

Select Committee probes Embarrassing Area

"THE past and present state of Britain's space activities . . . has been a story of wasted opportunities brought about by lack of purpose and the absence of any coherent organization. There has been no real space policy and no space programme as such." Nearly four years ago, the House of Commons Estimates Committee used these words to preface a string of recommendations for reforming the organization of space research in the UK. Few of the committee's recommendations were taken up, most were ignored and there is still no overall policy for British space research.

As a subcommittee of the Select Committee on Science and Technology has discovered from only two public hearings, the vesting of responsibility for much of British space research in the Ministry of Aviation Supply has not helped to coordinate activities. Individual ministries are still responsible for space activities which fall within their own departments' terms of reference, while the Ministry of Aviation Supply sits in the centre, looking after some of the international programme and going its own way with launcher development in the UK. Some indication of the fragmentation of British space research can be gained from the fact that last year out of a total budget of nearly £17 million for national space activities, the Department of Education and Science was responsible for £4 million, the Ministry of Defence for £6.7 million, the Ministry of Posts and Telecommunications for £1.6 million and the Ministry of Aviation Supply for £4.6 million (see *Nature*, 229, 362; 1971). In spite of the fact that the Ministry of Aviation Supply is nominally in the centre of this activity, providing technical assistance and expertise to other departments, when the members of the subcommittee asked questions of representatives from the ministry, they were invariably told that the Ministry of Aviation Supply is not responsible for that particular aspect of research or development. The committee has therefore been unable to glean much information about how priorities are established in planning space research, and there is even a hint of suspicion in the evidence taken so far that such priorities cannot be formulated under the present arrangements.

As far as international cooperation is concerned, Mr Palmer's subcommittee will discover that the British government's attitude has been less than consistent during the past decade. To be sure, this inconsistency is a reflexion of the muddle into which the European organizations have got themselves, but

again there have been difficulties because responsibility for all aspects of international cooperation in space research is vested in several different departments. The Ministry of Aviation Supply is responsible for British participation in ELDO, the Ministry of Posts and Telecommunications for INTELSAT and other post office studies, and the Science Research Council sends delegates to ESRO and negotiates with NASA for the launching of British scientific satellites.

On launcher development, however, a clear policy has emerged during the past few years—the government will not participate in European launcher development if it means duplicating research and development that has already been carried out in the United States. This policy has led to almost complete British withdrawal from ELDO, and is chiefly responsible for the present state of limbo about participation in the post-Apollo programme. While there was an opportunity of using the Blue Streak launcher as the first stage of a small European launcher, the British government enthusiastically supported ELDO, but when the organization decided to go ahead with development of a much larger launcher, Europa 3, the government decided to limit the British contribution to ELDO to £11 million from January 1, 1969. About £10 million of that money has now been spent.

The chief argument behind this policy is that while Europe can buy launchers from the United States, it is wasteful, both in terms of money and resources, to develop an independent European capability. A much better area in which to invest is applications satellites, and the government's policies towards ESRO and in the European Space Conference have been geared towards this end. But this concentration on applications satellites has, in many ways, created more difficulties for organization in Britain—although the SRC is responsible for sending delegates to the ESRO council meetings, the UK contribution to the cost of studies on applications satellites is taken from the Ministry of Aviation Supply's budget. So once again there is split responsibility, and the situation is even more confused by the fact that part of the studies on ESRO applications satellites is concerned with a communications satellite, and this area is usually the responsibility of the Ministry of Posts and Telecommunications.

Although there is plenty for Mr Palmer's subcommittee to get its teeth into when it investigates Britain's international space policies, it is on the domestic front that the subcommittee is

likely to discover the most to criticize. The UK's national space programme falls essentially into three parts, each of which is the responsibility of a separate ministry. The Department of Education and Science has been involved in the development of the highly successful Skylark sounding rocket, 202 launches of which have been made since 1957, and the DES is also responsible for development of a series of scientific satellites in cooperation with the United States. Three of these satellites have now been successfully launched, a fourth is due to be launched later this year, and a fifth in 1973. A defence communications satellite has been developed by the Ministry of Defence, and was launched by the US in 1969. Finally, the Ministry of Aviation Supply is responsible for the development of the Black Arrow Launcher and a series of technological satellites which Black Arrow should place in orbit during the 1970s.

The subcommittee has already asked a few embarrassing questions of the representatives from the Ministry of Aviation Supply about development of the Black Arrow launcher, and it seems that its rather mediocre performance so far is causing some consternation in the committee. Black Arrow is a small rocket, designed to place a payload of 120 kg into a near-Earth orbit. So far, of the three development firings, one has been a success, one failed in the guidance control, and the other failed in the second stage pressurization. Nevertheless, the Ministry of Aviation Supply is going ahead with another launch attempt in the autumn, and the subcommittee was told that a further series of satellites for testing components and subsystems "for use in future satellites" has been suggested for the 1970s. Development of the Black Arrow, it seems, has turned out to be much more expensive than the ministry first envisaged, and the whole programme is due for review later this year.

Mr Palmer's subcommittee will evidently want to satisfy itself that the Black Arrow project is giving value for money, and that the experiments planned for future satellites will provide results that are likely to be useful to other departments. This, of course, implies that British space activities should be much more closely integrated, and that some attempt should be made to coordinate the activities of the various departments. As the Estimates Committee said in 1967, "many departments and many committees have spent much time looking at aspects of space, but it has never been considered as a whole".