

excursions were made, Spruce then crossed to the western side of the Cordillera to explore the Cinchona forests, being commissioned to obtain seeds and young plants of Cinchona for India. It was fortunate that such a man as Spruce was on the spot to undertake the work. As his first visit to the forests of Alausi proved unproductive, he moved further north to the red-bark forests on the lower western slopes of Chimborazo, where the red-bark region extends from 2000 feet to 5000 feet above sea-level. Here he, with Mr. Cross, in the face of extraordinary difficulties, and in the midst of a revolution, collected seeds and raised plants of *Cinchona succirubra*. After a perilous voyage, they brought their cargo of Wardian cases safely to Guayaquil, whence they were shipped to India. The story of this enterprise is a remarkable narrative of energy and determination overcoming innumerable obstacles.

An interesting chapter in this second volume is

into particulars, but attention must be directed to the original and wonderfully exact map of the country, which is reproduced with the tracks of former treasure-seekers indicated. As Dr. Wallace offers an ingenious and apparently correct explanation of the reason why everyone has diverged from the right path at a certain point, there seems now to be every inducement for someone filled with the spirit of adventure to set out, chart in hand, on the five days' journey from Pillaro, and solve the question of the treasure of the Incas. A. W. H.

#### AN ANTARCTIC ALBUM.<sup>1</sup>

AMONG the most valuable assets of the National Antarctic Expedition were the artistic ability of Dr. E. A. Wilson and the photographic skill of Engineer-Lieut. Skelton; and a large selection from their sketches and photographs, supplemented by those

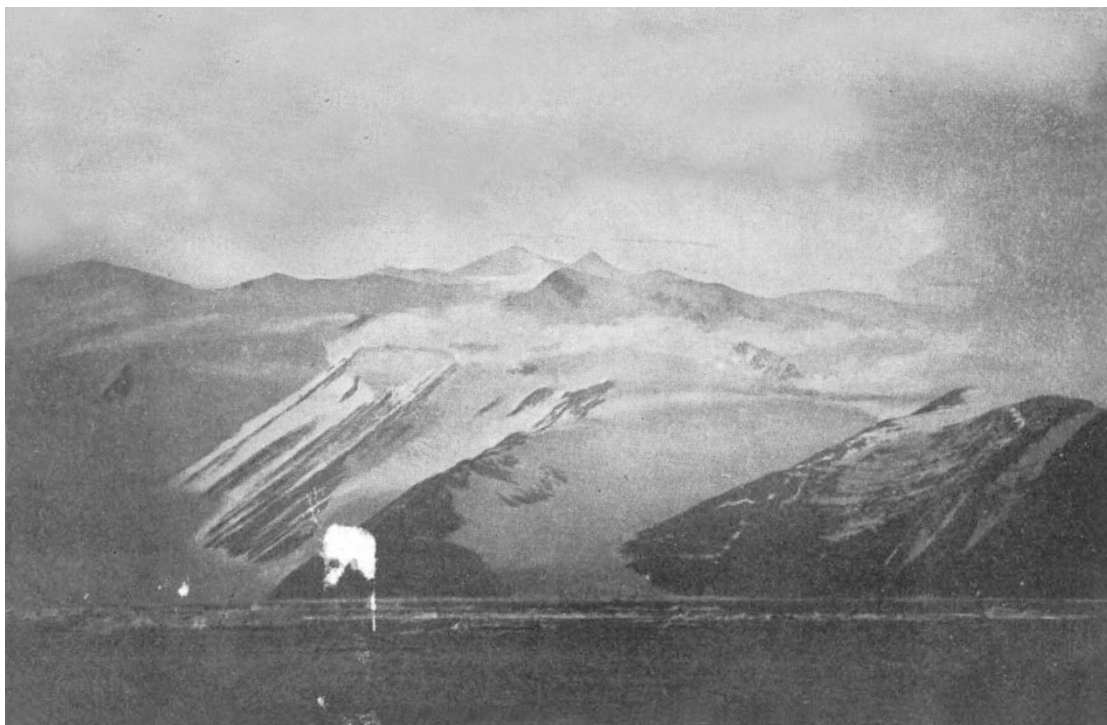


FIG. 1.—Mount Sabine. From a telephotograph by Lieut. R. W. Skelton; looking S. from Cape Adare to Mount Sabine, at the head of Robeson Bay, January 9, 1902. From "National Antarctic Expedition, 1901-4 Album of Photographs."

occupied by Spruce's paper entitled "Ant agency in plant structure, or the modifications in the structure of plants which have been caused by ants, by the long continued agency of which they have become hereditary, and have acquired sufficient permanence to be employed as botanical characters." The paper was rejected by the Linnean Society in the form sent in in 1869, and was never printed, but it is worthy of careful perusal.

Other chapters deal with narcotics, the Amazons, and the interesting rock-pictures of the Amazon valley. The volume concludes with an account of the hidden treasure of the Incas, including a translation of one of the few existing copies of Valverde's guide to the Llanganati Mountains—the locality of the treasure—and the Royal warrant of the King of Spain discovered by Spruce after persistent search. It would spoil the exciting interest of the narrative to enter

taken by other members of the expedition, has now been issued in a sumptuous volume and portfolio containing 165 plates. The illustrations included in this collection have been selected and arranged by Dr. Wilson, and he has also written the introduction and the description of the plates; he gives full acknowledgment to Captain Scott and other of his colleagues for their help in this respect.

Sir Archibald Geikie contributes the preface, in which he states that the album has been printed by Messrs. Oliver and Boyd, of Edinburgh, and many of the photogravures are the work of the Swan Electric Engraving Company, by whom the pencil drawings were produced by a new process invented by Mr. Donald Cameron Swan. The sketches of the aurora and various meteorological effects are reproduced as

<sup>1</sup> "National Antarctic Expedition, 1901-4." Album of Photographs and Sketches; with a Portfolio of Panoramic Views. Pp. xvi + 303; 165 plates, 2 maps. (London: Royal Society, 1908.)

lithographs by Messrs. West, Newman and Co. The two key-maps were prepared by Dr. Wilson and Lieut. Skelton.

The illustrations deal with most branches of the work of the expedition, and they are naturally of most importance in connection with the topography, and Dr. Wilson's outline sketches are an invaluable supplement to the maps previously issued by the expedition, and his pictures of the aurora, clouds, and earth shadows represent features for which photography is useless. The characters of the scenery are especially well shown in the long panoramas by Lieut. Skelton, some of which are reproduced as folding plates three feet long. Some of the most interesting photographs were taken by Lieut. Skelton with a telephotographic lens, and he thus brings out the general outlines of Mount Sabine (Fig. 1) from a distance at which the ordinary photograph is com-

The album is a more useful addition to the literature which has already appeared in connection with the expedition, and is to be regarded as a supplement to the works by Captain Scott and to the volumes of the scientific reports noticed already in *NATURE*, vol. lxxiii., 1905-6, pp. 297-300, two figures, and vol. lxxvii., April 16, 1908, pp. 561-2.

J. W. G.

#### AMERICAN AND CANADIAN WATERWAYS.

WHILE in this country the interest that at one time was evinced in the improvement of our canals, since the evidence that was brought before the Royal Commission, appears to have evaporated, in the United States and Canada this subject has come very much to the front. It is generally recog-



FIG. 2.—The Pressure Ridges at Cape Crozier. From a photograph taken by Lieut. R. W. Skelton, October 18, 1902; looking S.E. from the land-ice of the eastern extremity of Cape Crozier, Ross Island. From "National Antarctic Expedition, 1901-4. Album of Photographs."

paratively useless. The album includes many zoological photographs illustrating the whales, seals, and especially those most attractive of photographic subjects, the penguins.

The illustrations of the geological details are less numerous. Photographs of the glaciers are of especial value owing to the changes which take place in the distribution of the ice. There are many excellent illustrations of glacier tables, sastrugi, and icebergs; but the album would have been more useful had it contained more photographs showing the detailed intimate structure of the ice. There are several photographs of the Great Ice Barrier, but they add little to the evidence of that by Bernacchi, which was reproduced in the review in *NATURE* of Captain Scott's book. The photographs of the chasm between the Barrier and the land ice help to indicate the great difference between the rapidly moving barrier ice and the more stagnant ice along the shore.

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nised that the question of transport by water is one of the most pressing needs of the country. During the last few years the home commerce has grown at such a rapid rate that the railways appear to be utterly unable to cope with it efficiently. During the past seven years, while trade has doubled in quantity, the railway facilities for transporting this have only increased one-fourth. It is generally acknowledged that it will be a wise policy on the part of the Government to spend as much money as will be available in improving the internal waterways and in constructing links with existing canals and rivers and the sea-ports, so as to render an efficient system of national transport.

During the last Presidential campaign, both political parties pledged themselves to make the transport by water a question of first prominence. Those engaged in mercantile traffic, and the large industrial companies are strongly in favour of an improvement