

of the method—a view taken in these articles, though it is not likely to be immediately acceptable to fully assured relativists—is to regard the theory of relativity as an indirect attempt, not unlike the principle of Least Action, to treat all material phenomena as developments or manifestations of unknown essential features in one universal medium; thus restoring a kind of absoluteness to motion, and therefore presumably to space and time. From that point of view the compre-

hensive scope of the method, with its infinitesimal continuity of treatment, is hopeful and encouraging; and the highly abstract and symbolic modes of representation, which now seem inevitable in its more advanced developments, are the tribute to our ignorance of the kind of dynamics appropriate to a substance the properties of which must be more fundamental than any we are likely as yet to have encountered among its sensory derivatives, electricity and matter.

The Edinburgh Meeting of the British Association.

By PROF. J. H. ASHWORTH, F.R.S.

PROGRAMME OF THE SECTIONS.

THE Journal for the Edinburgh meeting of the British Association, now in the hands of the printers, shows the completed plans for the business of the various sections. In particular, attention may be directed to the careful arrangements for the joint discussions. "The Age of the Earth" is to be the subject of a discussion, by the conjoined sections of physics, geology, zoology, and botany, to take place in the Natural History Lecture Theatre, Old College—the largest theatre in the University, with accommodation for an audience of more than 400. The discussion will be opened by Lord Rayleigh, and other speakers will be Prof. Sollas, Prof. Eddington, Prof. J. W. Gregory, and Prof. Lindemann.

Sections A and B will take part in a discussion on the structure of molecules, to be opened by Dr. Langmuir, of New York. He will be followed by Prof. Smithells, Prof. W. L. Bragg, Prof. Partington, Prof. Rankine, and others.

Chemists and physiologists will find common ground in the discussion on "Oxidations and Oxidative Mechanisms in Living Organisms," to which Prof. Gowland Hopkins will contribute the opening paper.

The sections on geology and engineering are to discuss the various aspects of the proposed mid-Scotland canal. The geology of the suggested route will be explained by Mr. M. Macgregor and Mr. C. H. Dinham, of H.M. Geological Survey.

"The Origin of the Scottish People" is to be the subject of discussion opened by Sir Arthur Keith before the joint sections of geography and anthropology. Prof. T. H. Bryce, Lord Abercromby, Prof. R. Weymouth Reid, Prof. Jehu, Prof. W. J. Watson, and Dr. Tocher are to take part in this discussion.

The sections of geography and education will combine for discussion on the teaching of geography, which will be opened by Mr. G. G. Chisholm, and it is hoped that Sir Richard Gregory, Sir Halford Mackinder, Prof. J. W. Gregory, Prof. Patrick Geddes, Dr. Rudmose Brown, Mr. W. H. Barker, Mr. T. S. Muir, and others will put forward their views on this subject.

The sections of zoology and psychology are to discuss "Instinctive Behaviour." Dr. Drever will

open for the psychologists, and he will be followed by Prof. Goodrich, Prof. J. Arthur Thomson, and others.

A joint meeting of the sections of economics, psychology, and education will be held to discuss "Vocational Training and Tests."

The discussion following the presidential address in Section K, in which Section C is to take part, on the early history of plants, with special reference to the Rhynie fossil plants, promises to be an outstanding feature. These plants, representative of the earliest known land flora, had an organisation different from that of any living land plants, and their investigation by Dr. Kidston and Prof. Lang has thrown much light on the evolution of land floras. In addition to the president of Section K (Dr. D. H. Scott), Dr. Kidston, Prof. Lang, Dr. Horne, Prof. Bower, and Dr. Lotsy will take part in the discussion. There is to be an extensive demonstration by Dr. Kidston in the Botanical Laboratory, Royal Botanic Garden, of sections of these Rhynie plants.

As indicated in a previous notice, the presidential addresses in other sections are to be followed by discussions, and in several cases should lead to interesting debates, for instance, on "The Principles by which Wages are Determined," on "The Place of Music in a Liberal Education," and (at the Conference of Delegates of Corresponding Societies) on "Science and Citizenship."

There are other discussions planned which, though nominally forming part of the programme of one section only, will attract interested members from other sections. Among these may be mentioned discussions on "An Imperial School of Anthropology for the Training of Civil Servants and Administrators in the Dependencies of the Empire," on "Heavy Muscular Work," on "Size and Form," on "Extramural Education," and on "University Reform."

There are to be, as usual, many communications giving the results of recent investigations, and there will be exhibitions of apparatus and specimens and demonstrations of methods.

Nearly all the sections have arranged excursions to places of special interest to their members. The local secretaries of the sections of chemistry, geology, engineering, and botany have been par-

ticularly active and fortunate in their arrangements. These excursions are necessarily limited in number, and only those really interested are expected to join them. The arrangements for these are in the hands of the respective sectional secretaries. There are in addition eighteen excursions open to all members. Information regarding these is given in the local programme, and further details can be obtained at the excursions counter in the reception room. The Excursions Committee has succeeded in making arrangements for members, up to the number of two hundred, to visit Loch Lomond, Loch Katrine, and the Trossachs by motor charabanc and boat, and for a further two hundred to visit the Scott country—Melrose, Dryburgh, Abbotsford, and the Valley of the Tweed—by motor coach. Early application for these excursions is desirable. It is hoped that full advantage will be taken of arrangements which have been made for small parties, not exceeding fifty in each group, to visit Old Edinburgh under the guidance of experts, each visit to extend over two afternoons. Members who will arrive in Edinburgh on Tuesday or early on Wednesday, and are interested in the Old Town, are advised

to join one of the four parties which will set out on the Wednesday afternoon at 2.30. These will complete the inspection of the Old Town on the Thursday afternoon. Another party will start on Thursday afternoon and finish on Friday afternoon, and a third party will begin on Monday afternoon and finish on Tuesday afternoon.

There is to be a special graduation ceremonial in the McEwan Hall on Tuesday, September 13, at 3 p.m., at which honorary degrees in the faculty of law will be conferred. Members of the Association who propose to attend the ceremonial in academic dress are desired to hand in their names at the general inquiries counter in the reception room on or before the morning of Monday, September 12. The secretary of the University has kindly arranged to reserve seats for them and to include them in the academic procession.

Members who are golfers will be glad to hear that several of the well-known Edinburgh clubs have been good enough to intimate that a number of members of the Association will be made honorary members of the clubs for the period of the meeting. The local secretaries will be pleased to give particulars.

Obituary.

PROF. EDMOND PERRIER.

PROF. JEAN OCTAVE EDMOND PERRIER, the announcement of whose death appeared in NATURE for August 4, p. 721, had been, for longer than many of us can remember, one of the most distinguished of contemporary French zoologists. Born in 1844 at Tulle (Corrèze), he entered the Ecole Normale Supérieure in 1864, and for some years devoted himself to mathematical and physical studies; but he was a born naturalist, and the call of the natural sciences was too clear to be resisted. He entered the service of the Museum of Natural History in Paris in 1868 as "aide-naturaliste," and eight years later he became a professor in that institution. On the death of Prof. A. Milne-Edwards in 1900, Perrier was appointed director of the museum, a position which he held until January of last year, when he retired with the title of honorary director. He died in his official residence at the museum on July 31 last.

Prof. Perrier's published writings cover a wide range of subjects. His own researches—morphological, taxonomic, and faunistic—deal mainly with various groups of invertebrates, and are recorded in a long series of memoirs, many of which are of fundamental importance. His monograph on the structure of earthworms (1874) is frequently quoted by Darwin, who refers to it as "M. Perrier's admirable memoir." His researches on echinoderms are well known, and we need do no more than mention his memoirs on the collections of the *Travailleur* and *Talisman*, the *Blake*, and other expeditions, and his detailed study of the structure and development of Antedon. He was also the author of a considerable number of volumes of more

general scope, one of the best known being "La Philosophie zoologique avant Darwin" (1884), in which he emphasised the important part taken by French thinkers in the development of biological theory. "Les Explorations sous-marines" (1886) was based largely on the results of the *Travailleur* and *Talisman* expeditions in the Atlantic, in which he had taken part. "La Tachygénèse, ou accélération embryologique" (in collaboration with Prof. Ch. Gravier, 1902), is an interesting and suggestive attempt at a synthesis of the facts of embryology. In his monumental "Traité de Zoologie," of which six fascicles have appeared since 1892 (a final part was in manuscript at the time of his death), he attempted a task which is now, perhaps, beyond the powers of any single man. His last published work, "La Terre avant l'Histoire" (1920), a general review of the origin and evolution of the living world, is distinguished no less by the author's encyclopædic knowledge than by the lucidity and charm of his style.

A list of Prof. Perrier's academic and other honours would be a lengthy one. He was elected a member of the Académie des Sciences in 1892; he was also a member of the Académie de Médecine, and of many foreign academies and learned societies, including the Linnean and Zoological Societies of London. The distinction of his literary style gained for him the coveted honour of admission to the "Société des Gens de Lettres," of which he was one of the few scientific members. He was one of the founders of the International Congress of Zoology, and succeeded Prof. A. Milne-Edwards as chairman of the permanent committee.

Of Prof. Perrier's personal qualities, a distin-