

British water supply if the recent cold weather had caused water to be rationed in some places.

The association's study has in part been occasioned by a resolution passed at last year's annual representative conference. That circumstance is counted as a success for the Medical Campaign against Nuclear Weapons, which now claims 1,400 members, perhaps 2 per cent of registered physicians in Britain. Other professional anti-nuclear groups may follow this example.

Architects for Peace has similarly taken the initiative by asking the professional organization whether architects can ethically help with building missile sites or underground bunkers, while both the physicians and the Nursing Campaign against Nuclear Weapons intend to make fun of the plans worked out by central and local government for dealing with the consequences of a nuclear attack.

Mr Michael Walsh, chairman of the nurses' organization, produced a scathing criticism of the official British policy that medical personnel should be dispersed to rural areas if there should be advance



warning of a nuclear attack, and that the urban population should rely on "self-help". One participant at the conference contributed the intelligence that a local authority plan for dealing with the aftermath of a nuclear attack on the north of England has prudently qualified the advice that the dean of the local medical school should be consulted with the phrase "or his representative".

The surprise of the conference was the declaration by General Michael Harbottle, now secretary-general of the World Disarmament Campaign, that there are now almost enough ex-military men like himself to form an organization called "Generals for Peace". More predictable was the steady undertone of criticism of the British and American governments, accused by Ms Norma Turner ("Journalists against Nuclear Extermination") of assailing the media with "anti-Soviet pro-nuclear propaganda". Several speakers considered that the meeting early in June of the NATO

council that President Ronald Reagan will attend had been arranged to distract attention from the Second Special Assembly of the United Nations on disarmament, while General Harbottle thought it possible that Queen Elizabeth II's political independence had been compromised by her invitation to the president to dine at Windsor Castle on 10 June.

The conference was attended by 430 people, more than a third of them from the medical professions. About ten per cent of the participants were scientists, among whom Dr Tom Kibble, professor of physics at Imperial College and vice-chairman of "Scientists against Nuclear Arms", raised the provoking (and unanswered) question of how and when to raise with students, "very often the military technicians of tomorrow", the propriety of taking jobs in military research.

Rights on DNA

Brussels

A move to widen the scope of the European Human Rights Convention to include the dangers of genetic engineering provides further evidence of the unease which recombinant DNA work still arouses in Europe. A report adopted by the assembly of the Council of Europe in Strasbourg on 26 January included eight recommendations on the legal, ethical and social issues raised by the prospect of interference with human genetic inheritance. The rapporteurs, Lennart Petterson (Social Democrat, Sweden) and Bjorn Elmquist (Liberal, Denmark), based their recommendations on the findings of a public parliamentary hearing last May.

The right to a genetic inheritance free from any form of engineering should be included in the European Human Rights Convention, say the Strasbourg legislators. Exceptions include the treatment of genes to eliminate genetically transmitted diseases but this must only be done with the consent of those concerned or, for children or a fetus, the consent of the parents.

The recommendations also stress the need to monitor the harmonization of safety regulations applied to recombinant DNA research in Europe, and suggest that this should be done by the European Science Foundation. EEC's draft legislation on the registration of DNA research should also be examined to see whether it should be applied throughout Europe. Finally, the Council of Europe proposes to study how microorganisms which have been modified by recombinant DNA techniques can be patented.

Jasper Becker

Chemical warfare

Protest plans

Washington

Twenty-five religious, environmental and arms control groups have formed a coalition to lobby against the Reagan Administration's plans to resume the production of chemical weapons after a 13-year moratorium.

The coalition, being organized by the Washington-based Council for a Livable World, was announced last week, just after President Reagan had removed the last remaining legal barrier to resumed production by declaring that the production of nerve gas weapons was "essential" to the national security of the United States.

This in turn coincided with a request from the Reagan Administration for a budget of \$705 million for chemical warfare activities conducted by the Department of Defense for the 1983 fiscal year, which begins on 1 October. \$77 million is also being added to the budget for the current year, which will now total \$532 million — and compares with the \$111 million being spent only four years ago.

Included in the 1983 request, most of which will be spent on improving defensive equipment and apparatus, is \$30 million which will be used to produce "binary weapons" at the Pine Bluff Arsenal in Arkansas. Congress has already agreed to spend \$20 million to build the production facilities, which are now expected to be completed by mid-1983.

According to Defense Secretary Caspar Weinberger, two types of chemical weapons will be produced: 155 mm artillery shells and Big-Eye bombs. Both will be based on the binary concept, in which two non-lethal chemicals are stored separately.

President Reagan's announcement had been widely expected, following pressure from the US military to replace the existing stockpile of chemical weapons, and widespread claims about Soviet superiority in chemical weapons as well as the alleged use of "yellow rain" in South-East Asia. (*Nature* 293, 327; 1981).

Two years ago, the Pentagon's Defense Science Board, chaired by Dr John Deutch of the Massachusetts Institute of Technology, recommended a start on the production of binary weapons and that the Department of Defense should prepare for a major increase in its chemical warfare programmes. The department is said to be planning to spend about \$1,400 million in 1984, and even more later.

Supporters of the chemical weapons programme argue that it is necessary to persuade the Soviet Union to speed up the chemical disarmament treaty, which the United States and the Soviet Union have been discussing in Geneva since 1975.

In a letter to the leader of the House of Representatives, Mr Tip O'Neill, President Reagan argued that the resumption of production, which had been banned by

President Nixon in 1969, would "provide strong leverage towards negotiating a verifiable agreement banning chemical weapons." He added: "Considering the current world situation, particularly the absence of a verifiable ban . . . the United States must also deter chemical warfare by denying a significant military advantage to any possible initiator."

Opposition to the Administration's plans is expected to focus on two main lines of argument. The first is the technical discussion about whether an increased chemical capability would, in fact, act as a deterrent to the Soviet Union, or whether — given some of the inherent limitations of binary weapons — it would make more sense to modernize existing stockpiles by more conventional means.

The second argument focuses on the opposition which is already developing in Western Europe, where the chemical weapons would have to be stored if, as expected, their main use was to be in a European theatre of war. According to critics of the Administration from both the left and the right, this opposition could lead to a destabilizing of the Atlantic Alliance which would, in itself, be an additional threat to national security.

Last year, the Administration's plans to build the production facility were approved by the Senate only by two votes in contrast in the House of Representatives there was a strong majority in favour of the new facility. This year the critics hope that the combination of a stringent budget outlook and forthcoming congressional elections will give them the votes needed to defeat the proposal to resume production; but with both the Defense Department and the White House apparently determined to push the proposal through, those trying to head it off recognize that they face a tough uphill task.

David Dickson

Deep-sea mining

Fairer shares

Brussels

A recent European Commission policy paper is urging that, when the world's developed and developing countries meet again in March at the International Conference on the Law of the Sea, to renew their fight over the mineral spoils of the deep seabeds, the EEC's member states should vote together in favour of a better deal for the mining consortia.

Europe, the Commission points out, is almost totally dependent on outside supplies of the minerals in question. Nearly all of Europe's cobalt, copper, manganese and nickel requirements are mined in the developing world, mostly in countries marked by political instability and a poor investment record.

Added to this are the national interests of the six consortia at present in the queue for mining licences. France is represented by the Association d'Etude et de Recherche

des Nodules Polymetalliques (AFERNOD), which includes CNEXO (National Centre for the Exploration of the Oceans), the Le Nickel company and the atomic energy commissariat. Britain is represented by the Kennecott Copper Corporation, which is controlled by British Petroleum. Italy's ENI and Belgium's Union Minière Belge have interests in Ocean Mining Associates. Three German companies are partners in Ocean Management Incorporated and Holland's Bos Kalis is a member of the Ocean Mineral Company.

Although they have obvious interests in common, the member states have largely acted independently of one another. However, both the European Commission and the European Parliament would like the conference to decide on a joint EEC policy on raw materials. For the forthcoming round of negotiations the Commission recommends that the Ten should concentrate on ensuring that the mining consortia are not burdened to the point of non-profitability by restrictions and levies.

Mining permission by the proposed authority should be given impartially and there should, the Commission considers, be a way of appealing against decisions. However, the Commission rejects the idea that the authority should be funded by taxes levied in the mining consortia, pointing out that the financial risks of investing an estimated \$1,000 or 1,500 million to mine a site of 3 million tonnes are well above those required to extract the same amount of metal in a developing country. To counterbalance this, the Commission wants the law to guarantee that production levels as well as access to the markets can be maintained for the duration of a licence.

The developing countries see the problem as ensuring that their own mineral resources are not cut out of the market by competition from seabed mining. In addition, they are pressing for a transfer of technology and joint ventures, and hence a share of mining profits. The Commission is doubtful about how this would work out in practice and wants developing countries to share more of the risks involved.

Sources at the Commission suggest that since the conference ended last March little has happened to alter the negotiating positions of the opposing camps of developed and developing countries which are likely to remain at loggerheads this coming March.

Jasper Becker

German academics

Tenure vanishes

Hannover

Since its inception 10 years ago, the policy of *Berufsverbot*, the exclusion of "political activists" from employment in West Germany's civil service, has meant not so much the dismissal of persons considered "extremist" but rather the blocking of their entry into public employment. In academic circles, therefore, the principal victims were young graduates who had formerly been members of (quite legal) left-wing student societies, and found themselves barred from an academic career.

But the recent "Campaign against *Berufsverbot*" conference in Hannover met under the shadow of a new threat, which has arisen as a result of the case of post office official Hans Peter, sacked for his political views after 30 years of service. After a vociferous campaign Peter's appeal was finally dismissed by the federal court last October.

The significance of the Peter case is that this is the first time a tenured official (*Beamte*) has been dismissed for his political views. West German employment policy recognizes three categories of employed person: "worker", "employee" and "*Beamte*". In return for job tenure for life, *Beamte* employees are expected to swear an oath to uphold the constitution. Anti-*Berufsverbot* campaigners explain that those barred from state employment for being activists are fully prepared to uphold the constitution (which guarantees freedom of conscience and opinion). What they are not always willing to do is to equate their loyalty to the constitution with unqualified support of specific government policies.

During the past 10 years, the spectrum of victims of *Berufsverbot* (the campaign lists some 5,000 cases of exclusion throughout the Federal Republic) has gradually widened from communists to socialists, to liberals, to the peace movement and — most recently — to the ecology lobby.

The immediate threat of *Berufsverbot* policy to academics is indirect. Although the Peter case threatens any tenured position, during the past few years a tacit agreement has grown up in the universities that a scholar at risk would formally hold a non-tenured post, but would in other respects be treated as if fully tenured. However, recent cut-backs in university funding in West Germany have meant the abolition of a large number of non-tenured posts. Academics who have been at risk of *Berufsverbot* are thus being eliminated from the universities without the direct intervention of political considerations. With the scope of the screening process apparently becoming ever wider, and unemployment figures soaring, their prospect of finding other jobs seems bleak.

Vera Rich

Small growth fund

The address of the Treasurer of the Association for Research into Restricted Growth was given incorrectly in *Nature* 11 February. The following is the correct address: Pam Worsfold, 8 Cotswold Avenue, Rayleigh, Essex.

