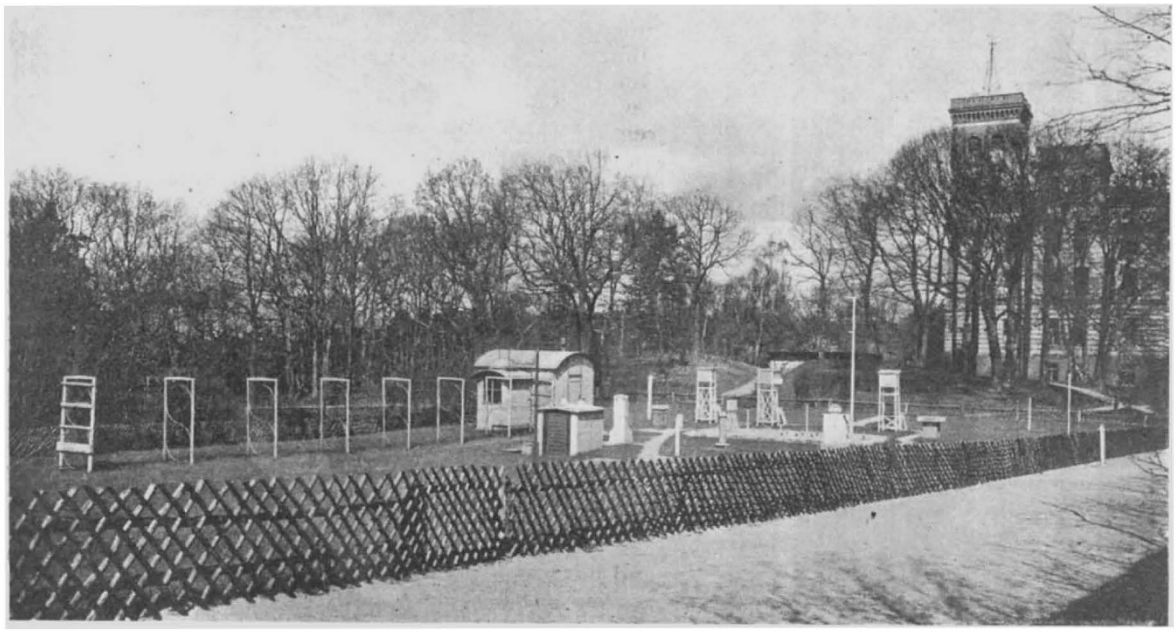
The interdependence between the amounts of carbon dioxide and oxygen is so constant that carbon dioxide estimations made in the Sondén apparatus may be taken as an accurate indication of oxygen content. For every 0·01 per cent. increase in atmospheric carbon dioxide, a corresponding decrease in the percentage amount of oxygen may be safely assumed. T. E. T.

THE POTSDAM METEOROLOGICAL AND MAGNETIC OBSERVATORIES.[1]

THE volume referred to below gives a lucid description of the observatories at Potsdam, compiled by Profs. Suring and Schmidt, who are in charge respectively of the meteorological and magnetic departments. A preface by Prof. Hellmann, the director of the Royal Prussian Meteorological Institute, to which the observatories belong, states that the book is primarily intended for the benefit of those studying at or visiting the observatories, the number of visitors being now large. The text describes the buildings and instruments, while reference is made in footnotes to many researches associated with the place. Thirty-one figures supplement the descriptions of buildings and instruments in the text, and a plate gives a ground-plan of the whole site.

The construction of the magnetic observatory began in 1888, and that of the meteorological observatory in 1890, so that the buildings are all modern. The equipment is also modern and exceedingly complete. The site on the Telegraphenberg, a wooded hill on the outskirts of Potsdam, might be criticised by some meteorologists, but it possesses much natural beauty, and the proximity of the astrophysical and geodetic observatories—also situated on the Telegraphenberg—admits of the ready exchange of ideas amongst a number of men of science, each an expert in his own subject. The figure reproduced shows the enclosure devoted to meteorological instruments, especially those recording air and earth temperatures and rainfall. The small building in the corner is devoted to atmospheric electricity. In the background is the main meteorological building, a very large and handsome structure. Its basement contains *inter alia* a physical and chemical laboratory, a photographic dark-room, a workshop, electrical generating apparatus and storage batteries.

On the ground-floor are various rooms for meteorological work, including a large room containing the barographs and other recording instruments. Most of the remaining space under the roof serves to provide accommodation for the resident staff and the director of the Meteorological Institute, but it includes a library and a conference chamber. The roof is flat and surmounted by a low and a high tower, the former devoted to optical and cloud-measuring apparatus. The large tower rises to a height of 32 metres above ground-level. A staging on the top of it carries various wind-measuring apparatus, including a Robinson anemometer, the cups of which are 40·8 metres above the ground and surmount all other objects on the Telegraphenberg.



Observation enclosure of the meteorological and magnetic observatories at Potsdam.

There are two chief magnetic buildings, the larger about 100, the smaller about 150 metres from the meteorological building. The former contains two sets of magnetographs, in a basement maintained at a nearly constant temperature throughout the year; the latter is devoted to absolute observations. In view of electric-tram disturbances in Potsdam—though these are still exceedingly small—a new magnetic observatory

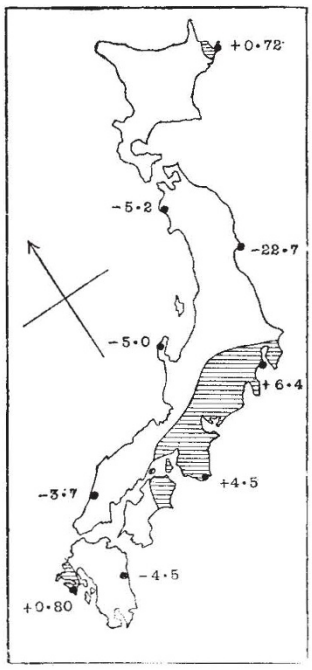
[1] "Meteorologisch-magnetisches Observatorium bei Potsdam." Pp. 67+ plates. (Berlin: Behrend and Co., 1912.) Price 3 marks.

was built in 1906 at Seddin, about 12 kilometres south-west of Potsdam. Magnetographs are now in operation there as well as at Potsdam under the Potsdam staff. A description of the Seddin buildings and instruments is thus included.

The volume contains much of interest to all meteorologists and magneticians, and is admirably suited for the purpose for which it was primarily intended. A previous study of it will double the advantages of a visit, while subsequent consultation will recall memories of a most pleasant and profitable experience. C. CHREE.

RECENT SEA-LEVEL VARIATIONS IN JAPAN AND ITALY.[1]

IN a valuable memoir, Prof. Omori deals with the variations in the height of the sea-level at nine mareograph stations in Japan from 1898 (in a few cases from 1894) to 1910, referred to in a note in NATURE of December 26, 1912 (vol. xc., p. 471). They are greatly in excess of any changes that might be due to variations of barometric pressure or air-temperature, and the effects of wind are probably negligible. These variations being allowed for, there remain considerable changes in the mean annual height of the sea-level at all nine stations, the greatest being a decrease in height of 22·7 mm. per year at Ayukama. In the accompanying sketch-map, the shaded areas represent the parts of Japan which are now subsiding, the boundaries inland being determined by interpolation. The figures at the different stations denote the mean annual rise or fall of the sea-level in millimetres per year. It is on the east side, to which the present depressions are chiefly confined, that the greatest depths of ocean lie and the most violent earthquakes originate.



Prof. Omori also compares the variations in the average height of the sea-level in the whole of Japan (the barometric and temperature corrections being made) with the variations in the latitude of Tokyo and Mizusawa for each year from 1895 to 1910. The curves representing both variations show a remarkable correspondence. The average height of the sea-level was greatest in 1899 and 1905–06, and least in 1897 and 1902; the latitude was a maximum about 1899–1900 and in 1906, and a minimum in 1897 and 1902. Corresponding to a variation of 0·1″ in the latitude, there was a change of 40 mm. in the height of the sea-level.

The examination of the records at seventeen mareograph stations in Italy and Austria from 1900–08 shows that in all parts of Italy the height of the sea-level was decreasing by amounts ranging from 10·5 mm. per year in the neighbourhood of Pola and Ancona, to between 4 and 5 mm. per year at Naples and Messina and less than 2 mm. per year at Palermo. In 1908 the mean sea-level reached a well-defined minimum, and Prof. Omori suggests that this may have been a secondary cause of the Messina earthquake at the close of that year.

C. D.

[1] F. Omori: (1) "On the Recent Sea-level Variation at the Different Japanese Mareograph Stations" (Bull. Imp. Earthq. Inv. Com., vol. v., 1913, pp. 39–86). (2) "Note on the Recent Sea-level Variation at the Italian and Austrian Mareograph Stations, and on the Cause of the Messina-Reggio Earthquake of 1908" (*ibid.*, pp. 87–100).

NOTES.

A STATUE of Lord Kelvin, which has been subscribed for mainly by the public of Belfast, is to be unveiled to-day (Thursday) in the Botanic Gardens, Belfast. The Chancellor of the Queen's University, Belfast (the Earl of Shaftesbury, K.P.), will preside, and Sir Joseph Larmor, M.P., F.R.S., will perform the unveiling ceremony, and deliver an address. The statue is the work of Mr. Bruce Joy. Invitations to the ceremony have been issued to the Lord Mayor and Corporation of Belfast, to the Senate and professors of the Queen's University, Belfast, and to a number of leading men of science.—The statue of Lord Kelvin erected by the contributions of his fellow-citizens in Glasgow and the west of Scotland has been placed in position by the side of the new Kelvin Avenue, which traverses the Kelvingrove Park beneath Gilmorehill, close to the University of Glasgow. The statue will be unveiled on October 8 next, by the Right Hon. A. Birrell, Lord Rector of the University, and an address on Kelvin will be subsequently delivered by the Right Hon. A. J. Balfour, Gifford lecturer in the University.—The Kelvin memorial window in Westminster Abbey will be unveiled on July 15.

IT is with deep regret that we have to announce the death, from spleno-medullary leucæmia, of Prof. N. H. Alcock, Joseph Morley Drake professor of physiology in McGill University, Montreal. Prof. Alcock was born in 1871, and received his medical education at Trinity College, Dublin, and Sir Patrick Dun's Hospital. He graduated as B.A. and M.D. in Dublin University in 1896, taking senior moderatorship and gold medal in natural science. He was shortly afterwards appointed demonstrator of anatomy at Victoria University, Manchester. In the following year he was appointed assistant professor of physiology in Dublin University. In 1903 he became demonstrator of physiology at London University, and in the following year he succeeded Dr. Waller as lecturer in physiology in St. Mary's Hospital Medical School, Paddington. In 1909 he obtained the degree of D.Sc. of London University in consideration of his researches