

WHALING RESEARCH

Giving Permanence to Industry

LONDON, June 1.

After a successful maiden voyage in the South Atlantic and the Antarctic, lasting nearly 18 months, the research ship *Discovery II* has returned to England.

The vessel, which was built expressly for research in southern waters, and is specially strengthened for ice navigation, can steam more than 9,000 miles without re-fuelling. The object of her investigations is to secure permanence for the whaling industry in the south.

A study has been made of the drifting life of the ocean, including the small prawn which in the south forms the exclusive food of Blue and Fin whales.

It has been feared for some time that the southern whaling work would reduce the stock of whales so greatly that the industry would die out. A temporary setback to industry has occurred within the last few months, principally because of over-production, and there will be a very drastic reduction in whaling next season.

It is stated that if this interval is wisely used for the development of well-based regulations, it should give lease to a renewal of the industry on a scale which will ensure its permanence.

Sir Douglas Mawson Explains Restrictions

Sir Douglas Mawson, leader of the last two Antarctic expeditions in the *Discovery*, said last night that the expeditions under his care had undertaken the same programme as that which had been investigated by the *Discovery II* and the *William Scoresby*. It was all part of an international whaling research campaign, and the *Discovery*'s work embraced a very large area.

With regard to the permanency of whaling, Sir Douglas Mawson said that for some time the British Government had been making efforts to enforce a restriction on the number of whales which could be taken during the season, but Great Britain was not the only nation interested in whaling, and was not able to make much progress except insofar as it affected her own nationals.

Norwegians Big Whalers

The Norwegians were engaged more extensively in the industry than Great Britain, and they, in search of bigger profits, had sought more whales, but low prices for whale oil had caused a depression in the industry, and the Norwegian Government had become impressed of the need for caring for the future. It had imposed some regulations and was trying to enforce them. It had inspectors who had the right to go aboard commercial whalers to see that those regulations were being observed.

Australia's Share

Sir Douglas Mawson said that there was no reason why Australia should not enter seriously into the whaling industry. Some of the biggest catches had been made in whaling areas nearest Australia. Australia really should share the profits of that industry, and it was expected that something would come out of recent investigations.

Not very much was being said about it just now, because it was naturally not easy to get men interested in new commercial projects, and there was the additional factor that the whaling industry was suffering from the depression like everything else, but in the near future something would be done.

CHRISTMAS CHEER

Letter From Ross Sea

A letter dispatched by Sir Douglas Mawson from the Ross Sea on December 14 last, has been received by Dr. L. Keith Ward (president of the South Australian branch of the Royal Geographical Society of Australasia).

The letter, which acknowledges receipt of a box containing Christmas cheer contributed by members of the society, states:—"The box duly reached the *Discovery* in Hobart just before departure. We are looking forward with pleasure to opening the box on Christmas Day, which we expect will be celebrated in the vicinity of Adelle Land. It is indeed very kind of members of the society to think of our comfort and diversion at this time. I wish to thank you all."

Mawson Expedition To Leave Again In November

CANBERRA, Sunday.—It was stated definitely by Dr. Ingram, a member of the scientific staff of the Mawson expedition at the Legacy Club last night, that the expedition would return to the Antarctic in November.

Dr. Ingram said none of the work had been of a striking character, but a great deal of valuable scientific investigation had been carried out. When the expedition returned in November it was hoped to add considerably to the map of Australia.

SIR DOUGLAS MAWSON CONGRATULATED

Messages From Two Governments

Canberra, March 24.

The Prime Minister (Mr. Scullin) to-night sent the following message to Sir Douglas Mawson, aboard the *Discovery*:—"The Commonwealth Government extends to yourself and all members of the expedition cordial greetings and congratulations on your achievements and safe return to Australia."

Mr. Scullin has received the following cable from the Secretary of State for Dominion Affairs:—"His Majesty's Government in the United Kingdom desires to convey to his Majesty's Government in the Commonwealth of Australia its congratulations on the success which has once again crowned the *Discovery* expedition. Sir Douglas Mawson, Captain Mackenzie, and their comrades have achieved results worthy of the past record of the *Discovery*, and added a notable chapter to the story of British exploration of the Antarctic. His Majesty's Government in the United Kingdom joins with his Majesty's Government in the Commonwealth of Australia in welcoming the expedition home."

MAWSON RETURNING TO AUSTRALIA

Unable to Get Coal

DISCOVERY'S SAILS WILL BE USED ON TRIP HOME

Canberra, March 3.

As Sir Douglas Mawson has not been able to obtain another supply of coal, the *Discovery* is now on its way back to Australia.

Wireless communication with the ship was re-established on Thursday night, when a message from Sir Douglas was picked up, stating that radio communication had been interrupted from February 18 owing to weather and atmospheric interruptions. He added that he had failed to obtain more coal for the voyage south, and so was returning to Australia. The ship's position then was latitude 51.20, longitude 101.

Coal Reserves Low

The following message, dated March 1, has also been received:—"Unusually adverse conditions for the sending of wireless messages have prevailed since February 18, and, consequently, there has been delay in dispatching news of our operations. On February 19, after a final landing on MacRobertson Land, the weather held good, but, as our coal reserves are very low, any greater extension of the programme along the Antarctic coast is considered unreasonable. In any case, to reach Australia we would have to rely principally on the sails. Some steaming is anticipated until we are out of the belt of ice and easterly winds, then the ship will sail with the westerlies towards Australia, and reserve sufficient coal for several days' steaming when on the Australian coast as a provision against adverse weather when making port. Radio communication with several whaling vessels has been maintained in the hope of obtaining supplies of coal to extend our programme on the return journey. We have been disappointed, however, for the whalers are evidently following whales far from our sphere."

Preparing for Sailing

"On February 19, in the lee of a large tabular berg, two extra spars, the top-gallant and royal yards, were hoisted and rigged on the foremast. These had been housed on the deck while we were working among the ice, but they are now needed to enable us to carry more sail on the homeward voyage. For several days after that, great activity prevailed in every department to make the ship as seaworthy as possible, for the vessel is in very light trim owing to the consumption of coal and stores. A journey of about 4,000 miles of ocean waste lies before us. For some days on this return journey head winds were experienced, and icebergs were abundant, so that progress was slow. On February 20 we reached a submarine bank in latitude 59, longitude 78, which we discovered last year. Soundings were made with the object of more completely defining the shallow area. An extension of the shoal has been charted, but no depth recorded less than that of 350 fathoms reported last year."

Good Progress

"The *Discovery* is now in an area of favorable winds, and is making fair progress under sail. To-day's noon position is latitude 55.48, longitude 85.20."

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BUSY WITH CAMERA IN ANTARCTICA

Captain Hurley's Picture To Be Exhibited Soon

MAWSON'S ACHIEVEMENTS

By SIR DOUGLAS MAWSON

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It is anticipated that a picture story of the *Discovery* expedition to the Antarctic will be exhibited in Australia shortly. Captain Hurley has secured a telling record, not only of the ship and her work, but also of new lands discovered, and their inhabitants.

A notable feature of the season's operations has been the wide sector of the Antarctic pack ice region through which observations have been pursued. Beginning at the new 180th meridian and ranging west to the 60th degree of east longitude, the field work extended through one-third of the circuit of the Antarctic regions.

In the first month spent in the pack ice zone, the operations were pre-controlled by the fundamental necessity of replenishing coal supplies, and it was not till after the new year that geographical work on the coastline commenced. Thenceforth through 80 degrees of longitude very notable additions were made to geographical knowledge.

In passing Adelle Land to our sphere of operations to the west, additional features were added to the coastline of that territory, and an extension was made to the coastline designated Wilkes Land by our former 1911 expedition.

In the region still further west as far as Queen Mary Land, sufficient evidence has been accumulated to state that land does not exist in the latitudes assigned for either North's high land, Totten's high land, or Budd's land, which have appeared on some published maps.

New Land Found

In the case of Knox Land ice-covered land does exist in the neighborhood of the position assigned to it by Wilkes. In this segment, however, new land has been sighted from our aeroplane. This new land has been charted as Banzare Land, after the title of our Expedition.

Between the 115th and 116th meridians, at about the 66th parallel, an ice surface resembling ice-covered land was observed at a distance from the plane. For this land fall, with a view to commemorating Balleny's exploits in this sector in the year 1839, it is proposed to maintain the title "Sabrina Land," which has appeared in diverse locations in several Antarctic charts.

Named After Princess

To the west of Queen Mary Land the coast was again sighted at a distance from the aeroplane. Mindful of the interest taken in our work by the Duke and Duchess of York, who visited the *Discovery* before her departure from London, we have the honor and pleasure in naming this new territory "Princess Elizabeth Land."

Westward of Cape Amery in the deeply indenting territory of MacRobertson Land is a great sea extending beyond the 69th parallel, but the coast comes north again to Cape Darnley, which is a sharp turn in the coast in latitude 67.20, longitude 69.25.

The MacRobertson Land coast has now been mapped in considerable detail, so that all of its salient features are charted and named. It is of a most interesting character, being diversified with mountains, peaks, islands and other features of note.

Our operations this season have resulted in the discovery of new land, totaling 16 degrees of longitude and further detailed charting through 13 degrees of longitude of territory discovered last year. Regarded on the broadest geographical basis, the great feature is that sufficient data is now at hand to definitely assert the continuity of the Antarctic continental coastline through a great arc nowhere far removed from the Antarctic Circle and extending from Cape Adare to Enderby Land.

Charting Sea Floor

The geographic results, however, are only part of the story, for other departments of observation have been equally fortunate. Until a few days ago, when the Echo sounder developed a malady, soundings have been taken at frequent intervals each day throughout the cruise, detecting submarine banks and otherwise delineating the floor of the sea and the margin of coastline.

Opportunity has been found for a considerable number of vertical marine stations, and data thus obtained has been extended by regular daily nettings for marine life and by chemical examination of waters traversed. Thus the distribution of plankton and its bearing on whale-feeding areas has been given due attention throughout a wide sweep of Antarctic seas.

Doctor Ingram, who is one of the most active members of the expedition, has, besides helping with routine biological work, conducted investigations on bacteria in sea water with interesting results, particularly in regard to their role as denitrifiers.

Mr. Simmers, besides maintaining a two-hourly record of observations, has been very successful in the pilot balloon work investigations of upper air currents.

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NO NEWS OF MAWSON FOR WEEK

DISCOVERY PASSES OUT OF WIRELESS RANGE

BEAUTIES OF MacROBERTSON LAND

Canberra, March 6.

The *Discovery* is now in an area in the Arctic from which wireless communication appears to be practically impossible; the last recognizable signals from the ship were picked up at La Perouse receiving station at 2.30 a.m. (Adelaide time) on February 27.

Amalgamated Wireless (Australasia), Ltd., is doing everything possible to intercept the vessel's signals, but no coherent message has been received for a week.

In an earlier message, dispatched on February 20, Sir Douglas Mawson stated that the *Discovery* had reached MacRobertson Land, the beauties of which he spent a whole morning in examining.

"Wednesday, February 18," he said, "was ushered in by a heavy snowfall which, however, cleared away as the day advanced. By 3 a.m. there was sufficient daylight to distinguish ice masses close at hand, so our course was set to the south, towards the rocky areas of MacRobertson Land, the coast of which we wished to investigate at close quarters. Progress had to be made with caution."

For the vessel had to pass between some outlying islands and over the shoal areas to reach the mainland. The outlying islands hereabouts range in size from tiny islets to lengths of about one mile, and are very numerous.

Terraces of Ice

"Away on the eastern horizon could be seen mountain ranges which we passed four days before. Before us, in longitude 61 to 62 East, were exposed to view rocky slopes constituted of high rocky masses with intervening areas of terraced ice slopes descending steeply to sea level. These rock areas are extensive and present an excellent field for geological and geographical study."

"To the west, as seen from the lookout barrel on the mainmast, an ice cliff coastline, with only minor rock exposure, could be traced, extending away into the region now defined as Kemp Land. One of several promising embayments near at hand was chosen for fuller investigation, and the vessel was brought cautiously into sheltered waters where the motor launch was lowered. Mr. Colbeck located an excellent boat harbor and transferred a large party ashore."

Minerals in Rocks

"Everywhere, to a height of at least 2,000 feet, the now-exposed rocks have recently been ridden over by an inland ice sheet which is receding, leaving behind it off-shore islets, moraines and dissected rocky headlands with valleys in which are glacial tarns. In this fresh water, algae exist associated with which are elementary forms of animal life. Adhering to the rocks, moss and several varieties of lichen were observed."

"The rocks themselves proved of absorbing interest. Neither in any of the rock outcrops nor in the moraine debris, which can be taken as illustrative of the vast areas of land submerged under the ice to the south, was any type of rock met with other than coarse crystalline gneisses and schists, fundamentally archaic in character. Characteristic minerals composing these rocks are quartz, felspar, mica, garnet, cordierite, and sillimanite. Garnet is extraordinarily abundant to the extent of being an important constituent of practically every rock exposure examined. Among these rocks, catching the eye from afar are belts and spicules of yellowish and brownish color which, on examination, were found to be weathered outcrops of reefs and irregular masses of rock charged with a notable proportion of sulphides of iron. High on one cliff face, as we passed beneath in the motor launch, could be discerned green patches, colored by oxidizing copper sulphides."

Fuller Investigation Desired

"We were all impressed with this region as a field for scientific investigations, but, with the limited coal now remaining on board the *Discovery*, more extended investigations in this area cannot now be attempted. Accordingly a cairn was erected and the flag hoisted, and the document relating to our discoveries duly deposited. The occasion was enlivened by a libation of champagne, and was concluded with three rousing cheers for the King."

"It was then late in the day, so, with reluctance, we withdrew from what, on that quiet, bright evening, with its novelty and alluring beauty surrounded by a mysterious atmosphere, appeared to us an enchanted shore. Seals basked peacefully along the water's edge, while curiosity stimulated to life the slumbering bands of Adelle and Emperor penguins who, inquisitively watching our throbbing boat go by, talked among themselves of the passing miracle. "On arrival on board we discovered that the barometer had been falling ominously, so, as darkness descended, Captain Mackenzie turned the ship towards the deep sea."

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