

THUNDERSTORM IN LONDON.

AN exceptionally severe thunderstorm was experienced in London and the suburbs on the evening of the 17th inst. It commenced with distant thunder at about 5.30 p.m., and by 6 o'clock the storm was fully over the southern suburbs. The lightning was very vivid, and the flashes were very frequent, following each other occasionally with but an interval of a few seconds. The thunder was very heavy, and at times quite deafening, the crash often following the lightning-flash almost instantaneously. The greatest violence of the storm occurred between 6.30 and 8 p.m., throughout the whole of which time the lightning and thunder were most intense. Thunder was heard till 9.30 p.m., and distant lightning seen till 10 p.m., so that the storm was over London for about four hours and a half. There was no evening as far as daylight was concerned, night setting in at the close of the afternoon, and the heavy clouds which covered the sky had the appearance of being doubly massive in contrast to the lightning as the flashes illumined the whole sky. The rain which accompanied the storm was very heavy, but the fall varied very considerably in different parts of the metropolis. Unfortunately at present the measurements at hand are by no means numerous, but a careful discussion of the rainfall of this storm would probably be of considerable scientific interest. The falls as yet available are: Brixton Hill 2'02 inches, Camden Town 1'42 inch, Clapham 0'97 inch, Greenwich 0'54 inch, Westminster 0'50 inch, and East Finchley 0'16 inch. At Brixton Hill the rain was intensely heavy for twenty minutes from about 6.10 to 6.30 p.m., during which time by far the larger part of the fall occurred; the observer not being on the spot until later in the evening, measurements were not made during the progress of the storm. There is ample evidence, however, to confirm the heavy fall at Brixton, as the roads were flooded in parts to the depth of from 12 to 18 inches, and the water rushed down the roadways with such force that it was thought a large reservoir had burst. Mr. Wallis, writing from the head-quarters of the "British Rainfall" at Camden Town, states that the total fall there was 1'42 inch, and heavy rain did not commence till 6.30 p.m. He gives the following rates of fall:—7 to 8 p.m. 1'24 inch, 7 to 7.30 p.m. 0'45 inch, 7.30 to 8 p.m. 0'79 inch; in 22 minutes, from 7.42 to 8.4, the amount measured was 0'66 inch; and in 10 minutes, from 7.45 to 7.55, the heavy fall of 0'50 was measured. The primary cause of the storm was due to a somewhat shallow barometric depression, the mercury at the centre standing at 29'7 inches, which passed completely over London during the evening.

This disturbance was central over the north of Devon at 8 a.m. 17th, and by 8 a.m. 18th was situated over North Germany, but from some cause, not yet understood, its rate of travel when passing over London was very much slower, and its energy more intense, than at any other stage of its existence. The weather had been dry during the first twelve days of August, as well as at the close of July, especially in the southern and eastern districts of England, where, indeed, a second drought, during the present summer, had prevailed, but which was much less marked than the drought of June and the early part of July, but yet severe, following as it did so closely on its predecessor, with so small a fall of rain intervening. After the 12th, however, the weather over England became disturbed, and the anticyclone which had prevailed gave place to cyclonic conditions, and a series of disturbances passed over our islands; it was one of these which resulted in this severe thunderstorm. Very little rain fell over the country generally in connexion with this storm, but other falls of rain occurred in many places about this time. In London, as well as in the Midlands, and the southern and eastern districts of England, a thunderstorm

had been experienced in the early morning of the same day; the total fall of rain in London, as the result of the two storms, was 2'62 inches, a fall 0'34 in excess of the total average for August, all of which fell in less than twenty-four hours. CHAS. HARDING.

SPENCER F. BAIRD.

THE news of Prof. Baird's death will be received by English naturalists with the most profound regret, the more so as no intimation of the indisposition of the celebrated American man of science had been communicated to his friends in this country, and the intelligence was therefore unexpected. By Englishmen who knew Prof. Baird personally the loss must be especially felt, but there are many who had never met him in the flesh, to whom the news of his decease must come as that of a dear friend. As one of the latter class, we venture to express our sympathy with our scientific brethren in America on the decease of one of their most eminent and respected colleagues. As chief of the Smithsonian Institution, Prof. Baird possessed a power of conferring benefits on the world of science exercised by few directors of public museums, and the manner in which he utilized these powers has resulted not only in the wonderful success of the United States National Museum under his direction, but in the enrichment of many other museums which were in friendly intercourse with the Smithsonian Institution. We know by experience that the British Museum is indebted beyond measure to Prof. Baird, and we need only refer to the recent volumes of the "Catalogue of Birds" to show how much our national Museum owes to the sister Museum in America for hearty co-operation. We had only to write and express our wants, and immediately every effort was made, by Prof. Baird's instructions, to supply all the desiderata in our ornithological collection, and this without the slightest demand for an equivalent exchange, though of course in the case of the British Museum every effort was made to reciprocate the good feeling shown towards that institution by the great American Museum. There must be many private collectors in this country who will indorse our acknowledgments to Prof. Baird for the unrivalled liberality which he has always shown in the advancement of the studies of every ornithologist who invoked his aid.

Of the celebrated trio, Baird, Cassin, and Lawrence, who together wrote "The Birds of North America," the last-named naturalist is now the only survivor, but Baird lived long enough to see the results of that great undertaking, which placed American ornithology on a sound working basis, and established an era from which progress has been both sound and rapid, until there is perhaps no country in the world where birds have been so thoroughly and scientifically studied as in America. This result is undoubtedly due to the influence of Prof. Baird in directing the scientific studies of his colleagues in the New World. His "Review of North American Birds" is really a wonderful work, and, though published twenty-five years ago, is of the greatest service to students of Passerine birds at the present day. Our only regret is that it was never completed. The celebrated paper on the distribution of North American birds, published in 1867, laid the foundation of the division of the Nearctic Region into natural sub-regions, which the multitudinous labours of travellers in recent years have tended to elaborate and confirm. Prof. Baird's last great effort in the cause of ornithology was the publication of the "History of North American Birds," in conjunction, this time, with Robert Ridgway and T. M. Brewer.

After the completion of that important work he was occupied chiefly with his duties as head of the Smithsonian Institution, and of the United States National Museum,

and with the United States Fish Commission, of which he was also President. In 1884 the *Auk* announced that the bird-registers of the United States National Museum had reached 100,000 specimens in number, this splendid collection having been based on the nucleus of 3696 skins, the private collection of Prof. Baird; and the same journal states:—"As being, more than any other living person, entitled to the privilege, specimens numbered 100,000 and 100,001 are entered as donations from Prof. Baird, to whom they were presented by Mr. Geo. N. Lawrence, the oldest active American ornithologist. One of these, a common Crossbill, was shot by Mr. Lawrence, in New York City in 1850, and the other, a Flicker, on Long Island, in 1862."

We may add that, during an experience of twenty years, we have never heard from any ornithologist, European or American, a single unkind word concerning Prof. Baird, either in his public or private capacity. This is something to say in this age of jealousies and backbitings.

R. BOWDLER SHARPE.

NOTES.

LAST year the New South Wales Government, through their Agent-General, invited the British Association to meet at Sydney in January. The invitation has now been withdrawn. Strangely enough, the matter was treated as a party question in the New South Wales Parliament.

THE American Association for the Advancement of Science met in New York from August 10 to 17. Prof. S. P. Langley, the President, in his opening remarks, congratulated the members on the fact that the meeting promised to be most successful. Prof. E. W. Morse, of Salem, Mass., the retiring President, chose as the subject of his address, "What American Zoologists have done for Evolution." "Eleven years ago," said Prof. Morse, "I had the honour of reading before this Association an address in which an attempt was made to show what American zoologists had done for evolution. My reasons for selecting this subject were, first, that no general review of this nature had been made; and, second, that many of the oft-repeated examples in support of the derivative theory were from European sources, and did not carry the weight of equally important facts the records of which were concealed in our own scientific journals. Darwin was pleased to write to me that most of the facts I had mentioned were familiar to him, but, to use his own words, he was amazed at their number and importance when brought together in this manner. The encouragement of his recognition has led me to select a continuation of this theme as a subject for the customary presidential address—a task which is at best a thankless if not a profitless one. Had I faintly realized, however, the increasing number and importance of the contributions made by our students on this subject, I should certainly have chosen a different theme." Prof. Morse laid much stress upon the fact that "American biological science stands as a unit for evolution."

IN Europe the weather rendered almost useless the elaborate preparations which had been made for observations of the total solar eclipse of August 19. From the German stations the Berlin Observatory received a series of dismal telegrams, such as, "Fog and rain; no observations," "Nothing done; quite cloudy," "Cloudy; observed nothing." Partially successful observations were made in Germany only at Nordhausen and Eisleben. In European Russia observers were almost equally unfortunate. At Klin all attempts to get a glimpse of the eclipse were "completely frustrated by the dull gray sky and thick Scotch mist which quickly damped both one's clothes and one's spirits." At the last moment Prof. Mendeleieff, who was stationed at Klin to observe the form of the corona, its spectrum, and the course

of the shadow, went up alone in a balloon, but he was too late to obtain important results. A balloon which went up at Tver was met in its ascent by torrents of rain. A glimpse of the sun was obtained at Tver only twice—at the contact, and when it was about seven-eighths obscured. At Spirovs, nearer St. Petersburg, totality is said to have been visible for twenty seconds. At Petroffsk, in the Government of Jaroslaw, Prof. Glasenapp, of St. Petersburg, was lucky enough to be able to make six drawings and to get two photographs, while Prof. Stanoievitch, of Belgrade, was successful in observing and photographing the spectrum of the corona. Fortunately there was a clear sky at Tomsk and other stations in Siberia.

IT is worth noting that an extraordinary amount of interest was excited on the Continent by the eclipse. It is calculated that in Berlin and the neighbourhood no fewer than 200,000 persons were waiting in the hope of seeing it, and in Russia great numbers of people flocked to many points of observation. This may, we hope, be taken as an indication that both in Russia and Germany there is a growing popular appreciation of some of the more striking truths of physical science.

THE Berlin Correspondent of the *Times* has brought together some interesting reports as to the effect of the eclipse upon the lower animals. Foresters state that the birds, which had already begun to sing before the eclipse took place, became of a sudden quite silent, and showed signs of disquiet when darkness set in. Herds of deer ran about in alarm, as did the small four-footed game. In Berlin a scientific man arranged for observations to be made by bird-dealers of the conduct of their feathered stock, and the results are found to deviate considerably. In some cases the birds showed sudden sleepiness, even though they had sung before the eclipse took place. In other cases great uneasiness and fright were observed. It is noticeable that parrots showed far more susceptibility than canaries, becoming totally silent during the eclipse, and only returning very slowly to their usual state.

IT is greatly to be regretted that the Government has found it necessary to abandon the Technical Education Bill. In announcing to the House of Commons the surrender of the measure, Mr. W. H. Smith said:—"We hoped that the Bill would have been received almost unanimously by the House, but it has met with opposition, and we are threatened with prolonged discussion of the measure, and on August 18 I cannot encounter the difficulties which are likely to be thrown in the way if we persist in the carrying through of that Bill in the course of the present session. It is, however, a measure which we should feel it our duty to introduce in the very earliest days of the next session, and I hope that the consideration which will be given to the subject in the interval will enable us to meet any objections raised by hon. friends on this side of the House, and by hon. gentlemen on the other side, so as to produce a measure which will rapidly obtain the concurrence of the House without exciting any party feeling of any kind whatever, for I should greatly deprecate any party or sectional feeling in a question of this kind."

IN the discussion on Tuesday evening of the vote to complete the sum of £147,385 for the British Museum, Sir J. Lubbock expressed much regret that the amount allotted to purchases for the Museum was £10,000 less than usual. It would be hard to conceive a more striking instance of misplaced economy, for, as Sir J. Lubbock pointed out, there is at the present moment an exceptional number of interesting specimens for sale. Mr. Molloy proposed that the Museum should be opened at night, and maintained that the sum required for the electric light would not exceed £1000 per annum. Mr. W. H. Smith, on behalf of the Government, promised that this question should be most carefully examined during the recess.