

## Biological weapons

**No NIH ban**

Washington

An amendment to the National Institutes of Health (NIH) recombinant DNA guidelines that would have banned the construction of biological weapons by molecular cloning was rejected last week by the Recombinant DNA Advisory Committee (see *Nature* 17 June, p.527).

The committee accepted the assurances of the US Army and the Arms Control and Disarmament Agency that no such work is being conducted and that, in any event, the 1972 Biological Weapons Convention effectively prohibits the construction of biological warfare agents by any means.

After rejecting any change in the guidelines, the committee adopted a much milder resolution that simply advises the director of NIH that the 1972 treaty applies to recombinant DNA research. The treaty forbids the development of biological agents or toxins "of types or in quantities that have no justification for prophylactic, protective or other peaceful purposes".

Meanwhile, both the Office of Management and Budget (OMB) and the Department of the Army have issued official explanations of the US defensive biological warfare research programme. OMB now says it was wrong when it stated last month that the Army had both classified and unclassified budget items in this area. All research on biological weapons defence is in fact in the published budget.

According to the Army statement, this research is limited to two major projects: medical defence, and detection and protection. The medical research, with a budget of \$17 million, is conducted openly at the US Army Medical Research Institute of Infectious Diseases at Fort Detrick, Maryland. It focuses on the development of vaccines and treatments for both natural diseases and potential biological warfare agents.

According to Joseph Campbell of OMB, it was a proposed increase in the medical programme that caused concern at OMB earlier this year. Campbell says he wanted to know in particular if a plan to spend \$75–100 million over the next ten years for the development of an anthrax vaccine made sense.

The detection research is being done at Aberdeen Proving Ground in Maryland. According to Thomas Dashiell of the office of the Secretary of Defense, its budget is \$3.8 million this year. A chemiluminescent detector sensitive to bacteria and naked viruses has been developed. The project itself is unclassified, although information on the detector's sensitivity is secret. Research on protective clothing and decontamination is all being done under the chemical weapons research budget.

Dashiell says the remainder of the biological defence budget — \$200,000 — goes to a small "technology watch" programme

run by the "intelligence community", and which is classified. The aim is keep an eye on developments throughout the world that might affect the vulnerability of US and NATO forces to biological attack.

Dashiell was also able to confirm that a request to the National Academy of Sciences for studies on chemical and biological weapons issues originated from the Under Secretary of the Army. The academy's assembly of life sciences is now considering a specific request for a literature search on mycotoxins.

Stephen Budiansky

## Deep sea drilling

**Soviets out**

Washington

The Soviet Union will no longer participate in the US International Deep Sea Drilling Program. The bilateral US-Soviet agreement under which it had contributed scientists and \$2 million a year for the past nine years has lapsed, and the White House has ordered that it should not be renewed.

The termination of the accord is part of a general withering of US-Soviet scientific ties that started with the Soviet invasion of Afghanistan in December 1980 and intensified after the imposition of martial law in Poland last December. At that time, President Reagan ordered that the US-Soviet bilateral agreements then in force could continue, but should be terminated as each came up for renewal.

Although the deep-sea drilling programme agreement is not to be continued, the US-Soviet oceans accord, of which the deep sea drilling agreement is part, is still in force. The space agreement lapsed in May, the energy agreement in June and the science and technology agreement will lapse this month. The oceans agreement continues because it was renewed last December, before the Polish crackdown.

Several other agreements continue: in transportation, housing, atomic energy and agriculture research. But they are "pretty moribund", says one White House science official. The most active, perhaps, are exchanges relating to fusion energy and high-energy physics — areas of traditional US scientific cooperation abroad. These are part of the atomic energy accord. Several agreements come up for renewal in the autumn, which will be the President's next chance to signal his view of the state of US-Soviet relations.

The departure of the Soviet Union from the ocean drilling programme will probably be more than made good by the participation of other countries. At a meeting in Washington last month, countries such as Australia, Canada, New Zealand and Switzerland expressed interest in the Advanced Ocean Drilling Project.

The plan is to use the 52,000 ton *Glomar Explorer*, originally built by the industrialist the late Mr Howard Hughes to

recover a Soviet submarine from the Pacific, as a replacement for the much smaller *Glomar Challenger*. The National Science Foundation thinks that *Explorer* could be ready as early as 1985, provided that sufficient support (including that from overseas) materializes. Contributions from outside the United States have met a third of the cost of the *Glomar Challenger* programme, but this proportion may have to change now that the oil industry has pulled out of a joint venture in *Explorer*.

Deborah Shapley

## Rayner on government research

**Sceptics abound**

Sir Derek Rayner's proposals last week for reducing peripheral waste in British government research establishments (*Nature* 1 July, p.3) have encountered a sceptical response. Some staff representatives say that the proposals are based on scanty and misleading analyses. Some of the central government departments, which will have the final say over which proposals to accept, are said to share that view.

Rayner's proposals were based on studies in 19 laboratories looking for ways of cutting support services without jeopardizing research.

Most of the response to the proposals so far has come from the Institution of Professional Civil Servants (IPCS), whose scientific staff members are not directly affected. Unions representing cleaners, clerical, engineering and technical staff, among whom Rayner suggests savings of 19 per cent would be possible, will take longer to reply, partly because there are so many of them and partly because few of them are used to dealing with Civil Service problems.

IPCS says that it would welcome greater efficiency in the services available to its members and that few scientific staff would shun the increased management responsibilities the Rayner proposals would give them. But many of the proposals, it is claimed, either imply a change of government policy towards research or will not achieve the estimated savings.

Thus, IPCS says, suggestions that laboratories charge economic rates for information supplied conflict with policies for disseminating much government research as widely as possible. And the recommendation to contract out for as many services as possible overlooks the need for highly specialized services in government laboratories.

The proposals for shedding laboratory land and buildings, however, seem to have aroused the greatest scepticism. Thus critics say that moving the Princes Risborough outstation of the Building Research Establishment to the main site at Garston would not save the £343,000 mentioned by Rayner. According to

members of the staff, the true costs of moving have not been deducted from the savings and they doubt that the vacated site could be sold at market value during a recession.

Similarly, staff at the National Physical Laboratory claim that the proposal to close 200,000 square feet of buildings on the main site makes no economic sense. Some of the buildings recommended for closure are said to contain equipment such as standard force measurement machines and a vibration-free table whose removal would cost far more than the proposed savings.

**Judy Redfearn**

## Levich in New York

# Down to work

*New York*

The fourth "Levich" conference held last month in New York was more like a routine scientific conference than a human rights protest. Organized by the New York Academy of Sciences and the City College of the City of New York, the Fourth International Conference on Physico-Chemical Hydrodynamics squeezed its concern for scientists' freedom in Eastern Europe into only a short tea-break. Professor Benjamin Levich, of the Weizmann Institute in Israel and simultaneously Einstein professor of physics at City College, participated as honorary chairman.

Five years ago at the first conference, Professor Levich was still in Moscow, a "refusnik" refused a visa to emigrate to Israel but also prevented from continuing his scientific work. Deprived of the sixtieth birthday conference normally accorded to Corresponding Members of the Soviet Academy of Science, Professor Levich was instead honoured with a conference organized by his colleagues in the West. The Soviet scientific establishment castigated this as an attempt to "set the scientific world in the West against the Soviet Union" — a charge strongly denied by Sir Derek Barton and Professor Brian Spalding, who stressed the "high importance" of physico-chemical hydrodynamics and of Levich's work in the field.

Nevertheless, the fact that the conference took place without the guest of honour inevitably publicized — and was intended to publicize — Levich's plight. When, the following year, a similar "Levich birthday" conference was convened in Washington DC, presumably in honour of his sixty-first birthday, the scientific purpose of the conference was again coupled with the desire of Levich's colleagues to win him the right to emigrate.

By the third conference (Madrid 1980), this aim had been achieved; Professor Levich had been in the West for more than two years and could preside in person. At the fourth conference human rights were referred to only in passing — in a review of the current situation presented by the

Committee of Concerned Scientists and in an evening entertainment by a drama workshop from City College.

The conference, with its papers ranging from Czochralski crystal growth to three-phase coal slurries and from the haemodynamics of arterial flow with stenosis to two-dimensional flame propagation, honoured Levich rather by implication, indicating the wide ramifications of the discipline he helped to develop. Invited participants from the Soviet Union were unable to attend.

**Vera Rich**

## Acid rain

# UK unrepentant

*Stockholm*

The Swedish government scored a modest success last week with its *ad hoc* meeting of the signatories to the 1979 Geneva Convention on long-range transboundary air pollution. The ministerial meeting accepted an expert report on the state of knowledge on acid rain, produced at a meeting the previous week, and it now seems likely that the convention will come into force by the end of the year.

Under the Geneva Convention, polluting countries must reduce sulphur emission, and the expert report effectively removed many of the objections that have been raised. There is no longer any doubt that sulphur dioxide and nitrogen oxides are responsible for the damage done to 20,000 Scandinavian lakes and a million hectares of central European forests.

Even so, Sweden's attempt to revive the "spirit of 72" when the UN Conference on the Environment was held in Stockholm was a flop. Some of the worst polluters, such as the United Kingdom, France and the United States, were complacent. Britain's Giles Shaw, Under-Secretary of State for the Environment, admitted the United Kingdom's burden of responsibility as Western Europe's biggest source of sulphur dioxide emission, but said that considerable strides had been made since 1972. Britain claims to have reduced sulphur dioxide emission by more than 20 per cent but mainly as a consequence of economic recession, the use of natural gas and low-sulphur North Sea oil and a greater use of coal.

The real surprise at the conference, however, was the change of heart by West Germany, where Chancellor Helmut Schmidt is anxious to win back the ecological vote after his party's near-defeat in the Hamburg elections. Another factor is the research carried out by Professor Bernhard Ulrich of the University of Göttingen which shows that 40 per cent of German forests have started to die, almost certainly as a result of air pollution. The expert report, however, considered as inconclusive the evidence that acid rain directly affects tree growth.

Scandinavian forests are not so far

affected, principally because of the lower concentrations of sulphur dioxide and nitrogen oxides there. An ability to predict the speed at which acid rain will affect soils outside Scandinavia or the forests in that region, as well as the exact relationships between emissions and long-range precipitation, is crucial if the Scandinavians are to persuade other countries to spend money on pollution control. But the experts say that more research will be required before this can be done.

Some action at least is being taken. The Netherlands proposed reducing yearly per capita emissions of sulphur dioxide to 35 kilogrammes (the figure for the United Kingdom is about 88 kilogrammes) and nitrogen oxide emissions from 40 to 20 kilogrammes, which should halve the average wet deposition of sulphur in Europe. Although this proposal has not yet been accepted, the conference agreed that "even if deposition remains stable, deterioration of soil and water will continue and may increase unless additional control measures are implemented".

**Jasper Becker**

## US 1983 budget

# Tighter still

*Washington*

The 30 per cent of US researchers who depend on federal funds are now a little closer to knowing how much money they will have when the new fiscal year begins on 1 October. The House of Representatives and the Senate have finally approved a budget resolution setting targets for government appropriations, that is, how much money may actually be spent in the 12 months starting in October. The Appropriations Committees of the House and Senate, each with 13 subcommittees, will now start working out individual spending figures.

A parallel but related process in Congress determines authorizations — the upper limits of what can be spent as well as approval for future years' programmes. Each process can modify the original budget request by the President but he has a veto. President Reagan has already vetoed a supplemental appropriation that contained, among other things, money for student loans, because it also included a housing measure he disliked. (Another supplemental appropriation, with the loans but without the housing, is expected to be passed soon.)

But last month's resolution may not put an end to the budget controversy that has dogged the Administration and Congress for most of the year, for the figures are somewhat higher than the President requested in domestic programmes, and somewhat lower for defence. If the appropriations committees agree these figures, the President could veto their measures. Even Washington has been bemused by the budget high jinks this year.