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Chemical warfare: rearmament or disarmament?

THIS past week a party of diplomats from a wide range of countries has been flying around Britain looking at the demolition of a chemical weapons factory in Cornwall and inspecting the Birmingham premises of a manufacturer who handles phosphorus compounds. This somewhat unusual exercise is part of an Anglo-German effort to put the problems of chemical disarmament in clearer context. But despite occasional flurries of activity, indeed despite draft treaties tabled with the Conference of the Committee on Disarmament, there is as yet nothing like unanimity amongst nations on what sort of agreement would be acceptable, and there are substantial pressures, most notably in the United States, for chemical rearmament.

Biological weapons were effectively banned by a 1972 convention in which all major states agreed 'never in any circumstances to develop, produce, stockpile or otherwise acquire or retain microbial or other biological agents, or toxins . . .'. Additionally the Geneva Protocol of 1925, also widely adhered to now, prohibits the use in war of 'asphyxiating, poisonous or other gases' although this protocol does not close the door on research and development, production or stockpiling of chemical weapons against possible first-use by another nation. It is this lack of prohibition on 'defensive' chemical weaponry which has allowed the development of mustard gas, hydrogen cyanide and nerve agents, particularly sarin, soman and VX, together with the means of delivery. It is known that the Soviet Union, France and the United States maintain stocks of chemical weapons; whether any other nation, particularly in the Middle East, possesses them is unclear. However, material captured during the 1973 Middle-East War showed that the Soviet Union was prepared to supply allies with the wherewithal to fight in a toxic environment.

Since then the United States has been taking serious stock of its ability to cope with a chemical warfare attack and, if necessary, to retaliate in kind. Binary weapons, comprised of two harmless constituents which mix in the missile only after launch, are being discussed seriously (*Nature*, June 15, 1978, page 481). And this past year two important documents have been published: a plea for the US government to give chemical warfare much more attention ('The Neglected Threat of Chemical Warfare, by A. M. Hoeber and J. D. Douglass, in *International Security*, Vol. 3, No. 1) and the proceedings of a conference which looked at the wide spectrum of possibilities for responding to Soviet activity, in particular by arms control measures (*Chemical Weapons and Chemical Arms Control*, Matthew Meselson, ed., Carnegie Endowment, 11 Dupont Circle, Washington, DC).

The most likely venue for any chemical attack would be central Europe, and the most likely target would be small pockets of soldiers, or military installations. A chemical strike against an airfield might be particularly effective. There are clear similarities between chemical and tactical nuclear weapons, but, of course, an obvious distinction is

that once the nuclear road had been taken in a war the possibilities of escalation would be almost infinite.

This poses a dilemma: if the Soviet Union were to lead with a chemical attack, would NATO respond in kind or would it use tactical nuclear weapons? There is a fair amount of disagreement about the answer. The United States maintains large stockpiles (almost all back home at present) and is busy equipping its soldiers with new protective clothing; its army would undoubtedly like to have the capability of responding in kind. On the other hand West Germany does not store chemical weapons and does not train personnel to use them. Britain too does not maintain retaliatory capability, relying on nuclear deterrence, but also stresses the value of anti-chemical defences (having been successful in selling protective clothing to her allies).

There is even disagreement about the size of the Soviet threat. Hoeber and Douglass speak of Soviet superiority over the United States being of 'two or three orders of magnitude', making chemical warfare, even uncoupled from nuclear attack, 'a major contingency for which the Soviet Union plans'. On the other James Leonard, an arms controller, speaks of a *de facto* chemical disarmament in Europe and says he has never been satisfied that there was a significant Soviet capability to wage a chemical war, whilst Julian Perry Robinson, of Sussex, asserts that the threat of Soviet chemical weapons 'can at most be marginal'. Faced with a diversity of assessments (based, it must be said, on desperately little hard data) and faced with an alleged aversion, even by military men, to contemplating the used of such unchivalrous means of warfare, is it possible to neutralise the chemical weapons threat, not by pressing on with bigger and better stockpiles, or by improving protective clothing, but by arms control measures?

The military man will say: yes, but first have a strong retaliation capability as a bargaining chip; on the other hand the arms controller might even propose unilateral measures of disarmament to build confidence. Between nations, however, the sticking point is the difficulty in achieving any satisfactory degree of verification. The Soviet Union's favoured brand of monitoring is self-monitoring. Western proposals are much tougher on international safeguards, such as on-site inspection. A resolution of these differences does not seem imminent.

In the meantime, what does Britain do? At present her initiatives seem to be in promoting chemical defence and arms control. But this supposes that retaliation by nuclear weapons will be effective and acceptable. Could Britain start work on chemical offensive weapons again? Not under a Labour government, but might a Conservative government sanction modest activities? We simply don't know. Public discussion of chemical warfare is just about non-existent in Britain; presumably in the restricted circles of ministers, generals and top civil servants some people are thinking hard about options. It is time the debate was widened. □