

attained seem small now, but twenty-six years ago they excited the greatest interest. The writer remembers also how Siemens showed that the empirical formula found by the German engineers for the air resistance was in almost exact agreement with that obtained by Sir Isaac Newton.

Alexander Siemens was a member of the committee which in 1897 discussed the desirability of establishing a National Physical Laboratory in Great Britain. Later on he served on the executive council. He married in 1881 Frances Dodwell, of Campden, Gloucestershire, and had three daughters, the eldest of whom married the late Prof. Bertram Hopkinson, of Cambridge. For many years Siemens used to attend the Council dinners and meetings of the Institution of Electrical Engineers, and his kindly nature and interesting conversation made him many friends.

A. R.

COL. S. W. H. RAWLINS.

COL.-COMMANDANT STUART WILLIAM HUGHES RAWLINS died on Dec. 16 last, from acute pneumonia, near Aldershot, where he commanded the artillery of the 2nd Division. Born in 1880, Rawlins' name was on the list of successful competitors at the 1893 election of scholars at Eton. His family tradition was closely bound up both with Eton and with academic life. His father, William Donaldson Rawlins, was a life fellow of Trinity College, Cambridge. His uncle, Francis Hay Rawlins, became lower master and ultimately vice-provost at Eton, and was one of the last fellows of King's under the statutes by which a fellowship was retained for life. Leaving Eton rather sooner than many boys, Rawlins went into the Royal Marines, in which he saw five years' service and from which he transferred to the Army.

During the years before the War, apart from fighting in South Africa, Rawlins saw much foreign service, chiefly in India and Central Africa, an experience which gave him every opportunity of indulging his naturally great linguistic powers. He could converse in numerous dialects, chiefly of Swahili. His taste for languages was coupled with an active interest in ethnology and archæology, add to these considerable musical sympathy, and it is clear that Rawlins, even outside his professional skill, was no common person.

To the scientific reader, the feature of greatest interest in Col. Rawlins' career is no doubt his association with the chemical warfare organisation in Great Britain as Commandant of the Experimental Station at Porton. Porton, from consisting of two or three huts at the commencement of 1917, underwent remarkable development under the direction of the late Dr. (Lieut.-Col.) A. W. Crossley, so that before the date of the Armistice it consisted of numerous departments and employed more than six hundred persons. Its activities then were chiefly on the offensive side. Parallel with Porton, the late Lieut. Col. E. F. Harrison developed, first at Millbank and later at University College, London,

the extensive organisation which in the first three months of 1918 manufactured three million respirators. The Navy had its own organisation. With the Armistice, the activities of these stations were suspended, and remained so until the Cabinet was able to define its international obligations.

Towards the end of 1920, the present Chemical Warfare Committee was formed, and at the start the whole of its experimental work, focused on defence, was concentrated at Porton, to the command of which Col. Rawlins was appointed on Aug. 29, 1921. From that date until he left to become Director of Artillery in November 1924, Rawlins with untiring energy bent his great mental powers to the development of the station. Many a soldier in his place would have regarded the appointment as a purely military one and would have left the scientific side entirely to his technical experts. Not so Rawlins. He made up his mind to understand the activities of each department and to be able to contribute intelligent constructive criticism to the scientific reports over which his name appeared. So successful was he that when ill-health overtook the director of experiments, Rawlins himself largely filled the gap. Porton having become the Experimental Station not only of the Army but also of the Navy, Rawlins' early years of training in the Royal Marines gave him a practical knowledge of the naval point of view which was of great value. On the technical side, Rawlins had the unique qualification of having served in the War as right-hand man to Sir Noel Birch, who was chief artillery adviser at G.H.Q. during the latter years of the War. Rawlins therefore had complete knowledge of the requirements of the Army in all that pertained to smoke and gas.

Of Rawlins, Sir Noel writes: "He was a master organiser, as proved by his work at the War Office," that is, during his tenure of the office of Director of Artillery.

Rawlins' high intellectual equipment, his varied experience, and his untiring power of work would not by themselves have sufficed for the solution of many of the problems which beset Porton. His success was in great measure due to his personality. Full of vigour, full of hope, full of cheerfulness, full of generosity, full of helpfulness, Rawlins attached friends to himself from all walks of life, and, aided in full measure by his wife, he has left a community in every locality in which he has been stationed who cherish a thousand memories of his devotion.

WE regret to announce the following deaths:

Mr. Martin J. Cole, part author of "Modern Microscopy" (Cross and Cole) and an expert on the preparation of microscope specimens, on Feb. 8, aged eighty-one years.

Prof. Willis L. Moore, professor of applied meteorology at George Washington University and an honorary member of the Royal Meteorological Society, on Dec. 18, aged seventy-one years.

Sir Dawson Williams, who retired in January last from the editorship of the *British Medical Journal* after thirty years of distinguished service in that office, on Feb. 27, aged seventy-three years.