

rapidly manifested themselves. He died last month, at the early age of forty-seven years. By his death there has passed from amongst us a true, most unselfish, and large-hearted man, a true friend, and a most agreeable companion. He was an accomplished geologist, a close and accurate zoological observer, a thoroughly practical chemist, and a photographer of no mean order. It will be long ere the vacancy in Australian science will be filled.

THE BRITISH ASSOCIATION

TWENTY-ONE years have passed since the British Association met in Dublin. It was then under the presidency of Dr. Lloyd, the venerable, but still hale, Provost of Trinity College. On Wednesday next, as our readers are aware, the forty-eighth annual gathering of this congress of science once more meets in the metropolis of Ireland, the President-Elect again being an eminent mathematical physicist, Dr. Spottiswoode.

Notwithstanding the fact that Dublin is now as easy of access from London as Edinburgh, and as near in point of time, yet the average Englishman knows far more of Paris or Switzerland than he does of the sister-isle. We trust the forthcoming meeting in Dublin will help to remove much of the prejudice with which Ireland is regarded, prejudice which proceeds from ignorance. For instance, not long ago an eminent scientific Englishman having been asked to lecture in Dublin, seriously inquired whether it would be advisable to be armed with a revolver, exhibiting a fear less reasonable than that of the man who, on a visit to Christiania, took precautions against being attacked by bears. Dublin no longer deserves the second adjective in the epithet of "dear dirty Dublin," in fact, its well kept streets, its splendid buildings and squares, the activity of its commercial and intellectual life, delight and surprise the stranger. In point of situation it is, perhaps (at least next to Edinburgh, our Scotch friends will think), the most beautiful capital in the world, backed by the Dublin and Wicklow Mountains, flanked on one side by the Hill of Howth, and on the other by Bray Head, the Bay of Dublin, with its clear blue water, is even comparable in beauty to that of Naples, if corresponding atmospheric conditions be granted.

Unusual facilities have been offered by the railway and steam-boat companies for the conveyance of visitors to Dublin. To some of our readers it may be convenient if we summarise the ways of reaching Dublin from London. The quickest route is of course by the Irish day or night mail from Euston Square: for example, leaving London at 8.25 P.M., one is landed in Dublin before seven the next morning. The splendid and perfect arrangements of the mail steamers from Holyhead to Kingstown are too well known for us to describe them. Recently the London and North Western Company have built two magnificent steamers, which run during the day from Holyhead to Dublin, and *vice versa*. The fare is less than by the mail, and the boats are quite as large and sumptuous as the mail-boats, though not quite so fast. To those who intend travelling second class (there is no third by the mail) we should recommend their selecting the North Western boats from Holyhead to North Wall, Dublin; second class passengers being allowed to use the first class saloon without extra charge. The night boat, which meets the 5 P.M. train from Euston, is not quite so fine as the day boat, but the visitor has the advantage of entering the Bay of Dublin by daylight, reaching North Wall about 7 A.M. At the present season of the year no alarm need be felt on the score of sea-sickness by those who travel in the mail-boats from Holyhead to Kingstown. The boats are so large and steady that even with a considerable wind little motion is felt; and the passage is very short, about four and a half hours being the average.

Another route is *via* Liverpool to Dublin, these are good boats. Lastly, to those who prefer a long sea-trip and can spare the time, nothing is more pleasant than going from London to Dublin direct by steamer. So much for transit. As regards accommodation in Dublin, the Executive Committee have provided a very complete list of lodgings; and the hotels, we understand, have not raised their usual tariffs.

The arrangements of the meeting we have already announced. The sections will meet in Trinity College, the addresses will be delivered in the Exhibition Palace, and lectures will be given by Mr. Romanes and Prof. Dewar on August 16 and 19. On August 15 a *soirée* will be given by the Royal Dublin Society to the Association. This promises to be a very brilliant affair. The Department of Science and Art has allowed a liberal selection of objects from the South Kensington Museum and the Science Collection to be lent for the occasion. Electrotype reproductions of many of the most interesting relics exhibited in the Loan Collection of Scientific Apparatus will be shown at this *soirée*, together with other curiosities from South Kensington. Dr. Spottiswoode has also kindly lent one of his new leviathan condensers which, used in conjunction with an enormous induction coil lent by Mr. Horatio Yeates, will be sure to attract much attention during the evening, and further, the Stereoscopic Company have promised to exhibit the phonograph at this *soirée*. A *conversazione* will also be given by the Royal Irish Academy, when its unrivalled museum of Irish archæology and antiquities will be seen to advantage and with interest by the members of the Association.

No neighbourhood lends itself so easily to beautiful excursions as that around Dublin, and the excursion programme this year is most varied and complete. Here is the list for Saturday, August 17:—

High Park and Artane Reformatories, to be entertained at the Artane Reformatory; St. Doulogh's Church, Malahide Castle, and antiquities of Swords, to be entertained by the Right Hon. Lord Talbot de Malahide; Bray Head, Kiltruddery Demesne, Hollybrook, Charleville, the Dargle and the Scalp, to be entertained by the Right Hon. the Earl of Meath; Maynooth R. C. College, Carton, Lord Annaly's and Phoenix Park, to be entertained by his Grace the Duke of Leinster; Howth and Ireland's Eye (walking excursion), to be entertained to afternoon tea by residents of Howth; Lucan and Leixlip, Valley of the Liffey, Woodlands and Phoenix Park, déjeuner will be provided by committee at Lucan; Irish Lights Board, Dublin Bay—steamer *Alexandra*, to be entertained on board the steamer by Irish Lights Board; London and North Western Railway—steamer *Rose*, to be entertained on board the steamer by Committee; Glencree Reformatory, Killakee Demesne, Waterfall, Dargle and Enniskerry, to be entertained at Glencree Reformatory by the Managers.

For Thursday, August 22 this is the list:—

Glendalough and Seven Churches, to be entertained at Newrath Bridge; Vartry Waterworks, déjeuner at Vartry Lodge; Vale of Avoca, déjeuner at Glenart Castle, given by the Earl of Carysfort, and at Skelton Abbey, by the Earl of Wicklow; Boyne, déjeuner at Drogheda; Cashel, déjeuner at Limerick Junction; Parsonstown, déjeuner at Birr Castle, given by the Right Hon. the Earl of Rosse; Powerscourt, déjeuner at Powerscourt Castle given by Viscount Powerscourt; Curragh Camp, déjeuner at Stand House, Curragh; Kilkenny, déjeuner at Kilkenny Castle, by the Most Noble the Marquis of Ormonde; and on Friday, August 23, an excursion is arranged to Belfast, luncheon being provided at Glanmore, Lisburne, by Messrs. Richardson and Sons, with dinner at Belfast.

Dublin is famous for its hospitalities, and, amid other festivities, the following have been arranged:—On the morning of Monday, the 19th, members will be enter-

tained at breakfast in the Zoological Gardens by the Royal Zoological Society, in the afternoon at a dinner by the College of Physicians, and in the evening at a *conversazione* by the Royal College of Surgeons. Their Graces the Duke and Duchess of Marlborough will also hold a reception in the Viceregal Lodge and entertain a number of distinguished visitors at dinner.

Several eminent visitors have already announced their intention of being present at the meeting, among others Messrs. Cornu, Chevalier, Brown-Sequard, Emile de Laveleye, Perier, Feil, Bertrand, Ranvier, Maas, Zirkel, Vogel, Salensky, Kanitz, Wittmael, Stricker, Cope, Sylvester, Draper, Sterry Hunt, H. M. Stanley, and Capt. Burnaby.

Through the unceasing labours of Dr. Ball the Royal Astronomer for Ireland, Dr. Norwood, and their co-secretaries, Dr. Sigerson and Mr. Goff, the meeting promises to be an unusually good one.

NOTES

MR. CHARLES DARWIN has been elected Corresponding Member of the Paris Academy of Sciences in the section of Zoology by 26 votes against 14. This success is all the more notable that Mr. Darwin obtained only 5 votes in a scrutiny which took place quite recently. Prof. Asa Gray has been elected a corresponding member in the Section of Botany in succession to the late Dr. Braun of Berlin.

At the meeting of the French Association, of which M. E. Fremy will be president, M. Janssen will give a lecture on a question of physical astronomy, Prof. V. Trélat one on the Hospital, and Prof. Marey another on graphic researches relative to animated motors. Among the sectional papers promised are the following:—In the Mathematical Sciences, Signor V. Cerruti, of Rome, on the infinitely small movements of a solid body. In Physics and Chemistry, Prof. Crova on the solar heat; M. Ducretet on the liquefaction of gases; M. Janssen on new data obtained by photography on the constitution of the sun, and on the constitution of photographic spectra of short exposure; M. Montigny on the scintillation of the stars; M. Woeikoff on climatological researches. In Natural Science, Dr. Alix on myology of mammals; Dr. Baillon on the development of the ovular teguments; Dr. Blandet on geological periods before the secular variations; Prof. Chauveau on the rate of propagation of excitations in the vaso-motor nerves; Prof. A. Gaudry on the evolution of primitive mammals; M. A. F. Nogues on method in geology, and on the climatology of geological times; Dr. Topinard on the notion of race in anthropology. Altogether there are about 250 papers already down to be read.

WE notice that the Bavarian Academy of Sciences at Munich at its last session elected to membership the famous French chemist Prof. Adolphe Wurtz, of Paris. Prof. Wurtz is at present engaged in a careful study of the more modern chemical laboratories of the German universities, preliminary to the completion of the plans for the new laboratory in connection with the *École de Médecine* at Paris. This structure will face on the new Boulevard de St. Germain, and its erection will require about five years. When completed it is expected that it will rank among the model laboratories of the world.

THE Berlin Academy of Sciences has elected to its membership the astronomer, Prof. Aubers, and the archaeologist, Prof. Conze.

SOME improved forms of microphone and telephone are described in the August number of *Scribner's Monthly*. One form of telephone, as devised by Mr. Phelps, gives surprisingly good results. It contains two diaphragms, and in shape somewhat resembles a double crown. Twelve per-

manent magnets bent into a circular form are used in place of the single magnet employed in other magneto-telephones. Six of these on each side of the instrument have their like poles joined to one of the cores which carry the helices, and radiate from it in as many different directions. The opposite poles are joined to the periphery of the diaphragm on the corresponding side of the instrument, while the helices are so connected that the currents generated in them when the diaphragms are made to vibrate mutually strengthen each other and thus contribute to the effectiveness of the apparatus. Some idea of the performance of these improved instruments will be conveyed by mentioning the results obtained at a recent exhibition of them in the Sunday-school room of Dr. Wells's church, Brooklyn. Mr. Edison's carbon transmitter was used for sending, and Mr. Phelps's crown telephone for receiving. The sound was also reinforced at the receiving end by the use of a large paper cone, whose smaller extremity was held to the mouthpiece of the instrument. The circuit extended from the residence of Dr. Wells, near the church, to the lecture-room. Speech from the telephone was distinctly heard in all parts of the room by an audience of about three hundred persons, while the singing of a vocal quartette, solo singing, and guitar playing, were transmitted with surprising clearness and loudness. It should be observed, moreover, that the performance in this case was very different from the so-called musical telephones by means of which only the pitch and rhythm of the notes are distinguished, the tone always resembling that of a penny trumpet. In this instance the quality of the tone, which is the real life of music, was exactly reproduced; this is one of the characteristics of the magneto-telephone—everything is faithfully reproduced. Dr. Wells addressed the audience from his parlours through the telephone, and not only was he clearly understood, but his voice was also instantly recognised.

THE observatory of the University of Jena, which occupies a romantic site in the garden where Schiller wrote his "Wallenstein," has been for three years unoccupied since the death of Prof. Schrön in 1875. By a recent appointment Prof. Abbe has been assigned to the chair of astronomy, and will commence active duties in the observatory.

THE seventeenth annual meeting of the Devonshire Association for the Advancement of Science, Literature, and Art, was held on July 30 and 31, and August 1, at Paignton. Mr. W. Froude, F.R.S., was the president-elect, but in consequence of the lamented death of his wife that gentleman was unable to discharge the duties of the office, and at the last moment Sir Samuel Baker, F.R.G.S., was chosen to fill the vacant place, and delivered an address upon the chief points of progress in the past half century. The list of papers was a very full one, thirty-four in all, including the reports of the various committees through whose action much of the work of the Association is now systematised. Thus there are committees at work upon the subjects of Devonshire meteorology, folk lore, celebrities, verbal provincialisms, Dartmoor, the Devon domesday, and for the collection of scientific memoranda of a miscellaneous character; and to these two others were added at Paignton, one to collect and to record facts relating to Devonshire barrows, and the other to perform a similar duty with regard to ancient and still existing manorial customs. Scientific papers predominated, and among these geological papers occupied the foremost place. Mr. Pengelly, F.R.S., contributed a fourth instalment of his collections of the literature of Kent's Cavern prior to the investigations of the British Association; a fifth set of "Notes on recent Notices of the Geology and Palæontology of Devon;" and papers on "The Geology of the North-Eastern Coasts of Paignton;" "Cetacean Remains found in Torbay;" and a second instalment of "Notes on Slips (*i.e.*, blunders of various writers) connected with Devon-