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The Swedish Antarctic expedition

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Geographical Society and Historic Portrait Gallery. And correspondingly with the spiritual evolution from age to age, through all the intensity of successive religious developments and transformations.

Granting this interest in the past, this completeness in the present, is nothing to be discerned of the future? In the deepest sense the past is still here in the present; but this present is already great with the future, and this not merely latent, but incipient. A renewed study of Scotland, of Edinburgh, would reveal to us each as no mere accumulation of historic survivals, but as historic centres of initiative also. Nor has this process, however apparently arrested, necessarily therefore come to an end.

Such then are some of the ways in which we may justify the establishment of a Sociological Station for Edinburgh and its immediate environment. A germ of this needed Regional Institute of Geography and History has for some years past been beginning its development, of course as yet very imperfectly and incompletely, in the Outlook Tower. To continue these beginnings, to develop this rudimentary social observatory towards adequate scientific completeness, and to utilise it in research and in education is thus a task demanding only moderate resources and a not unattainable amount of specialist co-operation. And to do this would be of interest and value, not only for city and environs, but as an example of the regional portion of such a National Institute of Geography as that indicated by Mr. Bartholomew and the writer in the March number of this Magazine.

THE SWEDISH ANTARCTIC EXPEDITION.

SOME NOTES OF ITS FIRST MONTH OF WORK.

By OTTO NORDENSKJÖLD.

IN the following lines I intend to give some general information about the work and the chief results of the Swedish Antarctic Expedition during its first month in the Antarctic.

The expedition arrived at Buenos Ayres December 16th, and stayed there five days. Here the two last members joined the party, viz., the American artist, Mr. F. W. Stokes, a member of the Peary Greenland Expedition in 1893-97, and the Argentine lieutenant, Mr. J. M. Sabral, who was to take part in the magnetic and hydrographical work. On the last day of the year we arrived at Port Stanley, and from there proceeded to the Argentine observatory at Staten Island. The wind being contrary we did not arrive till the 6th January. Unfortunately the work of the observatory had not yet commenced, so the instruments could only be compared to a very small extent.

From Staten Island the course was set direct for the South Shetlands, which were first sighted on the 11th of January. The land first seen proved to be King George Island, a high island covered with ice and snow to an extent I had never expected in that northern

latitude, even after the older not very encouraging reports. There being no place suitable for landing on its northern shore, we proceeded to Nelson Island, where we landed in the Harmony Cove of the charts, our first anchorage in the Antarctic regions.

The snow-free land was not very extensive, but we made good collections of the plants—mosses, lichens, and algæ—and some insects. The rock in places was a porphyritic lava, perhaps of the same mesozoic age as the corresponding rocks in the Cordilleras. No recent volcanic rocks were found even as boulders.

We now steamed for the mainland, where the work was to begin in the region of the hitherto unexplored Orleans Inlet. We hoped to find a passage through to the east, but we soon found the inlet bending to WSW., and passing in an almost straight line between a coast-line that seemed uninterrupted and a chain of big islands, we arrived at an island which seemed to us identical with Two Hummocks Island and Cape Murray of the map of the Belgica Strait, constructed by Captain Lecointe.

Though very anxious to stay in this region in order to make a thorough survey, we here turned back to our principal field, the Atlantic coast of the land. Passing along the coast of Louis Philippe Land, we entered on the 15th of January the strait between this and Joinville Land, where we had an opportunity of making very important corrections of the existing maps.

It was a most interesting thing to compare the Pacific and the Atlantic side of this part of the Antarctic land-mass. The former is formed by high, jagged mountain ridges, and the rocks are, as already known through the Belgian Expedition, intrusive masses or schists. The east coast, on the contrary, has to a great extent a plateau-like character; the rocks are for the most part basaltic, but tertiary sediments seem also extensive.

We only landed a few times, and then continued our voyage to the south. Between Cape Lockyer and the Seal Islands there was fixed land-ice, but we discovered a high, mountainous land far to the westward. The ice now began to be troublesome, as the wind, which had been easterly, had pressed it up against the land. A little south from 66° S. Lat. we found it impossible to proceed farther, and it being still too early to prepare for the winter station, we resolved to follow the edge of the ice-pack eastwards in order to explore it.

For about twenty days we continued moving along in this way, effecting soundings and hydrographical and zoological work. The continental shelf is rather broad even at about 66° S. lat., a depth of 1000 metres being found at a distance of 120 miles from the shore-line. On this shelf the water is exceedingly cold, with a temperature of 0° C. only at a depth of between 400 and 500 metres. Outside of this shelf all our soundings gave results between 3000 and 4000 metres, with the depth slightly increasing towards our easternmost sounding in about 45° W. long. The temperature of the water is below 0° C. until a depth of about 175 metres; at the bottom it is between -0°·7 to -0°·5 C. The temperature seems to be a little higher farther east, and it is not

impossible that the deep indentation in the ice where Weddell and Ross reached their farthest south corresponds to a part of the sea with comparatively warm water.

The summer being now far advanced, the weather foggy and rather bad, and the necessity for starting the work of the winter-station pressing, we resolved to return to the place best fitted for this work of all we had seen, viz., the region south of Cape Seymour. During the 10th and 11th of February there was blowing a hurricane-like wind from the SW., and only on the 12th could we start unloading, at a place selected in Admiralty Inlet, at the margin of the great Snow Hill glacier. The geology here is very interesting; the rocks contain numerous fossils, mostly Ammonites of a Cretaceous type, the first time that this formation has been found in the Antarctic.

The members of the winter party are Dr. Nordenskjöld; Dr. G. Bodman as meteorologist and magnetician; Lieutenant Sobral, assistant magnetician; Dr. E. Ekeläf, physician and biologist; and two sailors. It is our intention to continue the work at least until 1st January 1903. During the fall, as well as especially in the spring, September to November, I intend to explore by means of sledge expeditions as much of the vicinity as possible, with the special intention of fixing the outlines of what is to be considered as the mainland, and to follow this as far as possible to the south.

Our steamer *Antarctic* now proceeds as soon as possible to the Falklands, with a full scientific staff staying on board. During the winter, scientific and especially hydrographical and zoological work, is to be executed round the Falklands and between those islands and South Georgia. At about the end of the year the ship may be expected back at the station. At that time our reconnoitring work ought to be finished, and if circumstances permit we intend to try again to penetrate the pack-ice and proceed as far as possible to the south. It is to be hoped that we shall be able to extend the limits of the known territory for a good distance, though it is not probable that we can reach a high degree of latitude, as it seems that the region east of Graham Land is in that respect one of the most difficult on the earth.

We do not intend to pass a second winter in the Antarctic. Before we return, I hope, however, to meet in the work the proposed Scottish Antarctic Expedition, headed by Mr. Bruce. There is no doubt that this expedition will find many most interesting problems to solve.

THE DISASTER IN THE WEST INDIES.

WE publish this month a map of the island of Martinique, whose chief town has been recently destroyed by a terrible volcanic eruption. The same disturbance has also affected the volcano of the neighbouring island of St. Vincent (see map), as well as producing seismic shocks in others, of the Lesser Antilles.

The island of Martinique is some 49 miles long, and at its middle point is 13 miles wide. Like the neighbouring islands it is of volcanic