

atmospheric and oceanic pollution, the prohibition at sea by international convention of oil pollution and possibly other harmful emission into the oceans and an international convention for the rational management of the resources of the seas.

BIOLOGICAL WARFARE

Detrick Left Hanging

by our Washington Correspondent

A YEAR and a month after President Nixon announced that stockpiles of biological weapons would be destroyed, the Army has discovered a foolproof way of doing so—by heat. Army spokesmen furnished elaborate explanations just a week before Christmas of the plans to steam heat the offensive germs and toxins, autoclave them and process the material through a sewage plant, and finally to bury the evaporate four inches below ground and plant grass above its grave. Apart from the last of these steps—a deft piece of symbolism indicating the care the Army is spending on its public relations on this occasion—the procedure seems hardly to differ from the standard methods in everyday use at the Army's biological warfare establishments. The inordinate delay in arriving at so plain a solution must be ascribed, by those who cannot believe the Army would try and obstruct the stated will of the President, to a truly massive bureaucratic inertia.

The nature of the biological weapons was not revealed at the Army press conference but they are believed to consist chiefly of anti-personnel agents, including the organisms or toxins of diseases such as tularaemia, Q fever, anthrax and Venezuelan equine encephalitis. These are stored in refrigerated igloos at Pine Bluff in Arkansas, along with an arsenal of 20,000 botulin charged bullets. Smaller amounts of anti-crop agents such as rice blast and wheat rust are kept at Fort Detrick in Maryland, the chief biological warfare research laboratory, at Rocky Mountain arsenal in Denver, Colorado, and at Beale air force base in Marysville, California. All agents are to be disposed of on site at the various storage locations, thus avoiding the troublesome public protests that are now a regular feature of the Army's schemes for transporting hazardous weapons across country. The cost of the condemned weapons, which were manufactured between 1962 and 1969, is \$726 million. The disposal plans will cost the taxpayer a further \$12.2 million.

Although these unpleasant organisms and their products have at last been consigned to certain extinction, a less certain fate awaits the Fort Detrick laboratories where most of the relevant research was done. Until recently, there seemed a good chance that the powerful research team at Fort Detrick, still numbering some 300 scientists and 700

supporting staff, would be kept intact and put to work on various health research projects under the authority of the National Institutes of Health. Both the scientific qualifications of the staff and the nature of the facilities would enable Fort Detrick to assume an immediately useful role, particularly in the handling and storage of dangerous viruses and viruses with long incubation periods. The necessary funds to convert Fort Detrick to a peaceful role—a mere \$15 million in a \$19,000 million bill—were agreed to by the Senate but struck out last month in the conference meeting with the House, which had not provided for Fort Detrick in its version of the bill. The conferees in their report said the proposed conversion should be further studied by officials of the Department of Health, Education and Welfare, who should be prepared to testify before Congressional Appropriations Committees next year. Although another study is not in itself a bad thing, the prospect of a further delay may prove too much for the Fort Detrick scientists whose future has been uncertain ever since President Nixon's renunciation of biological warfare over a year ago. The research team now seems likely to be disbanded as its members go looking for jobs elsewhere rather than face further uncertainty and delay.

SPONSORED RESEARCH

Harvard's Criteria

THE Faculty of Arts and Sciences at Harvard University at a meeting last month adopted six criteria for support of research within the university by outside agencies.

These six principles represent a codification of rules, both written and unwritten, followed since the end of World War II. The new code was recommended by the faculty's Committee on Research Policies and endorsed by the Faculty Council. The committee's report said:

"Our Committee subscribes to the principle of freedom of research as it has been traditionally interpreted in the university. This principle established the right of the scholar to determine the subject matter and sponsorship of his own research, and protects him from the imposition on his work of goals or criteria other than professional ones.

"In discussing the freedom of research it is important to distinguish between the methods and techniques of research on the one hand, and the subject matter or conclusions of the research on the other. The methods of research are clearly subject to limitations of a variety of sorts. For example, research techniques which might injure human health, or invade personal privacy without consent, or which involve unnecessary pain or suffering to any living things, are already

partially or wholly proscribed. Programmes which interfere with the freedom of research of other scholars by preempting space and facilities, or by involving the university in future commitments of its unrestricted funds, cannot be left entirely to the decisions of the scholar participating.

"In contrast with methods, however, the subject matter of research and the conclusions reached should be the sole responsibility of the scholar himself for which he is answerable to his scholarly peers only in his individual capacity. If this freedom sometimes results in research that some may regard as trivial, shoddy, or wrong, or in conclusions which some politicians misquote or misuse for purposes thought undesirable this is a risk which must be run, and it appears a lesser evil in comparison with allowing one segment of the academic community to impose its own standards of truth on another."

The text of the six points is as follows.

- (1) Any research agreement between the university and external sponsor must have obtained some form of sanction in advance. The purpose of this sanction is to ensure that the research conforms to the administrative and fiscal policies of the university, and to the present principle, and that it does not conflict with the rights of other scholars in the university or with other university commitments.
- (2) The source of sponsorship and the purpose of the research must be of such a nature that they can be publicly disclosed.
- (3) The university will not undertake to grant any exclusive information to a research sponsor, nor will it accept research which carries security classification, requires security clearance of university personnel, or otherwise precludes general publication of results.
- (4) All research projects must be undertaken with the clear understanding that the investigators concerned have the full right to publish any results obtained by them, subject to established safeguards for the protection of privacy, or confidentiality of personal data.
- (5) Any results obtained and any research published or lectures given by investigators on research projects are the sole responsibility of the investigator concerned, and Harvard University provides no institutional endorsement of the work or of the sponsor.
- (6) All the research on living animals and on human space should follow the safeguards established by the university for such work.

The committee also noted the criteria do not necessarily apply to the outside activities and to the consulting work of faculty members, which are subject to other policies of the university. "We have reviewed the document, statement of policy on conflicts of interest for the Faculty of Arts and Sciences, and we believe that it adequately covers the principles which should govern the outside activities of members of the academic community. We do suggest, however, that these principles be specifically brought to the attention of the officers."