

OLD WORLD

Further Support for Post-Apollo Project

BRITAIN and the Netherlands have joined the post-Apollo programme. In the past week both countries have agreed to join the European Space Research Organization's studies of the post-Apollo sortie lab and ESRO has awarded the final study contracts.

Announcing Britain's belated entry to the fold, Mr Michael Heseltine, Minister for Aerospace and Shipping, said that he had offered ESRO a contribution of £300,000 to the phase B 2 studies. Work on this, the final stage of ESRO's three part study of the technical and financial requirements of the sortie lab, start this month and will run until August. The United States has set mid-August as the deadline for ESRO to reach a decision on whether it is actually going to build the lab for NASA.

But Mr Heseltine made it clear that Britain's commitment is limited. "The UK is in no way committed to participate in further stages of the studies or in subsequent development and construction stages," he said in parliament last week.

In fact Britain has offered ESRO ten per cent of the phase B study costs, or £300,000, whichever is the smaller. The contribution is effectively backdated as it covers the phase B 1 studies which began in November and ended last month. The total cost of phase B is put at 7.5 million units of account (about £3.1 million).

Meanwhile ESRO has announced that Erno VFM-Fokker and MBB, two West German companies, have been awarded contracts worth 1.4 million units of account each, to handle the phase B 2 work.

It is a condition of the contracts that the companies sub-contract so that each participating states receives a proportion of the work related to its contribution to the programme.

Six of ESRO's nine member countries have now agreed to participate in the studies. The original four, Italy, Belgium, Spain and West Germany, agreed to foot 20 per cent, 4 per cent, 3 per cent and the remainder of the bill respectively. The addition of Britain and the Netherlands will reduce West Germany's share of the cost from 73 per cent to about 60 per cent.

ESRO, now that its "special project" to develop the sortie laboratory is established (see *Nature*, 241, 302; 1973), is committed to developing it, although the individual countries (witness Mr Hesel-

tine's statement) are not. There is, however, an escape clause which states that the organization can withdraw if by mid-August it finds that the cost of the project will "unacceptably exceed" the original rough estimate of \$250 to \$300 million. Care has been taken not to define what "unacceptably exceed" means.

The object of the final studies is, as far as possible, to fix the costs and to "establish the configuration (of the unit) in the light of user requirements". The laboratory is expected to consist of two parts. A pressurized manned laboratory and an external unpressurized instrument platform, known as the pallet, intended for research activities on shuttle missions lasting seven to thirty days.

SCIENCE POLICY

Research after Rothschild

Now that the dust has settled on the great debate on reorganization of government research and development, Sir Alan Cottrell, who was at the heart of the debate, attempted last week to put it in its proper perspective.

Research and development, said Sir Alan at the annual dinner of the Parliamentary and Scientific Committee, is "only a small part of the total scientific and technical activity of the country". Sir Alan cited the scientists who are in management and sales, the weather forecasters, operational analysts and many others who provide scientific services to the government, as being part of the government science machine, but who were not directly affected by the green and white papers.

Britain has had many scientific and technical successes recently, said Sir Alan, the advanced passenger train, new techniques of weather forecasting and the development of equipment for the dispersal of oil at sea being just a few examples.

But now is not the time for Britain to rest on its laurels and closer understanding is needed between the researcher and the user, which, said Sir Alan, "is one of the reasons for our reorganization".

But Britain's efforts must not be spread too thinly—the requirements boards, for one thing, will ensure that this does not happen—and "we must . . . not embark on glamorous and costly developments simply because

The laboratory will house experimental apparatus data processing equipment, electrical power equipment and crew control stations. The staff, of up to six scientists and engineers, will eat and sleep in the shuttle orbiter, but will be able to work in the laboratory in "normal shirtsleeve conditions", as NASA puts it. The pallet will have large instruments such as telescopes and antenna mounted on it, and experiments will be remotely controlled from the laboratory. The whole unit will remain attached to the shuttle throughout the mission.

If all goes well and ESRO and its member states decide to proceed with development and construction later this year, NASA should receive the first unit in 1979.

they are fashionable". The answer in certain instances will lie in collaboration with our partners in the European Economic Community.

One of the basic problems that Britain faces is that of generating sufficient investment capital—a problem which is likely to become more severe in the coming years. But massive investment brings other difficulties, said Sir Alan, the major ones being possible inflation and balance of payments problems.

There is no worry, in the scientific sense, that material resources will be exhausted, but the price will increase, says Sir Alan. There will, therefore, be a need for improved techniques of mining and scrap recovery, and recycling will have to be intensified, all of which will need considerable scientific and technical effort. The critical factor however, according to Sir Alan, will be the availability of energy to carry out the work.

Britain is well blessed at present with adequate coal reserves, North Sea gas and oil, and nuclear developments. But Sir Alan feels that this is no time to feel complacent, and both the coal and nuclear industries must plan vigorously for the future. Parallel efforts must also be made to use energy resources more efficiently and economically.

The full text of Sir Alan Cottrell's speech will be published in *Nature* soon.