

THE SOUNDINGS OF THE ANTARCTIC SHIP "AURORA" BETWEEN TASMANIA AND THE ANTARCTIC CONTINENT (1912).*

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DR. MAWSON, in placing his plans before the Royal Geographical Society, indicated that an important part of his programme would be the oceanographical work upon which he proposed to employ the Expedition's vessel during the winter months subsequent to the landing of the various parties on the Antarctic coastline. A certain amount of this work having been carried out, I am placing a brief report before Sir John Murray, who has kindly consented to discuss the work and to indicate the most important direction in which it should be extended.

The *Aurora* left Hobart on December 2, 1911, for the Antarctic *viâ* Macquarie island. It was not possible to do any deep-sea work until after the main party and their equipment had been landed, owing to the lumbered-up state of the vessel's decks. From January 19, after our departure from the main base, a considerable number of soundings were taken along the edge of the continental shelf.

Winter Cruise of "Aurora," May 18 to July 10, 1912.—We left Sydney on May 18 and proceeded through Bass strait as far as the 140th meridian, when the course was altered to pass over the charted position of the Royal Company islands, of which nothing could be seen. Macquarie island was reached on June 7. We remained there until June 22, and then sailed for the Auckland islands, where we spent some days at Carnley harbour and at Port Ross. We left the last-named anchorage on July 6 and reached Port Lyttleton on July 11. During this cruise the weather was so bad that only eight deep-sea soundings were taken. Mr. E. Waite accompanied us as biologist.

Our No. 1 sounding-machine (Lucas) is fixed on the port side of the fore-castle head. The wire is wound in by means of a belt worked by a small horizontal engine close by and directly in line with the machine; this engine, constructed for the *Scotia* (Scottish National Antarctic Expedition, 1902), was very kindly lent to us by Dr. W. S. Bruce. It proved to be just the right thing. On one occasion, in fine weather, the time occupied in taking a sounding of 2600 fathoms was just over an hour—reckoned from the time the vessel stopped until she was under weigh again.

Spring Cruise, November 12 to December 14, 1912.—The *Aurora* left Hobart on November 12, 1912, for a month's cruise in the deeper waters between Tasmania and the Auckland islands. My instructions were to visit Macquarie island in the first instance, sounding and dredging as opportunity offered; and to arrange for an extension of the cruise within

* Map, p. 420.

such limits as would permit of being back at Hobart not later than December 15. Prof. Flynn, of Hobart, accompanied us as biologist; and as several improvements had been made in our deep-sea gear, we anticipated good results in the limited time at our disposal. During this voyage an important rise was discovered 200 miles south of Tasmania, and a considerable number of soundings taken in its vicinity.

The *Aurora* left Hobart on the second Antarctic voyage on December 26, 1912. During our passage to Commonwealth bay we were able to obtain a good many soundings, but our subsequent detention there made it impossible to obtain more soundings along the Antarctic coastline. This, I hope, we shall be able to do during our next voyage.
