

technical and theoretical classes for the training of apprentices in the works. He showed his further interest by founding the Paul Scholarship, which is administered by the Institution of Electrical Engineers, for enabling young students to enter the works of a scientific instrument firm for two years training.

Paul interested himself in several societies and served on the councils or boards of the Institution of Electrical Engineers, the Institute of Physics and the Physical Society. He acted as treasurer of the last-named Society during 1935-38 and as vice-president during 1939-42. He had also served the Royal Institution as a manager and a vice-president. He was awarded the sixteenth Duddell Medal by the Physical Society in 1938.

Mention should be made of the admirable collection of electrical instruments that he assembled at the Royal Albert Hall in 1931 for the Faraday Centenary Exhibition. Many of the exhibits were constructed under his direction, several with his own hands.

In his prime, Paul had immense energy and a great capacity for getting things done. With it all, he had a dry sense of humour and an attractive personality. The wreath sent by the Cinema Veterans 1903 Society for his funeral was inscribed: "The first Englishman to produce and exhibit a Cinematograph Film".

R. S. WHIPPLE.

WE regret to announce the following deaths:

Dr. Edgar Allen, professor of anatomy at Yale University School of Medicine, aged fifty.

Prof. A. A. Boon, emeritus professor of chemistry at Heriot-Watt College, Edinburgh, on April 2, aged seventy-six.

Prof. Gary N. Calkins, emeritus professor of protozoology in Columbia University, on January 4, aged seventy-three.

Lieut.-Colonel E. Kitson Clark, president during 1931-32 of the Institution of Mechanical Engineers, and during 1921-22 of the Institution of Locomotive Engineers, on April 15, aged seventy-six.

Dr. Albert Hassall, bibliographer and formerly assistant chief of the Zoological Division, U.S. Bureau of Animal Industry, on September 18, aged eighty-one.

Dr. J. E. Ives, for many years physicist to the United States Public Health Service, aged seventy-seven.

Prof. A. Lloyd James, University professor of phonetics, School of Oriental and African Studies, London, aged fifty-eight.

Prof. Heinrich Zwicky, professor of veterinary medicine at the Zurich faculty of veterinary medicine.

NEWS and VIEWS

Mr. P. I. Dee, F.R.S.

MR. P. I. DEE, whose appointment to the chair of natural philosophy at the University of Glasgow was announced in *NATURE* of April 17, has for the past twenty years been one of the most outstanding of the younger physicists at Cambridge; first as student, then as teacher and research worker. From Marling School, Stroud, Mr. Dee entered Sidney Sussex College in 1922 as entrance exhibitioner. In 1925 he obtained a first class in Part I of the Natural Sciences Tripos and was elected scholar of his College. In the following year he gained a first in physics in Part II of the Tripos, was elected research scholar at Sidney and started work under Prof. C. T. R. Wilson at the Solar Physics Observatory. For several years after this, Mr. Dee's work continued to be mainly on the Wilson cloud chamber, and it gained him in 1928 a Taylor research fellowship (at Sidney) and in 1930 the Stokes studentship, which required his emigration to Pembroke. On the expiry of his tenure of this studentship in 1934, his own College reclaimed him with the award of a full fellowship (without teaching duties). Meanwhile, the University of Cambridge had appointed him demonstrator and then lecturer in the Cavendish Laboratory. Here, for a period, he was responsible for the teaching in the advanced practical class, and in 1937 he took over the organization of research in the High Voltage Laboratory, in which, at the outbreak of the War, he had just succeeded in bringing the second (2-million volt) Philips set into operation. When this set comes to be re-assembled and work restarted, when the War ends, his colleagues at Cambridge will miss his leadership more than brief words can convey. Mr. Dee was elected to the Royal Society's fellowship in 1941.

Prof. C. A. Elvehjem

THE thirty-second Willard Gibbs Medal, the highest award of international scope which the Chicago Section of the American Chemical Society can bestow, has been given to Prof. C. A. Elvehjem, professor of biochemistry in the University of Wisconsin. In 1928, Prof. Elvehjem with his associates received wide recognition for work involving trace elements in nutrition. They discovered that copper is essential to the formation of hæmoglobin. Later their studies revealed the place of a number of metals in nutrition, such as iron, manganese and aluminium. While at Cambridge, Prof. Elvehjem conducted studies on tissue respiration which have since been applied to the study of vitamin functions. Use of nicotinic acid in the prevention and cure of pellagra and other deficiency diseases have developed from Prof. Elvehjem's discovery. The role of nicotinic acid in animal nutrition has also been developed. He is now conducting studies on the newer members of the growing family of B vitamins.

Institute of Fuel: New President

DR. E. W. SMITH has been elected president of the Institute of Fuel for the session 1943-44, and will take office in October next. Dr. Smith has been well known in the fuel world for many years, having been chief chemist at the Birmingham Corporation Gas Department for several years before becoming technical director of the Woodall-Duckham Companies some twenty years ago. In 1941 he was appointed by Sir Andrew Duncan, then president of the Board of Trade, as director-general of gas supply in Great Britain, a position he continued to hold when the Government interests in the gas industry

were transferred to the new Ministry of Fuel and Power. Having completed the work for the Government that he had undertaken to do, he resigned his position a few weeks ago.

Bicentenary of Dr. Edmund Cartwright

APRIL 24 marks the bicentenary of the birth of Rev. Edmund Cartwright, who by his invention of the power-worked loom made a notable contribution to the progress of cotton manufacture. A descendant of a family long established at Marnham, Nottinghamshire, he was educated at Wakefield Grammar School and University College, Oxford, took holy orders, and married a lady of wealth. His first appointment was to the perpetual curacy of Brampton, Yorkshire, but in 1779 he was made rector of Goadby Marwood, Leicestershire. His interests at this time were mainly connected with agriculture and poetry, but a visit to Matlock in 1784 changed the current of his life. At that time the work of Paul, Hargreaves, Arkwright and Crompton had placed the spinners far ahead of the weavers, and at Matlock, Cartwright was present at a conversation when mechanical weaving was declared an impossibility. His latent powers of invention were aroused, and at Goadby Marwood, with the assistance of the local craftsmen, he made a crude loom in which the necessary movements were all made by mechanical power.

In the following year, 1785, Cartwright secured the first of his three patents in connexion with weaving. He next opened a weaving mill at Doncaster, and there made inventions in wool combing and another for rope-making. This last, an outstanding and basic invention, was the 'Cordelier', which soon became part of everyday practice. Unfortunately, the mill was not a financial success, and by 1793 Cartwright had spent a fortune of £30,000 and had got into debt. Recording his feelings in a stoical sonnet, he left Doncaster for London and about 1800 entered the service of the Duke of Bedford at Woburn, and much of his later life was devoted to agriculture. His looms, much improved by other mechanics, gradually came into use, and in 1809 the Government was prevailed upon to award him a sum of £10,000, a part of which Cartwright used to buy a farm at Hollander, between Sevenoaks and Tonbridge. His death took place at Hastings on October 30, 1823, by which time there were probably more than twenty thousand power looms in England and Scotland. He is buried at Battle, Sussex, where a tablet to him was placed in the church.

William Wallace (1768-1843)

A CENTURY ago, on April 28, 1843, William Wallace, the Scottish mathematician and astronomer, died at the age of seventy-four. Born at Dysart, on September 23, 1768, Wallace began life as a bookbinder's apprentice, but by private study and the assistance of Robison, Playfair and others gained a sound knowledge of mathematics, and at the age of twenty-six became an assistant master in Perth Academy. Nine years later, in 1803, he became an instructor at the Royal Military College, then housed at Great Marlow. In 1819 he was chosen to succeed Leslie as professor of mathematics at the University of Edinburgh, and he held this post until seventy years of age. On retirement he was awarded a Civil List pension of £300. He had many interests, wrote much for the "Encyclopædia Britannica", contributed to the Royal Astronomical Society and other bodies, and it was

largely through his efforts that the small private observatory on Calton Hill, Edinburgh, was improved, the observatory being taken over by the Crown in 1834 when Thomas Henderson became the first Astronomer Royal for Scotland.

Society of Fellows Foundation at Harvard

IT is announced in the *New York Herald Tribune* that the Society of Fellows Foundation at Harvard University, which was established by the late Dr. A. Lawrence Lowell, president of Harvard from 1909 until 1933, was also endowed by him with a fund of 2,000,000 dollars. Dr. Lowell made the gift anonymously, directing that his name was not to be divulged until after his death, when the fund was to be named after his wife, Anna Parker Lowell. By the terms of the Foundation, the principal of the fund is kept intact and the income used to enable a small number of men selected for their promise of making notable contributions to knowledge to devote their whole time to productive scholarship. The selected men are known as 'junior fellows' and receive tuition and accommodation privileges and 1,250-1,500 dollars a year. By this announcement, it is known that Harvard is indebted to Dr. Lowell not only for much of its present reputation and indirectly for its separate colleges, but also for its well-known fellowships. Dr. Lowell died on January 6, aged eighty-six (see NATURE, Feb. 13, p. 190).

Rock Paintings in Southern Rhodesia

IN a paper before the Rhodesia Scientific Association, Mr. L. Cripps has again directed attention to the rock-shelter paintings of Southern Rhodesia (*Proc. Rhodesia Sci. Assoc.*, 39; 1942). There is still much to be done, and soon, if these paintings are to be preserved, or at least properly studied before their almost inevitable destruction follows on the more intensive opening up of the country. Incidentally, Mr. Cripps mentions the well-known site in the N'danga-Victoria district, where the so-called Egyptian figures occur. Dr. Impey, who first described the site, likened them to certain predynastic Egyptian paintings, and this equation is now assumed by a number of prehistorians. Attention might be directed, however, to some rock-shelter paintings from Ido in the Fezzan district south of Tripoli, North Africa, where very similar painted figures occur. They are reproduced (Plate lxxxi) in Leo Frobenius's recent publication "Ekade Ektob, die Felsbilder Fezzans", 1937. Perhaps for the present it would be wiser to equate the N'danga paintings with counterparts in North Africa rather than to suggest that they owe their origin to predynastic Egyptians penetrating as immigrants southwards to Rhodesia.

Seismological Tables

A SET of seismological tables by Dr. H. Jeffreys and Dr. K. E. Bullen dated 1940 and published by the British Association for the Advancement of Science from its offices at Burlington House, London, W.1, has just been received. The tables are published with the assistance of a grant from the Gray Milne Trust. They have all been published previously by the Royal Astronomical Society and are reproduced in the booklet above mentioned in collected form.