

ity.—In accordance with the provisions of the plan of work for 1892, the measurements of gravity with the Italian pendulum, which on previous occasions had exhibited uncommon variations of length while swinging under diminished atmosphere pressure, were repeated, and it was found that the results for 1902 verified the results from the experiments of 1901.

The results from all these gravity experiments, which will be extended farther, if deemed necessary, in one or the other particular, will be published next year (1903).

*Relative Gravity Determinations.*—A comprehensive report on the relative determinations of gravity upon the Atlantic Ocean between Spain and South America has been published. The results found proved to be trustworthy, as also the newly determined relative results at the stations of Potsdam, Rio de Janeiro, Lisbon and Madrid, by means of the half-second pendulum. A new connection between the gravity stations at St. Petersburg and Potsdam is also contemplated. Moreover, Breteuil and other base-stations will also be connected by means of Stackraths' pendulum apparatus.

The commission also proposes to connect the Potsdam gravity station with their own pendulum apparatus and to determine the coefficients for air pressure and temperature. For the new Stackrath apparatus these coefficients were ascertained by adequate experiments at Rio de Janeiro. The constants of the four pendulums of Schumann (Strasbourg), which have recently been materially remodeled, in order to improve them and render them less sensitive to variations of external conditions, will be determined.

Finally, it is proposed also to swing the pendulum at a series of stations in the high mountains of Central Asia, and to that end the trigonometric survey of India is bestowing particular care upon the determinations of the constants of temperature and air pressure for their own apparatus.

WILLIAM EIMBECK.

#### THE BRITISH ANTARCTIC EXPEDITION.

THE London *Times* publishes the following summary of the results of the National Antarctic Expedition contributed by a member of the scientific staff:

1. The discovery of extensive land at the east extremity of the great ice barrier.

2. The discovery that McMurdo Bay (?) is not a 'bay,' but a strait, and that Mounts Erebus and Terror form part of a comparatively small island.

3. The discovery of good winter quarters in a high latitude—viz.,  $77^{\circ} 50' S.$ ,  $166^{\circ} 42' E.$ —with land close by suitable for the erection of the magnetic observations, etc. The lowest temperature experienced was  $92^{\circ}$  of frost Fahrenheit.

4. An immense amount of scientific work over 12 months in winter quarters, principally physical and biological.

5. Numerous and extensive sledge journeys in the spring and summer covering a good many thousand miles, of which the principal is Captain Scott's journey, upon which a latitude of  $82^{\circ} 17'$  south was attained, and an immense tract of new land discovered and chartered as far as  $83^{\circ} 30'$  south, with peaks and ranges of mountains as high as 14,000 feet.

6. The great continental inland ice reached westwards at a considerable distance from the coast and at an altitude of 9,000 feet.

7. A considerable amount of magnetic work at sea, also soundings, deep sea dredging, etc.

Captain Scott writes as follows:

We do not seem to have done much in any one particular direction, but I hope the sum total of our labors will not be displeasing to the societies. I must make a general apology for the sketchy nature of this note, which owing to the circumstances, has to be written in haste. When you receive it the matter will be decided, but as I write I am in considerable anxiety as to our prospects of getting out this season. It will be poor luck if we do not. We found one year's ice here last season; it broke away, and the spot remained open to the sea for at least six weeks; but we are now past the date at which it opened last season, and for this last fortnight little ice

has gone out, though in the past few days there have been renewed signs of a break up. The season is evidently very bad, and the weather is getting much colder and more blustering. Under these circumstances I am getting all the stores I can from the *Morning*, hoping to send her back to New Zealand in a week or so and to free ourselves at a later date. We shall be fully prepared for another winter, and I should not deplore it except as a waste of time. All our people remain as keen as possible. I think it would be difficult to imagine a happier or more comfortable community, considering how closely we are thrown together. If we get back this season it is my firm intention to do my best to raise money in the colonies for a third season, if the funds are not forthcoming from home. I think it would be difficult to praise Colbeck too highly for the manner in which he has followed our track, picked up our records, and found this ship; it has all worked out wonderfully well, but it must be appreciated what meagre information he had to work on, how intelligently he has followed the scent. The manner in which he and his ship's company lay themselves out to help us in every possible manner here is beyond all praise. We shall be quite comfortable, and I cannot think the harbor will remain closed for two seasons in succession.

#### THE BERMUDA BIOLOGICAL STATION.

THE time for making application to work at the temporary biological station at Bermuda has been extended from June 1 to June 15. Till June 1, application may be made to Professor C. L. Bristol, University Heights New York City. After that to Professor E. L. Mark, 109 Irving St., Cambridge, Mass.

One hundred dollars provides first-class passage from New York to Bermuda and return, six weeks' board and lodging—but not washing—at the Hotel Frascati, Flatts, Bermuda, ample facilities for collecting the animals and plants of the coral reefs, lagoons and shores, and a table in a temporary laboratory furnished with the ordinary glassware,

reagents and apparatus provided in modern marine laboratories. The building secured for the laboratory is well constructed and new.

If applicants are able to send information as to the subject or subjects on which they desire to work, it will aid the management in making better provision for their accommodation. It may be possible in some cases to provide the use of a certain number of books and monographs, if applicants indicate those which they can not themselves procure.

It should be understood that the opportunities offered are for investigation and that no formal instruction will be given.

E. L. MARK,  
C. L. BRISTOL.

#### THE LAKE LABORATORY OF THE OHIO STATE UNIVERSITY.

THE Lake Laboratory of the Ohio State University this summer will enter upon a new period of growth. The Cedar Point Pleasure Resort Company, which owns the long stretch of land bordering the east branch of Sandusky Bay has given a site for the new laboratory building in a most commanding and beautiful position where the laboratory will have at its very doors a magnificent stretch of Lake Erie beach, extended sand dunes, a native forest of cedars and other fine trees, an arm of the bay with good harbor for small boats and ready access to the larger bay and also an extensive swamp with a very varied vegetation.

The lease on this site runs for fifty years with privilege of renewal for a like term on the same conditions as to free rental, access of roads and freedom from buildings between laboratory and Lake front, and the Resort Company grants free transportation to students and workers at the laboratory on its steamers which, during the summer, ply between Sandusky and the resort two or three times per hour from early morning till late at night. The distance from the city being but two miles will make it possible to choose in the matter of living between the city boarding houses and the use of rooms in the labo-