

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 (CNEXO) 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

sites for a third London airport, and it would be disrespectful of the Thames Estuary Development Company to suggest that the announcement last week is quite unconnected with the fact that Mr Justice Roskill is at present sitting with a commission to select a number of sites for an airport which could then be subjected, each in turn, to the formal processes of a public inquiry. For what rumour is worth, the original controversial site at Stansted seems to be low on the Roskill list—some say that it is not there at all—but the outstation in mid-Bedfordshire of the Royal Aircraft Establishment, already provided with a long if somewhat undulant runway, has been advanced to near the top.

The new consortium on the Thames has its eyes as much on the sea as the air, however. The company has been formed from five organizations, two public and three private. No doubt the Port of London Authority is essential, if only because the Maplin Sands are within its territory. The Southend Council represents the local authority most likely to benefit. Then there are two civil engineering companies—John Howard and Company and John Mowlem and Company—and one oil shipping company—London and Thames Haven Oil Wharves.

The chief difficulty is to find some way of reclaiming a block of land which will nevertheless remain accessible by a 90 foot channel for which the cost of maintenance will not turn out to be excessive. If that should be possible, the consortium looks forward to the rapid development of the area into a port able to rub shoulders with Europort at Rotterdam. From this point of view, the optimists say, the siting of a third London airport on Maplin Sands would be an uncovenanted benefit. The immediate task, however, is to see whether the scheme is practicable, and for this reason the group is planning to spend the next six or eight weeks on the design of the kinds of experimental studies which will be needed to test the viability of the project. It seems not yet to have been decided whether computer analysis will be sufficient or whether a large scale hydraulic

model will be necessary. Certainly the study will have to be elaborate enough to include the effects of Coriolis forces, which is a measure of the scale of the enterprise. It may then take eighteen months before it is known whether a stable channel in the mouth of the river can be found, which means that the Maplin Sands are unlikely to dry out for at least another decade.

INTERNATIONAL MEETINGS

FEBS in Spain

THERE will be something of a cloud over the sixth meeting of the Federation of European Biochemical Societies (FEBS), arranged many months ago and due to be held in Madrid in April this year. Recently Spain entered a phase of some political turbulence, called by the authorities a "State of Exception", and the University of Madrid is closed. Several voices have been raised in FEBS circles questioning the advisability of meeting in Madrid in these circumstances. The most open sign of discontent so far is a letter from forty-eight faculty members at the University of Konstanz which calls on FEBS to cancel the April meeting, or to convene it elsewhere, "in view of the latest dictatorial acts in Spain".

Professor S. P. Datta and Professor H. R. V. Arnstein, respectively treasurer and secretary-general of FEBS, have just returned to London from a visit to Madrid, and their feeling is that, unless the Spanish political situation suddenly and seriously deteriorates, the meeting should go on as planned. Apparently the closure at the university is only partial—undergraduate teaching is stopped, but graduate training and research continue. The trouble—shades of LSE started in the Law and Economics faculties. The faculties of science are said to have been untroubled.

Whatever this implies, there is no obvious obstacle to the FEBS meeting. The Spanish authorities have guaranteed that all biochemists, whatever their political complexion, will be granted access to the meeting.

