



A Money-Back Guarantee  
Covers Every Purchase.

#### SPECIALS

Available only for few days.  
Limited stocks.

Columbia 45B Heavy duty Layer-built B  
Battery. Usually 32/6.

Now 27/6 Post Paid  
Columbia 45-Volt Standard upright B  
Battery. Usually 21/6.

Now 19/3 Post Paid  
5-Wire Battery Cables, with Plugs and  
Spade connections ..... 1/9 each  
Coil Cans, aluminium ..... 1/6 each  
Valve Cans, aluminium ..... 1/6 each  
Lightening Arrestors ..... 5/9 each  
(Similar to Philips pattern.)

7 Strands Copper Aerials, 100ft., 2/6 each  
3 only Philips Baby Grand Cone Speakers  
going for ..... 37/6 Post Free  
Formo Variable Condensers ..... 6/- each  
Write for Catalogue.

**BOB HORROBIN**

Flashlight Corner 2 Courtenay Place

**WELLINGTON**

Quick Repairs Phone 52-357

## Radio Serviceman's Course

The newly instituted Radio Serviceman's Examination calls for an exact knowledge of radio principles and a correct diagnosis of radio troubles.

Can you face the examiner without being afraid of the results?

Write for our special course now and be in time for the next examination. Complete syllabus coverage. Results assured.

**JOHNSON'S WIRELESS AND  
RADIO SCHOOL.**

St. George Buildings, 8-10 Brandon St.,  
Wellington.

## DXERS!

Do You Keep a Log Book?  
If not, you should.

### The DX Club LOG BOOK

Consists of forty pages specially ruled for the purpose. Complete with instructions for logging stations, abbreviations, etc. Well bound.

Price: 1/1 Each, Post Free.

From booksellers, or from the  
"Radio Record," P.O. Box 1032,  
Wellington.

## South to the Antarctic

(Continued from page 1.)

by which they were captured. They are hunted in small steamers about 120ft. long, with a gun mounted in the bow from which a harpoon weighing one hundredweight is fired into the whale. The harpoon has an explosive point, fired by a time fuse. The captured whale is brought alongside the catcher, air is pumped into it to make it buoyant, and it is towed either to the whaling station or to the floating factory, to be cut up and boiled down.

At first modern whaling was carried on only from shore or in an anchored parent factory ship, and in the Antarctic suitable bases occurred only in South Georgia and the South Shetland Islands—dependencies of the Falkland Islands. Each station, or anchored floating factory, had four or five whale catchers hunting for it. The industry carried on in this way from British bases was subject to limitation and control by the British, and by a system of licenses and taxation the fund which finances our investigations was built up.

More recently the industry has taken a new turn and has expanded along a new line. The floating factory ships are no longer anchored in harbours near whaling grounds for the season, but they, with their catchers, follow the whales at sea, along the edge of the Antarctic sea ice. New and bigger floating factories have been built, some as much as 20,000 tons, and the more modern are able to haul the entire whale carcass on deck and to deal with it as on a shore station.

This new method of whaling is known as pelagic whaling—the word pelagic means floating—and the way in which the industry has grown since its beginnings in 1927 is made clear by the following facts:—

In the season 1926-27, 12,000 whales were killed in the Antarctic; in the season 1929-30 the number was 30,000.

Oil is extracted from every part of the whale—the flesh and the bones, as well as the blubber, are boiled down. The oil is used for making soaps and edible fats. The whaling industry of to-day is entirely manned by Norwegians.

Our last V-shaped cruise was from Melbourne to the edge of the sea-ice fringing the Antarctic continent, south of a point midway between Australia and New Zealand, and north from that point to New Zealand. Our next cruise will be south-east from Wellington to the ice-edge, north-east from it to the limits of Antarctic waters and south-east again to the ice. After our second visit to the ice we will steam north-east to South America and the Falkland Islands, and that will mark the completion of our circumnavigation of the Antarctic in a series of V-shaped cruises in the winter months.

It is the first time that any ship has made such cruises in Antarctic waters in the depth of winter. Our researches are on each cruise carried as far south as possible—to the edge of the ice fringing the Antarctic continent. After our arrival in the Falkland Islands we will repeat in the Antarctic seas of their dependencies the observations already made there in each of the last seven seasons. We hope to return to England next May, and it is probable that the ship will sail again in October, 1933, to continue the investigations.

The Discovery II carries a staff of four zoologists and one hydrologist. She is also equipped with a trawler and has explored the possibilities of developing a commercial fishery on the coastal banks of the Falkland Islands.

A second and smaller vessel called the Royal Research Ship William Scoresby is also engaged on the Discovery investigations, doing similar work to that of the Discovery II.

I have described very briefly the method of the researches of the ships of the investigations into the environment of the whale. At the same time, more direct research work on the whales themselves has been done by zoologists of the staff at one of the whaling stations at South Georgia, and



Hubert Carter,

who will present two quarter-hour tenor song recitals from 3YA on Wednesday, September 7.

at others in the South Shetlands and on the east and west coasts of South Africa.

More than 4000 whales have been examined and the information collected has yielded results of the greatest interest. It has been shown that both the blue and fin whales begin to breed at the age of two years, that they breed once every two years, and that they stop growing when between the age of six and eight years of age. It cannot yet be said to what age they live, but it appears certain that it is not to the enormous age that it was at one time supposed. It may be less than fifty years. The vast amount of data collected from many reasons will, it is expected, make it possible for some estimate of the population of whales in the Antarctic to be made. The examination of all the details will reveal the effect on the whole population of the recent over-fishing—there has certainly been over-fishing. These matters are being examined by members of the Discovery investigations staff now at home in London, and I cannot say more concerning them.

The executive staff of the Discovery II—Commander Carey and his officers—take every opportunity of surveying and charting little known and badly charted islands of the dependencies of the Falkland Islands. Several recent Admiralty charts are based upon their surveys. The scientific collections of the Discovery investigations are already very much larger than those of any previous expedition, and

the results of the work were recently published in a series of scientific reports.

The Discovery investigations are controlled by a committee, known as the Discovery Committee, appointed by the Secretary of State for the Colonies. The practical work is carried out under the direction of Dr. Stanley Kemp, Fellow of the Royal Society.

The work of the Discovery II may be described as research into the environments of the whales which visit the Antarctic in the southern summer. In no two years are the populations in one place quite the same—one year Blue whales predominate, in another Fin—and their numbers vary. We collect information on these points by direct observations and from commercial whaling records, and our work at sea is designed to build up pictures of varying conditions in the sea from year to year. When in the Antarctic both Blue and Fin whales feed entirely on a small shrimp-like animal about an inch in length. It is known by the Norwegians as krill. It occurs in very dense shoals in the surface waters where conditions are favourable, and the whale swims through these shoals with open mouth and sifts enormous numbers with its baleen plates. The krill in turn feeds upon the microscopic plants of the sea—the diatoms—and the diatoms, being plants, live directly on the salts of the sea water.

We must, then, if our researches are to be complete, investigate the salt content of the sea water from place to place, from time to time, and at all depths, since plant growth depends on it. We must in the same way investigate the varied and changing plant life in the sea, since it forms the food of the krill, which is itself the whale food. And, in addition, we must learn all we can of the other animals which live where whale food lives, since all life in the sea is inter-related.

These researches may be compared with agricultural research on land. The production of beef or milk depends upon the consumption by the animal of plant growth, and the quality of the plants, which in turn depends on the native of the salt content of the soil, will affect the product—the beef or the milk. But researches into such questions ashore are subject to control. Experiments can be staged and the conditions can be varied, as for example by growing different crops and by feeding those crops with different fertilisers. No such controlled experiments are possible at sea and our researches must be repeated over many years if we are to relate them with the varying behaviour of the whales.

The Discovery II is continuing work which was commenced in 1926, and which has been repeated every year since on the whaling grounds of the Falkland Dependencies. The conditions in these whaling grounds are inter-related with circum-polar conditions and can only be fully explained when these conditions are known. That is the reason for our presence here. We are going around the Antarctic continent in a series of V-shaped cruises, making daily observations on the water and the animal life on the surface and in deep water. The instruments with which the water samples from all depths are obtained, and the nets with which comparable quantities of plants and animals are fished from various layers of the sea, are all specially designed for such work.