

## Post Office Research

THE Post Office Research Station has a new director of research, Mr. W. J. Bray, and a new site at Martlesham Heath in Essex to which it will move in 1969-70. The new Station to be built at Martlesham will cost an estimated £5 million, and will involve some expansion of laboratory facilities. The present site at Dollis Hill has been occupied for 45 years, and a large laboratory employing more than 1,400 people has been built up.

The purpose of the research effort is the improvement of the efficiency, cost-effectiveness, and scope of the communication services offered by the Post Office. Frequently this brief involves the staff in work which the Post Office would prefer industry to undertake, but if a product of sufficient quality is not available, design and production techniques are developed at Dollis Hill and passed on to industry when complete. Valves for use in submarine cable repeater units were developed in this way, and as valves are replaced by transistors, the Post Office is developing a technology for producing transistors which will perform for 20 years within the very small tolerances permitted. This involves complete cleanliness throughout manufacture in a "clean room", and new techniques for connecting aluminium wires to the transistors by thermocompression bonding.

Of more direct interest to the public is the work devoted to improving efficiency in postal services. Coding desks, translators and automatic sorting machines will bring automation to the process of sorting letters and ensuring they reach the right destination. In an early stage is a project for producing address-reading machines. On the telephone side, the extension of pulse code modulation which enables twelve conversations to be carried along the same pair of wires involves considerable work, but the advantages are obvious.

These, and other projects in basic research, will clearly bring savings to the Post Office in the long term. Not all, however, are happy with the present recruitment policy, and a research station which has to compete with industry for the best graduates must be prepared to pay at industrial rates. It seems foolishness to invest £5 million in a new laboratory and remain unwilling to invest in staff of quality. The move to Martlesham is likely to aggravate this problem; perhaps when the Post Office is freed from the Civil Service and becomes a public corporation in a few years' time, there may be an opportunity for radical rethinking.

## Sub-Arctic Resources

THE question of where the sub-Arctic begins was one of those left unanswered at the end of the symposium on sub-Arctic ecology sponsored by Unesco and held at Turku, Finland, at the end of July. One problem is that the definitions based on the presence of permafrost or the absence of trees do not coincide, and in any case, as one speaker at the symposium argued, there is a strong case for asking that the definition should take some account of the response of real people to the discomforts of northern life.

One consequence of the symposium was to promote the ecological role in the sub-Arctic of the permafrost, which was dealt with at Turku in a series of papers

from which emerged a view of permafrost as a complex dynamic system which is at once a product of climate and terrain in the past and a means of influencing climate and terrain in the future. There was a feeling that the importance of permafrost in the ecology of vegetation in the sub-Arctic tended to be neglected among the more familiar discussions of the importance of short growth season, seasonal variation of temperature and snow cover.

It is not perhaps surprising that a symposium of ecologists in such a northerly latitude should have finished, as this one did, with general agreement on the need for more research based on permanent stations able to collect data the year round. Training was reckoned to be important, standardization of nomenclature and methods necessary, and conservation essential. On the last point, however, a certain dichotomy was apparent at the symposium. Those from the sub-Arctic itself were at pains to emphasize the need of development (which is why the symposium had spent time on matters like the northward extension of the range of timber trees). Others, however, were strong in their desire to see large areas remain as wilderness, for the sake of their wildlife and for recreation.

## Last of the Mohole

IF there were secret hopes that the Mohole would survive, they have now been dashed. The National Science Foundation has arranged to bring work to a halt, and in the process has no doubt been required to buy its way out of its principal contracts with Brown and Root, the National Steel and Shipbuilding Company, and a number of other companies. As ill luck would have it, the project was a curious embarrassment right to the end. During the meetings at which the U.S. House of Representatives declined to change its mind on money for Mohole, it became known that Brown and Root had contributed \$25,000 to an organization dedicated to raising funds for the U.S. President's political campaigns. On the face of things, to say the least, this had all the appearance of being an attempt to bring the President's well known influence to bear on Congress. In the event, Congress seems to have been firmly set on the course it set itself in May, and the donation by Brown and Root seems to have served merely as a kind of relish for the inevitable decision by Congress to say no a second time.

## Unilever Laboratory

UNILEVER, LTD., officially opened its new research laboratory near London last week. This, the first third of an expansion programme, cost £1.25 million. The economic freeze has meant that the remainder of the development programme has had to be postponed. The present staff of 300, including eighty scientists, carries out basic and applied research in areas relating to hair, skin and teeth.

According to Dr. E. G. Woodroffe, vice-chairman of the company, "It is to basic work of this kind—on the structure of the hair and scalp, the causative factors of dandruff, the mechanism of tooth decay—that we look for the knowledge which will lead to new products or product improvement".