

OCEANOGRAPHY

Dull Dogs at Brighton

from a Special Correspondent

THE nine national programmes in oceanology officially presented at this week's Brighton conference, "Oceanology International 69", sponsored by the Society for Underwater Technology, were predictably pedestrian and sprang few surprises. There seems to be a consensus among the oceanologically active nations on what lines of work to pursue. These are the importance of fisheries, the exploitation of undersea mineral resources, the rational use of coast and continental shelf, pollution studies and prevention, the ocean atmosphere interchange and physical oceanography in the deep sea.

Within this framework the emphasis varies. The Japanese, for example, are putting special effort into increasing fishery resources and yields. Japan could double its food resources by exploiting a bare 5 per cent of its continental shelf and is working flat out to create and master the pastoral management of fish and algae in the extensive shallow seas around the coast. The German paper at the conference stressed a deliberate policy of more cooperative programmes with other countries. The Soviet Union is initiating a major effort on air-sea exchange which will occupy seven years. The French seem to put their trust in tools and plan a range of manned "platforms", both mobile and fixed, from bathyscaphes and "diving saucers" of oceanic capability to new surface ships and underwater houses.

Each of these countries seems to have come to its present policies through a similar process—the setting up of a wide-ranging committee to review possibilities and make recommendations. The Japanese set up in 1961 the Council for Ocean Science and Technology, responsible direct to the Prime Minister, and it reported in 1966. The Australian equivalent is a few years old and is mainly concerned to make the best use of naval ships as ocean research platforms. The United States set up its Marine Resources and Engineering Commission on January 1, 1967, and it has not yet reported. France's Centre National pour l'Exploitation des Océans (CNEOX) is two days younger and it is still developing its full programme. West Germany appointed its committee for oceanography last summer.

Britain, faithful to the two cultures as ever, has effectively a bipartite structure. The Natural Environment Research Council (NERC) officially established its right to determine government sponsored marine science policy in 1967. An official Committee on Marine Technology to develop the tools in support and for commercial exploitation was established last year, though not acknowledged until a parliamentary answer on February 5 this year. It sits regularly and is currently considering the vexed question of whether or not any marine science should "go submersible". It is not expected to report much before the end of this year.

IMMUNOLOGY

Australian Enterprise

THE director of the Walter and Eliza Hall Institute of Medical Research, Professor G. J. V. Nossal, has produced a cheerfully optimistic annual report. Three

new laboratories were set up last year to develop a "creeping involvement" in key areas of medicine and these are expected to develop into full units, matching the five existing units of the institute, if enough money is available. Dr Noel L. Warner is to direct an immunogenetics laboratory, Dr T. Mandel will head a laboratory of electron microscopy and chase the Australian research grants committee for a new electron microscope, and Mr V. X. Gledhill is to set up a laboratory for biomedical computation with the long-term aim of using computers as an aid to decision making in diagnosis and therapy.

The institute seems assured of a reasonably stable income from diverse sources, although the support for visiting scientists, particularly Americans, is becoming a problem. Under a new scheme, the National Health and Medical Research Council contributes a block grant, currently \$270,000 a year, which covers the salaries of most of the senior staff, the Victoria State Government pays for administration and maintenance, the Anti-Cancer Council provides most of the costs of the Cancer Research Unit and the Australian Research Grants Committee pays a big proportion of the costs of new scientific equipment.

The list of institute successes given in the report emphasizes the obvious importance of immunological research to medical fields such as cancer research, organ transplantation and autoimmunity, and also the extreme precision and sensitivity of immunological techniques which make them applicable in other fields such as embryology and brain research. Professor Nossal and Dr J. Marchalonis have, for instance, developed an elegant new technique for identifying the type of protein made by an individual cell. Using this technique, they were able tentatively to establish the similarity of antibody proteins made by a healthy cell and those made by a particular type of cancer cell which are much easier to obtain in a purified form for detailed chemical analysis.

Other scientists at the institute succeeded in making isolated white blood cells "dance to our tune" by inducing them either to react against vaccine molecules or to become tolerant, depending on the amount of vaccine added to the culture. The first type of reaction is one of the body's weapons against infection, while the second is desirable if the body is not to reject organ transplants, and the scientists hope that a detailed analysis of the chemical reactions may lead to new approaches to problems of transplantation and autoimmunity.

LAND RECLAMATION

Making More Thames

AN ambitious scheme to reclaim some forty-six square miles of the Thames Estuary was proclaimed last week in London by a newly formed organization called Thames Estuary Development Company. To begin with, the company will be concerned simply with the feasibility of converting into dry land the Maplin Sands which lie off the south-east corner of Essex, on the north of the Thames Estuary. The sands themselves lie to the seaward of Foulness Island, a soggy tract which is used, among other things, by the Ministry of Defence as a firing range. This part of England has been canvassed, in recent months, as one of the possible