

work as an explorer and discoverer. As a circumnavigator, one writer has said that Cook stands unequalled "first for the magnitude of the work done in the time, second for its accuracy, third for the preservation of the health of his people." His efficiency as a commander and his scientific and seamanlike qualities were not alone responsible for his success. "His personality had more to do with it than his efficiency. What manner of man he was is shown by the fact that during the many weary

months when the ship's companies were confined together in a small vessel the entries of punishment in the log-books were fewer than could be found in any other ships in the service at that time." It was, however, the French Admiral Dumont d'Urville, himself a distinguished explorer, who said that Cook was the "most illustrious navigator of both the past and present ages, whose name will for ever remain at the head of the list of sailors of all nations."

Obituary.

PROF. E. C. GREY.

EGERTON CHARLES GREY, who died on Aug. 10 at the early age of forty-one years, had long been engaged in researches on the biochemistry of fermentation by bacteria. Working with large inoculations of the organism and synthetic media, he made a careful study of the time relations of the chemical changes and found that well-defined phases of fermentation existed, characterised by different products. Thus, *B. coli*, under these conditions, produces from glucose, in the period immediately following inoculation, alcohol, formic acid, and succinic acid, whereas in the next subsequent period these products are partially decomposed, some of the sugar is synthesised to a non-reducing saccharide and lactic acid is formed; finally, a prolonged period of mixed fermentation occurs.

These experiments, coupled with the observation that the action of the bacteria on sugar varied according as the organisms had been grown aerobically or anaerobically, led Grey to the view (expressed in a paper which has appeared since his death in the *Proceedings of the Royal Society*) that the modified alcoholic fermentation produced by *B. coli* (which he regarded as strictly analogous to the alcoholic fermentation produced by yeast) was only possible when the organism had been recently grown in the presence of free oxygen, zymase (the alcohol-producing enzyme system) being the surviving portion of the respiratory mechanism, and alcoholic fermentation the result of its continued action, under anaerobic conditions.

Grey was the second son of the late Col. Arthur Grey, and, after his schooldays in Paris, graduated in the University of Sydney. After his return to Europe in 1912 with an 1851 Exhibition Scholarship, he became successively Beit Fellow and John Foulerton Student of the Royal Society, working at various times at the Lister Institute, l'Institut Pasteur, and the Biochemical Laboratory, Cambridge, and was awarded the degrees of M.A. (Cantab.) and D.Sc. (London), besides obtaining a medical qualification. During the war he served as a second lieutenant in the Royal Fusiliers, was wounded at Gallipoli and invalided from the service; afterwards he was engaged for a while as surgeon-sub-lieutenant to H.M.S. *Nereide*, and as interpreter in French and German, and took part in the operations in the Black Sea.

After the War, Grey was appointed to the chair of chemistry in the University of Cairo, and was

decorated with the Order of the Nile. He relinquished this appointment to undertake research for the League of Nations on the food problems of Japan, in which connexion he made, in six months, analyses of all the typical foodstuffs of the country. He was the author of a book in which he described a new method of teaching analytical chemistry which he had found useful in his Cairo classes.

Grey was a man of attractive but unconventional character, full of enthusiasm for his subject. His early death is a great loss both to his friends and to biochemical science.

A. HARDEN.

THERE are many who will regret to learn of the death of Mr. George Newlands, the Advisory Officer in Soils in the North of Scotland College of Agriculture. Mr. Newlands was a graduate of the University of Aberdeen and specialised in geology and in chemistry. After serving for a time as assistant to Dr. Gibb, the professor of geology, he worked as a chemist in munition works during the War. After his war service he joined the staff of the North of Scotland College of Agriculture as a research worker in soils under Prof. Hendrick, with whom he published a number of papers on the mineralogical constitution of the soil. He recently went to visit laboratories on the continent engaged on research work on soils; when there he was taken ill and died rather suddenly in Berlin. Never of very robust health, he had overstrained himself in an attempt to see as much as possible in a limited time. Soil science has lost in Mr. Newlands a worker of great promise who had reached the stage at which his work was becoming fruitful.

WE regret to announce the following deaths:

Mr. George M. Beringer, a past president of the American Pharmaceutical Association, and formerly editor of the *American Journal of Pharmacy*, on June 23, aged sixty-eight years.

Mr. William Brown, lecturer in veterinary hygiene and agricultural bacteriology in the University of Aberdeen since 1913, and joint author of "The Modern Veterinary Adviser," on Sept. 3.

Sir Horace Darwin, K.B.E., F.R.S., founder and chairman of the Cambridge Instrument Co., Ltd., on Sept. 22, aged seventy-seven years.

Mr. W. S. Gray, Director of Chemical Section, Ministry of Agriculture, Cairo, on Aug. 31, aged fifty-four years.

Dr. Robert Knox, president of the Röntgen Society, a distinguished pioneer in medical radiology, on Sept. 21, aged sixty years.