

Obituary.

SIR CHARLES DOUGLAS FOX.

ONE of the last representatives of a generation of distinguished engineers, Sir Douglas Fox died on November 13 in his eighty-second year. His father, Sir Charles Fox, had assisted Ericsson in building the "Novelty," one of the three locomotives which competed at Rainhill in 1829, and as a member of the firm of Messrs. Fox, Henderson and Co. constructed the Crystal Palace in Hyde Park in 1850-51.

Articled to his father at the age of seventeen, Sir Douglas Fox acted as resident engineer of the Witney and Ramsey railways. In 1863 he was taken into his father's firm, which still subsists with the title Sir Douglas Fox and Partners. In this relation he was responsible for the construction of the London, Chatham, and Dover, and the London, Brighton, and South Coast Railways. He became consulting engineer to the Queensland Government Railways and to various railways in South Africa. Amongst the latter may be mentioned the Beira Port and Railway, and the Rhodesian railways, and the remarkable bridge over the Zambesi river at the gorge below the Victoria Falls. With Mr. Brunlees Sir Douglas was engineer for the Mersey Tunnel, and with Mr. Greathead for the Liverpool overhead railway, a new type of construction in this country. In the Argentine he was consulting engineer for several railways. When the Manchester, Sheffield and Lincolnshire Railway became the Great Central, Sir Douglas's firm was responsible for the works on the Southern and Metropolitan divisions and the Marylebone terminus. Sir Douglas was interested in the London traffic problem, and constructed the Great Northern and Hampstead tube railways. His firm are consulting engineers to the Channel Tunnel Co.

Sir Douglas Fox was president of the Institution of Civil Engineers in 1899-1900, and received the large party of American civil and mechanical engineers who came to England in that year. He contributed papers to that institution (in collaboration with his brother, Sir Francis Fox, and some of his chief assistants), and took part in important discussions on excavating machines; long-span bridges; broad-gauge, narrow-gauge, and light railways; Indian tramways; break of gauge; resistances on railways; and other subjects.

Sir Douglas Fox took an active part in the foundation of the British Standards Committee (now Association). This is doing an immense work in preventing waste of effort and facilitating production in engineering manufacture.

W. C. U.

PROF. A. S. DELÉPINE.

PROF. AUGUSTE SHERIDAN DELÉPINE, whose death was announced in NATURE last week, was educated in Paris, Geneva, and Lausanne, graduating in science at the last-named. He then proceeded

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to the University of Edinburgh, where he pursued medical studies, graduating with first-class honours in 1882. His interest from the first centred in pathology and in the then new science of bacteriology, and after acting for a time as demonstrator in these subjects at Edinburgh he settled in London, and soon afterwards was appointed demonstrator of pathology and curator of the museum at St. George's Hospital, where he did excellent work. In 1891 Delépine was appointed the first Procter professor of pathology and morbid anatomy in the University of Manchester. Here he organised the pathological department and designed the new buildings of the department. During his tenure of this professorship he carried out many investigations of a public health character, so that when, twenty years later, a department of public health was established at the University, he resigned the chair of pathology and was appointed to the new chair of public health and bacteriology and to be director of the public health laboratory, posts which he retained until his death.

At the laboratory Prof. Delépine gave instruction to a large number of graduates proceeding to the diploma of public health, some of whom assisted in conducting research work, while others surveyed the health of the district by inquiries and reports upon the incidence and spread of preventable disease. In this way close co-operation was maintained between the laboratory and the public health department of the city.

Among his researches may be mentioned his report to the Local Government Board in 1908 on the prevalence and sources of tubercle bacilli in milk, the connection between summer diarrhoea and food-poisoning (1902), and his report to the Manchester City Council on the conditions necessary to obtain a clean milk supply (1918).

During the war Prof. Delépine did good work in a consultative capacity as sanitarian and bacteriologist, and in particular investigated the nature and prevention of trench-foot, a malady which in the early days of the war was costing the Allied Armies many lives and an enormous amount of disability, and which he showed was due to a combination of damp, cold, and constriction.

Prof. Delépine was a warm and genial friend, and his place will be hard to fill. The tragedy of the loss of his only son during the war doubtless conduced to the ill-health from which he suffered of late.

R. T. H.

M. HENRY BOURGET.

WE regret to announce the death last September, after a long illness, at the age of fifty-seven years, of M. Henry Bourget, director of the Marseilles Observatory. After taking his degree, in which he gained distinction both for literary and mathematical studies, M. Bourget

was at Toulouse Observatory for twelve years under M. Baillaud, and carried out a successful programme of stellar photography with the large reflector. He also continued his mathematical researches, obtaining the doctor's degree for a thesis on hyperabelian groups, and helping in the editing of the works of Hermite. He took a large share in the photography of the Toulouse zone of the astrographic catalogue, in the Eros programme of 1900, and observed the total solar eclipses of 1900 and 1905 from Elche and Guelma.

In 1907 M. Bourget became director of the Marseilles Observatory, when he introduced the seismograph, the prism-astrolabe for time determination, and the reception of wireless signals from the Eiffel Tower. He also studied with MM. Fabry and Buisson the internal movements in the Orion nebula. He later introduced the Marseilles Circulars and the *Journal des Observateurs*, which have proved very serviceable for the distribution of information concerning comets and minor planets.

A. C. D. C.

THE death of Lieut.-Col. P. G. VON DONOP, which occurred on November 7, at the age of

seventy years, is recorded in *Engineering* of November 11. He obtained a commission in the Royal Engineers in 1871, and in 1899 was appointed Inspecting Officer of Railways under the Board of Trade. His name was well known in connection with inquiries into railway accidents.

THE death of Prof. CARLTON JOHN LAMBERT on November 6 is announced in *Engineering* of November 11. Prof. Lambert was seventy-seven years of age, and for several years was professor of mathematics, physics, and mechanics at the Royal Naval College, Greenwich. He was elected an associate member of the Institution of Naval Architects in 1896.

WE regret to see the announcement of the death on November 16 of Prof. P. THOMPSON, professor of anatomy at Birmingham University, at the age of fifty years.

It is with much regret that we see the announcement of the death, on November 22, at seventy-six years of age, of the distinguished philosopher, M. EMILE BOUTROUX, member of the Institute of France.

Notes.

THE new skull from Rhodesia described by Dr. A. Smith Woodward in last week's *NATURE* was exhibited by him at a meeting of the Zoological Society on November 22. The skull, which was found in the Broken Hill Mine at a depth of 60 ft. below water-level and 90 ft. below ground-level, is in a remarkably fresh state of preservation. It is much broken on the right side and the lower jaw is missing. The brain-case is of modern human type, and the bone not thicker than that of the ordinary European; the capacity, though not yet accurately determined, is clearly above the lower human limit. The orbits are large and square, with pronounced overhanging ridges much extended laterally. The forward position of the foramen magnum indicates that the skull was poised on an upright trunk. The palate is large, but typically human, and adapted to perfect speech. It is remarkable that the teeth are much affected by caries. The lower jaw must have been massive and larger than the Heidelberg jaw. The appearance of flatness of the frontal area suggests a comparison with *Pithecanthropus erectus*. Dr. Smith Woodward was inclined to find the nearest approach to the Rhodesian skull in the Neanderthal type from La Chapelle aux Saints in France. Though markedly modern in regard to the brain-case, in its facial characters, while it is essentially human, it appears to hold a position between the gorilla and Neanderthal man. Fragments of the long bones, both femur and tibia, which have been found indicate that, unlike Neanderthal man, Rhodesian man walked in a perfectly upright posture. Dr. Smith Woodward regarded Rhodesian man as possibly a later development than Neanderthal man, but Prof. Elliot Smith suggested that he might represent a primitive type of which Neanderthal man might be a highly specialised form.

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THE Council of the Institution of Electrical Engineers has elected Lord Southborough to be an honorary member of the institution. Lord Southborough, who is probably better known to men of science as Sir Francis Hopwood, has long been associated with electrical progress in this country, and rendered valuable services to the Institution of Electrical Engineers in connection with the obtaining of a Royal Charter and Royal Patronage, by his enthusiastic help and counsel, and by active co-operation with the charter committee. He is a member of the Board of Control of the National Physical Laboratory, and has been for many years closely associated with the problem of railway electrification.

THE inaugural meeting of the Empire Forestry Association was held in the Guildhall, London, on November 16. The object of the association is to federate in one central organisation societies and individuals interested in the growth, marketing, and utilisation of timber throughout the Empire. The association will publish a Journal, advocating a constructive policy of conservation and development in the various Dominions, Colonies, and India. It will collect and publish facts as to existing forestry conditions and timber requirements of the Empire. A room in the Imperial Institute will be at the disposal of the association for the display of the commercial timbers which are produced in countries under British rule. A Royal charter has been granted to the association. The secretary is Mr. T. S. Corbett, 17 Victoria Street, London, S.W.

THROUGH an advertisement in the *Times*, Prof. F. Soddy issues a warning "against the fraudulent use of a letter written by him referring to tests made by him of a process alleged to make gold."