

he spoke his mind freely and always put forward his views with enthusiasm and conviction, but he neither scorned nor regarded lightly the honestly held views of others. His honesty of purpose, his enthusiasms, his freshness of mind, and the variety of his interests gave to all intercourse with him a charm which impressed all those who had the privilege to partake of it. To his purely scientific interests he added an intense interest in music and painting, and the exercise of these two arts was the means whereby a tired and sometimes overwrought brain became rested and refreshed. To his interest in painting is no doubt due the interest which, during the later years of his life, he took in the theory of colour, his views regarding which he has expounded in his book, "Physikalische Farbentheorie", and in other books and memoirs.

ALEX. FINDLAY.

DR. H. T. FERRAR

THE death of Hartley Travers Ferrar at the comparatively early age of about fifty-two years was announced in London on April 19. Leaving Oundle in 1898, he entered Sidney Sussex College, Cambridge, and took a second class in the Natural Science Tripos in 1901. Besides being captain of his College boat club he rowed in the University trials, and it was when stepping out of an eight at Henley that he was offered a place as geologist to Capt. Scott's First Expedition to the Antarctic. The chief scenes of his labours on the expedition were in South Victoria Land, where the great Ferrar Glacier was named after him.

On his return to Cambridge in 1904, Ferrar was elected a fellow of the Geological Society and spent several months in writing up his observations. Living beneath the same roof with him at this time, and discussing almost daily his many problems, I learned to appreciate—possibly as few could who had not accompanied Scott—those sterling qualities that had enabled him to accomplish so much, and won him so many lifelong friends.

In the autumn of 1905, Ferrar joined the Egyptian Survey, and before Christmas had made a long camel trip into the Eastern Desert beyond Edfu. By April 1906 he was in the Western Desert (Sellima Oasis) beginning to interest himself in water-supply. In late 1907 he commenced field-work in Upper Egypt on the movements of subsoil waters, with particular reference to their effects upon cotton and other crops; and this study was extended to Lower Egypt in subsequent years. Results were published as a Survey Department paper in 1911. During 1910–11 he made a series of experiments, in association with the Department of Agriculture, on the effects of movements of the water-table on the cultivation of cotton in the Delta, in the course of which he set out many lines of tube wells and recorded thousands of observations. The experiments proved that there was (up to a limit) a steady increase in the crop yield with increase in the thickness of soil above the water-table. The findings were issued as a Survey Department paper in 1912. During this period also he visited the oil-fields.

Somewhere about 1912, Ferrar retired from the

Egyptian Survey and proceeded to New Zealand, his wife's home country. The outbreak of war saw him in Egypt again, with the New Zealand Forces, and later he became an efficient map-officer attached to the Australian Flying Contingent in Palestine.

In 1919, Ferrar was appointed geologist to the New Zealand Survey (Department of Scientific and Industrial Research) in which he had risen to the position of assistant director at the time of his death. Amongst other publications, an important *Bulletin* (No. 27, New Series, 1925), written mostly by himself, "On the Geology of the Whangarei-Bay of Islands Subdivision, Kaipara Division", describes the results of the survey of 1905 square miles in North Auckland and deals largely with mineral deposits. In his latest outstanding work (*Bull.* No. 33, New Series, 1929), "On the Soils of Irrigation Areas in Otago Central", his Egyptian experiences were invaluable, as shown by his discussion of the irrigation problems. His soils are classified into series, classes and types, and such subjects as climate, drainage, soil-profile, youthful and mature soils are considered.

It was largely on the strength of this last publication that, in February last, Ferrar was awarded the degree of D.Sc. (Diploma) by the University of New Zealand. Besides his official publications, some thirty papers on different subjects were contributed to scientific journals in Great Britain, Egypt, and New Zealand.

In May 1931 old memories were revived when the *Discovery* called in at Wellington on its way to southern latitudes.

BERNARD SMITH.

WE regret to announce the following deaths:

Dr. Albert P. Brigham, professor emeritus of geology at Colgate University, president in 1918–19 of the American National Council of Geography Teachers, on April 1, aged seventy-six years.

Mr. Donald R. Dickey, a research associate of the California Institute of Technology, who was an authority on the birds and mammals of North and Central America, on April 16, aged forty-five years.

Dr. B. K. Emerson, for forty-seven years professor of geology at Amherst College, and president in 1899 of the Geological Society of America, on April 7, aged eighty-eight years.

Prof. C. S. Hastings, professor and emeritus professor of physics at Yale University since 1884 and a member of the U.S. National Academy of Sciences, a well-known designer of astronomical telescope objectives, aged eighty-three years.

Sir Thomas Legge, C.B.E., for nearly thirty years senior medical officer of factories at the Home Office and afterwards medical adviser to the social insurance section of the Trades Union Congress, who took a leading part in the promotion of industrial health in Great Britain, on May 7, aged seventy years.

The Hon. Dr. William Pember Reeves, formerly Agent-General and afterwards High Commissioner for New Zealand, who was director in 1908–19 of the London School of Economics, on May 15, aged seventy-five years.