to the Middle division of the Old Red Sandstone. These beds were folded and heavily eroded before the deposition of those of the Upper division. The latter are restricted to Hoy and include ashy sediments and olivine-basalt. Five volcanic vents have also been detected in Hoy. The structure of the island-group is comparatively simple, consisting essentially of a central series of synclines passing over on the west into the broad and gentle West Mainland anticline and on the east into a series of minor anticlines. Faulting follows three directions, two of which are represented by the shores of Scapa Flow, where three important faults all throw down towards the sea. Numerous dykes of bostonite, camptonite and monchiquite traverse the Old Red Sandstone, but their age, as elsewhere in Scotland where similar dykes occur, is still undetermined. The memoir is provided with a bibliography, a glossary of Orkney place-names, and an excellent geological map in colour on the scale of 4 miles to one inch.

[1] "Summary of Progress of the Geological Survey of Great Britain and the Museum of Practical Geology for the Year 1933". Part 1. Pp. viii+93. 1*s*. 6*d*. net.
[2] *ibid.*, Part 2. Pp. viii+108+8 plates. 3*s*. net.
[3] *ibid.*, for the year 1934. Part 1. Pp. viii+85. 1*s*. 6*d*. net.
[4] *ibid.* Part 2. Pp. viii+65+4 plates. 1*s*. 6*d*. net.
[5] Guide to the Geological Model of Ardnamurchan. By J. E. Richey. Pp. 49+9 plates. 1*s*. net.
[6] Wells and Springs of Herefordshire. By L. Richardson. Pp. viii+136+2 plates. 3*s*. net.
[7] The Geology of the South Wales Coalfield. Part V. Merthyr Tydfil. By A. Strahan, W. Gibson and T. C. Cantrill. Second edition. By T. Robertson; with a Palaeobotanical Chapter by R. Crookall. Pp. xix+283+6 plates. 5*s*. 6*d*. net.
[8] Economic Geology of the Fife Coalfields. Area II. (Cowdenbeath and Central Fife). By J. K. Allan and J. Knox. Pp. xi+207+2 plates. 4*s*. net.
[9] The Geology of the Orkneys. By G. V. Wilson and W. Edwards, R. C. B. Jones, J. Knox and J. V. Stephens; with Chapters on Fossil Fishes by D. M. S. Watson; Fossil Plants by W. H. Lang; and Petrography by J. S. Flett. Pp. xii+205+8 plates+a Geological Map (4 miles to 1 inch) in folder. 5*s*. net.
(London: H.M. Stationery Office.

Educational Topics and Events

THE following scholarships for 1936 have recently been awarded by the Institution of Electrical Engineers: *Ferranti Scholarship* to W. E. Harper (University of Birmingham); *Duddell Scholarship* to P. Hargreaves (Lower School of John Lyon, Harrow); *Silvanus Thompson Scholarship* to L. S. Anand (North-Western Railway, India); *Swan Memorial Scholarship* to D. H. Thomas (Metropolitan-Vickers Electrical Co.); *David Hughes Scholarship* to W. H. Penley (University of Liverpool); *Salomons Scholarship* to E. F. O. Masters (City and Guilds College); *Thorrowgood Scholarship* to L. G. Leaton (Southern Railway Co.).

ARMSTRONG COLLEGE, Newcastle-upon-Tyne, has a Standing Committee for Research which distributed in 1934–35 grants amounting to £891. Its annual report, recently published, includes a series of informative notes by the recipients of these grants, which were in most cases for purchase of apparatus or material. The lion's share (23 out of 25) went to research in the natural sciences. One, made in connexion with a visit to the Massachusetts Institute of Technology for spectroscopic work, contributed to the establishment of valuable personal contacts with scientific workers in the United States. The visit included attendance at a conference on spectroscopy, an account of which was read before the British Association. Another grant was used largely in the purchase of Irish parliamentary reports for a study of "British Imperial Policy in the Twentieth Century", which provokes the question: is it not 'up to' Governments, seeing that they stand to benefit from the products of competent disinterested research in the social sciences, to encourage it to the extent, at least, of placing such material gratuitously at the disposal of an investigator of the standing of a university professor of history.

THE Department of Business Administration at the London School of Economics, established a few years ago on the initiative of a group of business men for university men who were resolved on a business career, has had another successful year. An Advisory Council has recently been established to assist in maintaining the closest possible touch between training and current practice. The chairman of the Council is Major-General Guy P. Dawnay, and its membership includes Sir Harold Bellman, Sir Kenneth Lee, Sir Felix Pole, Sir Frank Spickernell and others who are prominent in different fields of finance, industry and trade and who are united in the determination to develop the Department as a centre of business training for graduates of British universities. Interest in the post-graduate course of business training extends beyond those industries represented on the Council, and an American business man has recently given £200 for a studentship for 1936–37 in the fields of investment or finance. The Leverhulme studentship of £200 is also open to competition. Some business firms have from time to time used the Department as a kind of staff college, and others have offered appointments to graduates subject to their first attending satisfactorily the Department's course. Great care is taken to admit to the course only those likely to make good in a business career. There is now apparent a demand among managers themselves for lectures on current problems, and in the winter months of 1936–37 a series of twelve such public lectures will be delivered by six members of the academic staff on matters of administrative organization, business finance, industrial production, distribution developments, marketing and public relations, statistical and accounting service.

A STUDY of education in Czechoslovakia was undertaken by the United States Office of Education two years ago. A report prepared by a specialist in comparative education, S. K. Turosienski, on the basis of visits paid to a great number of types of schools as well as interviews with school authorities and examination of official documents, has been published as Bulletin No. 11 of 1935 (Washington: Government Printing Office, 25 cents). The establishment of a national system of public education was one of the first tasks confronting President Masaryk after the new Republic of Czechoslovakia was constituted in November 1918. The report indicates that the system is working well and contributing powerfully to the prosperity and well-being of the nation. Problems arising from multilingualism—Czechoslovak, Carpatho-Russian, German, Magyar, Polish, Rumanian, modern Hebrew and other tongues are used as languages of instruction—have been solved with remarkable success. Religion is a compulsory subject of study in all elementary, secondary and normal schools, the time allotted for it being, in general, two hours a week. Particular care is taken to exclude influences calculated to inflame racial or national animosity. In all secondary and elementary schools instruction is given in civics,

under the headings: national culture, League of Nations, civilization of all nations, general progress of mankind, equality among the races and nationalities, the World Court, international treaties and guarantees, international pacifism, religious tolerance, history of labour and civilization, natural laws, man and the world, conditions of happy, peaceful life, etc. Parental co-operation with the school authorities is legally provided for by means of parents' councils. A noteworthy feature of the system is the clarity with which the objectives of education are set forth, not merely with reference to the educational process as a whole but also specifically for each course.

Science News a Century Ago

Death of Dr. William Henry, F.R.S.

ON September 2, 1836, Dr. William Henry, the eminent chemist, died at Manchester at the age of sixty-two years. The son of Thomas Henry (1734–1816), one of the founders and the first secretary of the Manchester Literary and Philosophical Society, he was born at Manchester on December 12, 1774, and attended the Manchester Grammar School. For several years he was secretary and assistant to Dr. Thomas Percival (1740–1804), the first president of the Literary and Philosophical Society, but, when twenty-one years of age, spent a session at the University of Edinburgh, where he was one of the last pupils of Black. On his return to Manchester, Henry assisted his father in his chemical business, wrote memoirs and lectured, and in 1801 published his "Epitome of Chemistry", which was enlarged and became "The Elements of Experimental Chemistry". It was said that this was the first English work on chemistry which with considerable literary merit combined scientific accuracy. It went through eleven editions. His experiments on the absorption of gases by water were made while he was writing these books. In 1805 he returned to Edinburgh, and two years later was granted the degree of M.D. The remainder of his life was spent in Manchester, where he counted among his friends Dalton.

Henry was elected fellow of the Royal Society in 1808, and in the same year received the Copley Medal. His original contributions to science included papers on medical subjects such as diabetes and cholera, and biographical sketches of Priestley, Davy and Wollaston. At intervals during his life he suffered severely from an accident received when a child, and his death on September 2, 1836, was due to nervous irritation and insomnia. He was a refined, eloquent and accomplished man, and his bust and portrait are preserved by the Manchester Literary and Philosophical Society of which he was an ardent supporter. His life was written by his son, Dr. W. C. Henry.

The British Association at Bristol

SUMMARIZING the results of the Bristol meeting of the British Association, the *Athenæum* of September 3, 1836, said: "Having now read the Reports; and calmly and dispassionately surveyed the entire proceedings, we are of opinion, that the results of the Bristol Meeting are most satisfactory: rather more than 1,300 members were present, many of the papers read were very valuable, many important questions were discussed, and the Committee have been enabled to devote no less than £2,700, in further aid of science and scientific research. These are beneficial effects not to be questioned. It appears, however, that the Association does not work to the entire satisfaction of some influential members . . . who . . . are of opinion, that some proceedings in particular Sections had a taint of quackery . . . and they are in consequence disposed to limit the sphere of inquiry, or restrict the numbers. Now, we concur generally as to the possible tendency of the Association; such an opportunity for personal display and cheap advertisement will not be lost by the far-seeing; but the remedy suggested would be, in our opinion, a still more mischievous error. There can be no such thing as an oligarchy of science, which these restrictions would tend to create. We take leave to suggest the most scrupulous care in the election of Chairmen to the several Sections . . . and a great deal more energy and resolution on the part of the Sectional Committee; the one (the Committee) should be foreseeing and directing, and the other (the Chairman) the controlling mind of the Association. . . ."

Botanical Society of London

ON September 3, 1836, the *Mechanics' Magazine* said: "A number of botanists, amateurs, etc., have recently held several meetings at the Crown and Anchor Tavern, Strand, for the purpose of forming themselves into a society bearing the above name. . . . Among the leading objects the Society propose are, the advancement of botanical science in general; the particular cultivation of descriptive and systematic botany; the formation of a library, herbarium and museum; the reading of original papers, extracts and translations; the exchange of specimens with other societies or individual collectors; and every other available means that may promote the object of the Society". Commenting on this, the journal said: "We are glad to find, among the mighty mass of bricks and mortar, ladies and gentlemen so ardently devoted to so healthy and so enduring a pursuit as botany".

The Flora of Ireland

IN 1836 appeared the "Flora Hibernica: comprising the Flowering Plants, Ferns, etc., of Ireland; arranged according to the Natural System", by J. T. Mackay, who from 1806 until 1862 was curator of the Botanical Garden, Trinity College, Dublin. In a notice of the book in the *Athenæum* of September 3, 1836, a reviewer said: "We congratulate our Irish friends upon the publication of this work. It is most creditable to the naturalists of Ireland that the first general account of the plants of the island should appear in a form corresponding to the actual state of science elsewhere. . . ."

"The character of the classes and orders are taken chiefly from the writings of De Candolle and Lindley; and the arrangement employed by the last-mentioned botanist, in his 'Synopsis of the British Flora' is followed, with few exceptions. The character of the genera and species are chiefly from Hooker's 'British Flora'; for the matter relating to Mosses, Hepaticæ, and Lichens, the author is indebted to Dr. Taylor, and for the arrangement of the Algæ to Mr. W. H. Harvey, both of whom are naturalists well known for their acquaintance with those difficult groups."