

QUICK-FROZEN PROGRAMMES

IF "ifs and ands were pots and pans," says the old proverb, tinkers would be fresh out of luck. Nevertheless, the game of "if" is a favourite one with all but the dullest of human beings. What more, for instance, would we know of Captain Scott and the companions of his last journey, if we had their voices to speak to us out of the past? What more of George Leigh Mallory? What more of Gino Watkins? It is true that many explorers can speak their piece after they have returned, but on-the-spot reports, infinitely more valuable for their realistic immediacy, are becoming increasingly feasible only through the technical developments of the last ten years. A tape recording of Sir Edmund Hillary's classic remark, "Well, we knocked the b— off," would have sounded highly effective on the sound track of the Everest film, but it was

not to be, and we needs must settle for Louis MacNeice.

Still, when the New Zealand Antarctic team heads South this summer they will be taking with them two tape-recorders provided by the NZBS. One of these machines will be kept at Scott Base, McMurdo Sound, and the other will be for use in the field. These German-made recorders were chosen on the recommendation of the BBC, who are supplying the same model to the British Antarctic Expedition. They are a special lightweight type, and weigh only about 16 pounds when all ready for use. This weight includes reserve spools of tape. This type of recorder has been used before under expedition conditions, notably by the German mountaineer Hans Ertl, who recorded material while climbing in Bolivia's Cordillera Real. Some recordings were actually made on the summit of Huaina-Potosi, at a height of more than 20,500 feet. One marked difference between these machines and conventional recorders is in the tape drive, which in these special models relies on a spring-wound motor. In this way the batteries are conserved for the purely electronic side of recording. To test this equipment, the engineers of the BBC constructed a deep-freeze tank that developed temperatures down to minus

40 degrees centigrade. The tests were done at this temperature on the grounds that below minus 40. degrees centigrade no one is going to worry about recording anything anyway. One of the problems faced in using the machines under very cold conditions can be appreciated by anyone who owns a plastic raincoat. Cold makes plastic brittle, and most standard tapes would be unsuitable. However, one tape material, a plastic called *Mylar*, which was developed mainly because a thinner type of tape was wanted, was found to have excellent temperature-resistant qualities and so was an obvious choice. Another problem faced by the BBC engineers was ice forming inside a microphone through moisture condensation from the breath. To overcome this a special type of microphone had to be developed.

To the worst problem of all there was no satisfactory solution. In cold temperatures, approaching minus 4 degrees centigrade, dry cell batteries become inert. Exposed to such cold, a battery has an effective limit of about an hour before it dies. To overcome this limitation, it is hoped to operate the tape recorders from the expedition's tractors—which have special low-temperature, wet-type batteries—by means of a transistorised power supply. At Mt. Albert Markham, where a forward depot will be established, there will also be a charging plant for the tractor batteries.

In the Antarctic, the machines will be used to record day-to-day material, giving a background to the progress of the expedition, as well as any events of specific importance. One recorder will go to Mt. Albert Markham, where Chief Petty Officer Peter Mulgrew, the expedition's senior radio officer, will do most of the recording work. Tapes will be flown, whenever possible, from Scott Base in McMurdo Sound, to the American base at Hut Point, and then, by courtesy of the United States Air Force, to New Zealand.

The pressure of work will be great in the Antarctic, so that any material gathered will be incidental to the other work of the expedition. Quite apart from its immediate usefulness, the day-to-day data gathered on tapes will also be valuable as programme material. When Dr. Trevor Hatherton and Lieutenant-Commander W. J. L. Smith went South in the *Edisto* they made some valuable recordings. Examples of these were an "interview" with some Adelie penguins and the sound of breaking pack-ice, recorded by hanging a microphone over the bows of the ship. Members of the United States task force in the area were also interviewed.

In any emergency, of course, a tape-recorder would be expendable equipment, for to cut down on a load could



BELOW: The high peak shown on the right is Huaina-Potosi, more than 20,500 feet up in the Bolivian Andes, on the summit of which Hans Ertl used a portable recorder



★ C.P.O. (R.E.) PETER D. MULGREW, who will be the senior radio operator at Scott Base. TOP OF PAGE: Hans Ertl on the summit of Huaina-Potosi, using a tape-recorder of the type to be carried by the N.Z. Antarctic party

be the means of survival in bad travelling conditions. In any case, batteries will remain a problem. But everyone will hope that when the British and New Zealand teams meet in this the first attempt to cross the South Polar Continent, a tape recorder will be on the spot and able to do a job of work.

N.Z. LISTENER, AUGUST 31, 1956.