the section is one by Mr. Romilly Allen on the "Origin and Development of Early Christian Art in Great Britain and Ireland." This paper is to be well illustrated. Indeed, this is the case with most of the archæological papers. Dr. Hildebrand is arranging illustrations of the Swedish antiquities he wishes to compare with our Anglo-Saxon ones, in groups, which are to be printed on sheets and distributed among the audience when he reads his communication.

The information contained in the above paragraphs has been furnished by request by presidents and recorders of sections; possibly further details may be forwarded in time for publication before the meeting.

The promises of exhibits of scientific apparatus, models, diagrams, and photographs in the laboratories of the University College, Nottingham, are now coming in. Scientific novelties are promised for the conversazione at the Castle.

Visitors can obtain on application the usual lists of hotels and lodgings. FRANK CLOWES.

GEORGE BROOK.

GEORGE BROOK, whose untimely decease on August 12 we have already chronicled, was born on March 17, 1857. He died, therefore, in his thirty-sixth year, apparently from the effects of heat-apoplexy, while on a visit to his wife's family near Newcastle-on-Tyne. On the fatal day he joined a shooting party on the adjacent moor; after a successful expedition and a repast in the shooting-box, he was complaining laughingly of the necessity for early rising on such occasions, when his head fell back and he expired without uttering a sound. He was buried at Benwell Church, Newcastle, where, six years previously, he was married to Fanny, second daughter of Mr. Walter Scott, of Riding Mill. He was educated at the Friends' School, Alderley Edge, and, although he afterwards studied for a couple of years under Prof. Williamson and others at the Owens College, Manchester, he may be said to have been, as a naturalist, mostly self-taught. His earlier years of active life were spent in his father's business at Huddersfield, and he turned the experience thus gained to good account in his after career. His first definite association with scientific work dates from his connection with the recently deceased Mr. J. W. Davis, of Halifax, and others, in the prosecution of biological investigation in the West Riding of Yorkshire. He was in 1884 appointed scientific assistant to the Scottish Fishery Board and lecturer on comparative embryology to the University of Edinburgh. He retired from the first-named office in 1887, leaving as a legacy a series of valuable notes and reports upon the food fishes, but the last-named one he held till death. As an embryologist, he is himself best known for his work upon the origin of the endoderm from the periblast in teleostean fishes, and although not the first to have suggested this, it must be said, in justice to his memory, that certain recent investigators have reverted to his views without according him befitting recognition. His love of experimental marine zoology, and his personal munificence in the interests of pure science, reasserted themselves in 1889, in his attempt to found a lobster hatchery and marine observatory at Loch Buie, Isle of Mull, duly noted in our pages (NATURE, vol. xlii. p. 399), and which we know to have involved him in a not inconsiderable loss. He was secretary to the Huddersfield Naturalists' Society, and to the Scottish Microscopical Society, of which he was a founder; he was for three years a vice-president of the Royal Physical Society of Edinburgh, and a member of council of the same, the Linnean Society of London, and the Royal Society of Edinburgh. He had recently joined the Zoological Society, and was but a few months ago appointed an examiner in Biology to the Royal College of Physicians, Edinburgh. In the year 1889 he rose suddenly into fame as the author of the *Challenger* Report on the Antipatharia. His preliminary paper, dealing (*Proc. R. Soc. Edin.*, vol. xvi. p. 35) with the homologies of the mesenteries in the Antipatharia and the Anthozoa, had apprised the world of the breadth of his inquiry into, and the extent of his knowledge of, this difficult and little understood group; but the preparation, within approximately a year, of that which came to be termed "one of the most praiseworthy" of all the *Challenger* reports, set a seal to his reputation, and exalted him to a foremost position among living Actinologists. In this work he elaborated his important discovery of dimorphism (in Schizopathinæ) by division of a single primitive zooid into three, instead of by specialisation of individual polypes; and at the time of his death he had well-nigh completed an important paper dealing with this and kindred subjects, for which his talented assistant, Mr. Binnie, had prepared a large series of beautiful sections and some elaborate drawings. The thorough and conscientious manner in which he had worked out the Antipatharians of the *Challenger* collection led, in 1890, to his engagement by the Trustees of the British Museum for the arrangement and cataloguing of their very large collection of stony corals; and the present month marks the publication of that which will perhaps rank as his *magnum opus*, viz., the "Catalogue of the Genus Madrepora," a quarto volume of 212 pages, with 35 beautiful plates, mostly from photographs taken by himself. This welcome treatise, which was the first of a projected series dealing with the stony corals, like most of the set to which it belongs that have appeared under Dr. Günther's direction, is, in reality, no catalogue at all, but rather a revisionary monograph, founded upon the study of rich material from world-wide localities, which must furnish a basis for succeeding inquiry into the group with which it deals. None but those who enjoyed the deceased author's personal friendship can form an adequate idea of the labour and expenditure, both of time and capital, which he bestowed upon this volume. It is the practical outcome of the last three years of his life's work. The success with which he dealt with the bewildering difficulties before him may be perhaps sufficiently gauged from its "Introduction," and to what important lines of structural investigation and conclusions the task was leading him, it is obvious from this and his last published paper "On the Affinities of the Genus Madrepora" (*Jour. Linn. Soc. Zool.* xxiv. p. 353).

The most striking features in George Brook's personality were his right living and his manly independence, his moral attributes being in every way worthy his mental ones. There can be no question that his capacity to form an independent judgment, and his great powers of organisation, under the influence of his indomitable will, formed the keystone of his successes, and placed him in a position to rise supreme above petty jealousy and the evils begotten of narrow cliquism and over-ambition. His natural inclinations were towards solid work, as will be obvious from his having originally settled down to the study of the Crustacea, but to relinquish it for that of the Corals—a choice which makes his loss a well-nigh irreparable one to British zoologists of the present generation. In addition to the many unfinished works to which we have alluded. he has left behind him at least the material for a reconsideration of the morphology of certain great veins in the Amniota, and for a detailed report upon some of the corals collected by Prof. Haddon in the Torres Strait, which had been placed in his hands. Indeed, almost his last words to the writer of this notice were expressive of a desire to "get on" with the latter. His final act, as a zoologist, was the determination of a Collemboloid (upon which group he was an authority) for his friend Prof. W. A. Herdman,

with whose pioneer's work in British marine zoology he was in active sympathy. A devoted husband, an exemplary parent, a true friend, whose advice was always sound, and whose criticism was as well founded as it was frank, he passes from us in the heyday of life. His life furnishes a noble example of independent manliness, and of enthusiasm for the spread of truth and the cause of scientific advancement.

NOTES.

WE learn from the *Revue Générale des Sciences* that M. d'Abbadie, late President of the Paris Academy of Sciences, has asked the Academy to accept a considerable gift in the name of his wife and himself. The donation consists of the Abbadia estate (Basses-Pyrénées), having an annual revenue o twenty thousand francs, and one hundred shares in the Bank of France, representing a capital of four hundred thousand francs and an annual income of fifteen thousand. By the deed of gift, these properties will not fall to the Academy until after the decease of the donors. Two of the principal clauses and charges of the legacy are as follows :—(1) The Academy may establish on the Abbadia estate any researches or laboratories, except those devoted to vivisection. (2) An observatory must be established at Abbadia, in which a catalogue of five hundred thousand stars can be made, the work to be completed in 1950. In order to reduce the expenses which this stipulation carries with it, the work may be confided to some religious order. The Academy has nominated a commission to examine the conditions of this munificent donation, and has expressed its deep gratitude to M. and Mme. d'Abbadie. It is not too much to say that this feeling is shared by all men of science.

THE following men of science have been elected Fellows of the Reale Accademia dei Lincei :—In mathematics, Prof. L. Bianchi and Dr. G. D'Ovidio; chemistry, Dr. G. Ciamician and Prof. D. Mendelejeff; botany, Profs. E. Strassburger and N. Pringsheim; agriculture, Dr. F. Cohn. Dr. E. Bertini has been elected a correspondent in mathematics; E. Millosevich in astronomy; A. Abetti in mathematical and physical geography; and O. Mattirolo in botany.

THE *Times* announces the death of Prof. M'Fadden A. Newell, Superintendent of Public Instruction of the State of Maryland, U.S.A. He was educated at Trinity College, Dublin, and the Royal College of Belfast, and went to the United States in 1848. He was Professor of Natural Science in the Baltimore City College from 1850 to 1854, and occupied the same chair in Lafayette College, Pennsylvania, from 1854 to 1864. In 1865 he was appointed President of the Normal School of the State of Maryland, succeeding, three years later, to the position of State Superintendent of Public Instruction, a post he held for a quarter of a century. In connection with Prof. Crury he published a series of text-books entitled the "Maryland Series," and his Annual Reports, in twenty-five volumes, are held in high esteem.

WE regret to record the death of Father R. P. Vines, Director of Belen Observatory, Havannah.

A DISASTROUS cyclone swept northwards along the Atlantic seaboard of the United States on August 29. At Savannah, Georgia, property to the value of millions of dollars has been destroyed, and news of great loss of life and property is reported from Brunswick, Georgia, and further south, while the town of Tybee has been completely wrecked. It is reported that the storm traced out a path marked by devastation across Georgia and South Carolina to Charlotte, in North Carolina, and thence to the east coast again to Petersburg, Virginia. The city of Savannah presents a scene of wreck and ruin surpassing even the effects of the great storm of August, 1881. For eight hours the wind rushed through the city with terrific force and swept down houses as if they were packs of cards. Nearly every house in the city has suffered some damage, and the streets have been rendered quite impassable by the wreckage.

A REUTER'S telegram from New York states that a cyclone passed over that part of the Atlantic coast on August 23, in the direction of the New England States, and left its marks over a region around New York extending over an area of fully a thousand miles. A rainfall of 3·82 inches in twelve hours was measured, and is said to be the highest ever recorded by the local signal service.

THE next meeting of the French Association for the Advancemence of Science will be held at Caen, with M. Mascart as president. M. E. Trélat will preside over the meeting to be held at Bordeaux in 1895.

IT has been finally arranged that the Congress of the Photographic Society and Affiliated Societies shall be held on October 10, 11, and 12. All the arrangements will be completed in a few days, and a full programme will be circulated as soon as possible.

AN International Exhibition of Photographic Art has been organised by the Paris Photo Club, and will be held from December 10 to the end of this year. The address of the Secretary is 40 Rue des Mathurins, Paris. An international exhibition of amateur photography will be held in the Museum of Fine Arts, Kunsthalle, Hamburg, on October 1–31.

THE annual general meeting of the members of the Federated Institution of Mining Engineers will be opened on Wednesday, September 6th, in the rooms of the Philosophical Society of Glasgow. A number of papers on mining subjects will then be read, and on the two following days excursions will be made to collieries, iron and steel works, and other places of interest.

THE Indiana Academy of Science has decided to make a biological survey of the State of Indiana, and Profs. L. M. Underwood, C. H. Eigenmann, and V. F. Marsters have been appointed as organisers and directors of it. The first work will be the preparation of a complete bibliography of materials bearing on the botany, zoology, and palæontology of Indiana, to be published by the Academy. When this has been done, it will be possible to discuss the fauna and flora, its extent, distribution, biological relations, and economic importance, and thus accomplish the main purpose of the survey.

MR. J. F. JAMES gives in *Science* a description of the "Scientific Alliance of New York," instituted at the end of last year, and having for its chief object the establishment of a centre where knowledge of what is being done in one society is conveyed to all the rest. Much is to be gained by this kind of cooperation, both by science and individual workers. Already the Alliance has been joined by the New York Academy of Science, Torrey Botanical Club, New York Microscopical Society, Linnean Society of New York, New York Mineralogical Club, New York Mathematical Society, and the New York Section of the American Chemical Society, each of these societies being represented by its president and two members upon the council of the Alliance. At the opening meeting the president deprecated the views of so-called practical men in whose eyes science "is worth only what it will bring when offered in the form of dynamos, telephones, electric-lights, dyestuffs, mining machinery, and other merchantable wares." The need of endowment for research in the region of pure science was pointed out, reference being made to the German Univer-