

## Out of the Woods

THE Norwegian commitment to scientific research—£20.5 million in 1963—may seem trivial compared with the budgets of the United States or Britain, but the Norwegians are at least trying to use the funds as efficiently as possible. The Central Committee for Norwegian Research, the government's advisory body on the country's general research policy, completed a proposal for "Recommendations for a Norwegian Research Policy" in the autumn of 1966, and it has now been published for general discussion.

The report justifies its concern with long range planning by stating that "the decisions that are made now will be of importance to developments for a long time to come, and it is important that the responsible bodies are able to make their decisions on the best possible basis. . . . The co-ordination of activities in various areas and the priority-rations of sectors can only be discussed thoroughly on the basis of an overall survey". At present, research policy questions are the concern not only of the government's board of research and the central committee but also of the individual ministries, the research councils, the scientific institutions and the industrial organizations. With only 2,700 research man-years by scientific personnel to account for in 1963, more than half of them at institutes connected with universities, the problem may not seem very great, but with limited resources it is even more important to plan and co-ordinate research allocations in the best way. The present organization has, according to the committee, "developed somewhat accidentally", and it is "dubious as to whether it leads to the most satisfactory allocation and the most effective use of the available resources". It also feels that priorities are reached arbitrarily in many areas, "greatly dependent on how clever the spokesmen for the various projects and research teams are".

The first point that the report makes is that the level of research in Norway, in terms of percentage of GNP, is at present far lower than in most countries—0.59 per cent compared to 3.29 for the USA, 2.38 for Britain, 1.45 for France—and that more investment, especially in the universities and in applied research, must be undertaken.

The committee makes a number of recommendations, the chief of which is that the resources at the disposal of the research councils—which give research grants to universities, government departments, research institutes and industry—should be increased. The report points out that these councils are the most flexible source of funds: within their yearly budgets they can allocate money for immediate needs as well as support long-term projects. To simplify the organization, the report suggests that each government ministry be given responsibility for financing and formulating priorities in the area of applied research that falls within its administrative field of interest. It stresses that much more work needs to be done in the social sciences, in particular those areas of interest to government administration, such as psychology and sociology.

Naturally enough, a basic priority is the expansion of university training and, along with it, expansion of research. The report points out that money must be allocated for more non-scientific personnel, equipment and running costs as well, in order to make use of the research worker's full potential. Basic research in

industry also needs to be expanded, possibly financed by increased government contracts. Even more important is a more comprehensive information service so that research results can reach the greatest number of interested people and industries.

## More Committees

WITH the foundation of the Schools Science and Technology Committee (SSTC), the Schools Council's Project Technology now has royal patronage and the Duke of Edinburgh's own action group, with suitable amendment, now has a more concrete base on which to build its activities. The two schemes, both designed to promote technology in schools, have been tackling the problem from rather different angles and it has become increasingly obvious to those involved that the fragmentation of effort was causing friction rather than enlightenment. The SSTC, chaired by the Duke of Edinburgh, will be responsible for Project Technology, and will promote and organize other activities on similar lines to help schools in their presentation of applied science.

Project Technology was begun in 1966, under the direction of Mr Geoffrey Harrison (see *Nature*, 218, 716), and already more than 600 schools are in touch with latest developments through a regular bulletin and regional meetings. The action group came later to the scene when, at a meeting of the Association of Science Education last November, the Duke announced its formation. Under the chairmanship of Lord Jackson of Burnley the group discussed possibilities and recommended that the SSTC should be set up. Under the Duke on the committee will be Vice-Admiral Sir Frank Mason, Dr C. G. Williams and Mr B. de Ferranti, all involved with engineering; Professor E. R. Laithwaite, Mr F. C. Brown and Mr C. English, representatives of further education; Mr J. J. Bryant, Mr E. Semper and Dr F. R. McKim, who have experience of teaching; Mr Harrison from Project Technology, and Mr J. A. G. Banks from the Schools Council. The intention is for these influential people to encourage industry to provide practical help and put pressure where required to make sure action is taken. Although a certain amount of money will be required, it is not thought that a large fund-raising scheme will be undertaken.

Another field in which the Schools Council is likely to meet a difference of opinion is that of sixth-form specialization and its effects on university entrance. A joint working party to investigate reforms of the curricula acceptable to both sides was announced in March by the Schools Council and the Standing Conference on University Entrance (see *Nature*, 217, 1199), but the membership of the group has only now been announced. Professor Butler of Imperial College has been elected chairman of the working party, the other members being Professors J. T. Allanson from Birmingham, R. H. Campbell from East Anglia and O. E. Lowenstein from Birmingham, Dr E. W. H. Briault from the Inner London Education Authority, Mr A. H. Jennings from Ecclesfield Grammar School, Mr J. S. Morrison of University College, Cambridge, Mr J. W. B. Ruffle from Bishop Wordsworth's School, Salisbury, Mr E. R. Taylor from Wolverhampton Grammar School and Miss D. Reader Harris from Sherborne School for Girls.