

is not that the applicants are greedy—NRC grants on average run to less than two-thirds of the amount asked for—but the Geological Survey understandably feels its cash deserves a better fate than merely to supplement NRC awards. Thus the National Advisory Committee is asking its subcommittees on various aspects of Canadian geology to suggest projects deserving of support once the 20 to 25 per cent of applicants not receiving NRC awards has been looked after. It looks as if many of the recipients of NRC money are going to be harder pushed to find the extra, but the new arrangement should be more rewarding than the present somewhat indiscriminate distribution.

The views of the eight subcommittees contained in the report provide a glimpse of the work of Canadian geologists and of the problems they are facing. Overlapping of effort in the development of instruments particularly concerned the subcommittee dealing with the application of geophysical methods; workers in rock mechanics are rediscovering techniques discarded years ago by geophysicists, for example. There is also some anxiety that as the scale of research activity expands, criteria for granting funds may sometimes obscure originality and ability. The subcommittee on mineral resources is asked by the Government whether geologists in the universities and research institutions are too preoccupied with laboratory projects instead of field work, and that on mineralogy, geochemistry and petrology is predicting a shortage of staff for new research laboratories. The subcommittee on scholarship and research training, on the other hand, is worried that the training which foreign students are receiving in Canada is in some cases too specialized to fit them for jobs in their own countries.

The National Advisory Committee is especially proud of its subcommittee on the storage and retrieval of geological data, which has itself now reached the stage of hiving off various activities into a further family of subcommittees. There is to be a national system for dealing with Canadian geological data, and it is hoped to impress visitors to the International Geological Congress planned for Montreal in 1972 with a working data processing display.

## BIOLOGICAL RESEARCH

### Man and Nature

THE International Biological Programme, now in its second year, is at last showing signs of getting up steam in the United States. Backed by Congressmen G. P. Miller and E. Q. Daddario, in the House of Representatives, and by Senator E. S. Muskie in the Senate, the IBP is to receive \$5 million from the National Science Foundation in 1970. This is ten times the NSF support in the current fiscal year, but, even so, it is small beer for the NSF—it is little more than one per cent of the foundation's budget of \$499 million for 1970.

The details of projects described in the second of a series of reports from the US IBP committee nevertheless give some measure of the growth of the programme since the first report was published in September 1967. The first report listed five major studies and 104 projects involving a mere eighteen universities and agencies. The second describes eighteen major studies and 162 other projects involving over 2,000 scientists in 142 institutions in forty-six states. The theme of the

US programme is man's survival in a changing world, and the eighteen major studies, thirteen of which have been formally accepted and five of which are still at the planning stage, fall into two categories—man's adaptation to the environment and the environment itself. Wisely, the studies are not all devoted to dwindling populations of primitive peoples in a state of nature, although Eskimos, South American Indians and Andean populations are receiving their fair share of attention. The US programme involves two studies nearer home—the ecology of poor migrant labourers moving from the deep south to such places as Chicago and New York, and a study of nutritional adaptation to the environment with particular reference to the worldwide trend of migration from rural to congested urban areas where, as the report puts it, "cultural patterns are confusing and directions of improvements not well established". It also includes a US Army study of the relationship of diet to the performance of the combat soldier designed to discover what the stomach of the marching soldier should be filled with. On the whole, however, overt military research seems to have been excluded from the programme.

Eight of the thirteen proposals accepted and several of the planned studies fall into the environmental management group and range from physiology of colonizing species and convergent and divergent evolution to crop production under stress and nitrogen management and the balance between nitrogen fertilizers and nitrate pollution of food and water. The smaller research projects cover an even wider range of applied and academic research into the environment, but the emphasis is on work with obvious economic potential. The list of the 162 projects abounds with topics such as farmstead windbreaks, crop production in the tropics and breeding disease resistant plants.

## MONTREAL UNIVERSITY

### Molecular Biology at Montreal

FRENCH Canadians have long resented the hegemony of the English speaking McGill University in the heart of Quebec and French Canada. But Laval University in Quebec City and l'Université de Montreal, the largest French speaking university outside France—perhaps better known outside Canada as the place where President de Gaulle made his "Quebec libre" speech—have in the past several years come into their own. The latest grant announced by the Canadian National Research Council is for \$300,000 for a laboratory of molecular biology at the University of Montreal. The grant, spread over the next three years, is one of several awarded by the council since 1967, when it inaugurated a programme to assist Canadian universities to establish research centres in the burgeoning sciences.

To begin with, at least, Montreal's molecular biology laboratory will be centred around Dr G. H. Cousineau's group working on the synthesis of macromolecules in developing and differentiating cells. It hardly needs saying that the aim of the laboratory is to foster interdisciplinary research, with cooperation between the new laboratory and the university's physics and chemistry departments in work on proteins. Apparently, further expansion of molecular biology at the university will very much depend on the success of the laboratory in the next few years.