

## THE BELGIAN ANTARCTIC EXPEDITION

The Société Royale Belge de Géographie, of Brussels, through whose efforts the *Belgica* was equipped and dispatched in search of the South Pole, has published the preliminary report of Captain De Gerlache on the results of the expedition. After leaving Punta Arenas, December 14, 1897, the *Belgica* kept on southward, and without any incident except the loss of a few days, caused by grounding on a submerged rock near Lapataia, reached Hughes bay January 24. Three weeks were then passed in exploring this bay in every direction, and also in investigating a strait discovered between the lands toward the east and a large peninsula, which they temporarily called Palmer archipelago.

They entered the Pacific February 12 and soon made out in the distance Alexander I Land, but as an impenetrable ice-floe prevented an approach, changed their course to the west. Two weeks later, when at  $70^{\circ} 20'$  south by  $85^{\circ}$  west, a violent northeast wind opened up deep channels in the pack, so that, although the season was very far advanced, the occasion seemed favorable to continue on toward the south. The dangers of a winter in the Antarctic zone were evident, but, on the other hand, if caught in the ice and unable to regain the open sea, they might drift to a high latitude and perhaps winter near new lands. On March 3, seeing the absolute impossibility of continuing farther, they put the helm about, and during the few following days drifted seven or eight miles in the midst of a compact mass of ice. By March 10 the *Belgica* was completely blocked, as the cakes of ice which surrounded her had welded together and formed an impenetrable field.

Beginning with the latter half of the month of March the cold became very sharp because of the winds from the south. The temperature, however, was dependent upon the direction of the wind, for winds from the south brought clear, sharp weather, while those from the north—that is, from the ocean—almost always meant clouds and mist and a temperature about zero C., and sometimes even higher. The drift also was a direct function of the wind. The aspect of the pack changed continually; though for the most part very compact, at times great gaps and channels would open and extend for miles, but the ship, imprisoned in a wall of ice, could not gain them. By May 30 they had drifted to latitude  $71^{\circ} 36'$  by  $87^{\circ} 39'$ , apparently the farthest point south gained by the expedition. During the winter snowstorms frequently made all work out of doors impossible; also the treacherous character of the ice-floe and the violence of the gusts of wind prevented any long excursion upon the ice. The sun set on May 17 and did not rise again until July 24. The seals and penguins, without ever being very numerous in the immediate neighborhood of the vessel, constituted the main part of the crew's fare during the last months of winter, and this fresh food not a little contributed to maintain their good health, which, except during the polar night, was excellent.

In October, 1898, an outlet opened about 600 meters distant, but immediately around the ship the floe continued unbroken. As summer was passing very quickly and a second winter seemed imminent, at the beginning of January, 1899, De Gerlache determined to dig a canal to this outlet. The measurements made by the sounding line indicated an average thickness of ice of one meter, but around the vessel it exceeded two meters. Something like 2,500 to 3,000 cubic meters of ice were excavated, and this work, in which every one took part, lasted for three weeks. By February there only remained the blocks immediately adjacent to the *Belgica*, but the pressure increased; the canal just completed contracted, and at the same time the outlet in which it ended closed up. Eleven days later, however, the pack opened sufficiently for them to advance fifteen or sixteen miles toward the north, when they were again blocked. But the dark sky in the north and the perceptible swelling of the sea were a sure sign that in this direction there was a grand expanse of water, and perhaps the open sea. During the winter the *Belgica* had only once suffered dangerous pressure; only for a few moments had she ever been in danger, but now continually battered by the great blocks of ice wedged against her by the swelling sea, the little vessel was in a very dangerous situation. Fortunately, the pack opened again March 14, and this time they were able to gain the open sea and return to Punta Arenas.

Captain De Gerlache concludes his report as follows: "Upon our escape from the pack, we were about  $103^{\circ}$  west longitude, so that the general drift was found to be  $18^{\circ}$  toward the west by about  $70^{\circ} 31'$  average latitude. We had seen no signs of the land given in the charts at  $70^{\circ}$  south and  $100^{\circ}$  west. It is furthermore worthy of remark that our drifting, which was almost as rapid toward the south before the north wind as it had been toward the north before the south wind, as well as the soundings which we made whenever the weather permitted, carries several degrees toward the south the hypothetical contours of the austral continent in this part of the Antarctic zone. During this winter, the first that has been passed in the midst of austral ice, we were able to conduct satisfactory magnetic operations, to form an important series of meteorological polar observations, and to make a good collection of specimens of pelagic and abyssal fauna, as well as of specimens of submarine deposit."

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## CORRECTION

An error in the obituary sketch of Professor O. C. Marsh in the May number of the Magazine (page 181), regrettable in itself and unjust to an educational institution whence several distinguished geographers have been sent forth, requires correction. "The Phillips-Exeter Academy at Andover" should read *the Phillips Academy at Andover*. The error was unthinkingly transcribed from the usually accurate *Scientific American*, vol. lxxx, page 201.

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