

that a useful approach is to create public technology centres such as the Research Triangle in North Carolina. A federal programme which may be helpful in this area is the National Science Foundation's Technology Incentives Programme, but to judge by the awareness of the objectives and methods of the programme expressed at the conference, not too many people in the field consider it an answer.

What then, is to be done to help the states apply science and technology to solve their problems? The conference was, after all, billed as a national action conference. A resolutions committee, which met throughout the conference, is now chewing over the recommendations contained in the reports of the Council of State Governments and of the Federal Council for Science and Technology, together with other recommendations which were suggested at the conference, and it should have something useful to say under six headings. The committee will recommend state and local representation on federal policy councils and boards working in the science policy field, joint state and federal funding for science and technology projects in the states, new institutional arrangements between universities and state governments, utilization of federal laboratories for projects designed by state and local governments and federal support to state legislatures to help them appraise the implications of legislation involving science and technology.

Of these recommendations, perhaps the most important, both symbolically and operationally, is the suggestion that state and local governments should be in on the planning of federal programmes and policies. The complaint that the federal government decides on policies without taking sufficient account of user needs was constantly raised at the conference, and is brought into sharp focus by the fact that federal science policy decisions are having more and more effect on the states. Policies for the environment, health care delivery and transportation, for example, must all be carried out at the state and local level. In the past, however, the chief concern of science policy has been geared towards defence and space needs, and the states' role has been chiefly reduced to bidding for contracts. The report of the Council of State Governments acknowledges, nevertheless, that "within the past year . . . the President's Science Adviser has made unprecedented efforts to involve state governments in discussions of national policies.

The conference resolution would, however, substitute for the present limited and informal consultation, a network of user groups in mission-oriented

agencies which would help to plan the transfer of technology from the federal government to the states and localities. The state and local governments would also be able to have a role in the planning of public technology projects through a task force established by the National Science Foundation, if the recommendation of the Council of State Governments is accepted. The idea would be to set up a task force to plan some public technology pilot programmes in a few selected states, and to start the first projects going in the next fiscal year. Such programmes would be pilot projects to test the feasibility of suggestions such as those mulled over during Mr Magruder's planning of the New Technology Opportunities Programme.

One result of the two reports and of the conference is likely to be the designation of a lead agency to oversee the relationships between the federal government and the states, and to hammer out the basis for the new federalism in science. President Nixon has asked the Office of Science and Technology to lay the groundwork and the consensus at the conference was that the National Science Foundation should now assume the chief role.

#### CANCER RESEARCH

### Detrick Unveiled

by our Washington Correspondent

SINCE President Nixon announced in October last year that the former biological warfare research centre at Fort Detrick, Maryland, would be converted for research on cancer, speculation has been rife about what would actually be done there. Last week, however, the National Cancer Institute announced that Litton Bionetics Inc, a subsidiary of Litton Industries, has been given the contract to operate the establishment for the National Cancer Institute, and Dr Frank J. Rauscher, jun., the NCI's new director, provided a few details of the research now planned.

The contract to Bionetics amounts to about \$7 million for the first year of operation—which starts immediately—and there will be jobs for 150 people by the end of July, 300 by the end of the year and as many as 600 in five years. Although the facility will be operated under contract to the National Cancer Institute, it will, to a great extent, be under the NCI's everyday control. The operation is like the arrangement by which the Atomic Energy Commission's Oak Ridge Laboratory is managed by Union Carbide, and it provides a convenient way of increasing the National Cancer Institute's staff complement without breaking the Administration's general rules for reducing the number of

people on the federal government's payroll.

Among the functions to be carried out at Fort Detrick are the large scale production of tumour viruses, including candidate viruses isolated from human tissue cultures. Since Fort Detrick was used for research on dangerous viruses, it contains excellent facilities for virus production and for keeping them isolated from the environment, and it is hoped that the facility for large scale virus production will allow tumour viruses to be made available to cancer workers on request. Similarly, the facility's extensive animal holding and production facilities will allow about 5,000 mice and 5,000 rats, hamsters and guinea pigs to be maintained for studies at NIH for periods up to three years. Another production function at Fort Detrick will be the preparation and analysis of chemical carcinogens for use in biochemical and immunological studies.

At a later stage, Fort Detrick will be used for straightforward cancer research. There will be an advanced systems laboratory for cancer researchers from the US and abroad who are invited to the National Cancer Institute to work on a wide range of research, including immunology, virology and chemotherapy. It is also hoped to develop chemotherapy research at Fort Detrick separately from the advanced systems laboratory. Another project will be aimed at the development of an efficient tissue culture method for determining the carcinogenicity of various substances.

Between November 1969, when President Nixon announced that the United States would no longer engage in research, production or stockpiling of biological weapons, and October last year, when he announced that Fort Detrick would be converted for cancer research, the future of the facility hung in the balance. Consequently, nearly all the staff who were employed there by the army for weapons research have left the area, and earlier this year the General Accounting Office published a report critical of the way in which the transfer of Fort Detrick from the army to the National Cancer Institute was conducted. The GAO report pointed out that in February, fewer than 600 of the original staff complement were still working at the research facility, in spite of the fact that many people had suggested that it would be desirable to keep the research teams together. The GAO suggested that one of the reasons for the delay in transferring and converting the facilities was that no agency wanted the responsibility of managing the facility—a problem that has been partially circumvented by turning it over to a contractor.