be at the request of all states parties, manifested by a consensus decision of the Conference or a vote. The Director-General rejected the allegations made against him and reaffirmed his commitment to universality, assistance and protection, the global fight against terrorism, international cooperation in peaceful chemistry, and the complete destruction of Russia's chemical stockpile. The Director-General offered to engage in dialogue and cooperation with the state party or parties requesting his removal in order to reach a negotiated solution to the impasse, rather than confrontation.

Following this statement, both the United States and Brazil gave prepared statements. The United States reiterated its concern for the survival of the CWC and its concerns with regard to the Director-General's management of the OPCW, including allegations of non-transparency, ill-judgement, irresponsibility, and financial mismanagement. The US representative emphasised the need to strengthen both the Convention and the Organization by appointing new leadership. Brazil voiced its unqualified support for the Director-General, a Brazilian national, and reiterated its position that the independence of the OPCW as an international organization must be maintained, drawing attention to the dangerous precedent that would be set by removing the Director-General from office.

Tenure of the Director-General This agenda item was taken up for a vote 24 hours after first being introduced at the special session, as required under the rules of procedure if consensus cannot be found. The states parties in attendance voted 48–7–43 in favour of a decision to terminate the tenure of the first Director-General with immediate effect.

This decision required a two-thirds majority of the states parties present and voting to pass. Of the 113 states parties participating, 13 did not have a vote due to budgetary arrears in an amount exceeding two-years worth of assessments. Of the 100 states parties eligible to vote, 2 were not present

during the vote and 43 abstained. Under the Conference's rules of procedure, those abstaining are not included in the count of states parties "present and voting", which meant that the vote carried with an 87 per cent majority. Three of the 113 states parties had never before attended a session of the Conference.

The vote broke largely along regional lines, with all but nine of the yes votes coming from the Western Europe and Other Group (WEOG) and Eastern Europe, and all but four of the abstentions coming from Africa, Asia, or Latin America and the Caribbean. The seven states parties voting no were Belarus, Brazil, China, Cuba, Iran, Mexico, and Russia. Notably, India was among the yes votes with France and South Africa among the abstentions.

Also under this agenda item, the Conference took note of the financial implications to the OPCW of the termination of the Director-General's tenure.

Further Action Regarding the Technical Secretariat

Discussion in the Conference on this agenda item began soon after the aforementioned vote, with the intention of appointing a new Director-General. However, no candidates were put forward, and the Chairman of the Conference made the decision to adjourn the special session for a period of six weeks during which time potential candidates would be sought and the Executive Council would convene its eighteenth meeting in order to make a recommendation to the Conference, in accordance with Article VIII of the Convention. The Conference was of the opinion that the next Director-General, who would serve at least one four-year term, should come from the Latin American and Caribbean Group of states (GRULAC) and encouraged GRULAC to put forward candidates.

However, GRULAC was unable to agree on a candidate or candidates within this timeframe, and at the Council's eighteenth meeting (see below) the field for candidates was opened to all states parties, with preference to developing countries. The first special session of the Conference would not be reconvened until the Council was able to make a recommendation. Under the Convention, the Conference cannot appoint a Director-General without such a recommendation from the Council.

Executive Council

The Executive Council met for its twenty-eighth formal session during 19-22 March, and for its seventeenth and eighteenth meetings on 28 March and 31 May, respectively. The dominant issues before the Council in its regular session were a no-confidence motion in the Director-General, proposed by the United States, and a motion put forward by Brazil to form an extraordinary committee to investigate the allegations brought by the United States against the Director-General — these centred around accusations of mismanagement of the OPCW Technical Secretariat, both financially and politically.

Both of these motions were brought to a vote, owing to a lack of consensus, and both failed to gain the required two-thirds majority of the 41 members of the Executive Council. The no-confidence motion failed by a vote of 17-5-18; the motion to establish an extraordinary committee failed 14-17-8. In a third vote, the Council members voted

7-20-13 on a motion that would have denied the Council the competence to take a decision of no-confidence in the Director-General. This vote on the no-confidence motion failed. In the wake of these votes, the United States submitted a request for a special session of the Conference of the States Parties. This request required the support of one-third of the 145 states parties to go forward, which it did, as reported above.

The seventeenth meeting of the Council was convened in order to draw up the agenda for the first special session of the Conference. The eighteenth meeting was convened in order to make a recommendation to the Conference on the appointment of the Director-General. At the close of this meeting, the Council decided to open the field for candidates for the post of Director-General to all states parties and requested states parties and/or regional groups to put forward candidates prior to 24 June. The Council would consider all candidates at its twenty-ninth session, scheduled for 25-28 June, with the intent of making a recommendation to the Conference.

In the intersessional period between the twenty-seventh and twenty-eighth sessions, the Council met in informal consultations on a range of unresolved and deferred issues, including: assistance and protection, sampling procedures, boundaries of production and captive use, aggregate national data (AND) and plant site import/export declarations, implementation of Section B of Part IX of the Verification Annex, and transfers of Schedule 3 chemicals. During the second intersessional period, between the twenty-eighth and twenty-ninth sessions, consultations were held on assistance and protection, sampling procedures, concentration limits for Schedule 2A and 2A* chemicals, Section B or Part IX of the Verification Annex, AND, boundaries of production and captive use, transfers of Schedule 3 chemicals, the 2002 and 2003 budgets, and the procedural issues related to the appointment of a new Director-General.

The Council at its twenty-eighth session elected Ambassador Lionel Fernando (Sri Lanka) as its next Chairman. His term of office would extend from 12 May 2002 to 11 May 2003. The Council also elected as Vice-Chairmen representatives from Germany (Article VI issues), Mexico (chemical weapons issues), Nigeria (administrative and financial issues), and Russia (legal and other issues).

Status of Implementation of the Convention At its twenty-eighth session, the Council noted a report from the Director-General on the implementation of the confidentiality regime in 2001. The report stated that as of 31 December 2001 only 43 of the 145 states parties had informed the Technical Secretariat of their procedures for handling confidential information. The Council requested all states parties that have not done so to submit to the Secretariat such information. The Council also noted a report by the Director-General on national implementation measures that provided an overview of the status of submissions made by states parties under Article VII, paragraph 5 of the Convention and the assistance provided to the states parties by the Secretariat towards the fulfilment of Article VII provisions. The details of this report can be found below in the section on legal issues.

Under this agenda item, the Council learned of the results of an initial inspection of old chemical weapons, declared as

abandoned by Panama. This inspection took place in January and was able to confirm the presence of old chemical weapons on San José Island. The inspection team was not, however, able to determine the abandoning state party. Further investigation was needed so that the weapons could be properly destroyed and the Technical Secretariat urged the states parties to submit any additional information relating to this issue prior to the twenty-ninth session.

Anti-Terrorism The Council had concluded in its twenty-seventh session that the full implementation of Article VII of the Convention, through the enactment of proper implementing legislation at the national level, was a priority of the OPCW's contribution to global anti-terrorism efforts. In order to aid in this effort, the Council adopted a decision on national implementation measures at its twenty-eighth session that urged all states parties to fulfil their obligations under Article VII of the Convention and requested states parties as well as the Technical Secretariat to continue their efforts to provide assistance to, states parties that had not yet done so.

The Council also requested that the Secretariat continue to seek clarification from states parties on legislative measures taken to implement the CWC, and submit a report to the Council no later than the twenty-ninth session. Consultations on how the OPCW could best contribute to global efforts to fight terrorism would continue intersessionally.

An open-ended working group of the Council on the OPCW's anti-terrorism strategy continued to meet periodically under the chairmanship of the Council Chairman.

Destruction issues With regard to the extension of destruction deadlines for Category 1 chemical weapons, the Council recommended to the Conference of the States Parties that it approve, at its seventh session in October, the request made by a state party of withheld identity for the extension of its intermediate Phase 2 deadline. The Russian request for a five-year extension of its final destruction deadlines, as well as similar extensions to its intermediate deadlines, was considered by the Council at its twenty-eighth session and would be taken up again by the Council at its twenty-ninth session. Under the terms of the request, Russia would be required to destroy 100 per cent of its Category 1 chemical weapons stockpile by 29 April 2012, and intermediately, one-per cent by 29 April 2003, 20 per cent by 29 April 2007, and 45 per cent by 29 April 2009.

With regard to the continuously postponed and deferred detailed plans for the verification of the destruction of Category 2 chemical weapons at Shchuch'ye and at Perm, both in Russia, the Council noted the complete destruction, at the Perm facility, of phosgene drained from munitions at Shchuch'ye. In the absence of an approved detailed plan, this destruction took place under continuous monitoring by OPCW inspectors. The Perm facility was never declared as a chemical weapons destruction facility (CWDF), as several Council members felt it should have been. Russia maintained that the drained phosgene fell under Article VI and Part VIII of the Verification Annex, and thus the Perm facility did not need to be declared. The Council as a whole held the view that the actions taken by Russia in this respect did not establish a precedent for future destruction activities in Russia or any other state party.

The Council approved the detailed plans for the verification of destruction of Category 1 chemical weapons at Gorny, also in Russia. The CWDF at Gorny was scheduled to begin operations in the third quarter of 2003 and complete its operations in 2005. Gorny would be the first fully operational CWDF for Category 1 chemical weapons in Russia. Also approved, were combined plans for the destruction and verification of a CWPF at Norton Disney in the United Kingdom.

The Council considered, but decided to defer decision to its next session, the detailed plans for the verification of destruction of chemical weapons at Anniston in the United States. As well, the combined plans for the destruction and verification of the CWPF at Rocky Mountain Arsenal in the United States would be considered again at the Council's June session.

Conversion Of the nine conversion requests or plans for conversion and verification for Russian facilities before the Council — Novocheboksarsk (4), Volgograd (4), and Dzherzhinsk (1) — the Council decided to return to consideration of six of the requests/plans at its June 2002 session. The Council approved the combined plans for the conversion and verification of the CWPF at Novocheboksarsk for the loading of chemical sub-munitions into munitions and the Volgograd facility for the filling of mustard-lewisite mixture into munitions. The Council recommended to the Conference in its seventh session the approval of the request to convert the lewisite production facility in Dzherzhinsk for purposes not prohibited under the Convention.

The Council raised no objection to changes in chemical process equipment at a converted facility in a state party of withheld identity; the changes would impact on the frequency of inspection at the facility.

Facility Agreements Nine facility agreements were under consideration by the Council and all nine were referred to the next session for further discussion/consideration. Five of these agreements were for facilities in the United States: Aberdeen (2), Deseret (2), and Anniston (1). The remaining four included an agreement with Sweden for a Schedule 2 plant site, two agreements with the Federal Republic of Yugoslavia for a CWPF and a Schedule 1 protective purposes facility, as well as an agreement with Iran for a Schedule 1 protective purposes facility.

Assistance and Protection Consultations on the provision of assistance and protection to requesting states parties under Article X of the Convention continued during the period under review. Discussions focused on the establishment and function of an assistance coordination group (ACG) and an assistance coordination and assessment team (ACAT). The Council encouraged the Secretariat to explore ways to cooperate with other international organizations in this area — largely to avoid the duplication of existing resources and unnecessary expenditures. The Council would continue to discuss the concept paper on Article X intersessionally.

Technical Matters The Council was unable to approve the list of new validated data for inclusion in the Central OPCW Analytical Database, forwarded to it by the Director-

General in February. The Council would consider the list again at its June session. Further intersessional consultations would be undertaken on the issue of the procedures for revising technical specifications for on-site inspection equipment. The proposal submitted by the Technical Secretariat in this matter recommended that the Director-General develop the detailed technical specifications for items of inspection equipment, when equipment purchased by the Secretariat could not meet the adopted specifications, and submit these specifications to the states parties for review and approval before their implementation. A procedure was recommended for the revision of the list of approved inspection equipment, based on a set of criteria to justify such additions to the list, with the addition of consultation with/by the Scientific Advisory Board (SAB) when scientific and technological developments were involved.

As a result of the security audit conducted in October, the Technical Secretariat proposed to the Council the introduction of the ISO/IEC 17799 information security management standard. The Council would discuss this issue intersessionally and return to it at a future session.

Financial Issues The 2002 budget deficit stood at EUR 2.1 million and was a cause of extreme concern to the Council, as it was already impacting 2002 programme delivery, particularly in the area of verification. The Council was informed of the redrafting of the 2002 budget in order to increase the amount budgeted for staff costs to meet actual expenses. The redrafted budget set the amount required for staff costs at EUR 43.8 million, which included an adjustment of EUR 1.8 million based on mandatory increases that were not taken into account by the states parties during the budget deliberations in 2001. The Inspectorate and Verification Divisions claimed the largest portion of this increase. The increase would be assessed to the states parties in line with the approved scale of assessments for 2002, with the largest supplemental payment amounting to less than EUR 500,000. The Council made no decision in this matter and the issue would likely be the subject of ongoing informal consultations.

The Council could not reach consensus on changes to the mechanisms for payment of Article IV and V costs by the inspected states parties, thus open-ended consultations on this issue would continue intersessionally. The Technical Secretariat and a number of states parties favour the payment of Article IV and V costs in advance, based on accurate estimates, in order to avoid the late payment of invoices and subsequent lack of budgeted income—a major component of the financial crisis. The procedural aspects of advance payments and ensuring appropriate estimates for Article IV and V income in future budgets were the primary subjects of discussion and debate that escaped a consensus decision.

The Council deferred discussion on proposed amendments to the OPCW Financial Rules and Regulations to its next session. At the request of Russia, the Council was asked to consider the Charter and Administrative Rules of the OPCW Provident Fund and proposed amendments to these rules, which were last put before the Council in October 2000; no Council decision was ever taken in this matter. The Council decided to submit the charter and rules with the proposed amendments to the Advisory Body on Administrative and Financial Matters (ABAF), for consideration at its

next session. The Council received reports on the implementation of the recommendations of the External Auditor and the Office of Internal Oversight (OIO) and referred them to intersessional consultations. The reports were the fulfilment of the Council's request to be provided with such information on a biannual basis. The report of the OIO noted that the rate of implementation of OIO recommendations had increased significantly in the second half of 2001, reaching over 90 per cent. Recommendations implemented in whole or part included those concerning procurement, confidentiality, and internal financial mechanisms — including short-term investments. Recommendations still wanting for action included a review of the job classification structure within the OPCW and the need for better handover procedures.

The report on the recommendations of the External Auditor and their implementation focused on issues related to matching income and expenditure and the gradual implementation of results-based budgeting. The External Auditor continued to stress the need to better estimate the amount of income generated in a given year and to budget accordingly, and discouraged frequent transfers between programmes in the budget. The Secretariat concurred and was doing much in this area; pending of course a decision by the states parties on the reimbursement or advance payment of Article IV and V income. Other recommendations related to OPCW institutional investing, procurement, inspection equipment, human resources, and internal oversight. All recommendations of the External Auditor had produced some action on the part of the Secretariat.

The ABAF met for its twelfth session during 15–19 April. The main tasks in front of it were a review of the implementation of the 2002 budget and the draft programme and budget for 2003. The ABAF advised the Technical Secretariat against optimistic income projections under Articles IV and V and was concerned over the limited delivery of the programme of work in 2002. It encouraged voluntary contributions from states parties to help alleviate the budget shortfall. The ABAF examined an initial draft of the 2003 OPCW programme and budget and requested greater transparency from the Technical Secretariat in a number of areas, including staffing, the structure of programmes and sub-programmes, information technology, claims against the OPCW at the International Labour Organization Administrative Tribunal and external relations. The ABAF deferred to its next session, 26–30 August, consideration of the proposed amendments to the Charter and Administrative Rules of the Provident fund, as well as recent internal oversight audit reports.

The draft programme and budget for 2003 presented by the Technical Secretariat to the Executive Council for review during its thirtieth session in September 2002, was in the amount of EUR 69.9 million and represented a 13 per cent increase over the approved 2002 programme and budget, or 9 per cent taking into account the EUR 2.1 million budget deficit. The 2003 assessment to the states parties would amount to EUR 64 million, a 10 per cent increase over the 2002 assessment. The income generated from the reimbursement of the costs of verification under Articles IV and V was budgeted in the amount of EUR 5.3 million, an increase over the 2002 budgeted income from Article IV and V reimbursements of 76.6 per cent. This increase was due

to the expected start of full-scale destruction activities in Russia and an acceleration of the US destruction programme.

As of 6 June, 72 states parties had fully paid their assessed contributions to the 2002 budget, including the United States, which paid the balance of its 2002 assessment (EUR 6,000,000), plus nearly half of its Article IV and V arrears (around EUR 800,000) on 15 May. A number of states parties had made partial payments. Both Japan and the Netherlands made voluntary contributions to the OPCW during the period under review.

Thirty states parties continued to be in arrears for more than two years worth of assessments, and therefore had lost their vote in all OPCW bodies. These arrears amounted to a total of EUR 705,773.

Review Conference The Council noted a report given by the Chairman of the open-ended working group on preparations for the first Review Conference. On the working group's recommendation, the Council adopted a decision recommending to the Conference of the States Parties that the first Review Conference begin on 28 April 2003, one day prior to the expiry of the sixth year since entry into force, and that the Review Conference should convene for a period of two weeks.

The Review Conference working group held eight meetings during the period under review, and in addition to the recommendation on the timing and duration of the Review Conference, it has so far considered papers on the participation of non-governmental organizations (NGOs) and the pursuit of universal membership in the OPCW. In addition, an overview of implementation of the CWC verification regime was prepared by the Technical Secretariat for the working group. Other papers were under preparation by the Secretariat, the states parties, and NGOs. In July, the International Union of Pure and Applied Chemistry (IUPAC) would hold a workshop in Bergen, Norway as part of its external review of scientific and technological developments impacting on the CWC. A report on the findings of the IUPAC study would be forwarded to the Secretariat following the workshop.

Other Issues The Council was not able to find consensus on the draft memorandum of understanding on cooperation between the OPCW and the World Customs Organization (WCO). At issue was the legal basis in the Convention for the exchange of data with other international organizations. Further discussion between the Technical Secretariat and the WCO was necessary to answer this and other questions concerning technical issues.

The Council received, but did not take any action on, a request from the Director-General to reclassify two posts — that of the Head of the Office of Confidentiality and Security from P-5 to D-1, and that of the Head of Security from P-4 to P-5.

The following issues remained unresolved or deferred since the 2001 Council sessions and have either not been addressed substantively in 2002 or discussed briefly and deferred to intersessional discussions and/or a future Council session: issues of verification at Schedule 1 facilities, import and export declarations by a particular Schedule 2 facility, requests for clarification of declarations, information on national protective programmes, other required

notifications, low concentration limits for Schedule 2A and 2A* chemicals, boundaries of production, the selection of other chemical production facilities (i.e., DOC facilities) for inspection, and the transfer of Schedule 3 chemicals to states not party.

Actions by Member States

No additional states ratified or acceded to the Convention during the period under review. However, progress toward adherence was observed in many of those states that remained outside of the CWC regime. Actions were being taken by the OPCW to encourage the accession of East Timor, the world's newest independent state.

States parties were reminded during the period under review of their obligation to make the necessary notifications to the Technical Secretariat. As of 1 June, 111 states parties had informed the Secretariat of their National Authority details and 63 had reported enacting implementing legislation. As of 30 April, 93 states parties, or 64 per cent had provided information to the Secretariat on the designation of points of entry. Only 23 states parties, 16 per cent had provided the Secretariat with standing diplomatic clearance numbers (SDCNs) on a permanent basis, in accordance with the Convention requirement. The remaining states parties had either chosen to provide annual SDCNs (26 states parties) or to provide SDCNs on an individual basis when needed (23 states parties). Just six states parties informed the Secretariat that national regulations did not require SDCNs for non-scheduled civilian aircraft. While three do not have an international airport on their territory. The other 64 states parties had not made any declaration to the OPCW in this regard. A similarly small number of states parties had fulfilled the requirement to provide OPCW inspectors with two-year multiple-entry visas to facilitate inspections. A lack of visas led to a delay in the conduct of a planned industry inspection in Saudi Arabia during the last few months of 2001.

Technical Secretariat

Declaration Processing As of 1 June, initial declarations had been received from 141 states parties. Initial declarations were lacking from Mozambique, Nauru, Uganda and Zambia. A further nine states parties had not submitted their Article VI industry declarations and one state party still had not made its declaration under Article III.

States parties were encouraged by the Executive Council to respond to the Technical Secretariat's requests for clarification of declarations.

Inspections and Verification As of 1 June, 1,199 inspections had been completed or were ongoing at 522 sites in 51 states parties. Inspections of chemical weapons and chemical-weapons-related facilities had occurred in Bosnia and Herzegovina, China, France, India, Iran, Japan, Russia, UK, the United States, the Federal Republic of Yugoslavia, and a state party of withheld identity. The breakdown of inspections was as follows: 241 to CWPFS; 282 to CWDFs; 170 to CWSFs; 19 to ACW sites; 39 to OCW sites; 101 to Schedule 1 facilities; 189 to Schedule 2 plant sites; 78 to Schedule 3 plant sites; and 76 to DOC plant sites. Four

additional inspections were conducted under special circumstances. OPCW inspectors had spent a total of 69,204 days on mission. To date, 81 inspections at 66 sites have been conducted in 2002.

Due to financial pressures, the Technical Secretariat calculated that it could only conduct just over 50 per cent of the 307 inspections originally approved for 2002 unless supplemental funding, in the form of an additional assessment to the states parties or voluntary contributions, was received.

Destruction/Conversion As of 1 May, the OPCW had overseen the destruction of 6,740 agent-tonnes of chemical weapons (Category 1) and 2,056,265 munitions or containers — out of a declared total of 69,869 agent-tonnes of chemical weapons and 8,624,586 munitions or containers. Out of the declared CWPFs, 27 were certified destroyed, and 9 converted for peaceful uses. Fourteen facilities were either awaiting or in the process of destruction; the remaining 12 facilities were to be converted. Many of the plans for destruction or conversion were pending before the Executive Council.

Implementation of Article X The deliberations of the Council in the areas of assistance and protection — informal consultations were held on 11 April, 22 May, and 12 June — focused particularly on the formation of an assistance coordination and assessment team (ACAT) and an assistance coordination group (ACG). Further consideration of the scenarios in which both these bodies would operate was necessary.

The Voluntary Fund for Assistance, to which under Article X states parties may make financial contributions, stood at just under EUR 1 million as of 1 June, owing to the contributions of 30 states parties. The largest contributions, over EUR 100,000 each, were received from Italy, the Netherlands, and the United Kingdom. Thirty-two states parties made unilateral offers of assistance to the OPCW under Article X, some in addition to a contribution to the Voluntary Fund. One state party, Iran, signed a bilateral agreement with the OPCW on the provision of assistance. The total number of states parties that had fulfilled their obligation under Article X to elect a mechanism via which to contribute to assistance and protection efforts was just 57 or 39 per cent.

The Director-General opened an international seminar on civil defence in protection and assistance against chemical weapons in Brasilia, Brazil on 25 March. The two-day seminar was organised jointly by the OPCW and the Brazilian Ministry of National Integration, and was conducted in conjunction with a regional workshop of National Authorities.

On 5 April, at OPCW Headquarters, the United Kingdom conducted an one-day training course on the medical effects of chemical weapons. The curriculum for this course was developed by experts at the UK Defence Science and Technical Laboratory Porton Down and focused on scenarios requiring first-response aid and assistance. Participating were doctors, nurses, paramedics, OPCW inspectors, and a representative of the World Health Organization.

During 7–12 April the sixth Swiss Emergency Field Laboratory Course was conducted in Spiez, Switzerland.

And, during 13–16 April, the OPCW organised a seminar for states of the Gulf Cooperation Council in Kuwait City, Kuwait. This seminar focused on protection against chemical weapons.

The OPCW and the government of Sweden would be hosting their annual Swedish Assistance and Protection Training Course in Revinge, Sweden during 5–23 August. Other upcoming assistance- and protection-related events included the first OPCW assistance delivery exercise, planned for October in Croatia, a medical course in Tehran later that month, and the annual assistance coordination workshop in Switzerland in November. In addition, the third meeting of the Protection Network would be held during 18–21 November in conjunction with a workshop on civil protection against chemical weapons.

Implementation of Article XI In conjunction with the protection and assistance seminar described above, Brasilia played host to the third regional meeting of national authorities in Latin America and the Caribbean. This meeting provided a forum for states parties in the region to discuss the coordination of CWC implementation regionwide, particularly the need for greater regional adherence and the establishment of a chemical-weapons-free zone in the region.

Eastern Europe convened a regional meeting of National Authorities in Dunajská Streda, Slovak Republic, during 15–17 April. Nineteen regional National Authorities participated in the meeting — Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Georgia, Hungary, Kazakhstan, Latvia, Lithuania, Macedonia, Moldova, Poland, Romania, Russia, Slovakia, Slovenia, Ukraine, and the Federal Republic of Yugoslavia, along with representatives from China, Sweden, and Uzbekistan. Participants discussed the greater coordination and integration of CWC implementation among the states parties of the region.

During the period under review, the Secretariat reminded the states parties of the existence of the OPCW equipment exchange programme, which seeks to facilitate the transfer of laboratory equipment from industrialised countries to those countries seeking to build up their chemical activities for peaceful purposes. Support from the Secretariat for such transfers may take the form of grants to cover the costs of transport and start-up training in the use of the equipment.

A regional seminar on the role of chemical industry in the implementation of the Convention, originally planned for June in Mexico City had to be postponed due to a lack of planned participation by the chemical industry. Upcoming activities under Article XI included a July workshop for the new National Authority in Mongolia, the third annual Associate Programme taking place from 29 July to 4 October, an October workshop on import/export controls, as well as the fourth annual National Authority day in early October, and basic and advanced courses for National Authority personnel in November.

Proficiency Testing A meeting to evaluate the results of the Tenth Official Proficiency Test, which began on 5 November 2001, was convened on 28 February. The results themselves were released on 22 April. Of the 17 participating laboratories, 14 qualified for score. An

additional two laboratories (in the Netherlands and Finland) received the maximum score possible for their role in preparing the test samples and evaluating the results. As of 1 June, the number of designated laboratories stood at 13 in the following states parties: China, Czech Republic, Finland, France, Germany, the Netherlands, Poland, Republic of Korea, Russia, Sweden, Switzerland, the United Kingdom, the United States. Nine designated laboratories participated in the tenth proficiency test. Eight of these performed successfully; the other, in Russia, was put on temporary suspension pending its successful performance in three consecutive proficiency tests. The designated laboratories in China and the Czech Republic remain on temporary suspension. Once these laboratories demonstrate their competence via proficiency testing, they would regain their full status as designated laboratories to receive authentic samples for analysis. Ten additional laboratories participated in the tenth test from the following states parties: India (2), Iran, Romania, Russia, Singapore, South Africa, Spain, Ukraine, and the United States. Four of these — one in India, Singapore, Spain, United States — performed successfully and would be considered for designation following further testing.

The eleventh proficiency test began on 18 April, with the United Kingdom preparing the test samples and Finland evaluating the test results, both at no cost to the Organization. The twelfth proficiency test is scheduled for the end of October 2002 with the Netherlands and Switzerland making no-cost offers to the Organization to prepare the test samples and evaluate the results. During the period under review, the Secretariat proposed making the provision of assistance, at no cost to the OPCW, by either preparing the samples or evaluating the results in proficiency tests obligatory for designated laboratories. The designated laboratories would carry out these functions on a rotational basis for the two proficiency tests that take place per year. Under the terms of the Secretariat's proposal, other laboratories, which had not achieved designated status but that operated under appropriate internationally recognised quality assurance standards, may also be utilised for either the preparation of test samples or the evaluation of results.

Legal Issues As of 1 June, 79 states parties had yet to respond to the legislation questionnaire first distributed in July 2000.

Only 43 per cent of the OPCW membership had informed the Technical Secretariat as of 1 June that they had implementing legislation in place.

Prior to the workshop on the CWC, held in Sudan in March (see below), the OPCW legal office provided assistance to the Sudanese government in drafting comprehensive implementing legislation for the CWC. The legislation, if enacted, would criminalise the prohibitions against chemical weapons found in Article I of the CWC and apply to Sudanese nationals extraterritorially. It would also put in place the mechanisms required to monitor the import and export of Scheduled chemicals and receive inspections, as well as provide for the establishment of a National Authority. The legislation was under consideration by the relevant authorities in Sudan and would be forwarded to the parliament in its next session for adoption. Once enacted, it

could serve as a model for other countries lacking implementing legislation, in Africa and worldwide.

During the period under review, the OPCW legal office continued to work bilaterally with states parties on their implementing legislation or other obligations under Article VII.

At the twenty-eighth session of the Executive Council, the Director-General submitted a report on national implementation measures. This report summarised many aspects of the implementation of the CWC at the national level, through implementing legislation or other means. It also emphasised the importance of national implementation of the Convention and criminalization of the Convention's prohibitions in international efforts to prevent chemical terrorism. A solid legal network of implementing legislation that criminalises the prohibitions of the Convention would enable the OPCW to fully implement its non-proliferation mandate and eliminate "safe havens" or loopholes that could be exploited by chemical terrorists. The report highlighted the fact that countries with dualist legal systems require separate implementing legislation to integrate the Convention into national law, while in countries with monist legal systems, the Convention becomes national law upon entry into force for that country. Of those OPCW states parties for which information was available, 33 had monist systems and 32 had dualist systems. Some states parties chose to implement the Convention under existing export control laws. According to the results and the analysis of the results of the legislation questionnaire, while measures taken by the states parties provided a sufficient legal basis for the effective global implementation of the Convention, the states parties and the OPCW needed to work towards better coordination and harmonization of national implementation.

In order to produce a clearer picture of national implementation, states parties were encouraged to respond to the legislation questionnaire or otherwise contact the OPCW legal office to submit the details of measures taken nationally to implement the CWC in all its facets — including the control of imports and exports of Scheduled chemicals. A second legislation questionnaire was distributed to the states parties in early June. This questionnaire focused on the penal enforcement of the Convention. It also enquired into national implementation of the general purpose criterion. States parties were asked to respond before 31 August. The OPCW legal office would be preparing a global survey of measures taken by states parties under Article VII, with the goal of promoting greater transparency and strengthening the mechanisms necessary for implementing the convention at the national level.

A scheduled May meeting of the network of legal experts for Latin America and the Caribbean was postponed; the network would not meet in 2002.

Official Visits On 23 March, the Mongolian Minister of Defence, Jugderdemid Gurragchaa, paid an official visit to OPCW Headquarters. During the meeting, the OPCW was informed that Mongolia had recently enacted implementing legislation and Mongolia made an offer to host a regional seminar for North Asia on CWC implementation.

Outreach Activities During 9–11 March, the OPCW held a workshop on the CWC in Khartoum, Sudan. The

NGO contribution to the First CWC Review

From the OPCW on 15 April 2002, the Chairman of the Open-ended Working Group for the Preparation of the First CWC Review Conference, Ambassador Albert Luis Davèrède of the Argentine Republic, addressed the following to representatives of NGOs:

It has been brought to the attention of the OPCW's working group for the preparation of the First Review Conference of the Chemical Weapons Convention that a number of non-governmental organisations (NGOs) have expressed interest in contributing to the preparatory work for this important event. The working group discussed this issue in some detail, and requested me to draw the following to the attention of NGOs.

The delegations participating in the working group very much appreciate the contributions that NGOs have made in the past to chemical weapons disarmament and non-proliferation. NGOs actively and effectively contributed to progress in the negotiations in the Conference on Disarmament in Geneva, supported the preparations for the entry into force of the Convention, and also participated in the debates leading to the ratification of the Convention. NGOs have also helped to maintain political support for the Convention ever since its entry into force in 1997. The Convention is an unprecedented political, legal and technical endeavour with far-reaching ramifications: the participation of

NGOs in the shaping of its future implementation is an important aspect of involving civilian society in disarmament and arms control affairs and international cooperation.

The working group has asked me to convey to the NGO community its readiness to receive written submissions from NGOs interested in contributing to preparations for the First Review Conference. These submissions, which should incorporate any observations deemed by the NGO in question to be of relevance to the review conference, should be sent to the OPCW Secretariat, and will be made available to the delegations participating in the proceedings of the working group. NGOs should note that the OPCW Secretariat will not be in a position to translate any of these submissions. Attention is also drawn to the fact that these submissions will, of course, not have the status of formal working group documents. Inquiries about the technicalities of how contributions can be submitted and how they will be made available to delegations should be directed to the Secretariat (contact: Ralf Trapp, Secretary of the Review Conference Steering Group, ODDG, fax + 3170.3063535, E mail ralf.trapp@opcw.org).

I look forward to any written contribution which your organisation might wish to submit for the benefit of the deliberations of the working group.

workshop was organised with the cooperation and support of the Government of the Sudan and aimed to build capacity for CWC implementation among African states parties and promote universality of the Convention on the continent; 17 of the 53 African countries had not yet joined the Convention, although 12 were signatory states. More than 60 participants from 29 countries attended the workshop, including representatives from seven states not party to the Convention — Angola, Central African Republic, Chad, the Congo, Libya, Rwanda, and Sierra Leone. The Deputy Director-General spoke at the opening of the workshop and took part in the proceedings, as well as conducting bilateral discussions during his time in the Sudan. The workshop placed emphasis on the need for African states parties to enact implementing legislation and the ties between the OPCW and other regional organizations, such as the African Union, the Inter-Governmental Authority on Development, and the Economic Community of Central African States. Participants were committed to declaring the African continent a chemical-weapons-free zone. Tangible, positive moves toward membership in the OPCW were noted in the Central African Republic, Chad, Libya, and Rwanda.

On 25 April, the OPCW played host to the NATO Defence Working Group, which received a briefing on OPCW verification activities and the preparations being made to provide assistance and protection against chemical weapons to states parties.

On 28 May, a group of representatives from the defence and foreign affairs ministries of 21 countries, organised by the Geneva Centre for Security Policy, visited the OPCW and were provided with a presentation on the implementation

of the CWC past, present, and future—including the work being done in preparation for the first Review Conference in 2003.

The OPCW organised a regional workshop on CWC universality for the South Pacific in Fiji during 10–11 June. The workshop took place in conjunction with a meeting of the Pacific Islands Forum.

Staffing As of 10 June, 453 of the allotted 507 fixed-term posts in the Technical Secretariat were occupied. Of these, 315 (out of 360) were in the professional and higher category and 138 (out of 147) were in the general service category. Including staff on short-term and temporary assistance contracts and others the total personnel strength was 506 from over 70 different nationalities. Following a decision by the Conference at its sixth session, the Technical Secretariat continued to keep 30 fixed-term positions unfilled. The number of women employed by the Technical Secretariat at the professional level or above stood at 45 or 13 per cent.

Just before and just after the first special session of the Conference in April, there were several high-level resignations/departures: Ichiro Akiyama (Japan), Director, Inspectorate, Rodrigo Yepes (Ecuador), Legal Adviser, Ronald Nelson (USA), Special Adviser to the deputy Director-General, Johan Rautenbach (South Africa), Head, Human Resources, and Stefan Zutt (Germany), Head, Information Systems. No individuals were nominated to fill these posts pending the appointment of a new Director-General. Gordon Vachon (Canada), formerly the Special Assistant to the Director-General for External Relations, was re-appointed as Head of the Inspection

Review Branch. The former Special Assistant to the Director-General for Legal Affairs, Mtshana Ncube (Zimbabwe), was re-appointed as Special Adviser for Legal Affairs in the Office of the Legal Adviser. Chief of Cabinet Ali Asghar (Pakistan) was re-appointed to the positions of Special Adviser to the Director of Administration. The turnover rate since October 2000 for posts at the P-5 level or above had by early June exceeded over 60 per cent.

Subsidiary Bodies

Confidentiality Commission The last meeting of the Commission was its special session held during 18–19 January 2001. The Commission was not scheduled to meet in 2002. Issues under consideration by the Commission included the classification of documents within the Technical Secretariat and the implementation of the Confidentiality regime. The Commission was pursuing a study of the handling of restricted information on the OPCW's security non-critical network.

Scientific Advisory Board (SAB) The SAB was provisionally scheduled to meet in late September, pending completion of the external review of scientific and technological advances impacting the Convention. A temporary working group on biomedical samples would be established prior to the next meeting.

Future Work

The OPCW was looking forward to the seventh session of the Conference of the States Parties in October and the April 2003 First Review Conference of the CWC. Meanwhile, the programme of work for 2002 continued to be implemented to the greatest extent the budget would allow. Upon taking office, a new Director-General would face numerous challenges, such as the 2003 programme and budget, the review process, and the day-to-day implementation of the OPCW mandate — destruction, non-proliferation, international cooperation, assistance and protection.

This review was written by Pamela Mills, the HSP researcher in The Hague.

News Chronology

February through April 2002

What follows is taken from issue 56 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 Julian Perry Robinson.

1 February From Seoul, South Korea's new Chemical, Biological and Radiological Defence Command begins operations. The command is built upon an existing Army unit of two battalions and a research institute and will also include Navy and Air Force CBW units. It is to be reinforced with an additional 200 personnel and a new special force to counter terrorist attacks with CBW. The command will be equipped with the new biological integrated detection system and an unidentified number of decontamination vehicles. The government has allocated about 27 billion won (\$20.7 million) to the purchase of CBW defence equipment.

1 February From Tehran, the secretary of the Iranian Supreme National Security Council, Hojjat ol-Eslam Hasan Rowhani, denies US President Bush's allegations [see 29 Jan] that Iran is producing weapons of mass destruction. He says: "Iran is a member of the NPT and chemical weapons conventions. Therefore, this is a country that is a member of such conventions and it is observing the principle of transparency and various agencies can inspect Iran's institutions. In fact, they have already inspected them several times. Therefore, such allegations are baseless."

1 February The Saudi Arabian *Al-Watan* newspaper publishes an interview with Palestinian leader Yasser Arafat on its website. In the interview, Arafat accuses Israel of using "internationally banned weapons such as depleted uranium and nerve gas bombs" in its attacks on the infrastructure of the Palestinian National Authority.

1 February The US Office of the Special Assistant for Gulf War Illnesses, Medical Readiness and Military Deployments (OSAGWIMRMD) releases three more [see 4 Jan] fact sheets on military exercises which formed part of the Project SHAD series. The three fact sheets deal with three separate tests: *Eager Belle* Phase I, *Eager Belle* Phase II and *Scarlet Sage*. The *Eager Belle* tests took place in early and mid-1963 in an area west of Hawaii. In both tests, ships were exposed to an aerosol cloud of *Bacillus globigii*, dispensed from a disseminator on a tugboat in Phase I and from Aero 14B spray tanks on an A-4 Skyhawk aircraft in Phase II. The primary purpose of Phase I was said to be to evaluate the effectiveness of selected protective devices in preventing penetration of a naval ship by a biological aerosol, while the primary purpose of Phase II was said to be to study the downwind travel of biological aerosols. The *Scarlet Sage* tests were conducted in the Pacific Ocean off San Diego, California during 9 February–4 March 1966. Again the agent used was *Bacillus globigii* and this time the primary purpose of the test was said to be to evaluate the effectiveness of the experimental Shipboard Toxicological Operational Protections System (STOPS) under operational conditions.

1 February In the US, the dean of the Johns Hopkins Bloomberg School of Public Health, Alfred Sommer, denounces US Army research which involves infecting monkeys with smallpox. He has contacted other academic leaders in public health and urged them to call on the government to halt the research and lead a campaign to destroy all remaining stocks of the virus. Allan Rosenfeld, dean of Columbia University's

Mailman School of Public Health, is quoted in the *Baltimore Sun* as saying: "I think the fact that the military is working with smallpox, no matter what we say, will raise the specter that it could be used as a weapon. If we're doing research, other countries will say, 'why can't everyone else?'"

2 February In Tokyo, Japanese foreign minister Yoriko Kawaguchi and her Russian counterpart Igor Ivanov sign a joint statement pledging bilateral cooperation in combatting terrorism. The foreign ministers also express their intention to take "appropriate domestic steps" to prevent the export of materials and technologies related to chemical and biological weapons.

2 February In Japan, the chairman of the Defence Technology Foundation, Hajime Seki publishes "Basic Concepts Concerning Measures Dealing With Biological Weapons" in the monthly *Boei Gijutsu Janaru*.

2 February In Hanoi, commander-in-chief of the US Pacific Command invites Vietnam to send military observers to the forthcoming *Cobra Gold* military exercises in Thailand which will focus on anti-terrorism activities, including responses to attacks with chemical and biological weapons.

2 February In an interview with the Moscow *Nezavisimaya Gazeta*, Sergei Kiriyyenko, chairman of the Russian State Commission on Chemical Disarmament, says that Russia has done everything to meet the conditions imposed on further US funding for its chemdemil programme and that \$50 million will be provided in 2002. Stating that the main US concern has been whether Russia has declared all of its chemical weapons to the OPCW, Kiriyyenko says: "We have suggested rational logic: understatement of supplies would imply a smaller sum of assistance. Thus, I'd rather overstate supplies of chemical arsenals in this case." He also says that another \$80 million which was allocated but not provided might be released and that Russia will apply for \$600 million in 2003.

2 February In New York, on the margins of the World Economic Forum, the Swiss-US Joint Economic Commission organizes a Swiss-US panel on *Bioterrorism: the Pharmaceutical Industry Response*. The discussion is led by Swiss Minister for Economic Affairs Pascal Couchepin and US Secretary for Health and Human Services Tommy Thompson. The other panelists are Daniel Vasella, the CEO of Novartis, Fred Hassan, CEO of Pharmica Group, Bernhard Brunner of the Swiss Chem-Bio Defence Laboratory and Michael Moodie, president of the Chemical and Biological Arms Control Institute. Former US Senator Sam Nunn acts as moderator. The discussion focuses on how 11 September and the anthrax letter episodes changed thinking about bioterrorism, how the pharmaceutical industry can help prepare societies to respond to bioterrorism and whether industry and academic biosafety measures offer security against terrorist theft of dangerous substances.

3 February The Seoul *Choson Ilbo* reports South Korean military and intelligence experts as saying that North Korea is the world's third largest possessor of chemical weapons and also possesses a large amount of biological weapons. North Korea is estimated to currently hold between 2,500 and 5,000 tons of chemical weapons, including VX, sarin, blister and blood agents produced at eight facilities, including at Hamhung and Chonglin, and stored in seven locations. Intelligence officials believe that around 50 to 60 per cent of North Korea's ballistic missiles have chemical warheads and around 10 per cent of its artillery shells. According to the newspaper, North Korea is known to possess 13 types of biological weapon, including

anthrax, plague, smallpox and yellow fever, which are produced at three facilities, including one at Chongju in the North Pyongyang Province.

The *Choson Ilbo* also reports South Korean unification minister Jeong Se-hyun as saying that the North's chemical and biological weapons are "probably not for attacking the South" and that its ballistic missiles are for "earning foreign cash rather than attacking the South".

3 February Iranian Minister for Foreign Affairs Kamal Kharrazi writes to the UN Secretary-General to express "strong indignation" at the "unfounded allegations" made against Iran by US President Bush in his State of the Union speech [see 29 Jan]. The letter includes the following: "The Islamic Republic of Iran does not seek weapons of mass destruction and, unlike the United States ally in this region, is a party to the NPT, CWC and BWC and has signed the CTBT. As the only victim of weapons of mass destruction in the last generation, the Iranian people have felt the horror of these weapons and are determined to ensure that no other people will have to go through the same agony. We intend to pursue this objective by advocating and promoting a world free from all these inhuman weapons. It must be underlined that, unlike the United States, weapons of mass destruction have no place in Iran's defence doctrine. Iran is fully committed to observing all relevant international instruments on prohibition of such weapons and its compliance has been repeatedly verified by the relevant international organizations. At the same time, Iran insists and vigorously pursues its inalienable right to develop its nuclear, chemical and biological industries for peaceful purposes. This right is guaranteed in all relevant international instruments and the deliberate campaign by the United States to arbitrarily deprive Iran of this right is a further violation of these regimes." The letter is circulated a day later as an official document of the General Assembly and the Security Council.

3 February In the UK, the BBC 2 *Correspondent* television programme broadcasts a documentary on Unit 731, the Japanese Imperial Army's biological warfare unit. The film follows a group of Chinese victims of 1930s and 1940s Japanese BW attacks who have initiated a civil action in the Japanese courts [see 28 Feb 01] with the aim of securing an admission of responsibility from the Japanese government and a compensatory payment.

4 February Amr Mousa, the Secretary-General of the Arab League tells UN Secretary-General Kofi Annan that Iraq would restart talks without any special conditions. Annan says that he is prepared to receive a delegation from Iraq. However, the UN gives no indication whether Iraq is willing to discuss the return of UN weapons inspectors.

4 February In Moscow, the US Ambassador, Alexander Vershbow, meets with the Chairman of the Russian Audit Chamber, Sergei Stepashin, to discuss the recent agreement [see 19 Dec 01] that the US General Accounting Office will investigate the Russian chemdemil programme to see how efficiently US assistance is being used.

4 February US President George Bush submits to Congress his proposed FY03 budget. In his accompanying message to Congress, Bush says: "The budget for 2003 recognizes the new realities confronting our nation, and funds the war against terrorism and the defense of our homeland. ... In this war, our first priority must be the security of our homeland. My budget provides the resources to combat terrorism at home, to protect our people, and preserve our constitutional freedoms. ... Next,

America's military — which has fought so boldly and decisively in Afghanistan — must be strengthened still further, so it can act still more effectively to find, pursue, and destroy our enemies.”

The President therefore proposes a defence budget of \$379 billion, which represents an increase of \$48 billion on the previous budget and the biggest increase in defence spending in 20 years. Included in the budget is \$300 million for countering biological terrorism. The budget document also includes information on the performance of selected DoD programmes. The Cooperative Threat Reduction programme is ranked as “moderately effective” but is criticised for being “slow to spend funds provided in prior years.” The chemdemil programme ranks as “ineffective” and is described thus: “The Army’s program to destroy the US stockpile of chemical weapons is behind schedule. Costs have increased over 60 per cent, from \$15 billion to \$24 billion. These delays are the result of various difficulties, including unrealistic schedules, site safety and environmental concerns, and poor planning.”

On homeland security, the President proposes a budget of \$37.7 billion which doubles the pre-11 September FY02 allocation and represents a 29.5 per cent increase over the amount actually being spent in FY02, including the emergency funding released by Congress. The homeland security budget includes \$5.9 billion for countering the threat of bioterrorism, representing a 319 per cent increase on the initial FY02 figure, although only a 58 per cent increase on the FY02 figure when recent emergency supplemental appropriations [see 10 Jan] are included.

Speaking at the University of Pittsburgh in Pennsylvania the following day, Bush provides more details of the bioterrorism funding. The new funding focuses on three areas: infrastructure; response and science. The \$5.9 billion is broken down as follows: \$1.6 billion to “assist state and local health care systems in improving their ability to manage both contagious and non-contagious biological attacks, to expand health care surge capabilities, to upgrade public health laboratory capabilities and to provide training for medical personnel”; \$1.8 billion to “ensure that specialized Federal resources are adequate” for responding to biological terrorism; and \$2.4 billion to “jump-starting the research and development process needed to provide America with the medical tools needed to support an effective response to bioterrorism.” Of the \$5.9 billion request, \$4.3 billion is to be controlled by the Department of Health and Human Services, while the Department of Defense would get \$939 million.

4–5 February In the US, the National Institute of Allergy and Infectious Diseases (NIAID) convenes the *Blue Ribbon Panel on Bioterrorism and its Implications for Biomedical Research*. This panel of experts is intended to provide objective expertise on the Institute’s future biodefense research agenda. The panel includes researchers from academic centres and private industry as well as representatives from government, civilian agencies and the military. The participants have been selected for their scientific expertise on the infectious agents considered to be the major bioterrorist threats, their scientific leadership and their broad research experience.

4–8 February UNMOVIC organizes a training course on specialized chemical laboratory equipment as a first step in the preparation and training of personnel to operate the chemical analytical laboratory at the Baghdad Ongoing Monitoring and Verification Centre. The course is attended by 13 experts from 11 countries.

5 February In the UK, BBC 2 Television broadcasts *Smallpox 2002: Silent Weapon*. The film is made in the style of a retrospective documentary filmed in 2005 looking back at a smallpox pandemic three years earlier that begins in New York

City and results in 60 million deaths worldwide. Actors play the roles of people involved in dealing with the pandemic, although DA Henderson, Chris Davies and Ken Alibek also make appearances. The film is later shown to G7 health ministers and US President Bush apparently requests a copy.

5 February In the UK, the *Dual-Use Items (Export Control) (Amendment) Regulations 2002* (S.I. 2002/50) come into force removing the general prohibition on export to all but EU member states of chemical mixtures and technologies which was included in entries 1C950 and 1E950 of the *Dual-Use Items (Export Control) Regulations 2000*. With the entry into force of the most recent EU regulation setting up a community regime for the control of exports of dual-use items and technology [see 20 Nov 01] on 19 January, these items are no longer subject to national controls but are instead included in the EU regulation. Three days later, the Department of Trade and Industry amends its *Open General Export Licence (Chemicals)* to reflect these changes.

5 February At the University of Pittsburgh in Pennsylvania, US Secretary for Health and Human Services Tommy Thompson announces \$20 million in FY 02 funding for a national network of Centers for Public Health Preparedness to be administered by the Centers for Disease Control and Prevention. In FY 02, 15 such centres are to be funded, all of them based in university schools of public health. The funding is part of the \$2.9 billion bioterrorism appropriations signed recently by President Bush [see 10 Jan]. Thompson also announces that the President’s FY 03 budget proposal [see 4 Feb] includes \$518 million to enhance preparedness at hospitals to respond to incidents of biological or chemical terrorism, which represents a 284 per cent increase over the amount provided in FY 02. The budget request includes another \$100 million for programs for bioterrorism training for health care professionals, poison control centers and emergency medical services for children.

5 February In the US Senate, the Committee on Commerce, Science and Transportation conducts a hearing on *Fighting Bioterrorism: Using America’s Scientists and Entrepreneurs to Find Solutions*.

5 February In the US, CNN publishes a letter which the FBI had sent to the American Society of Microbiologists in mid-January asking for help in identifying the producer of the anthrax-contaminated letters [see 5 Dec 01]. The letter says that “a review of the information to date in this matter leads investigators to believe that a single person is most likely responsible for these mailings. This person is experienced working in a laboratory. ... It is very likely that one or more of you know this individual.” The letter reminds ASM members that there is a \$2.5 million reward for information leading to the conviction of the person responsible.

5 February From Ottawa, where Sergei Kiriyyenko, the chairman of the Russian State Commission for Chemical Disarmament is continuing his tour of G7 countries [see 2 Feb], ITAR-TASS reports that Canada has offered Russia additional funds for the chemdemil facility at Shchuch’ye, increasing Canada’s contribution above the \$300,000 already promised. A Canadian delegation is expected to visit Russia and sign an agreement on 15 February.

6 February At King’s College, London, UK Secretary of State for Foreign and Commonwealth Affairs Jack Straw makes a speech on *The Future of Arms Control and Non-Proliferation*. On apparent transatlantic differences on arms control, Straw

says the following: "Some commentators in Europe and elsewhere caricature the US position on arms control as unilateralist. In reality, it would be foolish to overlook the shortcomings of some existing arms control instruments. John Bolton, the US Under Secretary of State, argued in a speech in Geneva last month for 'treaties and arrangements that meet today's threats to peace and stability, not yesterday's'. He has a point." On ensuring compliance with international treaties, Straw says: "We have to be ready to make full use of all instruments to deter and uncover those who cheat on their international obligations. That includes the provisions available to the IAEA and OPCW to launch challenge inspections of suspect sites. Where there is genuine cause for concern, we should not ignore these measures just because using them might be politically difficult."

Addressing UK-US differences on ways to strengthen the BWC, Straw says: "The important thing is not to go down the path of recrimination, but instead to identify the rubbing point, and see what more can be done. We need, in this, for example to look again at the US's concerns, and acknowledge that they merit careful assessment. Verification is a real problem in this area. For many years, we in the UK had sought to find ways of strengthening the Convention with a Protocol which would have gone at least some way to remedying this deficiency. If there are other ways to counter the threat of biological weapons, we shall certainly support them. But we also have to go on looking for ways to strengthen the Convention itself as well. This happens to be a US, as well as a UK, objective." He announces that he will shortly be publishing a paper making detailed suggestions on how to strengthen the BWC.

6 February In the US Senate, the Select Committee on Intelligence conducts an open hearing on *Current and Projected National Security Threats to the United States*. Testifying are: Director of Central Intelligence, George Tenet; Director of the Defense Intelligence Agency, Vice Admiral Thomas Wilson; Assistant Secretary of State for Intelligence and Research, Carl Ford; and FBI Assistant Executive Director for Counterintelligence, Dale Watson.

In his testimony, Tenet says: "Terrorist groups worldwide have ready access to information on chemical, biological, and even nuclear weapons via the Internet, and we know that al-Qa'ida was working to acquire some of the most dangerous chemical agents and toxins. Documents recovered from al-Qa'ida facilities in Afghanistan show that Bin Ladin was pursuing a sophisticated biological weapons research program." On specific countries, his statement includes the following: "Iraq continues to build and expand an infrastructure capable of producing WMD. Baghdad is expanding its civilian chemical industry in ways that could be diverted quickly to CW production. We believe it also maintains an active and capable BW program; Iraq told UNSCOM it had worked with several BW agents. ... Iran remains a serious concern because of its across-the-board pursuit of WMD and missile capabilities. ... It also continues to pursue dual-use equipment and expertise that could help to expand its BW arsenal, and to maintain a large CW stockpile."

Watson addresses the FBI's response to the incidents of mail-delivered anthrax: "Since October 2001 the FBI has responded to over 8,000 reports of use or threatened use of anthrax or other hazardous materials. The current rash of anthrax threats represents a large spike in a trend of increased WMD cases that began in the mid-1990s. During the past four years, there has been a very limited number of cases in the United States that actually involved use or threatened use of ricin. There had been no criminal cases involving actual use of anthrax in the United States prior to October 2001. To date, no

evidence definitely links al-Qaeda or any other terrorist organization to these cases."

Addressing the proliferation of CBW weapons, Wilson says: "Chemical and biological weapons are generally easier to develop, hide, and deploy than nuclear weapons and will be more readily available to those with the will and resources to attain them. More than two dozen states or non-state groups either have, or have an interest in acquiring, chemical weapons, and there are a dozen countries believed to have biological warfare programs. I expect the proliferation of chemical and biological weapons to continue and these weapons could well be used in a regional conflict or terrorist attack over the next decade."

6 February In California, it is reported that the Lawrence Livermore National Laboratory is to apply for a permit to build a BL-3 laboratory in addition to its existing BL-2 facility. At Los Alamos National Laboratory in New Mexico, officials have already begun the application process for a BL-3 facility [see 21 Nov 01].

6-8 February In Lyon, the WHO Regional Office for Europe organizes a meeting on *Natural and International Epidemic Risks in Europe: Strengthening Alert Mechanisms*.

7 February From The Hague, Interfax news agency reports that the US State Department has written to the members of the OPCW Executive Council demanding the dismissal of the Director-General, José Bustani. The news agency reports that the US has accused Bustani of inappropriate financial and personnel policies and of being biased towards Russia. According to an unidentified source quoted in the report: "Such maneuvers fit in the new general line of Washington, which is aimed at weakening the fundamental multilateral disarmament agreements and regimes."

7 February In the UK House of Commons, the Defence Committee publishes the government's response to its report on *The Threat from Terrorism* [see 18 Dec 01]. Addressing the Committee's comments on chemical weapons destruction, the Government responds as follows: "The Government is concerned that substantial destruction of Russian stockpiles has not yet begun, and that delays have either occurred or are forecast to occur in the destruction programmes of other states."

On the BWC, the Government states that it "remains committed to strengthening the BTWC." It continues: "At the 5th BTWC Review Conference, which will reconvene in Geneva in November 2002, we will be working with all States Parties to agree a Final Document which includes effective measures to strengthen the Convention. We will publish shortly a Government Paper concerning the UK's view on strengthening the BTWC."

Addressing the possibility of a chemical, biological, radiological or nuclear attack on the UK, the Government response states: "The risk of such an attack, however, remains low."

7 February In the US Senate, the Foreign Relations Committee conducts a hearing on *What's Next in the War on Terrorism?*

7-8 February In Paris, there is a meeting on the drafting of an international code of conduct against ballistic missile proliferation. A total of 86 countries participate.

8 February In Liberec, Czech Republic, the defence minister Jaroslav Tvrdik hands over the flag to the Czech Army's 9th Chemical Protection Unit before its departure to participate in Operation *Enduring Freedom*.

8 February From Angola, it is reported that the Angolan Armed Forces have used chemical and biological weapons. The accusation is made by the Secretary-General of the Forum of Angolan NGOs, Alberto Tunga, based on witness statements and alleged victims who have contacted the Forum.

8 February In the UK House of Commons, the Parliamentary Under Secretary of State for Defence and Minister for Veterans' Affairs, Lewis Moonie, replies to a written question on the possible German origin of equipment used at the Chemical Defence Establishment, Nancekuke to which he had referred in an earlier answer [see 16 Jan]. He says that, while there are no surviving records detailing the origin of the equipment, "it is known that equipment was brought back to the UK from Germany after World War II and that some of this was used to set up the nerve agent pilot plant at Sutton Oak. It is probable that some of this equipment was subsequently transferred to Nancekuke, but there is no surviving documentary evidence."

8 February In the UK, the Public Record Office releases more [see 23 Jul 98] documents relating to the wartime Special Operations Executive. Among the documents is a report of an offer from Chaim Weizmann of the Jewish Agency to the UK government of mustard gas production facilities in Gaza.

8 February From Ottawa, Sergei Kiriyyenko, the chairman of the Russian State Commission on Chemical Disarmament, says that Russia and the US have agreed in principle that Washington will soon unfreeze \$620 million in funds for the Russian chemdemil programme. He is quoted as saying that his recent trip to Washington broke the logjam: "We have a general agreement that by the time President Bush visits Russia in May the process of unfreezing the funds should have been completed. ... In principle we have now agreed on the political level that this problem is no more. We still need to work at the expert level." While in Ottawa, Kiriyyenko signs an agreement with Canada and says that Canadian Prime Minister Jean Chretien would announce a substantial increase in Canada's assistance during a forthcoming trip to Russia. Kiriyyenko had reportedly told journalists in January that Canada would contribute C\$3 million in addition to its earlier contribution of C\$300,000 [see 5 Feb].

8 February The US Department of Defense announces that all military and civilian personnel working in the Pentagon are to be trained to respond to a chemical, biological or nuclear attack on the building.

8 February The Nuclear Threat Initiative [see 8 Jan 01] announces almost \$6 million of funding commitments to projects in Russia for the conversion and destruction of weapons of mass destruction. Among the projects are four related to reducing biological and chemical threats. On the biological side, \$1.3 million over two years is allocated, through the International Science and Technology Centre, to the Research Center for Toxicology and Highly Pure Biopreparations in Serpukhov, the State Research Center for Applied Microbiology in Obolensk and the All-Russian Research Veterinarian Institute in Kazan to develop a new brucellosis vaccine; \$250,000 is allocated to the High Technology Foundation/Gorbachev Project in Moscow for a feasibility study of the manufacture of hepatitis vaccine including the preparation of a preliminary business plan for the construction of a new vaccine production facility at VECTOR in Novosibirsk; and \$80,000 to Gordon Research Conferences in the US to support 20 former Soviet scientists to attend research conferences. On the chemical side, \$1 million is pledged to aid high-priority infrastructure development at the Shchuch'ye

chemdemil facility on the condition that matching funds are raised.

9 February The Visegrad Four (the Czech Republic, Hungary, Poland and Slovakia), Austria, Slovenia and Ukraine sign a declaration committing themselves to a unified response in the event of a biological weapons attack within their borders. The agreement will facilitate cooperation in the diagnosis and treatment of outbreaks, the exchange of information, and the harmonization of national legislation. A joint working group composed of two experts from each country will also be established.

10 February From North Korea, the *Nodong Sinmun* alleges that Japan is stepping up its preparations for a biological and chemical war under the pretext of the BW threat from North Korea. The paper goes on to say that "we have nothing to do with 'biological weapons'. It is Japan that is chiefly responsible for the threat of biological weapons. It was also Japan that brought great damage and holocaust to the Korean people and other Asian people by using biological and chemical weapons."

10 February The London *Independent* reports that genetic modification work on plague, tularaemia and pox viruses is being carried out at Porton Down. The work, listed in an Health and Safety Executive register seen by the newspaper, includes modifying *Yersinia pestis*, work on the smallpox virus, *Francisella tularensis*, *Clostridium perfringens* and neutralised strains of *E. coli* and *Salmonella typhimurium*. The information also reportedly reveals that human trials of genetically-modified anthrax and plague vaccines are being conducted, using volunteers hired by a biomedical company.

10–13 February In Las Vegas, at the 2nd American Society of Microbiology and The Institute for Genome Research *Conference on Microbial Genomes*, Paul Keim of the Northern Arizona State University presents his research on "High resolution DNA fingerprinting using VNTR loci from *Yersinia pestis* and *Bacillus anthracis*". Using the DNA fingerprinting method, Keim, with help from TIGR, was able to distinguish between the Ames strains of *Bacillus anthracis* held in four different laboratories and a natural isolate taken from a goat in 1997. Under his agreement with the FBI, Keim cannot say from which laboratories he had received isolates.

11 February The US Department of the Army sends to its commands a directive on the "release of information concerning chemical, biological, radiological and nuclear weapons of mass destruction", so the *Washington Post* later reports. Previously, Army commands had enjoyed flexibility in responding to requests under the *Freedom of Information Act* but the new directive requests commands to send requests to the Army's Records Management and Declassification Agency which states: "We are not telling you not to release any requested documentation dealing with this topical material. We are saying that it should not be released without our review." Recently, journalists have used FOIA requests to obtain federal documents tracking the transfers of anthrax strains from one laboratory to another.

11 February The *Washington Post* reports that by the time a letter containing anthrax was opened in the office of Senate Majority Leader Tom Daschle [see 15 Oct 01], around two dozen federal officials knew of a Canadian evaluation [see 12 Dec 01] of the risks posed by mail-delivered anthrax. However, the evaluation was not received by the Centers for Disease Control and Prevention until late November. The article also

provides further details on the Canadian experiments. The work was carried out at the Defence Research Establishment Suffield (DRES) and by the Ottawa-Carleton First Responders Group. Using *Bacillus globigii* spores as a simulant, the DRES scientists found that a person opening a letter and standing over it for 10 minutes would inhale between 480 and 3,080 LD50s depending on how much powder was in the envelope and whether a high or low estimate for the LD50s was used. The report concluded that "passive dissemination of anthrax spores from an envelope presents a far more serious threat than had been previously assumed. ... Contamination was present on the desk, papers, file folders and pen prior to opening the envelope (contamination was concentrated at the corners of the envelope where it was leaking out) ... Potentially contaminated persons are not limited to those in direct contact with the envelope and/or its contents." The results of the DRES research were presented at four meetings of Canadian, US and UK military biodefence experts in 2001; the first was on 31 May and the last was on 17 October at the Canadian Embassy in Washington. The Ottawa findings were less widely distributed, they were presented to a civil defence meeting in Canberra in mid-May, at which US military and FEMA officials were present. However, neither they nor the State Department, which sponsored their participation, passed the information on to the CDC. The CDC finally learnt of the report on 1 November, when an epidemiology professor in Minnesota sent it to the head of the CDC's laboratory response network.

12 February In Tokyo, the closing arguments begin in the trial of Seiichi Endo [see 22 Apr 95], Aum Shinrikyo's former "health and welfare minister", who has confessed to producing the sarin gas used in the Matsumoto [see 28 Jun 94] and Tokyo [see 20 Mar 95] attacks and has been accused of being involved in the attacks on Taro Takimoto [see 22 Jun 99] and Noboru Mizuno [see 6 Jun 00] in which sarin and VX were used. Endo faces five counts of murder and attempted murder and could face the death penalty. In his defence, Endo denies intent to kill, saying that he did not know that the sarin he produced was to be used to kill people.

12 February In Pretoria, it is reported that Wouter Basson has suffered a stroke and is being treated in a city hospital. The judge presiding in Basson's trial for fraud and human rights violations, Willie Hartzenberg, confirms that the case was standing down until the following day in the light of Basson's condition.

12 February In the UK House of Commons, Minister of State for Health, John Hutton, replies to a written question on smallpox transmission as follows: "Transmission rates will vary with the particular circumstances of the outbreak of any disease. Estimates of transmission rates range from four to six in a community acquired infection in modern settings, to the higher levels of 10 to 12 in circumstances where the outbreak has taken some time to be fully recognised and appropriate infection controls implemented." The research on which his answer is based, commissioned by the Department of Health, had been published earlier in *Nature* [see 13 Dec 01].

12 February In London, representatives of European Union member states meet at the European Agency for the Evaluation of Medicinal Products (EMA) [see 16 Jan] to continue discussions on the selection of medicinal products that are potentially of use for post-exposure prophylaxis and/or treatment of infectious diseases in the context of biological warfare.

12 February In the US Senate, the International Security, Proliferation and Federal Services Subcommittee of the Committee on Government Reform convenes a hearing on *Multilateral Non-proliferation Regimes, Weapons of Mass Destruction Technologies and the War on Terrorism*.

13 February *Jane's Defence Weekly* reports that the New Zealand Defence Force is to create a new unit to respond to chemical and biological terrorism. An additional NZ\$1.84 million has been added to the defence budget to purchase chemical and biological detection equipment.

13 February In the UK House of Commons, Parliamentary Under-Secretary of State for Foreign and Commonwealth Affairs Denis MacShane says, in reply to a written question, that *Pleospora papaveracea* [see 2 Oct 00] has not yet been used as a means of eradicating opium poppies following a UNDCP research project which ended in the summer of 2001. An evaluation of the ability of the fungus to eradicate poppies will be completed later in the year.

13 February In the UK House of Commons, Minister of State for Health, John Hutton, says, in reply to a written question, that the UK has "a substantial strategic stock of smallpox vaccine that would be rapidly deployed in the event of an outbreak of the disease." He refuses to provide information about the size and location of the stock as it "might be useful to terrorists".

13 February At the National Press Club in Washington, the President of George Mason University, Alan Merten announces the establishment of the Center for Biodefense at the university. The centre is to be headed by Ken Alibek and Charles Bailey, the executive and deputy directors respectively of Advanced Biosystems [see 8-9 Nov 01] which operates from the university's Prince William campus. The main focus of the centre is described as follows by the university's student newspaper: "The Center will pursue the education and training of students through research and courses on biodefense. It will also share research with other institutions in the search for answers in biodefense. Finally, the center will form international and national partnerships with other universities, scientific organizations, federal and state governments and the business community."

13-14 February In Bucharest, there is a NATO workshop on warning and detection procedures for the protection of populations. The aim of the workshop is to introduce and practice the use of NATO technical procedures on NBC warning and reporting systems and to prepare Partnership for Peace countries in using NATO formats.

14 February In the UK, the Ministry of Defence releases a public discussion paper, *The Strategic Defence Review: A New Chapter*. The paper marks the start of a four-week public consultation period on the proposed new chapter to the 1998 *Strategic Defence Review* [see 8 Jul 98] which is being prepared in response to 11 September and the additional challenges posed by international terrorism and asymmetric threats.

14-19 February In Boston, the American Association for the Advancement of Science convenes for its annual meeting. On 17 February, there is a symposium on "Bioterrorism in a threatening world" at which presentations are made by: Anthony Fauci, director of the National Institute of Allergy and Infectious Diseases; David Franz of the Southern Research Institute; Matthew Meselson of Harvard University; and Claire Fraser of The Institute for Genomic Research. During the symposium, Fauci says that the current US stockpile of smallpox vaccine

could be diluted to provide many more than the currently available 15 million doses. Fauci says that experiments in which vaccines watered down to as little as one-tenth of their original concentration were tested on 650 volunteers had been "very successful".

The following day, there is a symposium on "Arms control in a transformed world", moderated by John Holdren of Harvard University and Jo Husbands of the National Research Council. Speaking are: William Burns on the US-Russia strategic relationship; Leslie-Anne Levy of the Stimson Center on chemical weapons; Matthew Meselson on biological weapons; Rose Gotemoeller of the Carnegie Endowment for International Peace on cooperative threat reduction; and Thomas Graham of Lawyer's Alliance for World Security on the nuclear non-proliferation regime.

15 February In the US, the governor of Alabama is suing the federal government to block the opening of the Anniston Chemical Weapons Destruction Facility. According to Governor Donald Siegelman, the government has reneged on an agreement to spend \$40.5 million on gas masks and other safety precautions for the local population. Siegelman has requested a temporary restraining order and a preliminary injunction against the facility which would stop all activities at the facility, including trial burns which were scheduled to begin within days but which were postponed due to technical problems.

16 February In Iraq, President Saddam Hussain is quoted as telling a group of scientists from the Iraqi Nuclear Energy Organization that "weapons are important to defend the country against ambitions of foreigners and elements of evil, but your country is not interested in acquiring weapons of mass destruction. We want to acquire more science to serve ordinary people and humanity at large."

16 February From Germany, *Der Spiegel* carries an interview with the head of the Bundesnachrichtendienst, the Federal Intelligence Service, August Hanning. Regarding the capabilities of Al-Qaeda, Hanning says: "They did not work on nuclear weapons. Fears that this group has developed a threatening amount of biological or chemical weapons has fortunately turned out to be wrong." Only substances "very similar to warfare agents used in World War I" were tested on animals "to a very limited extent". "The level was primitive", adds Hanning.

17 February In an interview, the head of the Israel Defence Forces, General Aharon Ze'evi is asked for his assessment of Iraq's ballistic missile capabilities. He responds: "We don't know about biological missiles. We assess that he has a chemical capability, and he might use it if he feels that his regime and his life are endangered."

17 February The Bush Administration is set to introduce a new information security policy and to limit public access to documents which could assist the development of weapons of mass destruction, so the *New York Times* reports. In January, the Administration began to withdraw from public release more than 6,600 declassified technical documents from the 1940s, 1950s and 1960s dealing mainly with the production of chemical and biological weapons. Although current US policy generally prohibits the reclassification of formerly secret documents, the Administration is considering an Executive Order which would allow it. The Defense Technical Information Center, which has custody of the reports, is assembling expert panels to consider

whether the reports should again be released or even reclassified.

17 February In the US, Aberdeen Proving Ground is negotiating a contract with DuPont Chemical Solutions Enterprise for the off-site treatment of the 5 million gallons of hydrolysate which will be produced during the destruction of the 1,621 tons of mustard gas stored at the facility [see 10 Jan]. The hydrolysate, which contains 8 per cent thiodiglycol, will be processed at DuPont's Chamber Works plant in Deepwater, New Jersey.

18 February In Milan, the trial begins of three Tunisians, Adel Ben Soltane, Mehdi Kammoun and Riadh Jelassi, who are charged with trafficking in arms, including toxic chemicals. The three are suspected of links to Al-Qaeda and are the second group of Tunisians to be tried for terrorist offences this month.

18 February In The Hague, the US Alternate Permanent Representative to the OPCW requests meetings with officials from the office of OPCW Director-General José Bustani. At these meetings, each official is informed that Bustani should step down as Director-General within 30 days [see 7 Feb] if he wishes to avoid damage to his reputation, otherwise the forthcoming Executive Council session would likely be affected.

18 February In Brussels, there is the second [see 2-3 Dec 01] meeting of the European Commission's 'bio-response working group'.

18 February At the Woodrow Wilson School of Public and International Affairs at Princeton University, Barbara Hatch Rosenberg of the Federation of American Scientists claims that the FBI has a good idea who was responsible for the anthrax-letter episodes but might be dragging its feet in pressing charges because the suspect is a former government scientist knowledgeable about "secret activities that the government would not like to see disclosed." Rosenberg says that it is quite possible that the suspect is a scientist who formerly worked at the US Army Medical Research Institute of Infectious Diseases (USAMRIID) at Fort Detrick. Following the newspaper reports of Rosenberg's presentation, an FBI spokeswoman says: "The FBI is vigorously investigating the mailing of anthrax-laced letters and hoaxes. ... It is not accurate, however, that the FBI has identified a prime suspect in this case."

18-19 February In Geneva, the UNMOVIC college of commissioners reconvenes [see 26-27 Nov 01] for its eighth plenary session. As at the previous sessions, IAEA and OPCW staff attend as observers. UNMOVIC Executive Chairman Hans Blix briefs on the Commission's activities since the last meeting and on his attendance at the recent meeting between UN Secretary-General Kofi Annan and Amr Moussa, Secretary-General of the Arab League [see 4 Feb]. The college also received briefings from the director of UNMOVIC's Division of Planning and Operations on ongoing preparations for inspections and another briefing on the open source collection of documents that UNMOVIC received pursuant to its contract with the Monterey Institute for International Studies. The Commissioners received a paper giving examples of clustered issues from the various weapons disciplines and considered the implications for UNMOVIC if the Security Council adopts the Goods Review List annexed to resolution 1382 [see 29 Nov 01].

18 February-22 March In Geneva, the fifth [see 28 May 01] month-long UNMOVIC training course is opened by the Executive Chairman, Hans Blix. The course is attended by 54

participants from 28 nationalities. Upon the completion of this course, UNMOVIC will have a roster of some 230 people trained for work in Iraq.

19 February The US–German Sunshine Project, using US Army Soldier and Biological Chemical Command (SBCCOM) contracts released under the *Freedom of Information Act*, publishes details of research on malodorants, which includes a focus on targeting particular ethnic groups. According to one document, the objective of the research is “the development of a comprehensive set of [malodorants] that can be applied against any population set around the world to influence their behavior.” The SBCCOM contracts include ones signed with the Monell Chemical Senses Center on “behavior odor study” and “establish odor response profiles”. The research is funded by the US Marine Corps-managed Joint Non-Lethal Weapons Program.

19 February In Berlin, continuing his tour of G8 capitals [see 8 Feb], the head of the Russian State Commission on Chemical Disarmament, Sergei Kiriyenko, meets with the German foreign minister, Joschka Fischer, who expresses a wish to visit the Gorny Chemical Weapons Destruction Facility in Russia.

19 February In Rome, police arrest four Moroccans for allegedly plotting a chemical terrorist attack on the US Embassy in the city. The four are arrested carrying approximately nine pounds of potassium ferrocyanide as well as maps detailing the location of the water pipes serving the Embassy. The four men had been under police surveillance for several days with officers only making the arrests when they had sufficient evidence that the Moroccans were in possession of a potentially deadly substance. Intercepted telephone calls reportedly reveal links between the men and four Tunisians currently on trial in Milan [see 18 Feb] who are suspected of links to Al-Qaeda.

When the arrests are reported widely the following day, much to the irritation of the police, the city authorities are quick to point out that the chemical is not highly toxic to humans and would have had little effect if it had got into the water supply. A few days later, a hole is discovered in an underground tunnel near the US Embassy, raising fears that the plotters planned to poison the Embassy’s water supply and a further five Moroccans are also arrested, all nine being charged with subversive association. It is later reported that all nine men belong to the same terrorist cell which had been preparing to give logistical support to an incoming group which would actually carry out the attack.

19 February In the UK, the government publishes its response to the House of Commons Foreign Affairs Committee report on *British–US Relations* [see 18 Dec 01]. On international efforts to strengthen the BWC, the Government states that it “is continuing to work with the United States and all other States Parties to the Biological and Toxin Weapons Convention in order to seek agreement on means to strengthen the Convention. We recognise the difficulty of this task given the decision by the United States in 2001 that the draft Protocol to the Convention did not meet their requirements. The UK remains committed to giving teeth to the Convention by a range of measures that include effective investigations of suspect activity. The Government will shortly be publishing a detailed paper setting out its views on countering the threat from biological weapons.”

19 February In the US, Chesapeake Biological Laboratories Inc. opens a new \$16 million plant where it will fill newly-produced smallpox vaccine into vials as a subcontractor

to Acambis Inc which has won a contract [see 28 Nov 01] to supply the US with 155 million doses of the vaccine. The plant has been built under a shroud of secrecy in just three months. The vaccine will be produced by another subcontractor, Baxter International Inc in Austria, from where it will be shipped to Acambis’s plant in Massachusetts for purification before going on to Chesapeake Biological Laboratories Inc where it will be filled, freeze-dried, capped and sealed.

21 February From OPCW headquarters, Director-General José Bustani writes to US Secretary of State Colin Powell regarding the US demand [see 18 Feb] that he step down as Director-General. Bustani writes: “You will understand my surprise, ... when it was brought to my attention only in the last few days that certain ‘charges’ are now being made by officials of the US Government against me as Director-General, in various capitals and to various delegations of the Organisation. Accompanying these charges is the demand that I step down.” In his defence, Bustani says: “Please let me say in this regard that I have done no wrong and I have nothing to hide. I have always been open to dialogue with the United States Government, to which I believe your Permanent Representative, Ambassador Donald Mahley, can attest. Perhaps his distance from the OPCW, since he is based in Washington and not in The Hague, has made this more difficult than in the case of other important delegations, but my door has always been open to him. I have always endeavoured to solve any difficulties between the US and the Secretariat in a constructive way that is fully consistent with the requirements of the Convention, including a number that are on the table at this very moment waiting for the US side to accept my invitation to meet and discuss. I can state unequivocally that the Secretariat pursues the same approach with all Member States.” He finishes thus: “As you will understand, since I was elected by all, I cannot merely slip away at the request of one or even a few. This would do irreparable harm to the principles of independence and democracy embedded in international organisations. My office of Director-General owes it to all Member States to defend these principles.”

21 February The London *Daily Telegraph* reports that the UK government, police and security services have assessed the threat to the UK from chemical, biological, radiological or nuclear weapons as “low”. The classification is the fifth level on a risk scale of six used by the government to prepare against terrorism. The assessment has reportedly reflected the technical difficulties in obtaining, handling and dispersing lethal chemical or other agents.

21–22 February In Klaipeda, Lithuania, the security and foreign affairs committee of the Baltic Assembly meets with officials from the Kaliningrad region, Lithuanian and Estonian navy commanders and many experts to discuss the chemical weapons dumped in the Baltic Sea at the end of the Second World War. The committee drafts a series of recommendations to be submitted to the 20th session of the Baltic Assembly which will convene in Vilnius in May. Among the recommendations are that governments should prepare crisis management plans in case chemical agents are released on a large scale and that countries surrounding the Baltic should share all archival and cartographic information they have on the location of sunken munitions. The document proposes that such information be entrusted to the Stockholm International Peace Research Institute.

22 February The Rome *Il Manifesto* reports that the mysterious death of an anti-globalization protestor in Lugano

may have been due to exposure to CS. The man, Edoardo Parodi, had attended a demonstration in Zurich at which CS had been used by Swiss police. After the protest, Parodi had complained of tiredness and shortness of breath. He was found dead in the morning, his pillow soaked with blood from his nose and ears. The Lugano prosecutor has decided to investigate whether the CS or possibly a Mace spray could have been the cause of death.

22 February In Milan, four Tunisians suspected of being al-Qaeda members are sentenced to as long as five years in prison. The four men had pleaded guilty, in exchange for reduced sentences, to charges of smuggling arms, explosives and chemical substances and of forging identity documents.

22 February In Washington, at a Pentagon briefing for a small group of reporters, US Deputy Undersecretary of Defense for Technology Security Policy and Proliferation, Lisa Bronson, says that at least a dozen countries have or are actively seeking anthrax for use as a biological weapon. According to Bronson: "Countries like Iraq, Iran, North Korea, Libya [and] Syria have consciously over the last seven to 10 years gone ahead and been developing" biological weapons. She continues: "Increasingly, our nonproliferation efforts have not resulted in preventing them from getting the capability. ... They have it, and we can't turn a blind eye to the fact that they have it."

22–23 February In Warsaw, there is a NATO seminar on the role of the Euro-Atlantic Partnership Council in combating terrorism. Among the themes for discussion are "weapons of mass destruction proliferation and WMD-related terrorist threats" and "cooperation in civil emergency planning, including in its WMD aspects".

22–24 February At Wiston House in the UK, there is a Wilton Park meeting on *Verification and Non-Cooperation*, co-organized by Sandia National Laboratories and VERTIC.

23 February In Kabul, troops from the UK Joint Nuclear, Biological and Chemical Regiment raid a house formerly occupied by members of the Ummah Tameer-i-Nau, a group suspected of helping al-Qaeda develop weapons of mass destruction. A press officer for the International Security Assistance Force (ISAF) says that the team found a small quantity of powder but denied that anthrax had been found. ISAF is reported to have established that the powder was not a biological agent and samples may be sent back to the UK to determine whether it was for chemical weapons. It is later reported that the containers found in the house are old Soviet-era gas mask canisters.

24 February In Germany, the *Frankfurter Allgemeine Sonntagszeitung* cites a classified Bundesnachrichtendienst report which concludes that Iraq has continued to develop biological weapons and now has a mobile biological weapons capability.

25 February In Havana, Cuban president Fidel Castro accuses the US of carrying out biological weapons attacks on Cuba. The country is currently undertaking a massive campaign to eradicate a recent outbreak of dengue fever which has killed two and stricken hundreds. Castro does not blame the US for the current outbreak but says that the US has been responsible for past attacks on tobacco, sugar and pigs.

26 February In Kuwait, troops from the Czech Army's 9th Chemical Protection Unit [see 8 Feb] begin arriving. Around 350

troops will eventually be deployed for approximately six months in support of Operation *Enduring Freedom*.

26 February In Moscow, US and Russian officials meet to have another round of discussions on CWC issues, including the prospects for US financial assistance for construction of the Shchuch'ye Chemical Weapons Destruction Facility.

26 February In the UK House of Commons, Secretary of State for Foreign and Commonwealth Affairs Jack Straw announces his intention to "publish a Green Paper in April setting out a range of possible measures to deal with the threat from biological weapons. These measures will include ways of strengthening the Biological Weapons Convention."

26 February In the UK, the Public Record Office releases documents relating to Ministry of Defence BW tests on the London Underground in July 1963. A report, written in 1964 by the Microbiological Research Establishment at Porton Down details the exploratory ventilation trial which involved the release of spray-dried spores of *Bacillus globigii* from a window of a Northern Line tube train travelling from Colliers Wood to Tooting Broadway. London Transport staff then took air samples at these two stations to measure the movement of air. Dust swabs were subsequently taken at other stations on the tube system. The trial concluded that bacterial spores can be carried for several miles on the tube system, and locally can persist as an aerosol of high concentration for a considerable period.

26 February The UN Secretary-General submits to the Security Council UNMOVIC's eighth quarterly report [see 29 Nov 01]. The report covers the period from 1 December 2001 to 28 February 2002, including the eighth meeting of the college of commissioners [see 18–19 Feb]. During the period of the report, the Executive Chairman, Hans Blix, has provided monthly briefings to the Presidents of the Security Council and has visited Washington to hold discussions with senior US officials. The report states that the UNMOVIC core staff now consists of 50 individuals from 26 countries at the professional level in addition to 180 experts from 36 countries on the roster of trained inspectors. UNMOVIC has also engaged a number of short-term consultants, including one analyzing Iraq's declarations on its biological weapons activities. The report says that considerable staff resources are still being directed towards reviewing and refining the assessment of unresolved disarmament issues and towards grouping these issues into clusters to improve the understanding of their interrelationship and potential significance. In January, UNMOVIC received a substantial review of open source information covering the period from December 1998 to 2001 from the Monterey Institute of International Studies. The information, covering approximately 2,300 published items relating to Iraq and weapons of mass destruction, has been uploaded into the UNMOVIC central database.

27 February In Almaty, the Russian deputy emergency situations minister, Gennadiy Korotkin, says that Russian experts will conduct joint research with Kazak scientists to assess the contamination of the former biological weapons testing facility on Vozrozhdeniye Island in the Aral Sea. Korotkin says that a working group has been established to decide what research is needed, the methodologies to be used and project financing. A final agreement is expected to be signed when the Russian minister for civil defence, emergencies and natural disasters visits Kazakhstan in May. Korotkin adds that a similar agreement will also be signed with Uzbekistan, which is already cooperating with the US [see 18 Jan].

27 February In Kuwait, the deputy prime minister and minister of defence, Sheikh Jabir Mubarak al-Hamad al-Sabah, tells the *Al-Anba* newspaper that the chemical defence sector of the Kuwaiti army is being activated in order to reach the highest levels of readiness. He adds that the presence of foreign chemical and biological defence teams [see 26 Feb] in Kuwait “proves that we are interesting in this vital sector of the army.” His statement apparently follows the arrest of an Iraqi intelligence officer in Kuwait some days earlier and his interrogation by Kuwaiti intelligence.

27 February From Gaza City, it is reported that Hamas has been developing a chemical warhead for the Kassam short-range rocket for the past 18 months. An unidentified Palestinian source is quoted as saying: “Hamas has claimed it has the capability of installing a CW warhead in the Kassam. So far, there is no proof of it.” Israeli intelligence is reported as taking the reports seriously although it has not yet seen any evidence that Hamas has succeeded in developing a non-conventional version of the Kassam. An unidentified Israeli intelligence official is cited as saying that over the last year Hamas has experimented with placing rat poison and other lethal agents in bombs in Israeli cities [see 9 Dec 01] but that the heat of the explosion burned away the agents.

27 February In the UK House of Commons, the Defence Committee takes evidence on missile defence. The Foreign Office and Ministry of Defence submit a joint memorandum on their understanding of the international issues relating to the development of missile defence systems, the threats they are intended to face, and their technical progress. The memorandum states: “A number of states that have ballistic missile development and/or production programmes have the potential to develop, or to obtain, inventories of longer-range ballistic missiles. They include North Korea, Iran, Iraq, Libya and Syria. ... We also take very seriously the fact that some states that are seeking to develop or acquire missiles of increasing range have, or are seeking to acquire, weapons of mass destruction. ... We recognise that threat depends on both capability and intention. We currently have no evidence that any state with ballistic missiles has the intention specifically to target the UK. But intentions can change rapidly, and the fact is that the proliferation continues of weapons of mass destruction and their means of delivery. We believe that all responsible nations need to remain alert and take action to deal with the potential threat.”

Giving evidence to the Committee is Brian Hawtin, Director for General International Security Policy at the Ministry of Defence. He says: “The combination of development programmes for weapons of mass destruction and the delivery systems of ballistic missiles is one of the prime concerns and something we are watching very closely. We believe, for example, that Iran is seeking to acquire nuclear weapons and may have the technology to produce biological weapons. Likewise Iraq is a real cause for concern in terms of its potential capacity to acquire and build nuclear weapons and its existing chemical and biological capabilities.”

27 February In the US Senate, the Emerging Threats and Capabilities Subcommittee of the Committee on Armed Services conducts a hearing on *The Weapons of Mass Destruction Program of Iraq*.

27 February In Washington, a federal grand jury has issued subpoenas to US laboratories for samples of the anthrax strain that was used in the anthrax letter episodes. Scientists working on the investigation hope that by studying the samples' genetic

fingerprints they can determine which of the 12 or more laboratories was the source of the anthrax. The delay in requesting the samples had been caused by the requirement for elaborate protocols regulating how the samples are to be taken and transported. The protocols are designed to keep the samples alive and free from contamination and also to ensure that the process by which they were obtained can stand up in court, if necessary. The samples are to be shipped to the US Army Medical Research Institute of Infectious Diseases at Fort Detrick from where they will eventually go to Paul Keim at Northern Arizona University and other researchers.

27 February In the US, the Institute of Medicine revises its earlier conclusion [see 19 Apr 01] that children of Vietnam veterans have an increased risk of acute myelogenous leukemia (AML) due to their exposure to Agent Orange. In its executive summary, the report states that: “There is inadequate or insufficient evidence to determine if an association exists between exposure to the herbicides used in Vietnam or their contaminants and acute myelogenous leukemia (AML) in the children of Vietnam veterans.” In its earlier report, the Institute had said that there was “limited/suggestive” evidence for an association. The revision has been necessitated by the discovery of an error in a study by Australian researchers which was central to the initial report.

28 February From Baghdad, the Iraqi government announces its immediate readiness to receive a UK mission to check allegations that Iraq is still producing weapons of mass destruction. An Iraqi government spokesman tells the Iraqi News Agency: “Whoever has correct information regarding that allegation must know how and where Iraq is attempting to produce such weapons. If Blair tells us how and where and declares this before the world, we are immediately ready to receive a British mission sent by Tony Blair himself, accompanied by a group of British media persons to show us how and where.” According to Iraq's permanent representative to the United Nations, Mohammad Al Douri, the offer is “a very good gesture, a very positive gesture from Iraq. We are confident that what we are saying to the international community — that Iraq is clean from any kind of weapon of mass destruction — is true.”

Later, the Secretary of State for Foreign and Commonwealth Affairs, Jack Straw, tells the House of Commons: The UK Government have received no direct approach from the Government of Iraq, although we are aware that an Iraqi spokesman announced such an offer through the state-controlled Iraqi media. The demand of the international community is for UN weapons inspectors to be allowed into Iraq. They have built up a vast amount of knowledge about Iraq's weapons and know where to look. United Nations Security Council resolutions also require Iraq to allow the weapons inspectors full, unconditional access at any time. If Iraq truly has nothing to hide it will let them in on this basis. I note from the Iraqi spokesman's announcement that the British team would be allowed to visit only sites named in advance. We are looking for Iraqi disarmament, not yet more propaganda stunts.”

28 February In Moscow, the director-general of the Russian Munitions Agency, Zinoviy Pak, says that Russia may not be able to destroy 20 per cent of its Category 1 chemical weapons by 2007 because the US has still not resumed its assistance to the Russian chemdemil programme. Despite Russia having fulfilled all the conditions set by the US Congress [see 30 Oct 00], Pak says that the US has not released funds for the Shchuch'ye Chemical Weapons Destruction Facility and that

the support promised has recently taken on a clear political colouring.

28 February At OPCW headquarters, the US Special Negotiator for Chemical and Biological Arms Control, Ambassador Don Mahley, meets with OPCW Director-General José Bustani to officially inform him that the US would like him to step down as Director-General [see 21 Feb].

28 February In Granada, Spain, there is the 12th joint council and ministerial meeting between the EU and the GCC. The joint communiqué includes the following: "The EU and the GCC reaffirmed their well-known determination to support all efforts to establish an effectively verifiable zone free of nuclear weapons and other weapons of mass destruction, including their delivery systems, in the Middle East. They stressed the threat to peace, security and development represented by such weapons. The EU and GCC together called upon all countries not yet party to relevant treaties, including the Non-Proliferation Treaty, the Comprehensive Test Ban Treaty and the Conventions on biological and chemical weapons, to sign and ratify them as soon as possible. They also called upon all members of the international community to cooperate to stem the proliferation of chemical, biological and nuclear weapons and their means of delivery."

28 February In the UK House of Commons, a Home Office minister reveals that Operation Antler, the investigation by the Wiltshire Constabulary into past experiments at Porton Down on volunteers, has cost £1.62 million to the end of January 2002. A special grant in relation to the additional policing costs of the investigation was made by the Home Office to Wiltshire Constabulary for £870,000 [see 5 Dec 00].

28 February In the US Congress, the House of Representatives and the Senate agree to establish a conference to reconcile the different versions of bioterrorism legislation passed by both chambers (S 1765 and HR 3448) [see 11 Dec].

28 February In the US House of Representatives, the Government Reform Committee conducts a hearing on *Anthrax and Other Biological Terrorist Agents*.

28 February In Washington, the National Press Club hosts a conference on *Bioethics and Bioterrorism* sponsored by the Center for Bioethics at the University of Pennsylvania and the Center for Biomedical Ethics at the University of Virginia. There are five panels: "biological weapons: threat and response"; "vaccination policy and prevention"; "patents, profits and public health"; "the duty to face danger"; and "science in the interest of national security".

1 March In Rome, Italian police arrest a further [see 19 Feb] six people on suspicion of being involved in international terrorism. The men, three Iraqis, a Pakistani, a Tunisian and an Algerian are later charged with arms trafficking, intentions to conduct a holy war, contacts with subversive groups in Italy and abroad and the use of poison to carry out threats and attacks. The three Iraqis had been heard talking about weapons and cyanide by police surveillance at the Via Gioberti mosque but subsequent searches find neither weapons nor poison. Prosecutors are as yet unsure of a link between the six men and the nine Moroccans arrested earlier in Rome.

1 March From OPCW headquarters, the Director-General announces the composition of the Scientific Advisory Board for

the period July 2001 to July 2004. The first term of office of the 20 original members of the Board expired in July 2001 and the Director-General offered a second term to all those willing to continue in the interests of continuity and preparations for the forthcoming 1st CWC Review Conference. Two Board members, Maria Consuelo Lopez-Zumel of Spain and Shintaro Furusaki of Japan indicated their intention not to serve a second term, so in March 2001 the Director-General asked states parties to submit nominations for the vacancies. He now announces the reappointment of the remaining 18 members and the appointment of Jiri Matoušek of the Czech Republic and Koichi Mizuno of Japan.

1 March In the UK, as many as 16 packages containing what is believed to be caustic soda disguised as eucalyptus oil are posted to political targets, including the wife of Prime Minister Tony Blair. Police say they have intercepted two of the packages, one at Number 10 Downing Street and one sent to an assistant of a Member of the Scottish Parliament. Other packages are later received by the Secretary of State for Culture, Media and Sport, Tessa Jowell and Gwyneth Dunwoody, a Labour MP. The parcels had all been posted from Glasgow a few days earlier and are similar to one sent recently to a Member of the Scottish Parliament. The prime suspect is later named as Adam Busby, the founder of the Scottish National Liberation Army.

1 March US President George Bush nominates Stephen Rademaker as Assistant Secretary of State for Arms Control to replace the current incumbent, Avis Bohlen.

1 March In the US, the Armed Forces Epidemiological Board writes to the Assistant Secretary of Defense for Health Affairs and the surgeon generals of the three services with its recommendations on the possible reintroduction of the Anthrax Vaccine Immunization Program, given that the vaccine has been approved for distribution by the FDA [see 31 Jan]. The memorandum states: "We have seen no data that leads us to conclude that the vaccine is unsafe when administered according to the package insert. The range of reported side effects experienced by recipients of the anthrax vaccine are in line with previously published reports and compatible with similar vaccines. There are no convincing data demonstrating long-term adverse health impacts to recipients of anthrax vaccine, although additional studies are in progress. Data regarding efficacy, particularly against challenge with aerosolized anthrax spores, are less complete because they rely on animal surrogates and very limited human studies, but there is no reason to believe that the vaccine does not offer valuable added protection to persons from any form of anthrax exposure." The Board continues: "The events of Autumn 2001 showed that the intentional use of anthrax can cause significant morbidity, mortality, and disruption of activities. This recent experience is likely to overcome some of the previous opposition to the program should a decision be reached to resume vaccination for personnel in settings where there is a significant risk of exposure to anthrax."

1 March In the US Senate, the Subcommittee on International Security, Proliferation and Federal Services of the Committee on Governmental Affairs holds a hearing on *US Policy in Iraq: Next Steps*.

1 March From Panama, it is reported that the recent [see 21–27 Jan] OPCW inspection of possible abandoned chemical weapons on San Jose Island had discovered three more 1,000lb bombs, in addition to three 1,000lb and one 500lb bomb

discovered in July 2001 [see 6 Sep 01]. The OPCW inspection team's report is scheduled to be discussed at the forthcoming session of the Executive Council. According to a Panamanian foreign ministry official, "the reasonable thing would be for the US to step forward and try to contact us". A US State Department spokesman is quoted as saying "we appreciate the Panamanians' patience on the issue".

Later, during the twenty-eighth session of the OPCW Executive Council, the Director-General says: "This is the first occasion on which the Organisation has been faced with such an issue. We have a declaration of abandoned chemical weapons, with no declaration of abandonment from any State Party. The CWC tasks the Secretariat, during the initial inspection, to 'if necessary, verify the origin of the abandoned chemical weapons and establish evidence concerning the abandonment and the identity of the Abandoning State.' This has in fact proven to be an extremely complicated matter. The Secretariat is reluctant to finalise conclusions regarding the identity of the abandoning State Party on the basis of the information currently at hand. The Secretariat has therefore appealed to all interested States Parties to provide any new information which may help clarify the matter, if such information is available, to make it possible for the Secretariat to report its final recommendations to the Council as soon as possible, but not later than at its Thirtieth Session, in September of this year. It is equally imperative to speed up the destruction of these hazardous old chemical weapons."

3-6 March In Hanoi, there is a US-Vietnam scientific conference on *Human Health and Environmental Effects of Agent Orange/Dioxin* organized under the auspices of the US-Vietnam Cooperative Research Program. The conference is intended to bring together international experts to provide a broad assessment of the data available on the health and environmental effects of Agent Orange/dioxin and the needs for future research. It will be used to identify future research directions and provide a foundation for future cooperative research projects and funding. The day after the conference, senior US and Vietnamese scientists adopt a memorandum of understanding outlining future research priorities. The two major research areas identified are: direct research on human health outcomes from exposure to dioxin; and research on the environmental and ecological effects of dioxin and Agent Orange.

4 March In Seoul, the South Korean Defence Minister, Kim Dong-shin, tells the National Assembly Defence Committee that South Korea and the US are considering a joint study on the missile and WMD capabilities of North Korea with the objective of developing concrete measures for joint efforts to reduce the North's military threat and its proliferation potential.

4 March In Kuwait, a joint US-German NBC defence exercise comes to an end. The 250 German NBC troops are in Kuwait as part of an immediate response force in the event of an attack with weapons of mass destruction. They are under the operational responsibility of US Central Command's Combined Joint Task Force — Consequence Management. All but a few of the German troops will now return home, leaving a small contingent to act as an initial reaction capacity. They will be replaced by around 350 Czech NBC troops [see 26 Feb].

4 March In the US House of Representatives, Representative Ellen Tauscher introduces the *Russian Federation Debt Reduction for Nonproliferation Act of 2002* (HR 3836).

4 March In the US, the National Nuclear Security Administration releases a *Finding of No Significant Impact* for

the proposed construction and operation of a BL-3 laboratory at the Los Alamos National Laboratory in New Mexico [see 6 Feb]. Therefore, no environmental impact assessment is required for the proposal. According to the head of LANL's Bioscience Division, Jim Trehwella: "The BSL-3 facility will allow Los Alamos researchers to handle, with appropriate safety procedures, organisms that are potential threat agents. The facility will enhance our ability to develop advanced detection and analytical capabilities, as well as support creation of better protective strategies by enabling research on how these organisms cause disease. This work is central to the National Nuclear Security Administration's Chemical and Biological National Security Program [see 15 Mar 01] that focuses on domestic preparedness against chemical or biological terrorist attacks. CBNP is the major sponsor for the BSL-3." However, local citizen's groups remain opposed to the proposal expressing concern about the risks to the local community and the lack of scrutiny the laboratory would face by virtue of being at a government nuclear weapons facility.

4-6 March In the UK, the Subcommittee on the Proliferation of Military Technology of the NATO Parliamentary Assembly's Science and Technology Committee visits London to gain information on the threat of potential use of chemical, biological, radiological and nuclear weapons by terrorist groups. As part of the trip, the committee also meets with members of the Harvard Sussex Program at the University of Sussex.

5 March In Canada, a decontamination operation is underway at the Canadian Forces Base Kingston which was the site of Canada's chemical and biological weapons laboratory until it moved to the Defence Research Establishment Ottawa in 1964. Contaminated waste from the facility used simply to be buried at the base and the team carrying out the work is also prepared to find unstable chemical weapons.

5 March In the US at the Hawthorne Army Depot, the last of the US stockpile of Category 3 chemical weapons (unfilled munitions and devices and equipment specifically designed for use directly in connection with employment of chemical weapons) are destroyed. The 38 inert fuse initiators, which had been designed for use in binary munitions, are crushed and will be sold and recycled as scrap metal. Under the CWC, all Category 3 chemical weapons are due to be destroyed by 29 April.

6 March In Russia at the Shchuch'ye Chemical Weapons Destruction Facility, the last of Russia's Category 2 chemical weapons (chemical weapons on the basis of non-Schedule 1 chemicals and their parts and components) are destroyed. The demilitarization of almost 4,000 phosgene-filled artillery projectiles at Shchuchye, the re-loading of over 10 metric tons of this phosgene into 400 industrial cylinders, and its delivery to and irreversible destruction at Perm were verified by OPCW inspectors. The inspectors have confirmed the identity of the declared agent, as well as its non-diversion, and the completeness of its destruction.

6 March In Moscow at a news conference, Lev Fedorov of the Union for Chemical Safety announces that there are 350 sites in Russia where obsolete chemical weapons are buried which pose an environmental threat. He mentions three such sites in Moscow, including one at Kuzminki [see 27 Sep 01].

6 March In the UK House of Commons, responding during a debate on Iraq, Parliamentary Under-Secretary for Foreign and Commonwealth Affairs, Ben Bradshaw says: "Iraq is a state

sponsor of terrorism. But, we make no secret of the fact that our main concern about that country is its determination to build weapons of mass destruction capability and the threat that it poses, not just to its neighbours, but to the rest of the world. ... Iraq is unique in the history of the world in that it has used chemical weapons against its neighbours and its own people, killing tens of thousands in both cases”.

6 March The US Department of State issues a non-paper entitled “Preserving the Chemical Weapons Convention: the need for a new OPCW Director-General” in which it outlines the US case for the current Director-General, José Bustani, to stand down [see 21 Feb]. The non-paper is circulated to all member states of the OPCW Executive Council.

6 March In the US Senate, the Emerging Threats and Capabilities Subcommittee of the Committee on Armed Services conducts a hearing on the nonproliferation programmes of the Department of Energy and the Cooperative Threat Reduction programme of the Department of Defense in review of the Defense Authorization Request for Fiscal Year 2003. Among the witnesses is Assistant Secretary of Defense for International Security Policy, JD Crouch. He describes US assistance to Kazakhstan and Uzbekistan for the dismantlement of CBW facilities: “Five years ago, CTR initiated a biological weapons (BW) threat reduction and proliferation prevention program. The massive, highly covert Soviet offensive BW program left a legacy of vulnerable technology, pathogens, and expertise. Our first project in this area was the dismantlement of the Stepnogorsk anthrax production and weaponization facility in Kazakhstan. This facility was built to produce and weaponize over 300 tons of agent during a wartime mobilization period. Today, its dismantlement is nearly complete. ... This year, DoD initiated a CTR project with Uzbekistan to eliminate the Soviet biological weapons testing complex on Vozrozhdeniye Island and to destroy anthrax that the Soviet military buried there. In addition, DoD is helping dismantle the former Soviet chemical weapons research, development and testing facility at Nukus. In FY 2001, this project dismantled and removed all pilot plant reactors, vessels and piping along with lab equipment, filtration systems and ducting.”

Crouch also comments on US assistance to the Shchuch'ye Chemical Weapons Destruction Facility in Russia: “The Administration's review of nonproliferation and threat reduction assistance to Russia endorsed the construction of a CW destruction facility at Shchuch'ye. Therefore, DoD is requesting \$133.6 million for the Chemical Weapons (CW) Destruction program area in Russia. These funds also will continue demilitarization of a former CW production facility in Russia. DoD is assessing whether the Secretary of Defense can certify CW destruction facility assistance for Russia in accordance with requirements of the FY 2002 National Defense Authorization Act. In the past two years design and site preparation have moved forward. This has permitted completion of construction procurement packages for over \$200 million worth of work. Thus, once Russia meets the six conditions, DoD will be able to obligate the requested funds for this project promptly.”

6 March In the US, the Institute of Medicine publishes *The Anthrax Vaccine. Is It Safe? Does It Work?* The 266-page report, requested by the Department of Defense in 2000 concludes: “As indicated by evidence from studies in both humans and animals, the committee concluded that AVA, as licensed, is an effective vaccine to protect humans against anthrax, including inhalational anthrax. Moreover, because the vaccine exerts its protection via an antigen crucial to the action of the bacterium's

toxins, AVA should be effective against anthrax toxicity from all known strains of *B. anthracis*, as well as from any potential bio-engineered strains. After examining data from numerous case reports and especially epidemiologic studies, the committee also concluded that AVA is reasonably safe.” US Assistant Secretary of Defense for Health Affairs William Winkenwerder calls the report the “most extensive review ever conducted of the science underlying anthrax vaccine”.

6 March In the US, the CDC's National Institute for Occupational Safety and Health receives a request to evaluate a possible diagnosis of cutaneous anthrax in a Texas laboratory worker. The unidentified worker had been processing specimens collected during the anthrax-letter campaign in 2001 under a federal contract. A subsequent CDC report says: “This case is defined by CDC as a suspected case of cutaneous anthrax rather than a confirmed case because processing of the swab of the lesion at the same laboratory where the suspected exposure occurred introduces the possibility of contamination of the patient's sample with *B. anthracis* from the laboratory. However, this patient's clinical syndrome and environmental exposure are consistent with cutaneous anthrax.” A later CDC update confirms it as a case of cutaneous anthrax. The man later recovers from the infection. The case brings the number of anthrax cases identified in the US since 3 October 2001 to 23, including 11 inhalation and 12 cutaneous (eight confirmed and four suspected). This is the first laboratory-acquired case of anthrax associated with the recent investigation.

6–8 March In Rome, the World Health Organization, in collaboration with the Istituto Superiore di Sanità and the National Institute for Infectious Diseases, organises informal discussions on strengthening national preparedness and response to biological weapons. Participating are members of the WHO Secretariat, public health officials from Australia, Brazil, Canada, Italy, South Africa, Switzerland, Thailand, the UK and the USA and a staff member of the OPCW Technical Secretariat. The aim of the discussions is to identify the critical elements of WHO's technical support to its member states' health preparedness and response programmes. Once identified, these critical elements will guide the WHO in the development of guidelines for initiating or strengthening national preparedness and response programmes, the establishment of an international network of experts and the organization of regional and national training workshops.

7 March In the Czech Republic, a report to the government by the Deputy Prime Minister and the head of the State Office for Nuclear Safety reveals that a lack of financial resources has prevented the country implementing a comprehensive system for protecting the public against a biological weapons attack. According to the report, only the army is prepared to deal with such an attack. [See also 9 Feb.]

7 March In the UK House of Commons, Secretary of State for Defence Geoff Hoon replies as follows to a written question about UK expenditure on CW destruction in the former Soviet Union: “We hope to conclude negotiations shortly on the necessary Implementation Arrangement which will allow our first project to proceed in the near future, subject to agreement of contract. Our first project will be to provide a water supply for the destruction facility, which will also benefit the local population. As a result of the need first to complete these sets of negotiations, it has not yet been possible to start implementation of assistance projects. Expenditure of some £250K has been incurred to date on setting up the assistance programme.”

7 March In the US Congress, the Congressional Research Service issues a report on *Weapons of Mass Destruction: The Terrorist Threat*. The report states that: "Worldwide, the likelihood of terrorists being capable of producing or obtaining WMD may be growing due to looser controls of stockpiles and technology in the former Soviet states specifically, and the broader dissemination of related technology and information in general. However, WMD remain significantly harder to produce or obtain than what is commonly depicted in the press."

7 March At UN headquarters, UN Secretary-General Kofi Annan meets with Iraqi foreign minister, Naji Sabri. The return of UN weapons inspectors to Iraq is on the agenda. UNMOVIC Executive Chairman Hans Blix attends alongside Kofi Annan and General Hussan Amin, the Iraqi government's chief liaison with the UN inspectors, is on the Iraqi delegation. Annan is quoted as saying: "We will press for the return of the inspectors. The question of inspectors and the return of inspectors has been one of the key bones of contention between the United Nations and Iraq." Sabri presents Annan with a list of 20 questions on subjects ranging from US threats of "regime change" in Baghdad to the risk that future UN inspectors would be used to spy on Iraq. Annan later submits the list of questions to the Security Council and asks for responses by 10 April. According to a US official: "There are some questions that require technical answers and those should be responded to. Others appear as conditions and we find them unacceptable." The meetings between the two sides are cordial but no breakthroughs are made. The two sides agree to meet again in April.

7 March The decontamination of the Senate office building and other parts of the Capitol in which anthrax spores have been found has so far has cost more than \$23 million.

8 March In the US, the CDC's *Morbidity and Mortality Weekly Report* carries information for public health professionals on tularaemia. The disease was removed from the list of nationally notifiable diseases in 1994 but was reinstated in 2000 due to increased concern about its use as a biological weapon. The information in *MMWR* summarizes tularaemia cases in the US between 1990 and 2000 during which time a total of 1,368 cases were reported to CDC from 44 states, and average of 124 per year.

8 March In the US, *Science* magazine carries a report by Ron Brookmeyer of the Johns Hopkins University School of Public Health which estimates on the basis of a model that the quick treatment with antibiotics of people suspected of having been exposed to anthrax saved lives. The report states that at least 17 people could have died from anthrax exposure rather than the five who did die. The research for the report focused on three clusters: the offices of American Media Inc in Florida; a postal building in New Jersey; and a mail-handling facility in Washington.

9 March In the US, the *Los Angeles Times* prints extracts from the classified *Nuclear Posture Review* which was submitted to the Congress in January [see 8 Jan]. The review states that US nuclear weapons could be used in three types of situation: against targets able to withstand non-nuclear attack; in retaliation for attacks with nuclear, chemical or biological weapons; or "in the event of surprising military developments". The review also includes a list of seven countries against which US nuclear weapons could be used, five of which are non-nuclear weapon states (Iraq, Iran, Libya, North Korea and Syria in addition to nuclear-armed Russia and China). According to the review, Iran, Iraq, Libya, North Korea and Syria "all have

long-standing hostility towards the United States and its security partners. All sponsor or harbor terrorists, and have active WMD and missile programs." The review also emphasizes the integration of non-nuclear strategic capabilities into nuclear-war plans: "New capabilities must be developed to defeat emerging threats such as hard and deeply-buried targets (HDBT), to find and attack mobile and re-locatable targets, to defeat chemical and biological agents, and to improve accuracy and limit collateral damage."

9 March In Havana, during a speech to honour the mothers and wives of five Cubans imprisoned in the US, President Fidel Castro says that the US should stop acts of "aggression, sabotage and terrorism", including "biological warfare against people, animals and plants." [See also 25 Feb.]

10 March The Melbourne *Age* reports that, in a 1947 report, Nobel-prize winning Australian scientist Sir Macfarlane Burnet had urged the Australian government to develop biological weapons. The revelation is contained in files declassified by the National Archives of Australia, despite resistance from the Department of Foreign Affairs and Trade, and released to historian Philip Dorking. In the report, Burnet says: "Specifically to the Australian situation, the most effective counter-offensive to threatened invasion by overpopulated Asiatic countries would be directed towards the destruction by biological or chemical means of tropical food crops and the dissemination of infectious disease capable of spreading in tropical but not under Australian conditions." In September 1947, Burnet was invited to join a chemical and biological warfare sub-committee of the New Weapons and Equipment Development Committee for which he prepared a report on *War From a Biological Angle*. In 1951, the subcommittee recommended that "a panel reporting to the chemical and biological warfare subcommittee should be authorised to report on the offensive potentiality of biological agents likely to be effective against the local food supplies of South-East Asia and Indonesia."

10 March In Japan, the Tokyo *Yomiuri Shimbun* reports that the US has asked Japan to raise a suspected North Korean spy ship sunk in December in the East China Sea following an exchange of fire with Japanese coastguard patrol boats. The US made the request after its intelligence agencies noted that the ship possibly held substances relating to chemical or biological weapons, the newspaper reports.

10 March In Baghdad, Iraqi Vice-President, Taha Yassin Ramadan, says that Iraq will not allow the return of UN weapons inspectors, despite earlier talks with UN Secretary-General Kofi Annan [see 7 Mar]: "Iraq's rejection of the teams of spies to return to Iraq is firm and won't change. Iraq is fully convinced that there is no need for the inspectors to return. They had carried out vicious spying activities in Iraq for more than eight years."

10 March In Moscow, Alexander Gorbovskiy of the Russian Munitions Agency tells Interfax that no information is currently available on buried stocks of old chemical weapons [see 6 Mar] which pose a real threat to people or the environment. He says that Russia's entire stockpile of 40,000 tonnes of chemical weapons is under tight control at seven storage facilities. Gorbovskiy says that while CW might have been buried 50 or 60 years ago, the munitions would by now have become neutral, although he adds that "we are not going to forget about this problem and will deal with it." Regarding CW dumped in the Baltic Sea, he says they are best left where they are, "this is safer than raising these chemical weapons to the surface."

Gorbovskiy adds that “old chemical weapons are an environmental problem which should be tackled step-by-step and according to the extent of their danger. This requires special research and an appropriate programme.”

11 March From OPCW headquarters, the Director-General, José Bustani, writes to the foreign ministers of the 41 Executive Council member states regarding the US request that he step down as Director-General [see 6 Mar]. In the letter, Bustani writes: “It is difficult to imagine a situation, short of malfeasance, which could be so serious as to warrant calling into question the well-established democratic principles associated with due process, or the principle of non-interference with international civil servants in the execution of their duties. I want to assure Your Excellency that my own behaviour is open to all to arrive at their own objective conclusions. In that regard, I am dismayed by certain allegations that are being made and circulated to Members of the Executive Council, allegations which do not stand up to scrutiny. I can only presume that the political authorities who have allowed such allegations to be circulated have been greatly misinformed of the facts. ... The issue is really about the extent to which any Member State can decide for all on how the Top Management is to be comprised from one moment to the next. If one Member State, or even a few, can dictate the departure of the Director-General today, then who will do it tomorrow, and for what reason? It is about how a duly-elected Director-General is to behave in fulfilling the Convention, and how he is to be assessed in meeting any Member State’s particular expectations to the exclusion of those of other Member States. It is about achieving a balance in the pursuit of a common vision of multilateral security, when different viewpoints and priorities exist. It is about preventing the budget being used by any Member State as a tool to achieve a particular objective.”

11 March In Brussels, the Council of the European Union meeting at the level of research ministers hears a report from the European Commission on the two meetings of the NBC-experts group [see 18 Feb] held to date.

11 March In the US Senate, the Subcommittee on International Security, Proliferation and Federal Services of the Committee on Governmental Affairs holds a hearing on *CIA National Intelligence Estimate of Foreign Missile Development and the Ballistic Missile Threat through 2015* [see 9 Jan].

11 March In Chicago, a man is being held on a charge of possessing chemical weapons after police found a cache of cyanide in the metro system where he was hiding. Chicago police say that although Joseph Konopka did not appear to be planning an attack, he was “very capable of accomplishing some destructive things.”

11–14 March In Singapore, there is the *10th International Congress on Infectious Diseases*. On 14 March, there is a panel on “Infectious Diseases as Weapons: Bioterrorism and Public Health”. The papers presented include: “Infectious Organisms as Biological Weapons: Which Ones Do We Need to Worry About and Why?” Richard Wenzel (USA); “The Public Health Response to an Anthrax Attack: Maximizing Control while Minimizing Confusion”, Nina Marano (USA); and “An Additional Threat to Global Health Security: The Use of Biological Agents to Cause Harm”, Ottorino Cosivi (Switzerland).

12 March In Pyongyang at the International House of Culture, there are round-table talks to condemn the chemical and biological warfare allegedly committed by the US during the

Korean War. Attending are researchers of North Korea’s Academy of Medical Science and members of the group for probing the truth behind US crimes. The latter group is headed by Brian Wilson, representative of Veterans For Peace who says that the crimes committed should be known to the world and an international tribunal should be established.

12 March In Moscow, the Director-General of the Russian Munitions Agency, Zinoviy Pak, again [see 28 Feb] complains that the second stage of Russia’s chemdemil activities is being delayed by the refusal of the US to provide the promised funds, despite Russia having met the conditions laid down by the US Congress.

12 March In Frankfurt, at a meeting hosted by DECHEMA, the German Society for Chemical Technology and Biotechnology, an official from the German ministry of defence announces that spending on biodefence is to be increased.

12 March In the UK House of Commons, Secretary of State for Foreign and Commonwealth Affairs Jack Straw replies as follows when asked to provide evidence of Iraq’s possession of weapons of mass destruction: “As for compelling evidence, I simply say [...] that there is a huge amount of published compelling evidence about the complicity of Saddam Hussein and the Iraqi regime in the production of weapons of mass destruction. When they were in Iraq, the United Nations weapons inspectors discovered chemical and biological weapons and missile parts buried in the desert, and concealed in caves and railway tunnels. They also discovered large quantities of chemical warfare agents, including Sarin, Tabun, mustard and nerve gases. Iraq was also producing biological warfare agents such as anthrax, botulinum toxin, gas gangrene and aflatoxin. The weapons inspectors were unable to account for 4,000 tonnes of so-called precursor chemicals used in the production of weapons, 610 tonnes of precursor chemicals used in the production of nerve gas and 31,000 chemical weapons munitions. In these circumstances, in our judgment it is more important than ever that inspectors from the United Nations Monitoring, Verification and Inspection Commission and the International Atomic Energy Agency be given access to all relevant sites, to be allowed to inspect freely wherever they want to, at whatever time they wish to.”

12 March In the UK House of Commons, the Parliamentary Under Secretary of State for Public Health, Yvette Cooper, replies to a written question on the UK’s supply of ciprofloxacin by saying that the country has a “substantial stockpile” of the antibiotic and that stocks are being further augmented. She also says that emergency supplies of cipro and other antibiotics have been strategically placed across the UK to facilitate rapid deployment in an emergency.

12 March In the US, the *Washington Post* reports details of an unpublished report by the US Army Surgeon-General which concludes that as many as 2.4 million people could be killed or injured in a terrorist attack on a toxic chemical plant in a densely populated area.

13 March In the UK House of Commons, the Minister for Veterans’ Affairs, Lewis Moonie replies as follows to written questions on BW tests carried out on the London Underground in 1963 and 1964 [see 26 Feb]: “These trials involved dropping packages containing simulants for biological warfare agents from moving trains and then assessing how far they travelled and how long they survived. These defensive sabotage trials were carried out with the knowledge of the relevant Ministers of

the day, the London Underground and the oversight of the Biological Research Advisory Board. The reports of the trials have been in the Public Record Office for several years and have been widely reported in the media.”

The Minister also announces that he is placing in the House of Commons Library a report by Gradon Carter entitled *BW and BW Defence Field Trials Conducted by the UK: 1940–1979*. This report is later reported in the London *Observer* which quotes a spokeswoman for Porton Down saying: “Independent reports by eminent scientists have shown there was no danger to public health from these releases which were carried out to protect the public. The results from these trials will save lives, should the country or our forces face an attack by chemical and biological weapons.” Asked whether such tests are still being carried out she replies: “It is not our policy to discuss ongoing research.”

13–14 March In London, the Minister of State for Health, John Hutton, hosts a meeting of health ministers from the G7 plus Mexico and the European Commission to follow-up an earlier meeting in Ottawa [see 7 Nov 01]. Officials from the WHO attend as observers. At the meeting, ministers endorse the WHO Executive Board’s resolution [see 14–21 Jan] on the deliberate use of biological and chemical agents, and radio-nuclear attacks and agree to hold an exercise which will test and build on current response plans and protocols for international assistance and collaboration. The meeting mandates its Global Health Security Action Group to accelerate efforts to develop a framework for risk communication of chemical, biological, radiological and nuclear terrorist incidents. The meeting also agrees to a proposal by Germany to host, in collaboration with the WHO and the European Commission, a meeting to review and define or redefine best practices in vaccine production for smallpox and other potential pathogens and it expresses support for Italy’s suggestion to host a meeting in 2003 to discuss best strategies in isolation techniques for patients with smallpox and highly contagious viral infections. The ministers will next meet in Mexico.

14 March In Beijing, at the ongoing annual session of the National People’s Congress, military legislators call for a law against nuclear, chemical and biological terrorism.

14 March In Moscow, representatives of the UK and Norwegian governments sign another [see 7 Dec 01] memorandum of understanding on cooperation to support Russia’s chemdemil activities. Under the agreement, Norway will provide 9 million Krone (£700,000) to the UK to pay for an electrical transformer at the Shchuch’ye chemical weapons destruction facility.

Commenting on the agreement, the Russian Ministry of Foreign Affairs says: “Norway had planned to direct this million dollars through the US assistance program for Russia in building a complex for the destruction of chemical weapons in Shchuchye, Kurgan Region. But the slowness of the Americans in questions of the start of the construction has led to the decision of Norway to join in British assistance with a view to starting work on the creation of the engineering infrastructure for this complex as soon as possible.”

Also in Moscow, Interfax news agency reports that Canada will assign C\$5 million to assist Russia’s chemdemil activities [see 8 Feb] following negotiations between Russian President Vladimir Putin and Canadian Prime Minister Jean Chretien in the Kremlin.

14 March In Stockholm, the Swedish government adopts the Foreign Ministry’s *Report on Sweden’s Export Control Policy*

and Exports of Military Equipment in 2001 for submission to parliament. In the report, the Ministry describes Sweden’s position on the Australia Group thus: “The view of the Swedish Government is that our participation in the Australia Group may be seen as a measure that is necessary for the fulfilment of our international obligations both under BTWC and CWC, i.e. to prevent the proliferation of biological and chemical weapons.” Commenting on criticism of the Australia Group from some NAM countries, the report says: “For their part, the members of the Australia Group consider such export controls necessary in order to fulfil the undertakings made by the parties to the two conventions. Export controls are, after all, carried out on a national basis and do not prevent legitimate trade in these products.” The report also describes the response of the Australia Group to the events of 11 September: “The Australia Group was the first of the export control regimes to meet after September 11th, and it was evident during this plenary session that all the Member States, the USA in particular, intend to make every effort to strengthen export controls with regard to B and C weapons. During the plenary session in October 2001 the Australia Group also decided to hold an intersessional meeting before next year’s plenary in order to continue the important discussion on what the Group should do to strengthen and increase the effectiveness of export controls with respect to B and C weapons.” The report also provides statistics on the number of export licence applications relating to dual-use items during 1998–2001. The number of Australia Group-related applications for 1998, 1999, 2000 and 2001 was 25, 36, 34 and 47 respectively. During 2001, 25 preliminary enquiries regarding the export of dual-use were submitted and the government issued six denials and 5 catch-all procedures.

14 March In the US, the National Institute of Allergy and Infectious Diseases (NIAID) releases the *NIAID Counter-Bioterrorism Research Agenda for CDC Category A Agents: Responding Through Research* upon which expert guidance had been sought earlier [see 4–5 Feb]. The plan includes short, intermediate and long-term research goals and describes specifically how bioterrorism countermeasures will be developed for each Category A agent (anthrax, smallpox, plague, tularaemia, viral haemorrhagic fevers and botulism). The agenda addresses both basic and applied research and divides research on each Category A agent into six key elements: microbial biology; human immune response; vaccines; treatments; diagnostics; and research resources. Also released, is the *Strategic Plan for Biodefense Research at the National Institute of Allergy and Infectious Diseases*. NIAID intends to develop research plans for Category B and C agents in the near future.

15 March In Brussels, representatives of the Council of the European Union’s working groups on global arms control and disarmament and non-proliferation meet with Brazilian officials to inform them of the opinion of the 15 EU member states that José Bustani should step down as OPCW Director-General [see 6 Mar]. At OPCW headquarters, the UK permanent representative to the Organization, Ambassador Colin Budd, meets with Bustani to inform him that the UK believes that it would be in the best interests of the OPCW and the CWC if he were to resign.

15 March In the US at Fort Bragg, US President George Bush announces the completion of the first phase of the “war on terrorism” and outlines the second phase. He says: “We’ve got to prevent the spread of weapons of mass destruction, because there is no margin for error, and there is no chance to learn from any mistake. The United States and her allies will act

deliberately [...] but inaction is not an option. Men who have no respect for life must never be able allowed to control the ultimate instruments of death. I have made it clear that we will not let the most dangerous regimes in the world team up with killers and, therefore, hold this great nation hostage.”

15 March In the US, the Army announces that the last of the sarin munitions stored at the Tooele chemical weapons storage facility has been destroyed. The Army has now destroyed more than 75 per cent of the total US stockpile of sarin munitions.

16 March The 14th anniversary of the Iraqi chemical weapons attack on the Kurdish town of Halabja. The previous day, US State Department spokesman Richard Boucher had said: “On March 16th, 1988 the Iraqi military conducted an aerial bombardment of Halabja with mustard and other poison gases that killed roughly 5,000 civilians and injured another 10,000. Though unconscionable, Saddam Hussein’s chemical weapons attack on Halabja was not an isolated incident. ... As we remember Halabja, we want to reaffirm to ourselves and the international community that Saddam Hussein’s regime must never be permitted to rebuild its weapons of mass destruction programs, or once again threaten its neighbors or its own people. ... I think it’s an important time for people to remember what’s happened and who in the world has indeed used chemical weapons in the past, and why we see this as a continuing threat.”

18 March The Iraqi Vice-President, Taha Yassin Ramadan, expresses a more conciliatory stance on the return of UN weapons inspectors to Iraq than he had adopted a few days previously [see 10 Mar]. He tells the London *al-Sharq al-Aswat* that “Iraq rejects the return of international inspectors unless the locations to be searched are identified and a timetable is set up and respected.” Ramadan adds that Iraq is “totally free from weapons of mass destruction” and suggests that an Arab inspection team could visit any site in the country.

18 March In the Czech Republic, the Prague *Pravo* reports that the Czech Army has developed a business strategy under which it will offer training to other countries in chemical and biological warfare defence. The newspaper reports that Kuwait, Latvia, Lithuania and the UAE have already expressed an interest.

18 March In the UK House of Commons, the Parliamentary Under-Secretary for Foreign and Commonwealth Affairs, Ben Bradshaw, answers a written question on progress with regard to verification procedures under the Biological Weapons Convention as follows: “Negotiations on a compliance Protocol to strengthen the Biological and Toxin Weapons Convention (BTWC) concluded unsuccessfully at the 24th Session of the Ad Hoc Group of States Parties in August 2001. And as no agreement could be reached at the subsequent Review Conference in December last year a decision was made to suspend the proceedings. The Conference will reconvene in Geneva on 11 November when we hope that it will be possible to make progress in reinforcing the norm against biological weapons. In preparation for the Conference the Government will shortly present a Government paper setting out its views on ways to counter the threat from biological weapons. This will be laid in the House in April.”

18 March In the UK House of Commons, the Parliamentary Under Secretary of State for Defence and Minister for Veterans, Lewis Moonie, responds as follows to a written question on the extent of dumping of Axis chemical weapons in the Baltic from

1945 to 1947 and what steps are being taken to address the issue: “The United Kingdom, the United States of America, Russia and France undertook dumping of confiscated German chemical munitions into the Baltic and Skagerrak between 1945 and 1947. However, after World War Two, it was the administrative practice to destroy records of sea disposals of munitions, including chemical weapons, when such records were perceived to be of no further administrative use. As a result of this practice, a detailed inventory of all conventional and chemical munitions does not exist. Where relevant British records on this subject do survive, they have been declassified and transferred to the Public Record Office in accordance with the terms of the Public Records Act, 1958 and 1967. We do not have details of the quantity or content of munitions dumped by other nations.”

Moonie continues: “The consensus of international scientific opinion is that munitions on the seabed present no risk to human health or the marine environment provided they are left undisturbed. While the United Kingdom has no plans to monitor or remove conventional or chemical munitions dumped on the seabed, I am aware that NATO was approached by the Russian Government in 1997 regarding possible cooperation in the monitoring and prevention of leakage of chemicals from the German chemical weapons stocks sunk in the Baltic and Skagerrak after World War Two. Liaison on this issue with the Russian Government is continuing through NATO’s Committee on the Challenges of Modern Society (CCMS), but no decision has yet been reached as to whether NATO will participate in any monitoring or preventative action.” The Minister adds that he is arranging for a copy of the Ministry of Defence’s historical report on CW sea dumping, details of which were submitted to the Helsinki Commission, to be placed in the Library of the House of Commons. [See also 21–22 Feb.]

18 March In the US Senate, Senator Lugar introduces legislation (S 2026) authorizing the Secretary of Defense to expend up to \$50 million for a fiscal year in Cooperative Threat Reduction funds to prevent proliferation of nuclear, chemical and other weapons outside the states of the former Soviet Union.

19 March The UK Secretary of State for Foreign and Commonwealth Affairs, Jack Straw, writes to OPCW Director-General José Bustani referring to the differences between the Director-General and the members of the Executive Council [see 15 Mar].

19 March In the UK House of Commons, the Parliamentary Under-Secretary for Foreign and Commonwealth Affairs, Ben Bradshaw, replies as follows to a written question on Iraq: “We have continuously urged Iraq to co-operate with the UN, particularly on weapons inspections. Security Council Resolution 1284 — a UK initiative — offered for the first time the suspension of UN sanctions as an interim step pending the complete elimination of Iraq’s WMD, which would in turn lead to the full lifting of sanctions. We support the efforts of the UN Secretary General to persuade Iraq to co-operate with the UN through renewed dialogue, while making clear that there can be no watering down of Iraq’s obligations under UN resolutions.”

19 March In the US Senate, the Foreign Relations Committee conducts a hearing on *Reducing the Threat of Chemical and Biological Weapons*. Testifying are Carl Ford, Assistant Secretary of State for Intelligence and Research, Michael Moodie of the Chemical and Biological Arms Control Institute, Amy Sands of the Monterey Institute of International Studies

Center for Nonproliferation and Alan Zelicoff of Sandia National Laboratories.

Addressing arms control solutions to the CBW threat in his opening statement, Committee Chairman Senator Joseph Biden says: "Unfortunately, the Chemical Weapons Convention (CWC) has not achieved its full potential. The Organization for the Prohibition of Chemical Weapons, the implementing organization for the CWC, has struggled with both mismanagement and a financial crisis over member assessments and reimbursements for inspection costs. The Organization has been forced to reduce its verification activities and cut back on industry inspections. During the five years the Convention has been in effect, no party has requested a challenge inspection. I am glad to hear the Administration is closely looking at the Organization to resolve its funding and management challenges. We need a strong and effective Chemical Weapons Convention regime. We must also re-emphasize the Biological Weapons Convention. It is not my intention today to rehash the debate over whether the United States should have agreed to the draft compliance protocol to the BWC last year. I do believe the Administration was needlessly confrontational, but I understand its concerns over the protocol as drafted. Today, I want to look ahead to the reconvening of the BWC Review Conference this November and ask how the United States can best enhance the implementation of this Convention."

Carl Ford begins his testimony as follows: "More states have credible chemical and biological warfare (CBW) capabilities than ever before. Advanced CBW capabilities and the widespread public understanding of US vulnerabilities since the anthrax attacks which followed on the events of September 2001 makes their use all the more likely." He continues: "More than a dozen nations, including China, Iran, Iraq, Libya, North Korea, Russia and Syria have the capabilities to produce chemical and biological agents. Former Soviet biological and chemical facilities still exist in Ukraine, Kazakhstan and Uzbekistan, though none is active now." Ford then goes on to describe which states are believed to possess "weaponized stocks of chemical and biological agents".

On Iraq, a BWC state party he says: "Given Iraq's past behavior, it is likely that Baghdad has reconstituted programs prohibited under UN Security Council Resolutions. Since the suspension of UN inspections in December of 1998, Baghdad has had more than enough time to reinitiate its CW programs Iraq's failure to submit an accurate Full, Final, and Complete Disclosure (FFCD) in either 1995 or 1997, coupled with its extensive concealment efforts, suggest that the BW program also has continued."

On Iran, a CWC and BWC state party, Ford says that it "already has manufactured and stockpiled chemical weapons - including blister, blood, choking, and probably nerve agents, and the bombs and artillery shells to deliver them. Tehran continues to seek production technology, training, expertise, equipment, and chemicals from entities in Russia and China that could be used to help Iran reach its goal [of] an indigenous nerve agent production capability. Tehran continued to seek considerable dual-use biotechnical materials, equipment, and expertise from abroad — primarily from entities in Russia and Western Europe — ostensibly for civilian uses. We believe that this equipment and know-how could be applied to Iran's biological warfare (BW) program. Iran probably began its offensive BW program during the Iran-Iraq war, and likely has evolved beyond agent research and development to the capability to produce small quantities of agent. Iran may have some limited capability to weaponize BW."

On North Korea, a BWC state party, Ford says: "North Korea has a long-standing chemical weapons program. North Korea's

domestic chemical industry can produce bulk quantities of nerve, blister, choking, and blood agents. We believe it has a sizeable stockpile of agents and weapons. ... While North Korea has acceded to the Biological Weapons Convention (BWC), it nonetheless has pursued biological warfare capabilities over the last four decades. North Korea likely has a basic biotechnical infrastructure that could support the production of infectious biological agents. It is believed to possess a munitions production infrastructure that would allow it to weaponize agents and may have biological weapons available for military deployment.

On Libya, a BWC state party, Ford says: "Libya still seeks an offensive CW capability and an indigenous production capability for weapons. Evidence suggests Libya also seeks the capability to develop and produce BW agents. Libya is a state party to the BWC and may soon join the CWC, however this likely will not mean the end to Libya's ambition to develop CBW."

On Syria, a BWC signatory state, Ford says: "Syria has a long-standing chemical warfare program, first developed in the 1970s. Unlike Iran, Iraq, and Libya, Syria has never employed chemical agents in a conflict. It has a stockpile of the nerve agent sarin and may be trying to develop advanced nerve agents as well. In future years, Syria will likely try to improve its infrastructure for producing and storing chemical agents. ... Syria is pursuing biological weapons. It has an adequate biotechnical infrastructure to support a small biological warfare program. Without significant foreign assistance, it is unlikely that Syria could advance to the manufacture of significant amounts of biological weapons for several years.

On Cuba, a BWC and CWC state party, Ford says: "The United States believes that Cuba has at least a limited, developmental offensive biological warfare research and development effort. Cuba has provided dual-use biotechnology to rogue states. We are concerned that such technology could support BW programs in those states. We call on Cuba to cease all BW-applicable cooperation with rogue states and to fully comply with all its obligations under the Biological Weapons Convention."

On Russia, a BWC and CWC state party, Ford says: "Serious concerns remain about the status of Russian chemical and biological warfare programs, the accuracy of the information Russia provided in its declarations, and the willingness of the Russian defense establishment to eliminate these capabilities. ... Moscow has declared the world's largest stockpile of chemical agents: 39,969 metric tons of chemical agent, mostly weaponized, including artillery, aerial bombs, rockets, and missile warheads. US estimates of the Russian stockpile generally are still larger. ... Russian officials do not deny research has continued but assert that it aims to develop defenses against chemical weapons, a purpose that is not banned by the CWC. Many of the components for new binary agents developed by the former Soviet Union are not on the CWC's schedules of chemicals and have legitimate civil applications, clouding their association with chemical weapons use. However, under the CWC, all chemical weapons are banned, whether or not they are on the CWC schedules. ... The Russian government has committed to ending the former Soviet BW program. It has closed or abandoned plants outside the Russian Federation and these facilities have been engaged through cooperative threat reduction programs. Nevertheless, we remain concerned about Russia's offensive biological warfare capabilities remain. Key components of the former Soviet program remain largely intact and may support a possible future mobilization capability for the production of biological agents and delivery systems. Moreover, work outside the scope of legitimate biological defense activity may be occurring now at selected facilities within Russia. Such activity, if offensive in

nature, would contravene the BWC, to which the former Soviet government is a signatory. It would also contradict statements by top Russian political leaders that offensive activity has ceased.”

On China, a BWC and CWC state party, Ford says: “I believe that the Chinese have an advanced chemical warfare program, including research and development, production, and weaponization capabilities. ... In the near future, China is likely to achieve the necessary expertise and delivery capability to integrate chemical weapons successfully into overall military operations. I believe that China’s current inventory of chemical agents includes the full range of traditional agents, and China is researching more advanced agents. ... China acceded to the Biological and Toxin Weapons Convention in 1984, though many believe its declarations under the BWC confidence-building measures inaccurate and incomplete. China has consistently claimed that it has never researched, manufactured, produced, or possessed biological weapons and that it would never do so. However, China possesses an advanced biotechnology infrastructure and the biocontainment facilities necessary to perform research and development on lethal pathogens. It is possible that China has maintained the offensive biological warfare program it is believed to have had before acceding to the BWC.”

After delivering his prepared statement, Ford is asked, among other things, for his assessment of Russia’s desire to dispose of its chemical weapons stockpile. He replies as follows: “My assessment is that [...] the Russians clearly would like to be rid of this problem and that they are willing to cooperate in destroying these chemical weapons capabilities, partially for the same reasons that we have of the fear [...] that they’re going to lose some of them — somebody’s going to steal them, somebody’s going to sell them — and so they’d like to have them off their hands. They are also clearly understanding that many of these weapons are deteriorating and that they are a logistics [...] problem in the future for themselves. Asked for his assessment of why Russia has refused the US access to four former military BW facilities, Ford says: “My unclassified answer is that I think that biological weapons research is a serious and embarrassing subject for a lot of people, and that they’re — even if they have changed their mind about the use of biological weapons and would like to be rid of them, as we would, they probably have fibbed to us a little bit, or fibbed to some people about it, and they don’t want us to find out the extent of their program. And I think it has more to do with embarrassment of what they had up their sleeve and they were doing, rather than a desire to keep a capability back and use it against the United States at some point in the future.”

19 March In the US, White House Chief of Staff Andrew Card writes to the heads of executive department and agencies on “Action to Safeguard Information Regarding Weapons of Mass Destruction and Other Sensitive Documents Related to Homeland Security”. His memorandum states that “government information, regardless of its age, that could reasonably be expected to assist in the development or use of weapons of mass destruction ... should not be disclosed inappropriately.” Attached guidelines from the White House Information Security Oversight Office and the Department of Justice address the classification and re-classification of classified information, previously unclassified or declassified information and sensitive but unclassified information. [See also 17 Feb.]

19 March From the US State Department, spokesman Richard Boucher responds as follows to journalists’ questions on US criticism of OPCW Director-General José Bustani [see 6 Mar]: “The management of this organization, I think, is beset by

a set of problems that have resulted in the loss of confidence in the current director. The loss of confidence is widespread among many countries of the world, and we’ve seen a variety of problems there, including financial mismanagement, demoralization of the technical secretariat staff, and what many believe are to be ill-considered initiatives. So the United States and others, given these serious concerns, don’t believe the organization can continue to fulfill its primary mission of eliminating chemical weapons under its current leadership, and we have urged the Director-General — we and others have urged the Director-General to resign for the good of the organization.” It is also reported that the UK government is supporting the US demand that Bustani be dismissed [see 19 Mar].

19 March In the US Senate, the Armed Services Committee conducts an open hearing on *The Worldwide Threat to US Interests*, followed by a closed session. Testifying are the Director of Central Intelligence, George Tenet, and the director of the Defense Intelligence Agency, Thomas Wilson. Their statements are similar to those given earlier to the Senate Select Committee on Intelligence [see 6 Feb].

19 March In the US, the *New York Times* reports US officials as saying that investigations of numerous al-Qaeda sites in Afghanistan have failed to uncover any evidence of the acquisition or production of chemical or biological weapons by the terrorist group. One unidentified official is quoted as saying: “They haven’t found anything, there are no traces showing production at any of the sites [see 11 Nov 01] we thought might be involved.” Analysts studying documents recovered from Afghanistan say that al-Qaeda had accumulated a library of research on chemical and biological compounds which indicates an interest in developing a CBW programme.

19–22 March In The Hague, the OPCW Executive Council reconvenes [see 4–7 Dec 01] for its twenty-eighth regular session.

20 March From Seoul, it is reported that Agent Orange victims in South Korea and Vietnam are to collaborate in efforts to receive compensation from the US government and companies that manufactured the herbicide.

20 March At OPCW headquarters, during the ongoing twenty-eighth session of the Executive Council [see 19–22 Mar], US Under Secretary of State for Arms Control and International Security John Bolton meets with OPCW Director-General José Bustani to again [see 28 Feb] request that Bustani should resign for the health of the OPCW.

20 March In the UK House of Commons, the Defence Committee continues [see 27 Feb] to hear evidence on missile defence and the ballistic missile threat to the UK, this time from Secretary of State for Defence Geoff Hoon. The Foreign Office and Ministry of Defence submit a supplementary memorandum to the Committee describing the current ballistic missile capabilities of North Korea, Iraq, Iran and Libya. The memorandum makes no reference to CBW in North Korea. On Iraq, it states: “We believe that Iraq has retained precursors, equipment and expertise, and continues to pursue covert chemical and biological weapons programmes.” With reference to Iran, the memorandum says: “Iran signed the Chemical Weapons Convention in 1993, and has acknowledged a past chemical weapons programme. It would also be capable of producing biological weapons.” On Libya, the memorandum states: “We believe Libya also has weapons of mass destruction aspirations. We believe progress has so far been relatively slow,

but are concerned by the possibility that external assistance could speed their efforts.”

Giving evidence, the Secretary of State for Defence seems to imply that the UK would consider using nuclear weapons to respond to an attack with chemical or biological weapons: “I think, again, the same argument arises, that there are clearly some states who would be deterred by the fact that the United Kingdom possesses nuclear weapons and has the willingness and ability to use them in appropriate circumstances. States of concern, I would be much less confident about, and Saddam Hussain has demonstrated in the past his willingness to use chemical weapons against his own people. In those kinds of states the wishes, needs and interests of citizens are clearly much less regarded and we cannot rule out the possibility that such states would be willing to sacrifice their own people in order to make that kind of gesture. ... They can be absolutely confident that in the right conditions we would be willing to use our nuclear weapons. What I cannot be absolutely confident about is whether that would be sufficient to deter them from using a weapon of mass destruction in the first place.” [See also 17 Feb 99.]

20 March The US National Archives and Records Administration submits to Congress an interim report on *Implementation of the Japanese Imperial Government Disclosure Act and the Japanese War Crimes Provisions of the Nazi War Crimes Disclosure Act* [see 2 Oct 00] prepared by its Nazi War Crimes and Japanese Imperial Government Records Interagency Working Group. The IWG is tasked with identifying any classified US records of Nazi or Japanese Imperial Army war crimes and recommending their declassification by the agencies for release to the public. To date, agencies have declassified and are preparing to open 18,000 pages of Japanese war crimes records. An additional 60,000 pages are being reviewed for relevance and possible declassification.

Among the records listed in the report are several relating to the investigation by the Supreme Commander Allied Powers Legal Section and by scientific and medical experts sent from Fort Detrick of Lt-General Ishii Shiro and his experiments in biological warfare as head of Unit 731. Among the files identified by the IWG in the archives of the Office of Strategic Services (OSS, the forerunner of the CIA) is a “Final Summary Report of BW”, by the OSS Research and Development Branch, dated 28 September 1945. Appendix A of the report summarizes German and Japanese BW efforts and concludes that the “Japanese had perhaps the best informed scientists in BW investigations of any nation in the world” and were a greater potential threat than Germany. Appendix B outlines possible BW devices for use against personnel and vegetation. In the CIA archives, the IWG has found a small name file on General Shiro containing a redacted 1947 cable indicating that Japan had violated rules of warfare but that evidence pertaining to Japanese instigation of a plague in China was circumstantial. A 1950s report refers to the death in Siberia of a Japanese general tried by the Soviet Union in 1949 for biological war crimes. Among the records of the Navy Judge Advocate General, the IWG has found a report by the Chinese Ministry of War (received by US Military Intelligence in July 1944), on Japan’s use of chemical weapons in China during 1937–42, giving dates, places and casualty statistics.

21 March In Brussels, the EU Working Party on Civil Protection continues its consideration of a draft resolution to improve cooperation for protecting the population against NBC attacks.

21 March In the UK House of Commons, the Quadripartite Committee hears evidence from the Secretary of State for

Foreign and Commonwealth Affairs, Jack Straw, on the *Annual Report on Strategic Exports for 2000*. The Foreign Secretary is accompanied by two Foreign Office officials, Willaim Ehrman, director of International Security and Tim Dowse, head of the Non-Proliferation Department. Answering a question on the non-proliferation regimes, Dowse says: “As far specifically as weapons of mass destruction are concerned, all members of the EU are members of a number of multilateral export control regimes. The Australians are already dealing with chemical and biological material; the missile technology control regime; and the nuclear suppliers group. All these international export control regimes have, since September 11th, been undergoing a process of looking at their control lists, looking at their aims and objectives, amending where necessary these lists and aims and objectives, with a particular focus on the need to guard against terrorism. They have tended up till now to be focussed on states and the proliferation and seeking of weapons of mass destruction. They are now looking as well at the issue of non-state actors, such as terrorist groups. In that sense, the EU, as members of all these regimes, is very actively engaged in this.”

21 March In the UK House of Commons, Parliamentary Under Secretary of State for Defence and Minister for Veterans Lewis Moonie reveals that some 8,000 individuals participated in studies at Porton Down which involved the use of sulphur mustard and lewisite. He also states that a small number of volunteers may have been exposed to phosgene oxime and nitrogen mustard during the Service volunteer programme.

21–22 March In Geneva, the Geneva Forum hosts a conference on *Civil Society Monitoring: Comparing Experiences, Exploring Relevance to Biological Weapons*.

22 March From Shanghai, it is reported that two US experts have proven that outbreaks of glanders in the Chinese province of Zhejiang during World War Two could be ascribed to Japanese biological warfare. Martin Furmanski and Sheldon Harris [see 10 Nov 99] base their conclusion on the fact that so many people were infected with a similar disease, which had been eradicated from China in 1906, soon after the Japanese invasion. Harris and Furmanski are accompanied by Wang Xuan, chairwoman of a group of 108 Chinese survivors and relatives of victims of Japanese biological warfare [see 3 Feb] who are currently suing the Japanese government demanding an apology and compensation.

22 March In Berlin, the German Defence Ministry makes its statutory annual submission to the Bundestag Defence Committee of information on current research projects which use genetic engineering. Of the 24 projects listed, 16 are related to biodefence, while the remaining eight are related to defence against chemical weapons or radiation. The 16 biodefence projects include five devoted to researching new vaccines (anthrax, smallpox, botulinum, Q fever and dengue fever) while the rest cover detection and diagnostic methods. Although the locations of the laboratories doing the research is not revealed, most of the work is undertaken by academic researchers in civilian facilities.

22 March From London, an unidentified UK government official is cited as saying that during the recent US deployment in Afghanistan, Operation Anaconda, troops had found a biological weapons laboratory near Gardez [see 19 Mar]. The official adds that al-Qaeda appears “quite well advanced in biological weapons and chemical weapons technology.” The discovery of the laboratory is given as a major factor behind the

decision to send 1,700 Royal Marines to Afghanistan to reinforce the US troops already in action against al-Qaeda. However, a Pentagon official later tells the London *Observer*: "I don't know what they're saying in London but we have received no specific intelligence on that kind of development or capability in the Shah-e-Kot valley region."

Later the same day, the *New York Times* reports a confidential US Central Command report on the discovery of an al-Qaeda laboratory under construction near Kandahar. Based on documents and equipment found at the site, the CENTCOM report concludes that the facility was for the production of anthrax but that none had been produced before it was abandoned. A US official is quoted as saying: "It's another example that they had an appetite for developing biological agents." Other officials are cited as saying that more than 60 suspect sites in Afghanistan have been investigated and more than 370 samples have been taken. In only five cases were there any apparent indications of possible biological warfare agents and these had been in only tiny amounts. The *New York Times* also reports US officials as saying that no biological weapons laboratory had been discovered near Gardez and says that the reference might have been a "garbled account" of the Kandahar discovery. The Kandahar discovery is reportedly the sixth, and possibly most important, such site with possible links to biological weapons, so *USA Today* reports. In a Pentagon news briefing a few days later, General Richard Myers, Chairman of the Joint Chiefs of Staff, says that "on five or six cases, some of the swabs that we took have turned out positive for anthrax and, I think, ricin. But the caveat to that is that there's such minute amounts, that the anthrax could be naturally occurring, and the ricin could be there because of the castor bean." Asked what equipment was found at the Kandahar site, Myers adds: "There was a dryer. There was an autoclave. ... There probably are others, and I just don't know that, but not — like I said, not all the equipment you would need was present."

22 March US President George Bush nominates Paula DeSutter as Assistant Secretary of State for Verification and Compliance, to replace the acting incumbent Edward Lacey.

22 March At OPCW headquarters, the twenty-eighth session of the Executive Council comes to an end. This is only the second session of the Council [see 27–30 Jan 98] at which member states have been unable to reach consensus on draft decisions and have therefore had to vote. There are in fact three votes. The first is on a motion introduced by Brazil questioning the competence of the Council to consider the draft decision on a no-confidence motion. The motion does not receive the required two-thirds majority; it is supported by seven Council members, opposed by 20, 13 members abstain and one was not present. The second vote is on the no-confidence motion itself which also fails to gain the necessary two-thirds majority; it is supported by 17 Council members, opposed by five, 18 members abstain and again one was not present. The third vote is on a draft decision to establish an extraordinary committee which also fails to receive the necessary two-thirds majority; it is supported by 14 Council members, opposed by 17, eight members abstain and two are absent. The US delegation informs that Council that it has submitted a formal request to the Director-General for the convening of a special session of the Conference of the States Parties. In accordance with the rules of procedure of the Conference, the special session must be convened by the Director-General within 30 days if one-third of the OPCW member states support the request.

22–24 March At Wiston House in the UK, there is a Wilton Park conference on *CBW Terrorism: Forging a Response*.

23 March The Athens *Ependhitis* reports criticism of the Greek government for the delay in introducing national CWC implementing legislation, which has only now been submitted to the parliament, and in establishing a CWC National Authority. The weekly also describes a recent UK–Greek seminar on security preparations for the 2004 Olympic Games, organized by the Greek Ministry of Public Order. British officials presented the UK approach to management and response to threats from chemical and nuclear weapons and attendees also participated in a simulated bioterrorism exercise. The seminar was attended by 130 people from the Greek government, emergency services and Olympic organizing committee, as well as representatives of countries on the Olympic advisory committee.

23 March In the US, the *New York Times* reports that one of the 11 September hijackers, Ahmed Alhaznawi, had been treated in June 2001 for what the prescribing doctor now believes was cutaneous anthrax. A memorandum, written by Tara O'Toole and Thomas Inglesby of the Johns Hopkins Center for Civilian Biodefense Studies who have interviewed Dr Christos Tsonas, has been circulated among government officials. The memo concludes that a diagnosis of cutaneous anthrax was "the most probable and coherent interpretation of the data available." It goes on: "Such a conclusion of course raises the possibility that the hijackers were handling anthrax and were the perpetrators of the anthrax letter attacks." However, the FBI continues to deny a link between the 11 September hijackers and the anthrax-letters. An FBI spokesman says: "This was fully investigated and widely vetted among multiple agencies several months ago. Exhaustive testing did not support that anthrax was present anywhere the hijackers had been."

24 March In the UK, on the London Weekend Television *Jonathan Dimbleby Programme*, the Secretary of State for Defence, Geoff Hoon, says that the UK would be prepared, under certain conditions, to use nuclear weapons in response to an attack on its forces with chemical or biological weapons. The exchange follows Hoon's earlier comments to the House of Commons Defence Committee [see 20 Mar]. He says: "Let me make it clear the long-standing British government policy that if our forces, if our people were threatened by weapons of mass destruction we would reserve the right to use appropriate proportionate responses which might, might in extreme circumstances include the use of nuclear weapons. ... If there is a threat to our deployed forces, if they come under attack by weapons of mass destruction, and by that specifically chemical biological weapons, then we would reserve the option in an appropriate case, subject to the conditions that I have referred to when I was talking to the select committee, to use nuclear weapons."

24 March In the UK, the London *Sunday Telegraph* reports that Wiltshire Police [see 28 Feb] have sent files to the Crown Prosecution Service recommending criminal charges against three former Porton Down scientists for their role in chemical weapons experiments on volunteers. A police official refuses to confirm if any of the charges relate to the death of Ronald Maddison in 1953 [see 27 Feb 01]. Another nine scientists who were involved in the tests have died in the years since they were carried out. The final decision on possible charges rests with the Director of Public Prosecutions, David Calvert Smith QC.

24–27 March In Atlanta, Georgia, there is the *International Conference on Emerging and Infectious Diseases 2002*. Presentations on bioterrorism, biological warfare agents and vaccines are included in some or all of the presentations in the

following panels: "Anthrax 2001: lessons that stunned us"; "Latebreakers II"; "Emerging vaccines for emerging diseases"; "Public health policy/law"; "Innovative surveillance systems"; "Bioterrorism"; "Emerging issues in healthcare settings"; and "Zoonotic diseases". James Hughes, the director of the National Center for Infectious Diseases at the CDC gives a plenary lecture on "Bioterrorism preparedness: Lessons, challenges, and opportunities".

25 March President Mu'ammarr Ghadaffi of Libya is interviewed on *Al-Jazeera* television. During the interview, he says: "We call for the dismantling of weapons of mass destruction but this should apply to the Israelis as well and we should continue to demand it. The Arabs should have the right to possess such weapons so there's a mutual deterrence and peace can be achieved. After World War Two, the idea of mutual deterrence guaranteed there was world peace."

25 March In the UK House of Commons, the Parliamentary Under-Secretary of State for Foreign and Commonwealth Affairs, Ben Bradshaw, replies as follows to a written question asking which states have weapons of mass destruction: "We also know that Iraq possesses significant biological and chemical weapons capabilities and, were UN sanctions to be lifted, we believe it could develop a nuclear weapon within five years. There are four States Parties to the Chemical Weapons Convention (the US, Russia, India and another State Party) that have declared possession of chemical weapons. They are currently in the process of destroying them in accordance with their obligations under the convention. We are also aware of, and very concerned by, persistent reports that Iran, the Democratic People's Republic of Korea, Libya and Syria are pursuing programmes to develop WMD and the means for their delivery."

26 March From Brussels, the European Commission issues a call for proposals for the organization of a chemical, biological, radiological and nuclear civil protection exercise and a follow-up workshop.

26 March In the UK House of Commons, the Minister of State for the Armed Forces announces that the UK has submitted to the OPCW information outlining the UK's chemical protection programme for 2002, as required by Article X of the CWC. A copy of the summary is placed in the Library of the House of Commons.

26 March In the UK House of Commons, Minister of State for Health, John Hutton, in answering a written question on whether the government plans to taken to warn the public about possible bio-terrorist attacks and the symptoms of smallpox, says: "The Department has not issued guidance to the public about possible bio-terrorist attacks as it is not currently considered that a specific or credible threat exists to the UK. Guidance was issued to all health authorities and Regional Directors of Public Health on the procedures to be followed in the event of a deliberate release of smallpox and other biological agents on 17 October 2001."

26 March The London *Independent* reports a senior Ministry of Defence source as saying: "We are not aware of evidence, intelligence or otherwise, that the Iraqi government or its agents are passing on weapons of mass destruction to al-Qa'ida. Nor have we seen any credible evidence linking the Iraqi government to the September 11 attacks." This stands in some contrast to information from Number 10 Downing Street that Iraq

was stockpiling weapons of mass destruction which could be passed on to terrorists.

26 March In Washington, the Center for Nonproliferation Studies of the Monterey Institute for International Studies hosts another [see 18 Jan] briefing, this time by Marvin Miller of the Security Studies Program and Department of Nuclear Engineering at MIT. His briefing is entitled *From Haber to Heisenberg and Beyond: The Role of Scientists in the Acquisition of WMD*.

26-28 March In the US, the National Defense Industrial Association hosts *Non-Lethal Defense V: Non-Lethal Weapons, Now, More Than Ever* which is the fifth in a series of conferences bringing together military and law-enforcement personnel with responsibilities relating to the development and application of non-lethal weapons.

27 March From Kazakhstan, the *Almaty Novosti Nedeli* reports on problems in the joint US-Kazak project to dismantle the former biological weapons production plant at Stepnogorsk. An agreement on the facility has expired, further US funding is not guaranteed and the two sides now disagree on how the plant should be decommissioned. Some members of the Kazakh parliament argue that following the destruction of equipment and the decontamination of the buildings, the site can now be used for civilian purposes. However, the US wants the buildings themselves to be destroyed as well. According to the director of the Kazakh National Centre for Biotechnology, of 25,191 samples taken from the site, 136 have contained viable infectious micro-organisms.

27 March US Assistant Secretary of State for Nonproliferation, John Wolf, arrives in Moscow, for talks with his Russian counterpart on Iraq and a wide range of issues relating to control over the non-proliferation of nuclear, chemical and biological weapons and the means for their delivery.

27 March US Army Joint Program Manager for Biological Defense Colonel Stephen Reeve and Canadian Assistant Deputy Minister of Defence (Science and Technology) John Leggat sign an agreement to jointly collaborate on a smallpox vaccine development programme. The programme will take the current Pentagon smallpox vaccine through clinical trials and consistency lot production. The vaccine produced as part of the licensing process will become military stockpiles for both countries, representing a new medical interoperability. The agreement is the first collaborative acquisition agreement between the US and Canada under a 2000 memorandum of understanding between Canada, the US and the UK [see 3 Jun 98].

28 March At OPCW headquarters, the Executive Council reconvenes for its seventeenth meeting in order to draw up the agenda for the forthcoming special session of the Conference of the States Parties which has been requested by the US [see 22 Mar]. Pursuant to the rules of procedure of the Conference of the States Parties, the agenda simply contains the items in the US request for a special session, namely "Tenure of the Director-General" and "Any further action with regard to the Technical Secretariat".

28 March Interviewed on MSNBC, US Secretary of Defense Donald Rumsfeld says: "There is no question but that the terrorists and terrorist organizations want weapons of mass destruction, including nuclear weapons. Nuclear weapons, however, are more difficult to handle and manage, more difficult

to detonate, more difficult to transport, and if I were asked, among those nuclear, chemical and biological, which did I think was the more likely and the more worrisome to me at the moment, I probably would say biological. It can be done in relatively small places with dual-use equipment, and there are a variety of delivery mechanisms. Some biological weapons involve contagions, and that's a terribly dangerous thing."

28 March In the US, the Army announces its delayed decision [see 11 Jan] on the process to be used to destroy the mustard gas stored at the Pueblo Chemical Weapons Storage Facility. Following local pressure, the munitions are to be destroyed by a water-based neutralization process. The US Army also says that it wants to look at ways of expediting the destruction of the stockpile. The Army will release an Environmental Impact Assessment on 5 April.

28 March In the US, the *Washington Post* reports that Aventis Pasteur has discovered 70–90 million doses of frozen smallpox vaccine. It is not clear why the vaccine had gone undiscovered for so long, when it was discovered or by whom. The US Department of Health and Human Services is now in negotiation with the company to secure access to the vaccine. Ongoing studies have shown that the vaccine is still potent and could be diluted five-fold if necessary. Unlike the existing freeze-dried stocks of the Wyeth Dryvax vaccine, the Aventis vaccine is frozen in liquid form. At a news conference with Aventis officials the next day, US Secretary of Health and Human Services, Tommy Thompson announces that his department will acquire the stocks, if the vaccine is proved to be safe and effective. Thompson says: "If we determine that the Aventis vaccine remains effective, we could substantially boost our nation's smallpox vaccine stockpile at relatively little cost to taxpayers. The Aventis supply could provide an added safety net should we need to vaccinate against smallpox."

Thompson also announces that results from a clinical trial indicate that the existing US smallpox vaccine stockpile – 15.4 million doses of the Dryvax vaccine – could successfully be diluted up to five times and still retain its potency. The study, funded by the National Institute of Allergy and Infectious Diseases (NIAID), was carried out by researchers at St Louis University and is published today on the website of the *New England Journal of Medicine*. Announcing the research, Thompson says: "The public health implications of this study are enormously important. We now know that in the unlikely event of an intentional release of smallpox, our stockpile of smallpox vaccine can be expanded fivefold as we had planned. This success of this study puts us one step closer to our goal of having enough vaccine for every American if needed to respond to a potential outbreak."

In the same issue of the *New England Journal of Medicine*, NIAID director Anthony Fauci calls for an open public dialogue to discuss what the US vaccination policy against smallpox should be: pre-emptive vaccination for the entire population; or a more restricted vaccination programme tied to those most closely affected by an attack or high threat of an attack.

29 March From the US, the *Baltimore Sun* reports that initial US Army plans [see 17 Feb] to accelerate the destruction of mustard-gas munitions stored at the Aberdeen Proving Ground could be delayed by six to nine months, as funding has not been made available in the Administration's recent funding request. Funding is included in the FY 03 budget request, but will not be available until October.

29 March In Syria, the Russian Academician Anatoly Kuntsevitch [see 25 Jul 01] has reportedly died of a heart attack.

25 Years Ago

28 March 1977 The US delegation submits a working paper on incapacitating chemical warfare agents to the CCD in Geneva, the only paper on this subject to have been submitted since one by Canada in 1974. The paper, which is supportive of the inclusion of incapacitants within the scope of the projected CWC (and makes no express mention of riot control agents), concludes: "At present incapacitating agents do not appear to have become a major component of CW stockpiles. Their role could increase, however, if they were not covered in a CW agreement". The paper notes: "Potential incapacitating agents are so diverse that it does not appear possible to find any simple definitional formula. In view of the lack of suitable technical criteria, consideration might be given to relying solely on the general purpose criterion."

The paper illustrates the diversity of incapacitants in the following, notably restrained, manner: "The most important types of incapacitating agents are found in the following categories: (1) *Psychochemicals*. These compounds (usually indole, tryptamine, or piperidine derivatives) may be ... Representative agents of this group are 3-Quinuclidinyl benzilate and Lysergic Acid Diethylamide. (2) *Paralysants*. Agents that interrupt nerve impulse transmission at the skeletal neuromuscular junction (for example, curare) and those that block transmission in autonomic ganglia (for example, hexamethonium) are found in this group. (3) *Pain producers*. Physical irritants which have a persistent effect can be considered incapacitating agents. Representative of this group are urushiol (one of the active principles of poison ivy) and bufotenine (a compound which is secreted by the common toad and causes intensive itching)."

According to one report, he suffered a heart attack while in flight from Russia to Syria with a group of fellow academicians.

31 March In the UK, specialist police teams stationed in areas which could be the target for chemical or biological attacks are to be given hand-held detectors and specialist training by the Joint Nuclear, Biological, Chemical Regiment. The police units, known as Expo, are already trained to deal with terrorist conventional bomb attacks and will now receive training in decontamination and the identification of chemical and biological agents.

1 April The US Department of State posts on its website an updated version of the paper [see 6 Mar] outlining its case for the dismissal of the Director-General of the OPCW Technical Secretariat. There have been a number of additions to the paper, including criticism of the OPCW Legal Advisor. For example, the paper criticizes "a legal adviser whose apparent role is largely to justify the policies and opinions of the Director-General, rather than to provide an impartial and legally well-founded interpretation of the Convention and related rules and regulations. The adviser's legal opinions attract derision from member states, not respect. His recent opinion that only the Director-General can terminate his own appointment, not member states, is a case in point."

1–2 April In Washington, there is the first meeting of the National Academies of Science Committee on Research

Standards and Practices to Prevent Destructive Application of Advanced Biotechnology. The committee will review the current rules, regulations and institutional arrangements and processes in the US that provide oversight of research on dangerous biological pathogens, including within government laboratories, universities and other research institutions and industry. The review will focus on how choices are made about which research is and is not appropriate, and how information about relevant ongoing research is collected and shared. The review will be used to assess the adequacy of current US rules, regulations and institutional arrangements and processes to prevent the destructive application of dangerous biological pathogens. It is anticipated that the committee will recommend changes in practices that could improve US capacity to prevent the destructive application of dangerous biological pathogens while still enabling research judged legitimate to be conducted. The project is sponsored by the Nuclear Threat Initiative and the Sloan Foundation and is expected to take 18 months.

2 April From OPCW headquarters, Director-General José Bustani writes to the foreign ministers of OPCW member states not represented on the Executive Council [see 11 Mar] regarding the US request [see 22 Mar] that he step down from his position. Bustani writes: "By now all Member States will have received documentation from the Secretariat relevant to the US request. Regrettably, this documentation is sadly lacking in detail. The United States is yet to submit the explanatory memoranda, which should accompany each of the two items proposed by it for inclusion on the agenda — the 'tenure of the current Director-General' and 'any further action with regard to the Technical Secretariat' [see 28 Mar]. Thus, this procedural and substantive irregularity results in Your Excellency's Government being asked whether you concur with the US request for a special session of the Conference without having been informed of the reasons for that request. It is my duty, as the Director-General, in such circumstances to try to fill in some of these gaps to the extent I can."

Bustani continues: "There is, however, a more far-reaching issue at stake. By 'dismissing' me under the circumstances I have described, an international precedent will have been established whereby any duly elected head of any international organisation would at any point during his or her tenure remain vulnerable to the whims of one or a few 'major contributors'. They would be in a position to remove any Director-General, or Secretary-General, from office at any point in time without any malfeasance, simply because they don't like his or her 'management style'. I refused to resign precisely because such action on my part would establish this precedent. I believe that, in my work as the Director-General of the OPCW, I am responsible to each and every Member State irrespective of the amount of its budgetary contribution. I believe that each of the 145 Member States should be in a position to judge my performance. I believe that each of the 145 Member States should have the opportunity to determine its course of action, in the knowledge that my forced departure from the OPCW would reverberate throughout all other international organisations."

2 April The special assistant to the OPCW Director-General for external relations, Gordon Vachon, posts on the SIPRI CBW discussion forum a detailed rebuttal of the US charges [see 1 Apr] against Director-General José Bustani. The same document is later circulated to the first special session of the OPCW Conference of the States Parties.

3 April From New York, the May issue of *Vanity Fair* reports an Iraqi defector as identifying the locations of seven facilities in Iraq where chemical and biological weapons are being

designed, manufactured and tested. He also says that while a member of Iraq's security and intelligence service, the Mukhabarat, he assembled a fleet of refrigerated trucks which are used as mobile laboratories for biological weapons. He is quoted as saying: "They look like meat cars, yoghurt cars. And inside is a laboratory, with incubators for bacteria, microscopes, air-conditioning." The defector has been debriefed at least four times by the US Defense Intelligence Agency.

5 April The WHO Secretariat issues a report, *Smallpox eradication: destruction of variola virus stocks*, which records discussions at the third meeting of the WHO Advisory Committee on Variola Virus Research. The report includes the Director-General's later recommendation that the research programme should continue, which was subsequently endorsed by the Executive Board [see 14–21 Jan]. The report proposes that the forthcoming fifty-fifth session of the World Health Assembly "decides to authorize the further, temporary, retention of the existing stocks of live *Variola virus* at the current locations specified in resolution WHA52.10, for the purpose of enabling further international research, on the understanding that the research should be completed as quickly as possible and a proposed new date for destruction should be set when the research accomplishments and outcomes allow consensus to be reached on the timing of destruction of *Variola virus* stocks."

5 April In Germany, the army intends to triple its bio-defence research programme [see 12 Mar], so it is reported. The work is to be carried out at the Medical Academy's Institute for Microbiology in Munich where the number of staff will increase from 20 to 60. There are also plans to establish a centre for biological weapons protection from the existing institutions for radiobiology, microbiology and chemo-toxicology.

8 April In Gorny, Russia, the head of the local region in which the Chemical Weapons Destruction Facility is located says that the plant will not be commissioned before August. The delay is due to underfunding by the federal government. However, funding has now been stepped up and about 1,300 workers are currently on-site.

8 April In the US, *Newsweek* reports that the anthrax used in the anthrax-letter incidents appears to be more sophisticated than any previously created. Officials are cited as saying that the spores found in the letter sent to Senator Patrick Leahy [see 16 Nov 01] were ground more finely than achieved by US biological weapons scientists and that the spores were coated in a chemical compound unknown to BW experts which did not match coatings on samples taken from Iraq or Russia. This combination created spores so fine that investigators found individually coated anthrax spores, something never before seen by experts, according to *Newsweek*. However, independent experts question the scientific accuracy of what has been reported.

8 April The *New York Times* reports that the US Administration has decided not to certify that Russia is committed to its obligations under the CWC and BWC. The certification is a Congressionally-mandated annual requirement without which the US will be unable to start new initiatives or provide new financing for programmes to reduce the threat posed by nuclear, biological and chemical weapons. The *New York Times* quotes an unidentified US official as saying: "This is a signal of our seriousness about compliance on arms control and the need to meet all obligations under the chemical and biological weapons conventions."

In response, the next day Russian foreign ministry spokesman Alexander Yakovenko says: "This move by Washington has seriously perplexed us. First, Russia has been undeviatingly abiding by the provisions of these documents. Secondly, if questions arise regarding their observance, they should be solved through the existing mechanisms of bilateral and multilateral consultations. As is known, with respect to chemical weapons we are holding consultations with the American side on issues which lie outside the bounds of the Chemical Weapons Convention. Even more surprising are the references to the Biological Weapons Convention. It is not understandable how this fits in with the Joint Statement on Cooperation against Bioterrorism [see 13 Nov 01], adopted in Washington by the Russian and US presidents, which reaffirms their commitment to the BTWC and underscores their striving to expand consultations in this field. One gathers the impression that the American references to Russia's alleged noncompliance with its international obligations have mainly been used in order to distract attention from the actions of the US itself, which has refused to support a Verification Protocol to the BTWC and is disorganizing the activities of the Organization for the Prohibition of Chemical Weapons (OPCW). Of particular concern is the fact that the American side has taken this decision without exchanging opinions with us and identifying the concrete facts which raise its questions. Such actions may have a most adverse effect on achieving mutual trust, and tell on the cooperation of the two countries in the work of eliminating the weapons of mass destruction and in the field of nonproliferation."

9 April At the Azerbaijani National Assembly in Baku, member Rafael Huseynov reports on the recent session of the Parliamentary Assembly of the Council of Europe, which he attended as a member of the Azeri delegation. He recalls a written resolution submitted by the delegation, *Threats of Massive Destruction in the South Caucasus*, which addresses "Armenia's possession of the weapons of massive [sic] destruction and experience of conducting tests of such weapons in Armenia". The resolution cites Amy Smithson's *Toxic Archipelago* report [see 10 Dec 99] as "clearly [indicating] that Armenia could become a potential base for bacteriological weapons in five years." The resolution continues: "The Armenian armed forces continue to test massive [sic] destruction weapons on the Azerbaijan war prisoners and hostages." Later, the foreign ministry of Karabakh says that the Azerbaijani claims "have nothing to do with reality".

9 April From Moscow, the website of the Stringer news agency carries an interview with a former soldier who had been posted to Vozrozhdeniye Island [see 27 Feb] in the early 1990s. He mentions that open-air tests took place between May and September: "On the test site they blew up and pulverized containers of pathogens of diseases on the so-called bio-weapons register. They included anthrax, bubonic plague, glanders and so forth. ... I think they were determining range and speed of dispersion depending on specific wind strength. They were trying to ascertain experimentally what quantity of bacteria would be deposited on a square centimeter of surface. They would compile tables of calculations for the application of a given type of bacteriological weapon." The unidentified soldier says that the weapons were tested against caged rats, guinea pigs and baboons. He also recalls rumours that human prisoners were used for test purposes.

9 April In Germany, the defence spokeswoman from the ruling coalition's Green Party tells NDR 4 radio that EU countries may have to ratify the BWC protocol without the US. Angelika Beer

says: "At the next conference in November, Europe says clearly, either the Americans come on board, ... or Europe ratifies without America participating. ... I believe that the European states better not wait for the Americans at the next Review Conference. Then you have to try with new alliances, through international political pressure at least try to get the Americans on board later on. ... If we want to control biological [...] weapons through non-military means, the key is to codify verification in the convention, with or without Americans. We need this transparency."

9 April From OPCW headquarters, the Technical Secretariat announces that enough states parties have supported the US request [see 22 Mar] to convene a special session of the Conference of the States Parties. The US has requested the special session to consider the tenure of the current Director-General, José Bustani. The session is scheduled to start on 21 April, thus meeting the CWC requirement to be held within 30 days of the original request, with an expected duration of two to three days.

9 April In the US, the National Institutes of Health announces plans to build a \$105 million BL-4 biological containment laboratory at Fort Detrick to develop vaccines for use by the public.

9 April At Fort Detrick in the US, workers decontaminating an area used as a landfill from the 1950s to the 1970s uncover a further 18 vials containing potentially infectious bacteria possibly left over from biological weapons research. Preliminary tests found the vials to contain *Klebsiella pneumoniae*, *Neisseria meningitidis* and *Listeria*. A Fort Detrick spokesman says that the three bacteria were never prepared by the US Army as biological weapons, but could have been studied as potential weapons. The decontamination work, intended to remove possible carcinogenic solvents, is taking place within a containment tent and workers are wearing protective suits and breathing filtered air. Nonetheless, 22 workers are sent to Frederick Memorial Hospital for precautionary nose and throat swabs.

10 April The thirtieth anniversary of the opening for signature in London, Washington and Moscow of the BWC. In a statement regarding the event, the Australian Minister for Foreign Affairs, Alexander Downer, says: "Reinforcing the BWC with measures to improve compliance and to implement more fully the obligations it contains has been a long-standing priority for the Australian Government. I was deeply disappointed when negotiations for a BWC protocol failed last year and again when the Review Conference was suspended without agreement. Australia is working actively towards a successful and forward-looking conclusion to the Review Conference. I call on the Conference to adopt practical proposals to enhance international cooperation against the pernicious use of disease as a weapon. These proposals include improved national controls to prevent the illicit acquisition of pathogens or equipment which could be used in biological weapons and enhancements to the BWC's Confidence Building Measures."

The Russian Ministry of Foreign Affairs also produces a statement to mark the occasion: "We stress once more that Russia has been faithfully observing the letter and spirit of the Convention. In our turn we expect the same approach from the other states parties as well. Russia as a depositary country supports further universalizing the Convention, of which one hundred and forty-four states are already members. Despite the temporarily stalled talks to create a control mechanism of the Convention in the form of its verification protocol, we continue to

favor continued talks for legally binding measures to strengthen the Convention in a multilateral format.”

10 April In Australia, Foreign Minister Alexander Downer announces that he is renewing the mandate of the government’s National Consultative Group on the BWC which provides a forum for exchanges between government, industry and academia.

10 April In the UK House of Commons, the Secretary of State for Defence, Geoff Hoon, reiterates [see 24 Mar] the government’s position on the use of nuclear weapons in response to a weapons of mass destruction attack: “The United Kingdom would, in the right conditions, in extreme circumstances of self-defence, be prepared to use nuclear weapons. We would not use our weapons, whether conventional or nuclear, contrary to international law.”

10 April In the US Senate, the Emerging Threats and Capabilities Subcommittee of the Committee on Armed Services conducts a hearing on technology for combating terrorism and weapons of mass destruction in review of the Defense Authorization Request for FY 2003.

10 April In the US Congress, the Congressional Research Service, issues a report on *Preventing Proliferation of Biological Weapons: US Assistance to the Former Soviet States*. The executive summary of the report states: “The former Soviet and subsequently Russian biological weapons program possessed capabilities far in excess of any such program known to have existed elsewhere. These capabilities included genetically-altered, antibiotic-resistant pathogens and sophisticated delivery systems. Approximately fifty biological research and production centers (BRPCs) throughout the former Soviet Union devoted either all or part of their work to the program. In the post-Soviet era, former Soviet states drastically reduced and in some cases eliminated funding for these BRPCs. Thousands of BW scientists became unemployed or underemployed, and the facilities, weapons technology, and thousands of strains of pathogens at these BRPCs became vulnerable to theft, sale or misuse.” The executive summary concludes: “US participants in these projects identify several lessons learned in the past few years. First, it has become clear that the infrastructure of the Soviet/Russian BW complex was more extensive than most analysts realized when the United States initiated its efforts to prevent proliferation of BW capabilities from former Soviet states. Cooperative projects at some BRPCs have helped open doors to other BRPCs, and since 1995, more than forty BRPCs have been involved in cooperative projects with the United States. Second, US participants report that biosafety, biosecurity, and dismantlement projects require complex negotiations, complex engineering work, considerable project management support, and innovative solutions for problems specific to each BRPC. Consequently, they have learned that the United States may need to offer a long-term commitment if it wants to complete the effort. At the same time, the U.S. agencies with BW nonproliferation programs recognize the need to maximize the nonproliferation benefits of US assistance in an environment with limited resources. Finally, US participants have discovered that interpersonal and institutional relationships resulting from these cooperative efforts may play a powerful role in preventing proliferation of BW capabilities from former Soviet states.”

11 April At Kambarka in Russia, the director-general of the Russian Munitions Agency, Zinon Paky visits the site of the proposed Chemical Weapons Destruction Facility. Pak says

that the priority of the Russian chemdemil programme is now going to switch from Shchuch'ye, where US funding is once again in doubt [see 8 Apr], to Kambarka. He signs a construction schedule with the local authorities. The first phase of the chemdemil operations is due to get underway in 2004 and the entire plant is likely to be commissioned in 2006.

11 April At OPCW headquarters, the general committee of the first special session of the Conference of the States Parties meets to discuss procedural aspects related to the forthcoming session. One recommendation made is that NGOs not be allowed to attend the plenary meetings of the Conference as they are normally allowed to do under rule 33 of the Conference’s rules of procedure.

11 April In Pretoria, the former head of the South African CBW programme, Walter Basson is acquitted on all charges against him. The state notifies presiding Judge Willie Hartzenberg of its intention to appeal the decision.

11 April At UN headquarters, ten countries present their instruments of ratification to the Statute for the International Criminal Court taking the number of states parties above the 60 required to trigger entry into force. The statute will therefore enter into force on 1 July, with the first Assembly of the States Parties currently scheduled for September.

11 April In the US, the Secretary for Health and Human Services, Tommy Thompson, Alan Holmer, the president of PhRMA and representatives of Bayer Corporation, GlaxoSmithKline, Eli Lilly and Pharmacia Corporation announce the launch of a national education programme for health care providers to help them better identify and treat bioterrorism threats. The initiative combines information from the Centers for Disease Control and Prevention with the 80,000 sales representatives of the pharmaceutical companies. The four companies will distribute 20,000 reference guides in 13 cities which give information on the diagnosis and treatment of cutaneous, gastrointestinal and inhalational anthrax. The initiative will also disseminate information via its website, www.homelandhealth.org.

11 April In the US, the Naval Surface Warfare Center, Indian Head and Lockheed Martin Corporation are to develop a warhead to destroy chemical and biological manufacturing and storage facilities, so the NSWC announces. The *Agent Defeat* programme is one of the Advanced Concept Technology Demonstration (ACTD) projects selected by the Department of Defense in March. The ACTD will employ a high-temperature incendiary fill which is intended to produce a very intense heat source of long duration with low overpressure. The low overpressure is designed to prevent the dispersal of chemical and biological agents. The fill also produces a disinfectant chlorine gas as a by-product of the fill reaction to provide enhanced biological agent defeat. The warhead will also incorporate bomblets containing copper plates which will be dispersed at high velocity to create holes in chemical and biological tanks to facilitate their destruction.

12 April In Moscow, Russian Defence Minister Sergey Ivanov and Swedish Defence Minister Bjørn von Sydow agree to conduct joint naval exercises in the Baltic Sea in 2002. Von Sydow points out the necessity of bilateral cooperation on the elimination of chemical and biological weapons.

12 April In Moscow, the Committee on Ecology of the State Duma convenes a hearing on the dumping of chemical weapons

into the Baltic Sea after World War Two. Attending are officials from the Defence Ministry, other concerned ministries and public organizations and representatives of Poland, Denmark, Sweden, Latvia and Estonia. Committee chairman VA Grachyov says that the US and UK sank ships holding approximately 270,000 tons of chemical weapons off Denmark, Norway and Sweden while the USSR scattered about 35,000 tons of chemical weapons off Bornholm Island and Liepaja. Deputies suggest that the government requests from the UK and US the exact coordinates of ships sunk containing chemical weapons. They also propose that the Federal Council, the upper house of the legislature, drafts an address to all Baltic countries about the need to pool efforts in the search for a solution to the problem. [See also 18 Mar]

12 April From London, industry sources reveal that the UK government has ordered £32 million worth of smallpox vaccine from PowderJect Pharmaceuticals and Bavarian Nordic. PowderJect would initially buy the vaccine from Bavarian and then manufacture the vaccine itself after having acquired the necessary technology from the Danish firm. The purchase is later confirmed by a Department of Health spokesman: "As part of the Government's continuing vigilance against international terrorism we have secured supplies of smallpox vaccine. There is no credible threat but it is important that the Government takes all necessary steps to ensure the protection of the population. For obvious national security reasons we can't discuss these arrangements in detail." Estimates of the size of the purchase vary from 16 million to 30 million doses, to add to the three million which the UK is already thought to hold. The vaccine is reportedly of the Lister strain, the same as being developed at Porton Down for the UK military, rather than the New York strain vaccine which is being produced by Acambis for the US government [see 19 Feb].

12 April At UN headquarters, the Iraqi Permanent Representative, Mohammed Douri postpones the forthcoming meeting with the UN Secretary-General which had been intended to follow up earlier discussions [see 7 Mar]. Douri explains Iraq's decision thus: "We don't want to divert public attention from the Palestinian problem for a relatively small issue of a dialogue with the United Nations." No new date is set for the talks, but Douri says he expects the delay to be short.

12 April At Fort Greely in Alaska, work on the initial site for the US missile defence system is halted following the discovery of up to 20 barrels which might contain old chemical agents. Fort Greely is a former chemical weapons test site and the barrels are marked 'US CWS' for US Chemical Warfare Service.

12–15 April In McAlester, Oklahoma, exercise *Sooner Spring* takes place, involving a simulated plague outbreak in McAlester caused by a cropduster, a smallpox outbreak in Tulsa and the dissemination of botulism in the water supply of Lawton. The exercise is reported as a follow-up to the *Dark Winter* scenario in 2001 [see 22–23 Jun 01].

15 April From Moscow, the Russian Foreign Ministry announces that it has submitted information for 2001 as required under the BWC CBMs to the United Nations Department for Disarmament Affairs. By doing so, the Foreign Ministry says, Russia "demonstrated one more times its adherence to the convention and its desire to maintain the climate of mutual trust among BWC participant states."

15 April In Rome, the ICGEB and the Landau Network–Centro Volta co-host a seminar under the auspices of the Italian

Ministry of Foreign Affairs on *The Possible Use of Biological Weapons by Terrorist Groups: Scientific, Legal and International Implications*. Making presentations are Tibor Tóth, Chairman of the 5th BWC Review Conference, Milton Leitenberg of the University of Maryland, David Franz of the Southern Research Institute, John Parachini of RAND, Daniel Feakes of the Harvard Sussex Program, Maurizio Barbeschi of the Landau Network–Centro Volta, Malcolm Dando of the University of Bradford, Enrique Roman-Morey, Secretary-General of the 5th BWC Review Conference and Arturo Falaschi of the International Centre for Genetic Engineering and Biotechnology.

15 April In Luxembourg, the Council of the European Union, meeting at the level of foreign ministers, adopts a list of concrete measures in the fields of non-proliferation, disarmament and arms control intended to operationalize the "targeted initiative" launched earlier [see 10 Dec 01]. The four-page list contains 42 proposals for action related to all aspects of arms control, disarmament and non-proliferation in each of the four areas listed in the "targeted initiative": multilateral instruments; export controls; international cooperation; and political dialogue.

In its multilateral instruments chapter, the list commits the EU and its member states to promoting universal adherence to the CWC, BWC and Geneva Protocol, presumably through further rounds of *démarches* to signatory and non-signatory states. The EU will also tackle the long-neglected issue of reservations to the Geneva Protocol by lobbying for their withdrawal. The chapter also calls for the EU to promote compliance with obligations and commitments and highlights the importance of national implementing legislation. Specifically, it calls for the "timely, consistent and full" submission of CWC declarations and BWC confidence-building measures and for the translation and processing of the CBMs. The EU will also support the OPCW by "sustaining and expanding" the Organisation's capabilities to conduct effective inspections, particularly challenge inspections and investigations of alleged use.

The chapter on export controls commits the EU to assessing appropriate ways of improving the existing non-proliferation regimes, including the Australia Group, and to enhancing EU coordination mechanisms in order to improve information exchange practices within the regimes. The chapter commits the EU to examining ways to improve the enforcement of its regime for the control of exports of dual-use items and technology [see 20 Nov 01] and to considering whether further regulatory measures need to be adopted. The chapter also expresses EU support for the membership of the candidate countries for EU membership "in all export control regimes".

The international cooperation chapter of the list obliges the EU to improve preparations for international assistance in relation to the CWC and BWC and to provide assistance through the OPCW in case of the use or threat of use of chemical weapons. The chapter also commits the EU to "supporting and enhancing", within its "financial possibilities", its assistance to the destruction of chemical weapons in Russia [see 25–26 Jun 01].

The list's political dialogue chapter requires the EU to intensify its dialogue on disarmament, arms control and non-proliferation, specifically with countries in Asia and the Middle East. The chapter also proposes inviting "like-minded countries outside of the EU" to join efforts to promote the universality of multilateral instruments.

15 April US Secretary of Defense Donald Rumsfeld voices his doubts that new UNMOVIC inspections in Iraq could build confidence that Iraq is no longer seeking weapons of mass destruction. Rumsfeld says: "It would have to be an enormously

intrusive inspection regime [for] any reasonable person to have confidence that it could in fact find, locate and identify the government of Iraq's very aggressive weapons of mass destruction program. ... I just can't quite picture just how intrusive something would have to be that it could offset the ease with which they have previously been able to deny and deceive."

The *Washington Post* reports that Deputy Secretary of Defense Paul Wolfowitz has asked the CIA to investigate the performance of UNMOVIC Executive Chairman Hans Blix, including during his 1981–97 tenure as Director-General of the IAEA. According to the newspaper, an acceptance by Iraq of renewed UN inspections would "delay and possibly fatally undermine" the goal of some within the US Administration of a military campaign against Iraq. Richard Perle, Chairman of the Defense Policy Board is quoted as saying that the inspection issue has become "a surrogate for a debate about whether we go after Saddam." There are differing versions of Wolfowitz's reaction to the results of the CIA investigation. A former State Department official says that he "hit the ceiling" because the report failed to provide enough evidence to undermine Blix, while a current Administration official says that Wolfowitz was not angry because the CIA had given only a "lukewarm assessment".

15–18 April In the Gulf of Mexico, the US Army, the Environmental Protection Agency, the Federal Aviation Administration and other federal agencies are conducting tests to determine the capabilities of different radar for detecting clouds of chemical or biological agents released over water. In the tests, an EPA-piloted cropduster flying at 400–900 feet, six to 13 miles off Key West will release various compounds selected for their safety and their similarity in size and volatility to warfare agents. The compounds used include: 1,812 pounds of clay dust; 756 pounds of egg white powder; 40 pounds of *Bacillus subtilis*; and 1,812 pounds of a water-polyethylene glycol solution which mimics a nerve agent. The tests would have been delayed if the winds were not blowing away from Key West. According to Major Vince Johnston, deputy project manager of the Army's Nuclear, Biological and Chemical Point Detection Systems: "We believe we can put something out in 18 to 24 months where we can have a national chemical and biological detection umbrella in the US. ... It's one potential threat where somebody could fly a plane off in international waters and try to disseminate this stuff. This gives us a chance to find out what happens over water." Tests had earlier been carried out over land using a Special Forces ground-surveillance doppler radar. The success of that test led the Department of Defense to accelerate plans to test a civilian radar over water.

16 April From Tel Aviv, it is reported that Israeli intelligence has captured documents demonstrating a Palestinian research interest in chemical and biological weapons [see 27 Feb]. The documents had been seized by Israeli troops during their recent invasion of Palestinian towns in the West Bank. Colonel Miri Eisen, an Israeli intelligence officer is quoted as saying: "We see at this stage an interest. ... We see the interest in research and development in chemical and biological weapons."

16 April Lithuania accedes to the ENMOD Convention, bring the total number of states parties to 67.

16 April In Washington, US Assistant Secretary of State for Non-Proliferation John Wolf speaks at a Foreign Press Center briefing. During the briefing, he says: "We want much more active enforcement of the Chemical Weapons Convention and the Biological Weapons Convention."

16 April In the US House of Representatives, the Subcommittee on National Security, Veterans' Affairs and International Relations of the Committee on Government Reform conducts a hearing on *Combating Terrorism: Axis of Evil, Multilateral Containment or Unilateral Confrontation?*

16 April In the US, the *Proceedings of the National Academy of Sciences* publishes research which suggests that early detection of a biological weapons attack could be provided by monitoring the sale of over-the-counter medicines. The research is based on two years' worth of data from several hundred Pennsylvania shops.

The same issue of the *Proceedings* also carries an article on "Human antibodies against spores of the genus *Bacillus*: A model study for detection of and protection against anthrax and the bioterrorist threat".

17 April In the German Bundestag, the State Minister for Foreign Affairs, Christoph Zöpel, replies to questions on the current US-led campaign to remove José Bustani as the Director-General of the OPCW [see 9 Apr]. Zöpel informs the Bundestag that Germany is in agreement with its EU colleagues [see 15 Mar] that the OPCW is in a deep crisis which should be addressed by a change in its leadership.

Similarly, in the Belgian Kamer van Volksvertegenwoordigers, the Foreign Minister Louis Michel replies to an oral question on the situation as follows: "The EU strongly regrets the serious crisis in which the OPCW finds itself; this is threatening to undermine the main objective of the OPCW, namely the total destruction of chemical weapons and its verification. The EU would preferably have avoided a confrontation about this during the last session of the Executive Council of the OPCW. The EU also wishes to avoid a new confrontation during the upcoming special General Conference and is prepared to support an honourable solution to the crisis, in which a new management team for the OPCW could be appointed as quickly as possible. The EU is of the opinion that Mr Bustani should step down in order to save the OPCW. The EU is at the moment involved in agreeing on its voting behaviour. Already it is clear that a broad majority in the EU will call on Mr Bustani's resignation during the coming General Conference. It is also obvious that a large majority of other OPCW member states, regardless of their being from the North or the South, want this resignation. One can therefore conclude that there is such a loss of confidence in Mr Bustani within the OPCW that there is no other solution except his resignation."

17 April The *New Scientist* reports a *Journal of General Virology* article on similarities between the camelpox and smallpox viruses. The research undertaken at London's Imperial College to sequence a strain of camelpox virus isolated in Iran in 1970, has shown that the genetic make-up of the two viruses is much closer than had previously been thought. The article concludes: "Analyses of the [camelpox virus] genome sequence, the arrangement of open reading frames, the protein sequences and the nature of the repeats within the inverted terminal repeats all showed that [camelpox virus] was more closely related to [smallpox virus] than to any other virus." The results raise the possibility that the camel pox virus could evolve to cause disease in humans.

18 April In the UK House of Lords, the Parliamentary Under-Secretary of State for Health, Lord Hunt of Kings Heath, replies as follows to oral questions on the process by which the government recently decided to purchase smallpox vaccine from PowderJect Pharmaceuticals [see 12 Apr]: "As smallpox has been eradicated since the 1970s, its reintroduction is likely

to occur only as a result of terrorist activity. This raises issues of national security and our preparedness to deal with such an attack is not a matter to be put in the public domain. In seeking to establish which vaccine manufacturing companies might be able to provide new vaccine to meet our requirements we therefore took the decision that purchase of the new vaccine would fall outside the usual open competitive tendering process. A number of companies were approached and the decision was eventually made to give the contract to the company that best met the specifications. ... As to the question of which strain should be used, the decision was taken to go for a particular strain in this country for two reasons. A two-pronged approach was thought advisable. With the US using a different strain, if difficulties arose with the production of either strain the other could act as a joint fall-back mechanism. The Joint Committee on Vaccination and Immunisation endorsed the view that there was no reason to opt for the strain chosen by the US as opposed to the strain chosen by the UK Government. There is also strong epidemiological evidence of efficacy in that smallpox has been challenged in the field more often with the strain chosen by the UK Government, and there is more documentation to support its use."

18 April In the UK House of Lords, Minister of State for Foreign and Commonwealth Affairs, Baroness Symons is asked what the Government's position will be at the forthcoming special session of the OPCW Conference of the States Parties. The Minister responds as follows: "I can confirm that a special conference of states parties to the chemical weapons convention will convene in The Hague on 21st April 2002 at the request of the United States to consider the appointment of the director-general of the Organisation for the Prohibition of Chemical Weapons. Her Majesty's Government are still finalising their position. However, your Lordships should know that, at the meeting of the executive council of the Organisation for the Prohibition of Chemical Weapons on 22nd March, the United Kingdom supported a vote of no confidence in the Director-General." She goes on to say: "The Director-General did indeed have some successes in the work that he undertook during his first period of office in establishing the OPCW and in establishing a world-wide verification regime. But, sadly, the organisation encountered financial difficulties early in 2001, for which the Director-General must take a measure of responsibility. I cannot agree with the supposition that his period of office has been one of great success when those financial problems led, last year, to his not being able to maintain the appropriate level of inspections world-wide of military and commercial sites. As I understand it, towards the end of last year, the number of inspections fell by almost 50 per cent of the normal annual schedule. We made representations to the Director-General on several occasions last year about our concerns at the decline in verification activity. I believe that that is what lies at the heart of the current difficulty. ... We and other states parties wanted to get to the bottom of the problem. As I have indicated, we were concerned about the verification procedures and about maintaining the level of verification, both military and commercial. We asked the Director-General to cooperate with an effort to get to the bottom of the problems, and I understand that he did not co-operate in the way that we would have expected."

18 April The US Department of Defense transmits to Congress the 2001 *Chemical and Biological Defense Program Annual Report* and the *Chemical and Biological Defense Program Performance Plan*. This is the ninth such report, required under the FY 94 *National Defense Authorization Act*. The annual report is a 302-page document presenting fine

detail, including particulars of the Department's involvement in efforts to implement the CWC. In its introduction, the annual report states: "More than two dozen states or non-state groups either have, or have an interest in acquiring, chemical weapons; there are a dozen countries believed to have biological warfare programs, and terrorist groups also are known to be interest [*sic*] in these weapons. The proliferation of chemical and biological weapons is expected to continue, and these weapons could well be used in a regional conflict or terrorist attack over the next 15 years." The report then provides the Department's assessment of the chemical and biological threat posed by a number of countries and international terrorism.

On North Korea, a BWC state party, the report says: "Pyongyang's resources presently include a rudimentary (by Western standards) biotechnology infrastructure that is sufficient to support the production of limited quantities of toxins, as well as viral and bacterial biological warfare agents, such as anthrax, cholera, and plague. North Korea is believed to possess a sufficient munitions-production infrastructure to accomplish weaponization of BW agents and it may have biological agents available for use. By comparison, North Korea's chemical warfare program is believed to be mature and includes the capability, since 1989, to indigenously produce bulk quantities of nerve, blister, choking and blood chemical agents, using its sizeable chemical industry. North Korea is believed to possess a sizable stockpile of chemical agents and agent filled munitions, which it could be employ in offensive military operations against the South."

On China, a BWC and CWC state party, the report says that "China possesses an advanced biotechnology infrastructure as well as the munitions production capabilities necessary to develop, produce and weaponize biological agents. China has consistently claimed that it never researched, produced, or possessed any biological weapons and would never do so. Nevertheless, China's declarations under the voluntary BWC declarations for confidence building purposes are believed to be inaccurate and incomplete, and there are some reports that China may retain elements of its biological warfare program. China is believed to have an advanced chemical warfare program that includes research and development, production and weaponization capabilities. While China claims it possesses no chemical agent inventory, it is believed to possess a moderate inventory of chemical agents. ... Even though China has ratified the CWC, made its declaration, and subjected its declared chemical weapons facilities to inspections, DoD believes that Beijing has not acknowledged the full extent of its chemical weapons program.

In South Asia, both India and Pakistan are mentioned as having the capability for chemical and biological weapons programmes, but the report does not allege that either country has an active offensive programme. Also in South Asia, the report says the following on Afghanistan: "While Afghanistan itself does not have any biological or chemical warfare programs, evidence discovered since October 2001 indicates that the Al Qaeda network in Afghanistan was interested in obtaining these capabilities."

On Iran, a BWC and CWC state party, the report says: "Iran's biological warfare program began during the Iran-Iraq War. Iran is believed to be pursuing offensive biological warfare capabilities and its effort may have evolved beyond agent research and development to the capability to produce small quantities of agent. In fact, it may hold some stocks of BW agents and weapons. ... Iran admitted developing a chemical warfare program during the latter stages of the Iran-Iraq war as deterrent against Iraq's use of chemical agents against Iran. Moreover, Tehran claimed that after the 1988 cease-fire, it 'terminated' its program. However, Iran has yet to acknowledge

that it used chemical weapons during the Iran-Iraq War. Nevertheless, Iran has continued its efforts to seek production technology, training, equipment, expertise and precursor chemicals from entities in Russia and China that could be used to create a more advanced and self-sufficient chemical warfare infrastructure. In the past, Tehran has manufactured and stockpiled blister, blood, choking and probably nerve I agents, and weaponized some of these into artillery shells, mortars, rockets, and bombs. Iran could employ these agents during a future conflict in the region.”

On Iraq, a BWC state party, the report says: “With the absence of a monitoring regime and Iraq’s growing industrial self-sufficiency, we remain concerned that Iraq may again be producing biological warfare agents. ... Following Operation Desert Fox, Baghdad again instituted a rapid reconstruction effort on those facilities to include former dual-use chemical warfare-associated production facilities, destroyed by US bombing. In addition, Iraq appears to be installing or repairing dual-use equipment at chemical warfare-related facilities.

On Syria, a BWC signatory state, the report says: “Syria has a limited biotechnology infrastructure but could support a limited biological warfare effort. Though Syria is believed to be pursuing the development of biological weapons, it is not believed to have progressed much beyond the research and development phase and may have produced only pilot quantities of usable agent. Syria [...] has had a substantial chemical warfare program for many years, although it has never used chemical agents in a conflict. Syria already has a stockpile of the nerve agent sarin that can be delivered by aircraft or ballistic missiles. Additionally, Syria is trying to develop the more toxic and persistent nerve agent VX. In the future, Syria can be expected to continue to improve its chemical agent production and storage infrastructure.

On Libya, a BWC state party, the report says: “Libya [...] has continued a rudimentary biological warfare program. This program has not advanced beyond the research and development stage, although it may be capable of producing small quantities of biological agent. ... Libya still appears to have a goal of establishing an offensive CW capability and an indigenous production capability for weapons. Prior to 1990, Libya produced about 100 tons of chemical agents — mustard and some nerve agent — at a chemical facility at Rabta. However, it ceased production there in 1990 due to intense international media attention and the possibility of military intervention, and fabricated a fire to make the Rabta facility appear to have been seriously damaged. Libya maintains that the facility is a pharmaceutical production plant and announced in September 1995 that it was reopening the Rabta pharmaceutical facility. After 1990, the Libyans shifted their efforts to trying build a large underground chemical production facility at Tarhunah. However, the pace of activity there has slowed, probably due to increases international attention.

On Russia, a BWC and CWC state party, the report says: “Serious concerns remain about Russia’s biological warfare activities and the status of some elements of the offensive biological warfare program inherited from the FSU. ... However, some key components of the program remain largely intact and may support a possible future mobilization capability for BW program. Despite Russian ratification of the BWC, work outside the scope of legitimate biological defense may be occurring now at selected facilities, and the United States continues to receive unconfirmed reports of some ongoing offensive biological warfare activities. ... However, DoD believes that the Russians probably have not divulged the full extent of their chemical agent and weapon inventory. In addition, since 1992, Russian scientists familiar with Russia’s chemical warfare development program have been publicizing information on a new generation

of agents, sometimes referred to as ‘Novichoks’. These scientists report that these compounds, some of which are binaries, were designed to circumvent the CWC and to defeat Western detection and protection measures.

On international terrorism, the report says: “Several of the 30 designated foreign terrorist organizations and other non-state actors, including the Al Qaeda network, have expressed interest in these weapons. In fact, we have confirmed that the Al Qaeda network was working to acquire chemical agents and toxins, and was pursuing a sophisticated biological weapons research program.”

The section on the current chemical and biological threat concludes as follows: “DoD does not expect significant increases in the number of government-sponsored offensive CBW programs. Nevertheless, the United States and its allies must be alert to this possibility. Any nation with the political will and a minimal industrial base could produce CBW agents suitable for use in warfare. In addition, a variety of non-state groups, including the Al Qaeda network, are showing increased interest in attaining and employing biological or chemical weapons.”

18 April In the US Senate, the Committee on Governmental Affairs conducts a hearing on *The State of Public Health Preparedness for Terrorism Involving Weapons of Mass Destruction: A Six-Month Report Card*.

18 April In the US Senate, Senator Boxer introduces the *Syria Accountability Act of 2002* (S 2215). The draft would express the sense of Congress that “the government of Syria should halt the development and deployment of short and medium range ballistic missiles and cease the development and production of biological and chemical weapons”. The act would make it US policy that “Syria’s acquisition of weapons of mass destruction and ballistic missile programs threaten the security of the Middle East and the national interests of the United States.” Sanctions are also provided for in the act.

18 April In the US, two papers are published relating to the on-going public debate on possible smallpox vaccination policies [see 28 Mar]. The Cato Institute releases a policy analysis paper on *Responding to the Threat of Smallpox Bioterrorism: An Ounce of Prevention is Best Approach*. The executive summary includes the following: “The current ring containment strategy (administering smallpox vaccinations only after an outbreak in the hope of containing the spread of the virus) favored by the federal government may be appropriate for dealing with a natural outbreak of smallpox, but it is likely to be woefully inadequate for countering a direct attack by a thinking enemy intent on inflicting infection, death, and panic. A better approach than leaving the entire population at risk and responding to a smallpox attack after the fact would be to take preventive measures. The current stockpile of smallpox vaccine can be effectively diluted to create a more abundant supply, which — along with a newly discovered stockpile and additional vaccine already ordered and scheduled to be delivered by the end of 2002 — should be made available to the public. Even if only a small fraction of the population were vaccinated, a community immunity effect, which would lower the rate of transmission of a disease as well as significantly increase the chances of success of a ring containment strategy, would be produced. As a result, the chances of a successful attack would be lowered, and that could have a deterrent effect and might even prevent such an attack.”

Also published today, in *Effective Clinical Practice*, is an article by researchers at the University of Michigan calculating the possible number of adverse reactions to the smallpox

vaccine to be expected in a mass vaccination campaign. The article concludes: "The decision to resume smallpox vaccination depends on weighing the likelihood of a smallpox attack and its anticipated mortality against expected harm from a mass immunization program. Smallpox vaccine has a higher complication rate than any other vaccine currently being used. Careful prevaccination exclusion of high-risk individuals and their close contacts would be essential to minimize complications of a mass vaccination campaign, although such exclusions necessarily mean that some proportion of the population will remain susceptible to smallpox. ... Ultimately, the decision to resume mass vaccination must weigh these potential harms — the direct adverse events in vaccine recipients and the indirect adverse events in high-risk contacts of recent vaccines — against the effectiveness of ring vaccination and the substantial morbidity and mortality from a smallpox attack."

18–19 April In Madrid, the European Union convenes a workshop on the integration of NBC response measures into the Community Coordination Mechanism dealing with emergencies/workshop on coordination procedures for dealing with NBC threats.

18–20 April In Albuquerque, New Mexico, Sandia National Laboratories hosts the 12th Annual International Arms Control Conference [see 20–22 Apr 01], *Implications of 9/11 on National Security and the Path Forward to Peace*, chaired as usual by Dr James Brown.

19 April The Tel Aviv *Ma'ariv* reports that the Israeli Defence Forces have found 12 litres of bromine in Yasser Arafat's Ramallah headquarters which they entered during their recent siege of the compound. The chemical has been taken away by personnel of the IDF Technology and Logistics Unit.

20 April At Fort Detrick in the US, a worker at the US Army Medical Research Institute for Infectious Disease (USAMRIID) tests positive for anthrax exposure after spores were detected in a hallway, an administrative room and on the locker of a changing room. The scientist, who had been previously vaccinated against the bacteria, is taking antibiotics as a precaution. The scientist's exposure and the spread of the spores appear to be an accident and are not being treated as evidence of a crime or of unauthorized activity at USAMRIID. A few days later, another accidental release of anthrax is detected, this time of a different, and relatively benign, strain. Subsequent testing reveals no new areas of contamination.

21–24 April In The Hague, states parties to the CWC gather for the first special session of the Conference of the States Parties convened at the request of the US [see 22 Mar] supported by one-third of the member states [see 9 Apr]. There are two substantive items on the agenda as drawn up by the Executive Council [see 28 Mar]: "the tenure of the Director-General" and "any further action regarding the Technical Secretariat".

On the second day of the Conference, the member states vote to end the tenure of the Director-General, José Bustani. Of the 100 states parties present at the Conference, 48 states parties vote in favour of the US draft decision removing Bustani from office. Seven states parties vote against the draft, 43 abstain, and two are absent. The two-thirds majority of those "present and voting" is thus easily achieved.

On the day of the vote, US State Department press spokesman, Richard Boucher, is questioned in Washington about the ongoing attempt to dismiss the Director-General. He

replies as follows: "We have expressed before our view that the organization needs to be preserved, it needs to be effective, it needs to fulfill its responsibilities under the Chemical Weapons Convention. Our view is that it has not done so under Mr Bustani, and that therefore he must be replaced immediately, because this is an organization that has gone into serious crisis because of his mismanagement. We made that quite clear. We always thought it would be better for the organization for him to resign, but in any case it's necessary to get new management there so that the organization can be effective. They have not been able to carry out their mandate. For example, they're only carrying out this year 55 percent of their planned inspections because of the financial mismanagement that is there. And we want to see them be able to fulfill their promise."

In an interview with the *Brasilia Correio Braziliense* the day after the vote, Bustani says: "it was the result I imagined. The European Union and the NATO countries voted for the United States proposal. Latin America abstained. That is a pity, because an abstention like that never happened before. The big surprise was Mexico, which cast its vote against my removal and raised the question of the measure's legality. India's vote in favour of the US proposal was a shock. But the number of abstentions was large, despite pressures from the US. ... There was no charge, nor consideration of the case, nor judgement. It was a summary dismissal. Nobody even argued against the legality of the meeting, when the matter demanded a legal discussion. It was a lynching."

The day after the vote, State Department spokesman Boucher states: "we're pleased that the member-states have decided to seek new leadership for the Organization for the Prohibition of Chemical Weapons. This is the first step in reviving this very important organization that is responsible for implementing the global ban on chemical weapons. We will be working with other member-states to select a new and highly qualified Director General as rapidly as possible. We particularly welcome a person from Latin America. We understand the Latin American member-states are considering possible candidates. We strongly support the Chemical Weapons Convention. We'll persevere with our efforts to ensure the Convention's continued good health, and we intend to work closely with other member-states to restore the Organization to a sound financial footing and to overcome the other difficulties that it has faced in recent years."

From Moscow, the Russian Ministry of Foreign Affairs states: "Russia spoke against the removal of Jose Bustani and considers that he at the post of Director-General of the OPCW Technical Secretariat did much to solve the questions of prohibiting and destroying chemical weapons, as well as of strengthening the regime provided by the Chemical Weapons Convention. The fact of Bustani's removal is by itself unprecedented because this Convention does not envisage the possibility of early removal of the head of the OPCW from office. Thanks to the activities of Jose Bustani at this post the OPCW has turned into an independent and authoritative international body, which has become one of the most important mechanisms for arms control and disarmament."

The Conference adjourns to reconvene on 10 June. The delay is in order to give time to the Latin America and Caribbean regional group to select a candidate for Director-General. [See also *Progress in The Hague* above.]

22 April In Moscow, where a delegation from the French General Secretariat for National Defence has just finished its meetings, the director-general of the Russian Munitions Agency, Zinoviy Pak, says that Russia is prepared to provide scientific and technical assistance to France. While in Russia, the French delegation had studied Russian methods of

disposing of chemical weapons, mobile destruction units and means of transportation of chemical munitions.

22 April In the UK, the Attorney-General gives the Coroner for Wiltshire and Swindon authority to apply to the High Court for a fresh inquest into the death of Ronald Maddison at Porton Down in 1953 [see 22 Oct 01]. Authority has been granted “as a result of the emergence of information which was not available to the coroner in 1953.” With regard to the possible prosecution [see 24 Mar] of scientists involved in the tests, the Solicitor-General states that Wiltshire Police are expected to hand more documents to the Crown Prosecution Service in the next few weeks after which the CPS will conclude the review process promptly.

23 April In the UK House of Commons, the Foreign Affairs Committee continues its inquiry into *Foreign Policy Aspects of the War Against Terrorism*. Giving evidence are Ben Bradshaw, Parliamentary Under-Secretary of State for Foreign and Commonwealth Affairs, William Ehrman, director of the International Security Command, Christopher Prentice, head of the Near East and North Africa Department and Edward Chaplin, director of the Middle East and North Africa Command. Asked why the UK supported the dismissal of OPCW Director-General José Bustani, Bradshaw replies: “Because we share the belief of all the other European Union members who voted the same way and the vast majority of members of the committee who also voted the same way that there were serious management problems and that Mr Bustani was not the best candidate to sort those out.” Asked to identify these problems, Bradshaw says: “Suffice to say that the management of Mr Bustani left something to be desired, the consequence of which was he had lost the confidence of the vast majority of the members. What we are concerned about is that this body is an effective body. We had the view which was shared, as I said, by the vast majority, I think only one per cent of the members voted against this. ... I think the main areas of our concern were financial management and staff morale.”

23 April In the UK House of Commons, Parliamentary Under-Secretary of State for Foreign and Commonwealth Affairs Ben Bradshaw responds as follows to a written question on the UK assessment of Israel’s chemical weapons capability: “Any such estimate would be based on sensitive intelligence sources. It has been the practice of successive Governments not to comment on intelligence matters. ... Israel is a state party to the 1925 Geneva Protocol which prohibits the use of chemical and biological weapons. It has also signed, but not ratified the Chemical Weapons Convention, which prohibits the development, production, acquisition, stockpiling and retention of chemical weapons. We continue to urge Israel to ratify the Convention whenever an appropriate opportunity arises.”

23 April In the UK House of Commons, there is a parliamentary question on the dumping of chemical weapons at sea in the Beaufort’s Dyke and what recent assessments have been carried out to determine the health risks associated with the site. In reply, the Parliamentary Under Secretary of State for Defence and Minister for Veterans’ Affairs, Lewis Moonie, says: “Detailed inventories of chemical weapons and other munitions disposed of in Beaufort’s Dyke are no longer available; many records were destroyed after the disposals as a matter of routine custom and practice in view of the fact that sea dumping of munitions, including CW-filled items, was then an acceptable method of disposal. Where records of disposals do remain in existence, they have been released to the Public Record Office. From those existing records, it is known that some 14,500 tons

of 5 inch artillery rockets filled with phosgene were dumped in Beaufort’s Dyke in July 1945. There are no records which indicate that other chemical weapons, including mustard gas, have been disposed of to that dump site. As to the potential risk posed by chemical weapons, the long-held consensus of international scientific opinion is that munitions on the sea bed present no significant risk to safety, human health or the marine environment, provided they remain undisturbed. Phosgene is destroyed by hydrolysis on contact with seawater. The surveys of Beaufort’s Dyke conducted by the then Scottish Office in 1995 and 1996 found no residual traces of chemical weapons in that dump site.”

23 April In the US Senate, the Foreign Relations Committee conducts a hearing on *Increasing Our Nonproliferation Efforts in the Former Soviet Union*.

24 April In Tehran, another war veteran dies from wounds inflicted by the use of chemical weapons by Iraq during the Iran–Iraq war. Hoseyn Yarmohammadi is the seventh chemical weapons victim to die since the beginning of 2002. Around 2,000 other war veterans are reported to be in a critical condition and are considered likely to succumb to their injuries also.

24 April In Brussels, proposals to strengthen the BWC are on the agenda of a meeting with NGOs hosted by the European Union ‘troika’ (the previous, current and future EU presidencies (Belgium, Spain and Denmark respectively), the General Secretariat of the Council of the European Union and the European Commission) of the Working Group on Global Disarmament and Arms Control. NGO participation had been organized by the Centre for European Security and Disarmament and VERTIC. Making presentations are Daniel Feakes of the Harvard Sussex Program, Oliver Meier of VERTIC, Edward Hammond of the Sunshine Project and Jenni Rissanen, a visiting fellow at UNIDIR.

24 April In Paris, a French foreign ministry spokesman is questioned on France’s position on the ousting of OPCW Director-General, José Bustani [see 22 Apr]. He responds as follows: “Since the start of the challenge to Mr Bustani, France sought solutions of a consensual nature as far as possible, independent of our assessment of Mr. Bustani’s personal qualities. We want to preserve the foundations of multilateralism, keep an eye on the independence and neutrality of the staff of international organizations, including those at the top, and make sure the rules of operations are respected. It is for these reasons of principle, independent of any assessment of the person, that we abstained in this proceeding.”

24 April In the UK House of Commons, the Defence Committee continues its inquiry into *Defence and Security in the UK*. Giving evidence is Dr Pat Troop, Deputy Chief Medical Officer, Department of Health.

24 April In the UK House of Commons, Parliamentary Under-Secretary of State for Foreign and Commonwealth Affairs Ben Bradshaw again states [see 23 Apr] the UK case for supporting the removal of OPCW Director-General, José Bustani [see 22 Apr] as follows: “The United Kingdom’s policy has been determined by the overriding need to ensure the long-term viability and effectiveness of the Chemical Weapons Convention (CWC). It was clear that the Director-General of the Organisation for the Prohibition of Chemical Weapons (OPCW) had lost the confidence of a significant number of the organisation’s Executive Council. For this reason we concluded that the interests of the OPCW and the CWC would be best

served if the Director-General were to be replaced by someone who could enjoy the full confidence of all states parties to the Convention. The United Kingdom delegation to the Special Conference of States Parties, which convened on 21 April, was guided by this position. The matter came to a vote at the Special Conference on 22 April. The outcome was 48 votes in support of the termination of the Director-General's appointment, with seven votes against and 43 abstentions. The Director-General's appointment was therefore terminated with immediate effect."

25 April In Russia, Sergei Kiriyyenko, Chairman of the State Commission for Chemical Disarmament, tells a reporter that Russia's first full-scale Chemical Weapons Destruction Facility, at Gorny in the Saratov region, will be launched on 1 August. An EU team is currently visiting the facility, one of whom, interviewed on Russia TV, says: "I was here a year ago, and in the course of the year our Russians, together with the international community, managed to have built so much, in such a state, with such a good quality, that a year later I am simply amazed."

25 April From Astrakhan in Russia, President Putin describes the reported death of Chechen military commander Ibn ul Khattab as "another blow for the terrorists". It is later reported that Khattab was poisoned by an Arab double agent working for the Russian Federal Security Service. The Chechens claim that the agent coated a letter to Khattab with a fast-acting nerve agent, possibly sarin or a derivative.

25 April In Poland, a new biodefence laboratory is opened at the Pulawy Veterinary Examination Centre. The laboratory has BL-3 facilities and has been financed by the Polish scientific research committee and by the US government, which has donated much of the laboratory equipment.

25 April At the NATO Parliamentary Assembly, the Subcommittee on the Proliferation of Military Technology of the Science and Technology Committee drafts a report on *Technology and Terrorism: A Post-September 11 Assessment*.

25 April In the UK House of Commons, there is a debate on the Foreign Affairs Committee report on *British-US Relations* [see 19 Feb]. A number of the speakers refer to the dismissal of OPCW Director-General José Bustani. Responding on behalf of the Government is Parliamentary Under-Secretary of State for Foreign and Commonwealth Affairs Denis MacShane, who says: "Reference was made to the Organisation for the Prohibition of Chemical Weapons and its change of director. The decision was taken this week by a vote of 48:7 that the gentleman in question had not shown sufficient drive in management or policy to deliver the organisation that the international community wanted. The votes deciding his removal from office came from Asia, Africa and nearly all the east and west European countries. We must be careful not to allow every decision taken around the world to be refracted into the issue of Iraq."

25 April In the UK House of Commons, the Secretary of State for Defence, Geoff Hoon, is asked whether it is his Department's policy to rule out the use of nuclear weapons in response to the use of chemical or biological weapons against UK forces overseas. He responds by referring the questioner to an earlier reply [see 10 Apr] in which he had stated: "The United Kingdom would, in the right conditions, in extreme circumstances of self-defence, be prepared to use nuclear weapons. We would not use our weapons, whether conventional or nuclear, contrary to international law" [see also 24 Mar].

25 April In the UK, the CWC National Authority transmits its statutory *Annual Report on the Operation of the Chemical Weapons Act 1996*, to Parliament. The report covers calendar year 2001, during which time the UK received five OPCW inspections: two at Schedule 2 industrial sites; one at a Schedule 3 industrial site; one at the Single Small Scale Facility at Porton Down and one at the Protective Purposes Facility at RMCS Shrivenham. OPCW inspectors performed sampling and analysis for the first time during one of the industrial inspections, a development welcomed by the UK which, the report notes, had "urged the OPCW to begin sampling and analysis during routine inspections in accordance with the CWC." The report provides a breakdown of the costs of CWC compliance in the UK and information on the discovery and destruction of old chemical weapons. The annual report also includes the following on a 12 October 2001 workshop on the application of the general purpose criterion held at the University of Sussex: "The meeting agreed that it was essential for States Parties to recognise the importance of the GPC in requiring that any toxic chemical can only be used for permitted purposes: this stipulation does not apply only to the chemicals listed in the Schedules. All present believed that no State Party was doing more than the UK to meet the minimum degree of GPC application, but that States Parties should review their activities in the wake of the terrorist attacks on 11 September. Concerns were also raised that relatively few States Parties have enacted legislation implementing the CWC, and that even fewer have addressed the GPC. This fuels other doubts about whether all States Parties fully recognise the significance of the GPC."

25 April From the US Department of Defense, Assistant Secretary of Defense (Health Affairs) and Special Assistant to the Under Secretary of Defense (Personnel and Readiness) for Gulf War Illnesses, Medical Readiness and Military Deployments William Winkenwerder releases two new reports on events at Khamisiyah in Iraq during the Gulf War. One is a final version of an earlier case narrative, *US Demolition Operations at Khamisiyah* [see 5 Dec 00] which concludes that: "Chemical munitions were definitely present at three locations at Khamisiyah. US soldiers definitely destroyed many — but not all — of the chemical rockets at Khamisiyah. Some US ground forces were likely exposed to very low levels of nerve agent from the demolition of rockets in the Pit on March 10, 1991. It is unlikely US ground forces were exposed to chemical warfare agent from the Bunker 73 demolition on March 4, 1991." The second document is a technical report, *Modeling and Risk Characterization of US Demolition Operations at the Khamisiyah Pit*, which describes the details of the modelling and risk characterization of the possible chemical warfare agent exposure resulting from the demolition at the Khamisiyah Pit following the cease fire for the Gulf War of 1991. The report concludes: "Based on the available data about the apparent health status of the forces at Khamisiyah, modeling and exposure data, and toxicological data, the DoD concludes the exposures the forces possibly received would have been below those expected to cause acute health effects, such as miosis, or long-term effects, such as organophosphate-induced delayed neuropathy (OPIDN.) Although exposure to sarin itself at the estimated concentrations may not result in any adverse health effects, this finding does not preclude the possibility of adverse health effects resulting from any number of combinations of noxious chemicals and other stressors."

25–27 April In Bratislava, Slovakia, the NATO Parliamentary Assembly organizes, in cooperation with the National Council of the Slovak Republic and the Chemical and Biological Arms

Forthcoming events

10–13 September, The Hague — Thirtieth session, OPCW Executive Council. Further session: 10–13 December.

27–29 September, Wiston House, Sussex — Wilton Park conference on *Preventing the Proliferation of Chemical and*

Biological Weapons, details on www.wiltonpark.org.uk

2–6 December, Singapore — *Third Singapore International Symposium on Protection Against Toxic Substances (SISPAT)*, details on www.dso.org.sg/sispat

Control Institute, the 51st Rose–Roth seminar at which chemical and biological terrorism is discussed.

27 April In the US, the *Washington Post* reports that the ongoing search for arsenic contamination left by chemical weapons testing during World War One [see 3 Feb 93] has been expanded beyond the Spring Valley neighbourhood and into the suburbs of Maryland and Virginia.

28 April–3 May At the AC-Laboratorium Spiez in Switzerland, there is the fourth in the series of Chemical and Biological Medical Treatment Symposia, CBMTS IV [see 7–12 May 00]. The symposium is the eighth meeting in the general CBMTS series [see 21–27 Apr 01]. Participating are 140 scientists from 28 countries.

29 April The fifth anniversary of the entry into force of the CWC. By now, states parties which declared the possession of chemical weapons should have destroyed 20 per cent of their Category 1 chemical weapons and have completed the destruction of their Category 2 and Category 3 chemical weapons. Those states parties declaring the possession of Chemical Weapons Production Facilities should have destroyed 40 per cent of their aggregate national CW production capacity.

India and the US have complied with the requirement to destroy 20 per cent of their Category 1 chemical weapons. Russia has requested a five-year extension for completing the destruction of its Category 1 chemical weapons, as well as for all its intermediate timelines, as permitted in the CWC. Similarly, an unidentified possessor state (presumably South Korea) has not been able to destroy 20 per cent of its Category 1 chemical weapons by now, and has also requested an extension, as required under the Convention. As required, all four possessor states have destroyed their stocks of Category 3 chemical weapons [see 5 Mar]. Russia has destroyed all of its stocks of Category 2 chemical weapons [see 6 Mar].

29 April In London, UK Secretary of State for Foreign and Commonwealth Affairs Jack Straw launches the long-awaited [see 6 Mar] government green paper, *Strengthening the Biological and Toxin Weapons Convention: Countering the Threat from Biological Weapons*. Announcing the publication in answer to a written parliamentary question, the Foreign Secretary says: “The Green Paper sets out the work that has been undertaken over many years to develop measures to make the 1972

Biological and Toxin Weapons Convention more effective. The Foreign Affairs Committee, and Parliament in general, have supported these efforts, for which the Government are grateful. The paper expresses our disappointment at the failure of the States Parties to agree on the text of a Protocol to the Convention last year, despite all our efforts. It also explains why, despite this disappointment, it is still essential that efforts continue to find ways in which the convention can be strengthened and to counter the threat from biological weapons. The Green Paper identifies possible measures that States Parties might now consider to strengthen the convention. It discusses UK priorities and the next steps ahead of the reconvened BTWC Fifth Review Conference, in Geneva, on 11 November. It also invites comments on these proposals and seeks views from hon. Members, NGOs and other organisations and individuals with an interest in this subject.”

29 April In the UK House of Commons, the Secretary of State for Defence, Geoff Hoon, is asked for his assessment of the threat to the UK from weapons of mass destruction. He replies as follows: “As of today we assess that there is currently no direct threat of attack by weapons of mass destruction to the United Kingdom. ... We do, however, continue to monitor developments very closely, particularly as they might affect British forces deployed in other parts of the world. We monitor continuously the capabilities of countries which possess, or are seeking to acquire weapons of mass destruction and the means to deliver or use them. Currently we assess that none of the countries we are monitoring have the specific intention to use them against the United Kingdom. Should a direct threat materialise, its exact nature will depend on the capabilities of the country concerned and the political and military context in which it arises.”

29 April–1 May In the US, the Brookings Institution and the Center for Public Policy Education host a seminar on *Protecting the Homeland: Lessons Learned and Policy Implications of September 11*.

30 April In the UK House of Commons, Parliamentary Under-Secretary of State for Foreign and Commonwealth Affairs Ben Bradshaw replies to a written parliamentary question on US compliance with the CWC as follows: “The United States is a state party to the Chemical Weapons Convention. We have no reason to believe that it is not fully compliant with its obligations.” In answering a further question on OPCW efforts to persuade Iraq to join the CWC, Bradshaw says: “United Nations Security Council Resolution 1284 mandated the UN Monitoring, Verification and Inspection Commission (UNMOVIC) to inspect, monitor and, if necessary, destroy Iraq’s chemical and biological weapons and its ballistic missile systems. The first priority must be to ensure that UNMOVIC has access to Iraq to carry out its mandate and to uphold the authority of the United Nations. The UK fully supports OPCW’s efforts to achieve universal ratification of the Chemical Weapons Convention. Iraq could, of course, ratify CWC tomorrow, but this should not in any way undermine UNMOVIC’s mandate.”

This Chronology was compiled by Daniel Feakes from information supplied through HSP’s network of correspondents and literature scanners.

Recent Publications

- Ackerman, Gary, and Laura Snyder. "Would they if they could? 170 *Bulletin of the Atomic Scientists*, vol 58 no 3 (May/June 2002), pp 41-47.
- Allwine, K J, J H Shinn, G E Streit, K L Clawson, and M Brown. "Overview of Urban 2000: a multiscale field study of dispersion through an urban environment", *Bulletin of the American Meteorological Society*, vol 83 no 4 (April 2002), pp 521-35.
- Annas, George. "Bioterrorism, public health, and civil liberties", *The New England Journal of Medicine*, vol 346 no 17 (25 April 2002), pp 1337-42.
- Austin, J E, and C E Bruch. *The Environmental Consequences of War*. Cambridge University Press, 2000, 691 pp.
- Balfour, Sebastian. *Deadly Embrace: Morocco and the Road to the Spanish Civil War*. Oxford University Press, 2002, 368 pp [includes material on chemical warfare].
- Balmer, Brian. "Biological warfare: the threat in historical perspective", *Medicine, Conflict and Survival*, vol 18 (2002), pp 120-37.
- Balmer, Brian. "Killing 'without the distressing preliminaries': scientists' defence of the British biological warfare programme", *Minerva*, vol 40 no 1 (Spring 2002), pp 57-75.
- Barletta, Michael (ed). *After 9/11: Preventing Mass-Destruction Terrorism and Weapons Proliferation*, [Occasional Paper no 8], Monterey: Center for Nonproliferation Studies, Monterey Institute of International Studies, 2002, 74 pp.
- Barletta, Michael. "Assessing risks and crafting responses", in Michael Barletta (ed), *After 9/11: Preventing Mass-Destruction Terrorism and Weapons Proliferation*, [Occasional Paper no 8], Monterey: Center for Nonproliferation Studies, Monterey Institute of International Studies, 2002, pp 61-73.
- Barletta, Michael, Amy Sands, and Jonathan Tucker. "Keeping track of anthrax: the case for a biosecurity convention", *Bulletin of the Atomic Scientists*, vol 58 no 3 (May/June 2002), pp 57-62.
- Barletta, Michael, and Amy Sands. "Arms control for anthrax: a safety-and-security approach to strengthening the BWC", in Michael Barletta (ed), *After 9/11: Preventing Mass-Destruction Terrorism and Weapons Proliferation*, [Occasional Paper no 8], Monterey: Center for Nonproliferation Studies, Monterey Institute of International Studies, 2002, pp 13-18.
- Bartholomew, Robert, and Simon Wessely. "Protean nature of mass sociogenic illness: from possessed nuns to chemical and biological terrorism fears", *The British Journal of Psychiatry*, vol 180 (April 2002), pp 300-06.
- Bederman, David. "Collective security, demilitarization and 'pariah' states", *European Journal of International Law*, vol 13 no 1 (2002), pp 121-38.
- Biggs, Peter. "Response to Whitby, Millett and Dando" [*infra*], *Medicine, Conflict and Survival*, vol 18 (2002), pp 157-61.
- Casper, Monica. "Chemical weapons: Incineration island", *Bulletin of the Atomic Scientists*, vol 58 no 2 (March/April 2002), pp 17-19 [about chemdemil on Johnston Atoll].
- Chevrier, Marie. "The Biological Weapons Convention: the protocol that almost was", in Trevor Findlay and Oliver Meier (eds), *Verification Yearbook 2001*, London: VERTIC, 2001, pp 79-97.
- Chyba, Christopher F. "Toward biological security", *Foreign Affairs*, vol 81 no 3 (May/June 2002), pp 122-36.
- Crane, Conrad. "'No practical capabilities': American biological and chemical warfare programs during the Korean war", *Perspectives in Biology and Medicine*, vol 45 no 2 (Spring 2002), pp 241-49.
- Croddy, Eric. "China's role in the chemical and biological disarmament regimes", *The Nonproliferation Review*, vol 9 no 1 (Spring 2002), pp 16-47.
- Croddy, Eric. "Dealing with Al Shifa: intelligence and counterproliferation", *International Journal of Intelligence and Counterintelligence*, vol 15 no 1 (2002), pp 52-60.
- D'Amelio, Raffaele, Ottorino Cosivi, and David Heymann. "The WHO role in surveillance and control of emerging infectious diseases", in Malcolm Dando, Graham Pearson, and Bohumir Kriz (eds), *Scientific and Technical Means of Distinguishing Between Natural and Other Outbreaks of Disease*, NATO Science Series, 1. Disarmament Technologies, vol 35, Dordrecht: Kluwer Academic Publishers in cooperation with NATO Scientific Affairs Division, 2001, pp 101-10.
- Damrosch, Lori. "The Permanent Five as enforcers of controls on weapons of mass destruction: building on the Iraq 'precedent'? 170 *European Journal of International Law*, vol 13 no 1 (2002), pp 305-21.
- Dando, Malcolm, and Simon Whitby. "Distinguishing between natural disease outbreaks and deliberate attacks on humans using biological weapons", in Malcolm Dando, Graham Pearson, and Bohumir Kriz (eds), *Scientific and Technical Means of Distinguishing Between Natural and Other Outbreaks of Disease*, NATO Science Series, 1. Disarmament Technologies, vol 35, Dordrecht: Kluwer Academic Publishers in cooperation with NATO Scientific Affairs Division, 2001, pp 41-48.
- Dando, Malcolm, Graham Pearson, and Bohumir Kriz (eds). *Scientific and Technical Means of Distinguishing Between Natural and Other Outbreaks of Disease*, NATO Science Series, 1. Disarmament Technologies, vol 35, Dordrecht: Kluwer Academic Publishers in cooperation with NATO Scientific Affairs Division, 2001, 171 pp.
- Davey, Brian. "Public health response to biological and chemical weapons", *OPCW Synthesis*, Spring/March 2002, pp 16-17.
- Davis, Ian. *The Regulation of Arms and Dual-Use Exports: Germany, Sweden and the UK*. SIPRI, in association with Oxford University Press, 2002, 344 pp.
- Deller, Nicole, Arjun Makhijani, and John Burroughs (eds). *Rule of Power or Rule of Law? An Assessment of the US Policies and Actions Regarding Security-Related Treaties*, New York: Institute for Energy and Environmental Research, and Lawyers' Committee on Nuclear Policy, April 2002, 193 pp.
- Delpech, Therese. *La Politique du chaos: l'autre face de la mondialisation*, Paris: Editions du Seuil, 2002, 63 pp.
- Faraday, David. "The University of Surrey and the OPCW associate programme", *OPCW Synthesis* Spring/March 2002, pp 23-25.
- Feakes, Daniel, and Jez Littlewood. "Hope and ambition turn to dismay and neglect: the Biological and Toxin Weapons Convention in 2001", *Medicine, Conflict and Survival*, vol 18 (2002), pp 161-74.

- Fleck, Dieter. "Developments of the law of arms control as a result of the Iraq-Kuwait conflict", *European Journal of International Law*, vol 13 no 1 (2002), pp 105-19.
- Geissler, Erhard, and John Woodall. "Reporting of outbreaks of disease under BTWC confidence-building measures", in Malcolm Dando, Graham Pearson, and Bohumir Kriz (eds), *Scientific and Technical Means of Distinguishing Between Natural and Other Outbreaks of Disease*, NATO Science Series, 1. Disarmament Technologies, vol 35, Dordrecht: Kluwer Academic Publishers in cooperation with NATO Scientific Affairs Division, 2001, pp 111-42.
- Gottemoeller, Rose. "Arms control in a new era", *The Washington Quarterly*, vol 25 no 2 (Spring 2002), pp 45-58.
- Gould, Chandre. "Apartheid's chemical and biological warfare programme (1981-1995)", *Track Two* [University of Cape Town: Centre for Conflict Resolution], vol 10 no 3 (December 2001), pp 8-13.
- Gould, Chandre. "How science was compromised: lessons from South Africa's CBW programme", *Track Two* [University of Cape Town: Centre for Conflict Resolution], vol 10 no 3 (December 2001), pp 14-19.
- Gould, Chandre, and Peter Folb. "The role of professionals in the South African chemical and biological warfare programme", *Minerva*, vol 40 no 1 (Spring 2002), pp 77-91.
- Guillemin, Jeanne. "Detecting anthrax: what we learned from the 1979 Sverdlovsk outbreak", in Malcolm Dando, Graham Pearson, and Bohumir Kriz (eds), *Scientific and Technical Means of Distinguishing Between Natural and Other Outbreaks of Disease*, NATO Science Series, 1. Disarmament Technologies, vol 35, Dordrecht: Kluwer Academic Publishers in cooperation with NATO Scientific Affairs Division, 2001, pp 75-86.
- Harper, Maj. Ernest. "A call for a definition of method of warfare in relation to the Chemical Weapons Convention", *Naval Law Review*, vol 48 (2001), pp 132-60.
- Hyams, Kenneth, Frances Murphy, and Simon Wessely. "Responding to chemical, biological or nuclear terrorism: the indirect and long-term health effects may present the greatest challenge", *Journal of Health Politics, Policy and Law*, vol 27 no 2 (April 2002), pp 273-91.
- Inglesby, Thomas, Tara O'Toole, Donald Henderson, John Bartlett, Michael Ascher, Edward Eitzen, Arthur Friedlander, Julie Gerberding, Jerome Hauer, James Hughes, Joseph McDade, Michael Osterholm, Gerald Parker, Trish Perl, Philip Russell, and Kevin Tonat. "Anthrax as a biological weapon, 2002: updated recommendations for management", *Journal of the American Medical Association*, vol 287 no 17 (1 May 2002), pp 2236-52.
- Johnson, Jeffrey. "Chemical warfare in the Great War", *Minerva*, vol 40 no 1 (Spring 2002), pp 93-106.
- Kalivretakis, Elaina. "Are nuclear weapons above the law? A look at the International Criminal Court and the prohibited weapons category", *Emory International Law Review*, vol 15 (Fall 2001), pp 683--732.
- Katsva, Maria. "Russian chemical weapons: proliferation or destruction? 170 *Journal of Slavic Military Studies*, vol 15 no 1 (March 2002), pp 1-17.
- Katz, Rebecca. "Public health preparedness: the best defense against biological weapons", *The Washington Quarterly*, vol 25 no 3 (Summer 2002), pp 69 ff.
- Kim, Kyoung-Soo. "North Korea's CB weapons: threat and capability", *The Korean Journal of Defense Analysis*, vol 14 no 1 (Spring 2002), pp 69-95.
- Krawczyk, Kirsten. "The National Guard's weapons of mass destruction civil support teams: a quick push for a new program", *Terrorism and Political Violence*, vol 13 no 3 (Autumn 2001), pp 107-26.
- Kriz, Bohumir, and Jan Kyncl. "Natural outbreaks of disease: communicable disease surveillance in the Czech Republic", in Malcolm Dando, Graham Pearson, and Bohumir Kriz (eds), *Scientific and Technical Means of Distinguishing Between Natural and Other Outbreaks of Disease*, NATO Science Series, 1. Disarmament Technologies, vol 35, Dordrecht: Kluwer Academic Publishers in cooperation with NATO Scientific Affairs Division, 2001, pp 35-40.
- Leitenberg, Milton. "Who could use biological weapons?: state proliferators and the threat posed by non-state actors", *Track Two* [University of Cape Town: Centre for Conflict Resolution], vol 10 no 3 (December 2001), pp 28-36.
- Levy, Paul, Jason Hsia, Borko Jovanovic, and Douglas Passaro. "Sampling mailrooms for presence of anthrax spores: a curious property of the hypergeometric distribution under an unusual hypothesis testing scenario", *Chance*, vol 15 no 2 (2002), pp 19-21.
- Makela, Helena. "Biological warfare: how serious a threat?" in Ilkka Taapele, Helena Makela, Kati Juva, Vappu Taipale, Sergei Kolesnikov, Raj Mutalik, and Michael Christ (eds), *War or Health?* London and New York: Zed Books, in association with Physicians for Social Responsibility [Finland], 2002, pp 127-42.
- Martin, Susan. "The role of biological weapons in international politics: the real military revolution", *Journal of Strategic Studies*, vol 25 no 1 (March 2002), pp 63-98.
- Meier, Oliver. "Verification of the Biological Weapons Convention: what is needed? 170 *Medicine, Conflict and Survival*, vol 18 (2002), pp 175-93.
- Meselson, Matthew. "Bioterror: What can be done?", in Robert B Silvers and Barbara Epstein (eds), *Striking Terror*, New York NY: New York Review Books, March 2002, pp 259-76.
- Mokalobe, Mafole. "No more tears: overcoming the legacy of South Africa's CBW programme", *Track Two*, [University of Cape Town: Centre for Conflict Resolution], vol 10 no 3 (December 2001), pp 21-25.
- Monteleone-Neto, Roque. "The agents of concern", in Malcolm Dando, Graham Pearson, and Bohumir Kriz (eds), *Scientific and Technical Means of Distinguishing Between Natural and Other Outbreaks of Disease*, NATO Science Series, 1. Disarmament Technologies, vol 35, Dordrecht: Kluwer Academic Publishers in cooperation with NATO Scientific Affairs Division, 2001, pp 31-34.
- Myjer, Eric (ed). *Issues of Arms Control Law and the Chemical Weapons Convention*, The Hague: Martinus Nijhoff, 2001, 202 pp.
- Netesov, Sergey, and Lev Sandakhchiev. "Possible participation of the State Research Centre of Virology and Biotechnology "Vector" in a natural and global network for distinguishing outbreaks", in Malcolm Dando, Graham Pearson, and Bohumir Kriz (eds), *Scientific and Technical Means of Distinguishing Between Natural and Other Outbreaks of Disease*, NATO Science Series, 1. Disarmament Technologies, vol 35, Dordrecht: Kluwer Academic Publishers in cooperation with NATO Scientific Affairs Division, 2001, pp 143-50.
- Nixdorff, Kathryn, and Wolfgang Bender. "Ethics of university research, biotechnology and potential military spin-off", *Minerva*, vol 40 no 1 (Spring 2002), pp 15-35.
- O'Hanlon, Michael, Peter Orszag, Ivo Daalder, I M Destler, David Gunter, Robert Litan, and James Steinberg. *Protecting the*

- American Homeland: A Preliminary Analysis*, Washington DC: The Brookings Institution Press, 2002, 177 pp.
- Oudraat, Chantal de Jonge. "UNSCOM: between Iraq and a hard place", *European Journal of International Law*, vol 13 no 1 (2002), pp 139-52.
- Pangi, Robyn. "Consequence management in the 1995 attacks on the Japanese subway system", *BCSIA Discussion Paper 2002-4, ESDP Discussion Paper ESDP-2002-01*, John F Kennedy School of Government, Harvard University, February 2000, 41 pp.
- Parker, Henry. "Agricultural Terrorism: A Federal Strategy to Meet the Threat", *McNair Paper*, no 65, INSS, National Defense University, March 2002, 112 pp.
- Pearson, Graham. "The importance of distinguishing between natural and other outbreaks of disease", in Malcolm Dando, Graham Pearson, and Bohumir Kriz (eds), *Scientific and Technical Means of Distinguishing Between Natural and Other Outbreaks of Disease*, NATO Science Series, 1. Disarmament Technologies, vol 35, Dordrecht: Kluwer Academic Publishers in cooperation with NATO Scientific Affairs Division, 2001, pp 1-20.
- Pearson, Graham. "Scientific and technical means of distinguishing between natural and other outbreaks of disease: an overview of the ARW and a 2000 postscript", in Malcolm Dando, Graham Pearson, and Bohumir Kriz (eds), *Scientific and Technical Means of Distinguishing Between Natural and Other Outbreaks of Disease*, NATO Science Series, 1. Disarmament Technologies, vol 35, Dordrecht: Kluwer Academic Publishers in cooperation with NATO Scientific Affairs Division, 2001, pp 151-60.
- Pearson, Graham, and R S Magee. "Critical evaluation of proven chemical weapon destruction technologies", *Pure and Applied Chemistry*, vol 74 no 2 (2002), pp 187-316.
- Pearson, Graham, Malcolm Dando, and Nicholas Sims. "The US statement at the Fifth Review Conference: compounding the error in rejecting the Composite Protocol", in Graham Pearson and Malcolm Dando (eds), *Strengthening the Biological Weapons Convention: Review Conference Paper no 4* [University of Bradford: Department of Peace Studies], January 2002, 40 pp.
- Pearson, Graham, and Malcolm Dando. "Return to Geneva: the United Kingdom Green Paper", in Graham Pearson and Malcolm Dando (eds), *Strengthening the Biological Weapons Convention: Review Conference Paper no 6*, [University of Bradford: Department of Peace Studies], June 2002, 38 pp.
- Ponce de Leon-Rosales, Samuel, Eduardo Lazcano-Ponce, Manuel Sigfrido Rangel-Frausto, Luis Antonio Sosa-Lozano, and Martha Asuncion Huerta-Jiminez. "Bioterrorismo: apuntes para una agenda de lo inesperado", *Salud Publica de Mexico*, vol 43 no 6 (November/December 2001), pp 589-603.
- Poste, George. "Biotechnology and terrorism", *Prospect* (May 2002).
- Rickmeier, Gillian, Gene McClellan, and George Anno. "Biological warfare human response modeling", *Military Operations Research*, vol 6 no 3 (2001), pp 35-57.
- Robinson, Julian Perry. "Chemical weapons", in Ilkka Taipale, Helena Makela, Kati Juva, Vappu Taipale, Sergei Kolesnikov, Raj Mutalik, and Michael Christ (eds), *War or Health?* London: Zed Books, in association with Physicians for Social Responsibility [Finland], 2002, pp 119-26.
- Rogers, Paul. "Characteristics of natural outbreaks of crop diseases", in Malcolm Dando, Graham Pearson, and Bohumir Kriz (eds), *Scientific and Technical Means of Distinguishing Between Natural and Other Outbreaks of Disease*, NATO Science Series, 1. Disarmament Technologies, vol 35, Dordrecht: Kluwer Academic Publishers in cooperation with NATO Scientific Affairs Division, 2001, pp 49-62.
- Rosenberg, Barbara Hatch. "The FAS' collaborative project on the biological sciences: risks, reponses and responsibilities", *Track Two* [University of Cape Town: Centre for Conflict Resolution], vol 10 no 3 (December 2001), pp 58-59.
- Rosenberg, Barbara Hatch. "A way to prevent bioterrorism", *Track Two* [University of Cape Town: Centre for Conflict Resolution], vol 10 no 3 (December 2001), pp 42-43.
- Rubin, Michael. "Iran's burgeoning WMD programs", *Middle East Intelligence Bulletin*, vol 4 no 3 (March/April 2002).
- Ruiz Fabri, Helene. "The UNSCOM experience: lessons from an experiment", *European Journal of International Law*, vol 13 no 1 (2002), pp 153-59.
- Sheeran, Timothy. "Bioterrorism", in Gabriel Bitton (ed), *Encyclopedia of Environmental Microbiology*, New York: John Wiley & Sons, 2002, 12 pp.
- Simon, Jacqueline, and Melissa Hersh. "An educational imperative: the role of ethical codes and normative prohibitions in CBW-applicable research", *Minerva*, vol 40 no 1 (Spring 2002), pp 37-55.
- Sims, Nicholas. "Return to Geneva: the next stage of the BTWC Fifth Review Conference", in Graham Pearson and Malcolm Dando (eds), *Strengthening the Biological Weapons Convention, Review Conference Paper no 5* [University of Bradford: Department of Peace Studies], April 2002, 16 pp.
- Sohns, T, and E J Finke. "Natural and other biological risks from a medical service perspective", in Malcolm Dando, Graham Pearson, and Bohumir Kriz (eds), *Scientific and Technical Means of Distinguishing Between Natural and Other Outbreaks of Disease*, NATO Science Series, 1. Disarmament Technologies, vol 35, Dordrecht: Kluwer Academic Publishers in cooperation with NATO Scientific Affairs Division, 2001, pp 93-100.
- Steyn, Ben. "Scientific techniques to distinguish natural and other outbreaks of disease", in Malcolm Dando, Graham Pearson, and Bohumir Kriz (eds), *Scientific and Technical Means of Distinguishing Between Natural and Other Outbreaks of Disease*, NATO Science Series, 1. Disarmament Technologies, vol 35, Dordrecht: Kluwer Academic Publishers in cooperation with NATO Scientific Affairs Division, 2001, pp 87-92.
- Sunshine Project. *An introduction to biological weapons, their prohibition, and the relationship to biosafety*, Third World Network Briefing Paper, 2002, 20 pp.
- Toth, Tibor. "Outbreaks of disease", in Malcolm Dando, Graham Pearson, and Bohumir Kriz (eds), *Scientific and Technical Means of Distinguishing Between Natural and Other Outbreaks of Disease*, NATO Science Series, 1. Disarmament Technologies, vol 35, Dordrecht: Kluwer Academic Publishers in cooperation with NATO Scientific Affairs Division, 2001, pp 27-30.
- Trapp, Ralf. "The first CWC Review Conference: some thoughts on its objectives and on key issues", *OPCW Synthesis*, Spring/March 2002, pp 13-15.
- Tucker, Jonathan. "In the shadow of anthrax: strengthening the biological disarmament regime", *The Nonproliferation Review*, vol 9 no 1 (Spring 2002), pp 112-21.
- Tucker, Jonathan. "Putting teeth in the Biological Weapons Convention", *Issues in Science and Technology*, [Centers for Disease Control and Prevention, National Institute of Occupational Safety and Health], Spring 2002, pp 71-77.
- Tucker, Jonathan. "Regulating scientific research of potential relevance to biological warfare", in Michael Barletta (ed), *After*

9/11: Preventing Mass-Destruction Terrorism and Weapons Proliferation, [Occasional Paper no 8], Monterey: Center for Nonproliferation Studies, Monterey Institute of International Studies, 2002, pp 24-27.

Tucker, Jonathan, and Raymond Zilinskas. "Assessing US proposals to strengthen the Biological Weapons Convention", *Arms Control Today*, vol 32 no 3 (April 2002), pp 10-14.

US Department of Health and Human Services. *Guidance for Protecting Building Environments from Airborne Chemical, Biological, or Radiological Attacks*, Cincinnati, OH: DHHS (NIOSH), 2002, 28 pp.

van Aken, Jan, and Edward Hammond. "Closing loopholes in the Biological Weapons Convention", *Medicine, Conflict and Survival*, vol 18 (2002), pp 194-98.

Wallace, Wing-Co. V J. "Non-lethal weapons: R²IPE for arms control measures? 170 *Defence Studies*, vol 1 no 2 (Summer 2001), pp 83-108.

Webb, Glenn, and Martin Blaser. "Mailborne transmission of anthrax: modeling and implications", *Proceedings of the US National Academy of Sciences*, vol 99 no 10 (14 May 2002), pp 7027-32.

Wheelis, Mark. "Biotechnology and biochemical weapons", *The Nonproliferation Review*, vol 9 no 1 (Spring 2002), pp 48-53.

Whitby, Simon, Piers Millett, and Malcolm Dando. "The potential for abuse of genetics in militarily significant biological weapons", *Medicine Conflict and Survival*, vol 18 (2002), pp 138-56.

Willis, Elizabeth. "Landscape with dead sheep: what they did to Gruinard Island", *Medicine, Conflict and Survival*, vol 18 (2002), pp 199-211.

Wilson, Henrietta. "The Biological Weapons Convention: Politics, Science and Industry", *VERTIC Research Reports*, no 2 (December 2001), 36 pp.

Wilson, Keith. "No 'safe havens': the need to strengthen international control regimes: implications for national

UK CWC National Authority Annual Report

Subscribers to *The CBW Conventions Bulletin* will find enclosed with this issue a copy of the recently published [see *News Chronology 25 April*] *Annual Report for 2001* of the UK CWC National Authority. As before, the Harvard Sussex Program has done this as a contribution to enhancing transparency of implementation of the CWC. It would be happy to distribute copies of similar reports from other CWC National Authorities, upon request to the HSP Sussex administrator, Carolyn Sansbury, at the address given below.

implementation", *OPCW Synthesis*, Spring/March 2002, pp 18-22.

World Health Organization. *Genomics and World Health: Report of the Advisory Committee on Health Research*, Geneva: WHO, 2002, 241 pp.

Zanders, Jean Pascal. "Libya's chemical weapons programmes (1980-2000)", *Track Two [University of Cape Town: Centre for Conflict Resolution]*, vol 10 no 3 (December 2001), pp 37-41.

Zanders, Jean Pascal (ed). "Ethics and reason in Chemical and Biological Weapons Research", *Minerva*, Special issue, vol 40 no 1 (Spring 2002), and "Introduction" thereto, pp 3-13.

Zanders, Jean Pascal, and Kurt Laforce. "The SIPRI/UB/ISN internet educational module on chemical and biological weapons non-proliferation", *Track Two [University of Cape Town: Centre for Conflict Resolution]*, vol 10 no 3 (December 2001), pp 55-57.

The CBW Conventions Bulletin (formerly the *Chemical Weapons Convention Bulletin*) (ISSN 1060-8095) is edited and published quarterly by the Harvard Sussex Program on CBW Armament and Arms Limitation. The goal is to provide information and analysis towards an effective multilateral treaty regime which will eliminate chemical and biological weapons and help prevent the exploitation of biomedical technologies for hostile purposes. The Harvard Sussex Program is supported by American and British charitable foundations, including the John D and Catherine T MacArthur Foundation, Carnegie Corporation of New York and the Joseph Rowntree Charitable Trust.

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 & Technology Policy Research
University of Sussex
Brighton, BN1 9RF
England
[Tel: 01273-678172. Fax: 01273-685865]

Advisory Board

Will Carpenter, USA
Jonathan Dean, USA
Shirley Freeman, Australia
Ian Kenyon, UK
James Leonard, USA
Jan Medema, The Netherlands
Graham Pearson, UK
Abdullah Toukan, Jordan

Producer

Richard Guthrie, University of Sussex

World Wide Web site (Internet)

www.fas.harvard.edu/~hsp/ or www.sussex.ac.uk/spru/hsp/

Please note new subscription arrangements: enquiries should be addressed to Carolyn Sansbury at the University of Sussex address above. The current annual subscription price is £60/US\$100/EUR100 (individuals and non-profit organizations) or £100/US\$250/EUR250 (corporate bodies). Payment may be made by cheque payable to 'University of Sussex'.