*THE NATIONAL ANTARCTIC EXPEDITION.**

IT is anticipated that the National Antarctic Expedition may reach these shores one day during next week. Since its departure in August, 1901, the expedition has passed two years and two months within the Antarctic Circle, and has achieved results which admittedly place it in the very first rank of Polar expeditions. The return of the *Discovery* will complete another entry in the long roll of exploring enterprises for which, as well as for her warlike victories, the British navy has so long been distinguished. Much of the success of the expedition is due to the rare gifts for command displayed by Commander Robert Scott amid the trying conditions of life in the Antarctic; but the officers and men also deserve warm praise for their devoted loyalty and zeal. All alike have done splendid work, and all alike have earned the thanks of their countrymen.

The task assigned to Commander Scott and his companions in the official instructions was one which in any case was bound to make large demands on the courage and skill of all concerned. To spend one winter in the far south would have been no mean achievement. But the expedition has done more than this. Circumstances necessitated the passing of a second winter in the Antarctic; and the work of the second winter and the second traveling season, while doubling the results, has more than doubled their scientific value. The expedition involved hardships of no ordinary kind, perils on which the members of the expedition will be the last to dwell, difficulties which only Polar men can appreciate; but the reward has been great. Extensive geographical discoveries have been made, and accurate surveys completed. These are certainly worthy of all the attention they have attracted, but they form only a part of the achievement. The discovery of a fossil flora in the far south is of itself an event of great scientific importance. The biological collections are unique; for they are the only collections that have been made 700 miles to the south of the Antarctic Circle. The careful meteorological records are greatly enhanced in value by their extension over a couple of years. The magnetic observations recorded at sea, as well as those registered on the Antarctic land, will certainly be of very special interest. Those taken with the Eschenagen instruments form a continuous record comprising 700 magnetograms. It is of course premature to anticipate final results, though there are several fascinating problems awaiting solution; but it may be mentioned that when, on November 1, 1903, a magnetic storm prevailed from Potsdam to New Zealand, the magnetic disturbances observed at the *Discovery's* winter quarters were unusually numerous and violent. The value of the observations for declination, inclination and total force during the memorable journey over the great ice barrier, when a record southing was attained, is very great, because the observations were secured under conditions quite free from local disturbances. The results will, therefore, be specially useful in fixing the position of the magnetic pole. Other branches of physical work, such as the taking of observations in connection with the force of gravity, seismic disturbances and atmospheric electricity, were steadily pursued throughout both years.

The *Discovery* is now approaching our shores with this rich harvest of scientific results. Letters have been received from members of the expedition from the Falkland Islands, dated the third week in July. On the whole, good weather had been enjoyed throughout the voyage from New Zealand, and it was anticipated that the *Discovery* would reach England about September 15; but a telegram from Ponta Delgada, which was printed in *The Times* yesterday, indicates that she will arrive much sooner, probably 'about the 10th.' It is seldom in these days that an opportunity is afforded of welcoming home an expedition which has accomplished such brilliant and extensive explorations. Every effort will be made to give all the members of the expedition a fitting reception. On the arrival of the *Discovery* at the London docks it is proposed to entertain officers and men at a luncheon, which it is hoped the Lord Mayor will be able to attend, as well as representatives of the

* From the London *Times*. It is announced by cable that the *Discovery* has duly arrived.

Admirality, the Royal and Royal Geographical Societies and other public bodies. On the following day the Royal Geographical Society will give a dinner to the officers and scientific staff. According to present arrangements, officers and men will then be allowed to rest in peace, so far as public functions of an official character are concerned, until the beginning of November, when it is hoped that Commander Scott will open the new session of the Royal Geographical Society with a summary account of the whole expedition. This will be a special meeting, and possibly will be held in the Albert-hall.

THE CROCKER ECLIPSE EXPEDITION OF THE LICK OBSERVATORY.

Mr. William H. Crocker has offered to meet the expenses of observations on the total solar eclipse of August 30, 1905. Three expeditions will be sent out from the Lick Observatory to Labrador, Spain and Egypt. The provisional program for the three stations is as follows:

Labrador: A photographic search for intramercurial planets in a region of the sky 8½° wide, extending in the direction of the solar equator from 4° below the sun to 15° above it. The photography of the corona by means of a camera of five inches aperture and forty feet focus, of the form first used by Professor Schaeberle at the eclipse of 1893.

Spain: A photographic intramercurial search covering a region 9¼° wide, extending in the direction of the solar equator from 14° below to 14° above the sun. The photography of the solar corona with a camera of five inches aperture and forty feet focus. A study of the polarized light in the corona. The use of spectrographs provided with moving plate-holders to obtain a continuous record of changes in the spectrum of the sun's edge at the time of second and third contacts; of spectrographs for determining the wave-length of the green coronal bright line, and, if possible, the wave-lengths of the bright and dark lines in the isolated spectrum of the sun's edge, as nearly as possible at the time when the dark lines give way to bright ones, and *vice versa;* and of a spectrograph for recording the general spectrum of the corona.

Egypt: A photographic intramercurial search 8½°, extending in the direction of the solar equator from 4° below to 15° above the sun. The photography of the solar corona with a camera of five inches aperture and forty feet focus. The photography of the general spectrum of the corona.

SCIENTIFIC NOTES AND NEWS.

Dr. G. K. Gilbert, of the U. S. Geological Survey, has been elected a foreign member of the Accademia dei Lincei, Rome.

Commander R. E. Peary was presented with the gold medal of the French Geographical Society by its president, M. Cordier, at the banquet of the International Geographical Congress given in New York on September 14. In accepting the medal Commander Peary announced his plans for Arctic exploration next year.

Dr. Philipp Lenard, professor of physics at Kiel, and Dr. Adolf de Koenen, professor of geology at Göttingen, have been elected foreign members of the Belgian Academy of Sciences.

Captain R. S. Scott, of the *Discovery,* has been promoted to the rank of a captain in the Royal Navy.

The council of the British Institution of Civil Engineers has, in addition to the medals and prizes given for communications discussed at the meetings of the institution in the last session, made the following awards in respect of other papers dealt with in 1903–1904: Telford premiums to Arthur Hill, C.I.E. (Bombay), F. A. Hurley (Cairo), E. M. De Burgh (Greystones), H. H. Dare, M.E. (Sydney, N. S. W.), William Marriott (Melton Constable), T. G. Gribble (London), W. H. Haigh (Cardiff). For students' papers the awards are: A Miller scholarship, tenable for three years, and the James Forrest medal to C. W. L. Alexander, B.E. (Birmingham); Miller prizes to J. M. Clark, M.A., B.Sc. (Glasgow), L. G. Crawford (Barrow-in-Furness), W. H. Dickenson, B.Sc. (Jesmond-on-Tyne), William Lawson (Newcastle-on-Tyne), C. G. Du Cane, B.A. (Middlesbrough), C.