

It is intended as a broad purpose underwater tool for the engineer and research worker at continental shelf depths, and carries two men. The makers claim that its performance "covers all aspects of undersea work including bottom surveys of sea-bed conditions before, during, and after laying of oil and gas pipelines and submarine cables". They also see applications for geology, marine biology, fish farming, surveillance, and as a search and recovery vehicle. There are provisions for outside manipulations and coring. (It might well have come in handy as an aid in the hazardous operation to recover the Royal Navy *Buccaneer* that plunged into 300 ft. of water off the Lizard a couple of years ago.)

To do all this, a cylindrical pressure vessel of 5½ ft. diameter with 1½ in. thick mild steel walls has been chosen. This has a theoretical collapse depth of 3,500 ft. The pressure hull is enclosed in a glass fibre shell to make SURV as rugged to surface treatment as a glass fibre boat. The prototype has been rated for 260 p.s.i., equivalent to 600 ft. depth, and is expected to be progressively reclassified down to 1,000 ft. which lies within its design safety factor. The crew environment is "near normal", that is, they breathe air at atmospheric pressure, and submerged endurance is 36 h which in an emergency could be extended to 48 h if the crew sit still. Arrangements for neutral buoyancy and two independently rotatable motors mounted on each side give the craft exceptional manoeuvrability. It can move forward and backward, turn and keep station at a given depth—in addition of course to vertical manoeuvres—all of which was convincingly demonstrated in the Lintott tank last week. It is not exactly nippy, however. Maximum speed is 2½ knots submerged or at the surface. For surveying this is still a considerable gain on the free diver's performance. In air, SURV weighs 6.1 tons excluding crew, not likely to impose much strain on harbour facilities or support ships and so qualifying it for operations in almost any part of the world, the sponsors hope.

The cost of preparing the first SURV for operations is understood to be about £60,000—roughly 50 per cent of the cost of similar American submersibles, of which General Dynamics' vehicle is the nearest in design. At present SURV's sponsors look to hire rather than outright purchase to recoup their outlay. Hire price, which includes their own "driver", is negotiable but likely to fall within the range £300–£400 per day. So far, they have enquiries but no firm offers. The presence of two members of the National Institute for Oceanography at the demonstration was considered encouraging.

## World Health

WITHIN the past few years there has been unhappy evidence that some diseases, far from declining as public health standards improve, are actually increasing. Cholera, El Tor, plague, yellow fever, trypanosomiasis, ancylosomiasis, viral hepatitis and venereal disease have all increased, according to the third report on world health, compiled by the World Health Organization (WHO, Geneva, £1 15s.). Against this must be set some real achievements—tuberculosis, for example, which killed one person in nine in the United Kingdom at the turn of the century, caused only one death in 180 between 1960 and 1964. But there is a great

discrepancy between the achievements of the developed countries and those of the underdeveloped world. Europe has been free of cholera since 1923, but during the past ten years it has flared up again in India and Africa. Until 1960 there was a decline, from 212,000 cases in 1950 to 33,000 in 1960, but since then the disease has come back strongly, with a total of 94,000 cases in 1964; the worst hit countries are India and the Philippines.

There is clearly no room for complacency when diseases can re-establish themselves as strongly as that. But the underlying trend is more hopeful; infant mortality rates, always a good indicator of public health standards, show improvements almost everywhere. In some cases the improvement is dramatic, with mortality rates down by 50 per cent or more. Other countries show smaller improvements, in some cases because mortality rates for babies were already low, but many developed countries which have achieved low rates have reduced them even further. New Zealand shows a reduction in infant mortality of 18.7 per cent since 1954, and Canada a reduction of 17.6 per cent. Crude death rates also show a reduction in recent years, with some interesting exceptions. The United States, Argentina and Cuba all show increases of death rate since 1954, and in Europe death rates have tended to remain much the same over the past decade. Elsewhere, decreases have been common.

In developed countries, cardiovascular diseases account for about 40 per cent of all deaths. High blood pressure, the report reveals, is almost universal; only a few very primitive populations and populations living at high altitude are free from it. Cancers of the respiratory system have also become a serious health hazard; in the UK deaths from cancers of this type have increased by 69 per cent since 1954. But there are some striking variations between countries which might be expected to be similar; in Finland the death rate per 100,000 for respiratory cancers was 58.1 in 1963, while in Norway the figure was only 18.7.

Accidents, while not strictly a health problem, are becoming more and more important as a cause of death. In the age group from 1 to 35, they now rank as the leading cause of death. In developing countries, accidents are less significant, but they are beginning to increase in importance, and sometimes rank as the sixth or seventh commonest cause of death.

## Response to Aldabra

THOSE who have been campaigning, in the weeks past, to dissuade the British Government from using the island of Aldabra as an air staging post seem now to be entirely willing to press for the facilities that will be needed if the island ecosystem is to be properly studied. It seems, however, to be agreed that the first step should be a clarification of the political status of the island. Administratively, the island comes under the umbrella of the British Indian Ocean Territory, which was originally created for defence purposes. Obviously the British Government could do much to reassure the ecologists by formally detaching Aldabra from that organization.

As yet there is no plan for the long-term conservation of Aldabra, but the Royal Society is eager to help in preparing one. The Nature Conservancy is also a

natural participant in this work, but there would have to be an extension of its terms of reference to allow the conservancy to operate outside the United Kingdom. An official of the Royal Society offers the Charles Darwin Foundation Research Station on the Galapagos Islands as a model for what might be done on Aldabra. It seems to be understood that the Smithsonian Institution, urged on by the National Academy of Sciences in the United States, will be a willing partner in this part of the operation. Two of the nine members of the Royal Society's expedition to Aldabra this summer were from the Smithsonian Institution.

The international research station is a long-term objective, however. The expedition now returned from Aldabra was also impressed with the need for more urgent steps to be taken. One problem is to prevent the fishing of the waters around the island. At present the arrangement is that a Seychellian has been licensed to fish off Aldabra, with the result that there is a danger of the green turtles becoming extinct. Dr D. R. Stoddart of the University of Cambridge, who has just returned from the island, says that the way in which the fishermen live on the island temporarily may be almost as great a danger. In the year ahead, the Royal Society plans to send another expedition to Aldabra in January, and one member of the party of twenty—Mr M. J. Penny, an ornithologist—will probably stay there until March 1969. Everybody hopes that plans for the permanent conservation of the island will by then be complete.

## Moles Underground

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This picture, the first ever taken of moles underground, won the Wildlife Cameraman of 1967 competition organized by the Council for Nature and *Wildlife and the Countryside* magazine. The picture, taken by Mr Peter Stafford, shows a parent mole entering its nesting chamber three feet beneath a field in Sussex. The young are lying in a nest of dead grass, with at least two tunnels leaving the chamber. The feeding habits and activity of moles were described by Kenneth Mellanby in *Nature* (215, 1128; 1967).

## Parliament in Britain

### Foot and Mouth Disease

MR P. GORDON WALKER stated that research on foot and mouth disease was concentrated at the Animal Virus Research Institute, Pirbright, where it made up about three-quarters of the work of the institute. Grants from the Agricultural Research Council to the institute during the last five financial years had been as follows: 1962–63, £536,587; 1963–64, £248,863; 1964–65, £390,462; 1965–66, £499,379; 1966–67, £522,521. Net expenditure, and hence the size of grant needed, varied with the revenue from the sale of vaccines overseas, which in turn depended on outbreaks of the disease overseas. (Written answer, November 20.)

### Dounreay

Two employees have left the Dounreay Experimental Reactor Establishment to go to the United States during the last six months. Mr A. Wedgwood Benn, giving the figures, stated that one was a senior machine operator accompanying her American husband on his return home. The other was a scientific officer who mentioned better pay as his main reason for leaving. (Written answer, November 21.)

### Seals

THE Minister of Agriculture, Fisheries and Food, Mr F. Peart, announced that as the National Trust was unable, on the basis of its existing information, to agree to continue culling seals on the Farne Islands, the Natural Environment Research Council suggested that it would be desirable to have a review of the scientific facts and their interpretation by a wide range of scientific opinion. The council was arranging a meeting of scientists as soon as possible. (Oral answer, November 21.)

### Defence

MR DENIS HEALEY came in for some vigorous criticism when he announced full details of the defence cuts which the British Government has made as part of the devaluation package. The word betrayal was mentioned by at least one member, but others thought Mr Healey had not done enough. What he has done is bring forward the date for the withdrawal of the aircraft carrier *Victorious*, saving £4 million, cancelled 8 *Buccaneer* aircraft, saving £6 million, deferred some Army equipment and cancelled an order for helicopters from the United States, saving another £11 million. There will also be a further reduction of £8 million in research and development expenditure, on top of the £30 million cut Mr Healey made in the last financial crisis. Nuclear weapon development will be cut by £2 million, and other savings will be made by not replacing wastage of civilians in defence establishments. The Government had also decided not to build the staging post on Aldabra, although Mr Healey admitted that a decision had been made to go ahead, subject to approval from the American government. Aldabra would have been a valuable addition to British strategic flexibility, he said, but the Services must now forgo it. "I dare say that other sections of the community may see some benefits in this decision." The cancellation would save only £4 million this year, he said; the bulk of the reductions comes in the form of minor cuts and deferments. More than £60 million, he said, would be saved in this way. (Debate, November 27.)