

OBITUARIES.

CHARLES ALEXANDER McMAHON (1830-1904).

In Lieut.-General Charles Alexander McMahon, F.R.S., who died at his residence in Nevern Square, London, on February 21 last, our Society loses an earnest worker on the mineralogical side of geology. The son of Captain Alexander McMahon, of the East India Company's service, he was born at Highgate on March 23, 1830, and obtained his first commission, on February 4, 1847, in the 39th Madras Native Infantry, where he served for eight years. After this he became a member of the Madras Staff Corps, and was transferred to the Punjab Commission. Here he did admirable work for thirty years as Commissioner and Judge, gaining early a reputation for nerve and promptness in action. It was due to the latter that, at the outbreak of the Indian Mutiny—in May, 1857—just after he had taken charge of the Sialkot district, the revolted native troops were met and crushed by General Nicholson, then on the march to Delhi.

About the year 1871, McMahon, then Commissioner of Hissar, began to work at petrological questions, his first contribution, 'On the Blaine group and the central gneiss in the Simla Himalayas,' appearing in the 'Records of the Geological Survey of India' in 1877. In 1879, while on furlough in England, then a Lieutenant-Colonel, McMahon, with characteristic thoroughness, entered as a student at the Royal School of Mines, and attended the lectures by Professors Judd, Huxley, and Warington Smyth. The experience thus acquired was applied, on his return to India, to the thorough study of the crystalline rocks in the Himalayas, and he increased the two papers already published in the 'Survey Records' by nine others, in which he proved some gneisses to be igneous rocks, and their foliation due to movements prior to final consolidation.

After thirty-eight years' service he retired, but was promoted to Major-General in 1888 and Lieutenant-General in 1892, and he settled down in London to work steadily at his favourite studies, publishing papers in the 'Mineralogical Magazine,' the 'Geological Magazine,' the 'Proceedings of the Geologists' Association,' and the 'Quarterly Journal of the Geological Society.' The more notable in the last were on the crystalline rocks of the Lizard district, where his Indian experience stood him in good stead, and on the phenomena associated with the Dartmoor granites—though he did not lose touch with India, and

co-operated with his son, Major A. H. McMahon, in a valuable account of the geology of Gilgit.

Two or three of these papers were distinctly mineralogical, and, after joining our Society in 1882, he contributed four papers to this Magazine. The first, in volume viii, discusses the cause of a polysynthetic structure in some porphyritic quartz crystals from India; the second, in vol. ix, describes the bowenite or pseudo-jade from Afghanistan, which he shows to be a true serpentine of somewhat unusual hardness, its probable origin being a rather exceptional peridotite; the third, in vol. x, discusses the micro-chemical analysis of rock-making minerals, giving the results of his own experiences; and the fourth, also in that volume, deals with the optical characters of the globules and spherulites of lithium phosphate and some other salts.

He was a frequent attendant at scientific gatherings and an effective contributor to discussions, obtaining a reputation as a terse, clear speaker, who never rose unless he had something valuable to say. He became F.G.S. in 1878, served more than once on its Council, and received its Lyell Medal in 1899, was President of the Geologists' Association in 1894-5, and of the Geological Section of the British Association at Belfast in 1902, and was elected a Fellow of the Royal Society in 1898.

Between two and three years ago his eyesight began to fail, which obliged him to resign, in June, 1902, the Treasurership of this Society, to which he had been elected in the previous November; his general health then began to decline, and after several months' illness he died on February 21, 1904. But while the body was weak, the mind remained vigorous, for his last scientific writing, published in the 'Geological Magazine' for November, 1903, shows all his wonted grasp of his subject, and power of polished satire. One who has discussed with him, in the field and in the study, questions more or less controversial, may be allowed to add that as a worker none could be more thorough, cautious, and conscientious, while as a man he wore 'the white flower of a blameless life,' and combined unswerving rectitude of character with a remarkable gentleness of disposition.

T. G. BONNEY.

CLEMENT LE NEVE FOSTER (1841-1904).

By the death of Sir Clement Le Neve Foster, mineralogical science has lost an enthusiastic cultivator, one who by precept and example ever