where. This state of opinion was partly a consequence of Murchison's early and wonderfully full description of the Silurian rocks and their fossils, which made his work a key to the Lower Palæozoic of all lands. Sedgwick's Cambrian researches and the palæontology of the region were not published in full before the years 1852–55, when appeared his "Synopsis of the Classification of the British Palæozoic Rocks," along with M'Coy's "Descriptions of British Palæozoic Fossils."

But this general acceptance was further due to the fact that the discovered fossils of the Cambrian, from the Lingula flags downward, or the "Primordial," were few, and differed not more from Silurian forms than the Silurian differed among themselves; and also, because the beds were continuous with the Silurian, without a break. Geologists under the weight of the evidence, American as well as European, naturally gravitated in the Murchisonian direction, while applauding the work of Sedgwick.

In 1853, Mr. Salter showed, by a study of the fossils (*Q. J. Geol. Soc.*, x. 62), that the Bala beds from Bala in Merioneth, the original Bala, were included within the period of the Caradoc. Sedgwick subsequently (in the preface to the Catalogue of the Woodwardian Museum by J. W. Salter) divided his Upper Cambrian into (1) the Lower Bala, to include the Llandeilo flags (Upper Llandeilo of the Geological Survey, the Arenig being the Lower); (2) the Middle Bala, corresponding to the Caradoc sandstone, the Bala rocks, and the Coniston limestone (Geological Survey); and the Upper Bala or the Caradoc shales, Hirnant limestone, and the Lower Llandovery (cited from Etheridge, in Phillips's "Geology," ii. 77, 1885).

In 1854, the Cambrian system not having secured the place claimed for it, Sedgwick brought the subject again before the Geological Society. Besides urging his former arguments, he condemned Murchison's work so far as to imply that none of his sections "give a true notion of the geological place of the groups of Caer Caradoc and Llandeilo"; and to speak of the Llandeilo beds, in a note, as "a remarkable fossiliferous group (about the age of the Bala limestone) of which the geological place was entirely mistaken in the published sections of the Silurian System." There were errors in the sections, and that with regard to the May Hill group was a prominent one; but this was sweeping depreciation without new argument; and, in consequence of it, part of the paper was refused publication by the Geological Society.

The paper appeared in the *Philosophical Magazine* for 1854 (fourth series, vol. viii. pp. 301, 359, 481). It contains no bitter word, or personal remark against Murchison. Sedgwick was profoundly disappointed on finding, when closing up his long labours, that the Cambrian system had no place in the geology of the day. He did not see this to be the logical consequence of the facts so far as then understood. It was to him the disparagement and rejection of his faithful work; and this deeply moved him, even to estrangement from the author of the successful Silurian system.

Conclusion.

The ground about which there was reasonably a disputed claim was that of the Bala of Sedgwick's region and the Llandeilo and Caradoc of Murchison's. Respecting this common field, long priority in the describing and defining of the Llandeilo and Caradoc beds, both geologically and palæontologically, leaves no question as to Murchison's title. Below this level lie the rocks studied chiefly by Sedgwick; and if a dividing horizon of sufficient geological value had been found to exist, it should have been made the limit between a Cambrian and a Silurian system.

The claim of a worker to affix a name to a series of rocks first studied and defined by him cannot be disputed. But science may accept, or not, according as the name is, or is not, needed. In the progress of geology, the time finally was reached, when the name Cambrian was believed to be a necessity, and "Cambrian" and "Silurian" derived thence a right to follow one another in the geological record.

"To follow one another;" that is, directly, without a suppression of "Silurian" from the name of the lower subdivision by intruding the term "Ordovician," or any other term. For this is virtually appropriating what is claimed (though not so intended), and does marked injustice to one of the greatest of British geologists. Moreover, such an intruded term commemorates, with harsh emphasis, misjudgments and their consequences, which are better forgotten. Rather let the two names, standing together as in 1835, recall the fifteen years of friendly labours in Cambria and Siluria and the other earlier years of united research. JAMES D. DANA.

THE WEATHER IN JANUARY.

THE month of January, which is generally the coldest month of the year, was so exceptionally warm this year, and in other ways the whole period was so unusual, that a few of the leading features in connection with the weather may not be without interest. The month opened with a short spell of frost, but, after the first few days, mild weather set in, and continued until the close of the month.

The stations used by the Meteorological Office in the compilation of the Daily Weather Report scarcely represent sufficiently the weather at inland stations, but yet they will give an approximate idea of the prevailing conditions. These reports show that the warmest weather was experienced in the south-western parts of the Kingdom, the stations in the north-east of Scotland being about 5° colder than in the south-west of England. On the east coast the mean temperatures of Wick, Aberdeen, Spurn Head, and Yarmouth were each about 41°·0.

The following table gives the mean temperature results for a number of stations in all parts of the British Islands:—

Station.	Mean of max. and min.	Difference from average 15 years, 1871–1885.	Mean maximum.	Difference from average 15 years, 1871–1885.	Mean minimum.	Difference from average 15 years, 1871–1885.	Number of days with 50° and above.	Number of nights with 32° and below.
Wick	40·5	+2·8	45·2	+3·0	35·7	+2·7	4	8
Nairn	41·6	+4·3	47·1	+5·2	36·1	+3·4	13	4
Aberdeen	41·1	+3·2	45·6	+3·2	36·5	+3·2	7	4
Leith	42·2	+3·0	48·2	+3·6	36·2	+2·5	15	9
Shields	42·3	+3·4	47·8	+4·7	36 8	+2·1	14	5
York	41·8	+3·6	47·9	+4·7	35·6	+2·5	15	8
Loughborough ...	42·2	+4·0	48·4	+4·9	36·0	+3·1	17	6
Ardrossan	43·6	+3·2	47·3	+2·9	39·8	+3·4	6	3
Donaghadee ...	42·6	+2·2	47·7	+3·3	37·5	+1·2	15	2
Holyhead	44·7	+2·2	48·7	+2·8	40·7	+1·7	18	0
Liverpool	43·2	+3·4	48·5	+4·6	37·8	+2·2	16	4
Parsonstown ...	42·2	+1·9	48·8	+2·8	35·5	+0·9	16	7
Valencia	45·6	+0·4	51·1	+1·3	40·0	−0·5	21	3
Roche's Point ...	45·7	+1·9	50·2	+2·3	41·2	+1·5	23	1
Pembroke	46·0	+3·1	49·2	+3·4	42·8	+2·9	17	0
Scilly	48·3	+2·1	51·5	+2·4	45·0	+1·7	25	0
Jersey	46·6	+4·2	50·5	+4·5	42·6	+3·9	24	1
Hurst Castle ...	45·4	+4·2	49·8	+4·5	40·9	+3·9	23	2
London	43·7	+4·1	49·5	+4·7	37·8	+3·4	20	5
Oxford	42·5	+3·4	48·1	+4·3	36·8	+2·4	15	4
Cambridge... ...	41·9	+3·6	48·9	+5·0	34·9	+2·3	19	10
Yarmouth	40·8	+2·6	45·6	+3·7	36·0	+1·5	6	7

From this it is seen that the excess of temperature was least at the extreme western stations, the mean at Valencia only exceeding the average for 15 years by 0°·4, whilst the night temperature was even below the average. In nearly every case it is seen that the excess of the day temperatures over the average was larger than that of the night temperatures. A feature of especial interest in the table is the large number of days on which the temperature reached 50° or above.

It is interesting to notice the very great difference between the temperature in January this year, in comparison with that which occurred in January 1881, when the weather was exceptionally cold. At Loughborough, the mean temperature this year exceeded that in 1881 by 17°, which is 4° in excess of the difference between the average temperature for January and May; there were also several stations in nearly all parts of the Kingdom with an excess of 12° and 13°.

At Greenwich Observatory the mean temperature obtained from the mean of the maximum and minimum readings was 43°·4; and with the exception of 43°·5 in 1884 and 43°·6 in 1846, this has not been exceeded in January during the last half-century. The mean of the highest day temperatures was 48°·5, which is higher than any January during the last fifty years, and the only other instances of 48°, or above, were 48°·1 in 1877 and 1851, and 48°·0 in 1846. There were six years with the mean maximum between 47° and 48°, but only eighteen in all above 45°, whilst in January 1879 the mean of the maxima was only 35°·1, or 13°·4 colder than this year, and in 1881 it was only 36°·2. There have been three Januaries during the last half-century with a higher mean night temperature, but in no year was the excess more than 1.° In January this year the mean minimum was 38°·2, and in 1884 it was 39°·2. The Greenwich observations also show that there were in January 17 days with a temperature of 50° or above, whereas in the corresponding period during the last 50 years there has been no similarly high number of days with this temperature. It was reached 14 times in 1877, 1853, and 1846; 13 times in 1873 and 1849; 12 times in 1884; 11 times in 1874, 1869, 1852, and 1851; and in 28 Januaries 50° or above was only attained 5 times or less.

The warm weather was very intimately connected with the heavy wind storms which occurred throughout the month, the storm systems which so frequently arrived on our coasts from off the Atlantic being the natural carriers of warm moist air. Scarcely a day passed during the month without the arrival of some fresh disturbance from the westward, but with one or two exceptions the central areas of the storm systems skirted the western and northern coasts and did not pass directly over our islands. The disturbances, however, passed sufficiently near to us to cause winds of gale force, and there was scarcely a day throughout the month that a gale was not blowing in some part of the United Kingdom. In the North Atlantic the month was exceptionally stormy, and vessels trading between Europe and America experienced unusually heavy weather.

The month was also marked by the prevalence of influenza, and, in addition to this, a general unhealthiness pervaded all classes of the community. The death-rate, from all causes, in London, for the four weeks ending January 25, corresponded to an annual rate of 29·7 per 1000 of the total population, which is excessively high. The rates for the corresponding period in the last four years were 21·7 in 1889, 23·2 in 1888, 22·7 in 1887, and 22·6 in 1886. CHAS. HARDING.

NOTES.

THE subject of the Bakerian Lecture, which, as we announced last week, is to be delivered by Prof. Schuster on March 20, will be "The Discharge of Electricity through Gases."

THE Academy of Sciences of Berlin has presented the following sums of money: £90 to Dr. Rohde, of Breslau, for a journey to Naples to continue his observations on the central nervous system of sharks and echinoderms at Prof. Dohrn's zoological station; £80 to Prof. Matthiessen, of Rostock, to further his researches on the eyes of whales at the stations of the North Sea fisheries; £25 to Prof. Dr. Winkler, of Breslau, for a journey to St. Petersburg to make researches on the Turkish, Samoyed, and Tungusian languages; £30 to Dr. Schellong, the New Guinea traveller, to publish the results of his anthropological studies.

IT is proposed that the following address shall be presented to Prof. Stuart on the occasion of his resignation of his Professorship at Cambridge:—"We, the undersigned resident members of the Senate, having learned from your letter to the Vice-Chancellor your intention of resigning your Professorship in the University, desire to express our sense of the great public service which you have rendered in connection with the University Extension movement. By yourself first delivering specimen courses of lectures, and afterwards strenuously advocating and ably organizing their wide-spread establishment, you did for the country at large, and for our own and other Universities, work which we regard with sincere respect and admiration. The degree in which Cambridge has, during the last twenty years, come into useful relations with sections of the community which were previously regarded as beyond the sphere of its influence is, we hold, largely attributable to your inspiring initiative, and to the wise principles of administration which, mainly under your guidance, the University laid down."

AMONG the lectures to be delivered at the Royal Institution of Great Britain after Easter we note the following:—On Tuesdays, April 15, 22, 29, three lectures on the place of Oxford University in English history, by the Hon. George C. Brodrick; on Tuesdays, May 27, June 3, 10, three lectures on the natural history of society, by Mr. Andrew Lang; on Thursdays, April 17, 24, May 1, three lectures on the heat of the moon and stars (the Tyndall Lectures), by Mr. C. V. Boys, F.R.S.; on Thursdays, May 8, 15, 22, 29, June 5, 12, six lectures on flame and explosives, by Prof. Dewar, F.R.S.; on Saturdays, April 19, 26, May 3, three lectures on colour and its chemical action, by Captain W. de W. Abney, F.R.S.

THE De Candolle Prize has been awarded to Prof. F. Buchenau, of Bremen, for his monograph of the Juncagineæ.

A CONGRESS for Viticulture will be held in Rome from the 23rd to the 27th of the present month. The principal object of the Congress will be the discussion of remedies for the *Peronospora viticola* and other diseases of the vine caused by vegetable parasites. There will be an International Exhibition of apparatus for the cure of these diseases, and numerous prizes will be awarded.

THE annual general meeting of the members of the German Botanical Society is to be held this year in Bremen late in September.

APPENDIX I. of the *Kew Bulletin*, just issued, contains a list of such hardy herbaceous annual and perennial plants and of such trees and shrubs as matured seeds under cultivation in the Royal Gardens, Kew, during the year 1889. It is explained that these seeds are available for exchange with Colonial, Indian, and Foreign Botanic Gardens, as well as with regular correspondents of Kew. The seeds are for the most part only available in moderate quantity, and are not sold to the general public.

THE Nachtigal Gesellschaft of Berlin, for German research in Africa, has just completed its second year of business. It was announced at the last general meeting that the list of members