

LETTER FROM LONDON



Wanted: a policy for science in the sea

To maintain her status
as a prime marine power
Britain will have to
take some coherent steps

by Larry Miller

Britain sees herself as a leading maritime nation. In contemporary terms she is lagging badly, partly as a consequence of her lack of any coordinated policy or coherent program in oceanography.

Even statistics, an often necessary first, are haphazard. Those that are available suggest that some 1,500 scientists and technologists concern themselves in one way or another with oceanography. This can be compared with about 6,000 in the United States.

The figures are not out of proportion to the relative populations of the two nations. But Britons are concerned over whether they are assembling the critical mass of scientific talent necessary to the coming decade's emphasis on ocean science and technology.

Britain's total underwater budget is about \$32.4 million, of which just under half is spent on hydrographic surveys and related activities. The remainder is spent on research and development in areas such as fisheries, mineral resources, marine transport, coast protection and control of pollution. The biggest spender is the Ministry of Defense. The United States, by contrast, budgets over \$500 million for marine sciences and technology.

There is massive private investment, largely by the international oil companies, which have committed themselves to spending \$264 million in the first six years of their bid to exploit natural gas from around the shores of Britain. This is being encouraged, despite those who argue that this represents a virtual take-over of Britain's last great natural resource.

The firms drill under license and sell the gas to the Government.

Yet aside from the exploitation of natural gas there is little or no direction from the Government. Indeed there could be said to be apathy. A Government Interdepartmental Liaison Committee concluded last April that the United Kingdom program on marine science and technology was well balanced and that there were no major fields in which effort was significantly inadequate. This holds little comfort for those who believe that great opportunities are being missed.

Technically speaking, the Royal Navy leads the underwater activities in the United Kingdom. Its latest experiment, sponsored by Shell Oil, has been to try to determine whether there is a depth barrier beyond which divers cannot penetrate. Three Swiss divers (in the absence of others more experienced)

were pressurized to the equivalent of 1,000 feet in the Navy's Simulated Deep Trials Unit; they remained down for 80 hours, five of which were spent in excursions to the equivalent of 1,150 feet. There was no mishap on returning to atmospheric pressure in 88 hours. The experiment shows that the barrier, if there is one, lies below 1,150 feet. Experiments elsewhere have approached this depth, and equipment is being prepared to stimulate mile-deep dives (SN: 9/27, p. 280).

Britain cannot hope to match the financial resources of the United States or the Soviet Union, but she can cooperate with European countries (and possibly with international oil companies) to her own advantage. There is already a precedent for this, if not an especially happy one, in space and nuclear research. Prime Minister Harold Wilson has made it clear that cooperation with Europe is to be a main priority of the future, whether or not Britain joins the Common Market.

Yet for greater cooperation there must be greater coordination. The fragmentation of underwater research between government and industry must cease. One suggestion for achieving this is to set up an Institute of Advanced Ocean Studies, which could encompass all the major underwater activities, while ensuring liaison between fringe interests. The new institute might also discover how to induce the Royal Navy and Ministry of Defense to be less preoccupied with official secrecy; much potentially valuable information is thought to be locked up in secret files. The institute could also tackle the long-term problem of education in underwater science; there is urgent need for graduate courses in oceanography.

Now that Britain seems to be getting to grips with her balance of payments, she could perhaps afford to look anew at her underwater plans. The keywords in this must be cooperation, coordination, exploration and education. Exploitation can come later.

(The United States is also in search of an oceanographic policy. Despite its more massive expenditures, ocean science and engineering are still handled by a score of Federal agencies. For almost 10 years the White House has sought unsuccessfully to coordinate the effort through the Office of Science and Technology. Now a new agency is under consideration (SN: 10/11, p. 325), but existing agencies are fighting to hold onto their programs.)