

from the pressures likely to arise in the years ahead. At least three of the five research councils will be increasingly involved, in the years ahead, with contract work for government departments, but the Science Research Council, already distinguished from the others by the extent of its involvement in university research, is not to be required to make contracts for applied research in the next three years. So does it not follow that the Science Research Council could advantageously become the coordinator of central government support for research in the universities? One possibility, which should not be ignored simply because it is apparent that the research councils now need a prolonged period of consolidation, is that the Science Research Council should be given charge of all research council expenditure in universities. An immediate benefit would be that the Science Research Council could pursue its policies of selectivity and concentration more effectively if it were recognizably in charge of all the purse strings for public support of university research. In the long run, it would also be important if one of the research councils could set itself up as a custodian of the integrity of university research as a whole, for, whatever the government's present intention, it is likely and even desirable that there will be further attempts to make the research councils responsible for agriculture, medicine and the natural environment still more responsive to social needs. Nobody will deny that the bulk of what the government spends on scientific research should yield results of practical value but it is also important that academically directed research should also continue. To ask that the Science Research Council should become the sole sponsor for such activities is not to plead for ivory towerism or even to ask that the council should abandon its laudable encouragement of university courses and research projects which are closely linked with industry, but is merely to anticipate that in the very near future, there will be an urgent need that one of the research councils should be recognized as the custodian of the integrity of university research.

It is also important that the advisory board should be equipped to avoid the errors, most of them errors of omission, which made the old Council for Scientific Policy seem ineffectual even to its members. Eight years ago, the council was well placed to become an independent critic of the government's policy on research and development in all fields of government. The fact that the council was formally appointed so as to advise the Minister of Education need not have prevented it from speaking its mind on policies on defence research or on such questions as the organization of research and development in telecommunications, for example. In the event, the council seems to have stuck closely to its formal brief. Its successor, the Advisory Board on the Research Councils, will be even better placed to deal with a broad range of issues, if only because proper supervision of the customer-contractor relationship will allow it to decide not merely whether the research councils are carrying out their part of the customer-contractor bargain properly but also to consider whether the customers are asking the right questions. In short, the advisory board could, if it chose, become an influential source of commentary on the working of British science policy as a whole. It can, however, only do so if it is properly equipped with professional staff able to undertake the studies which need urgently to be carried out. The broodings on the economic benefits of basic

research which the Council for Scientific Policy commissioned at British universities (and which are described in the third report) are insufficiently sharp to serve as models for the work the new advisory board should undertake.

Grouse Grouse

THOSE who carry out research on grouse cannot help but be afflicted by the derision which attaches to those who shoot these unfortunate animals (*Lagopus lagopus*) in the hectic days which begin each summer on August 14. This no doubt is why the Nature Conservancy report on research in Scotland for 1968-70 (just published, HMSO, £0.50) includes a solemn justification of the research programme of the Grouse Research Group. The report says that the grouse and the ptarmigan (*Lagopus mutus*) are the commonest vertebrates in a large part of Britain and that, as a consequence, "it is important to know more about the ecosystem and how it may be managed". The report goes on to quote "the interest of its visitors—ecologists, shooting men and human biologists"—perhaps forgetting that visitors to the Cairngorms may often have other reasons, perhaps quite personal, for visiting the Cairngorms. It adds that a better understanding of the ecology of grouse and ptarmigan and of their techniques of population regulation, still rudimentary, may throw light on the population cycles of northern animals in quite a fundamental way, and that there may be practical benefits in tourism, recreation and "land use in Britain and other countries". Finally, the report says, a better understanding of the natural mechanism of population regulation in grouse and ptarmigan, species which are notoriously profligate in their requirements of space, may be important for human welfare because "intensive studies of spacing behaviour in animals are of increasing interest to social psychologists, psychiatrists, planners and others who are beginning to study the much neglected field of man's aggression and spacing problems in mental hospitals, housing flats and elsewhere".

In these enlightened days, nobody will wish to undermine an honest attempt to make interesting research useful as well. And no doubt the honest fellows who take to the grouse moors with bags of fertilizer and egg-collecting apparatus each season are as anxious as the rest of us that the problems of the cities they have left behind should be dealt with imaginatively and sympathetically. But do they seriously consider that research on grouse (and ptarmigan) is how one of Lord Rothschild's customers would specify a better understanding of daunting social problems? And if not, do they not consider that future reports on this enchanting subject for research should take a much more sober line?

Cancer Research

LORD ZUCKERMAN'S report on cancer research in the United Kingdom (see page 4), in passing a valuable review of the work now under way in British institutions, is a modest and even over-timid document. Its origins appear to be the Prime Minister's anxiety that President Nixon's great cancer programme should not go unremarked in Britain. (Perhaps Mr Heath was needlessly