who is continuing the systematic work of his father on the specific heat of metals.

Keesom was known by his collaborators and friends as a severe but kindly director; he was always extremely helpful to young scientists and students. A. Van Itterbeek

Brigadier J. A. Sinton, V.C., O.B.E., F.R.S.

John Alexander Sinton, who died on March 25, was born in British Columbia, of Ulster parents, on December 2, 1884. He was educated at the Royal Belfast Academical Institution and at The Queen's College, Belfast, where he was an exhibitioner. He graduated M.B., Ch.B., with first-class honours at the Royal University of Ireland in 1908, and after holding house appointments at the Royal Victoria Hospital, Belfast, became Riddell demonstrator in pathology at The Queen's University and clinical pathologist to the Ulster Eye, Throat and Ear Hospital and to the Mater Infirmorum Hospital. In 1911 he took the diploma of tropical medicine at Liverpool, and in the same year entered the Indian Medical Service.

During the First World War, Sinton served as a regimental medical officer in Mesopotamia and was awarded the Victoria Cross for most conspicuous bravery and devotion to duty during an action at Sheikh Sa'ed in 1916. He also received the Russian Order of St. George, and was mentioned in dispatches on four occasions. He was promoted brevet major in 1919 and saw further active service in Afghanistan and Waziristan, being again mentioned twice in dispatches and being appointed O.B.E. in 1921.

On reversion to civil employment in 1921, Sinton entered the Medical Research Department of the Indian Medical Service. He was in charge of the Quinine and Malaria Inquiry at Kasauli during 1921–30 and was director of the Malaria Survey of India from its foundation until 1936. He returned to England in that year, and in 1937 became Manson Fellow of the London School of Hygiene and Tropical Medicine and adviser on malaria to the Ministry of Health. He also carried out researches in the Malaria Laboratory, Horton. On the outbreak of the Second World War he was recalled to duty and, after a brief period in India, became consultant malariologist successively to the East African Forces, the Middle East Forces and the War Office. He finally retired in 1945 with the honorary rank of brigadier and settled down on a country estate at Cookstown in Northern Ireland. He took an active part in public affairs, being a justice of the peace and high sheriff for Tyrone.

Sinton's activities covered a wide field, but were principally concerned with the study of malariology in its various aspects. His researches on the chemotherapy of the disease were of outstanding importance and he also published a number of papers on its immunology, parasitology, laboratory and survey techniques and sociological effects. Among his other interests was the study of cutaneous leishmaniasis, on which he published several articles. He was also the author of a series of thirty-six papers on Indian species of *Phlebotomus*, on which he was a leading authority.

Sinton was elected a Fellow of the Royal Society in 1946 and received a number of other honours. He was awarded the Arnott Memorial Medal of the Irish Medical Schools and Graduates Association in 1917; the Chalmers Memorial Medal of the Royal Society of Tropical Medicine and Hygiene in 1928; the Bisset–Hawkins Medal of the Royal College of Physicians of London in 1944; the Robert Campbell Memorial Medal of the Ulster Medical Society in 1946; the Mary Kingsley Medal of the Liverpool School of Tropical Medicine in 1949; and the Manson Medal of the Royal Society of Tropical Medicine and Hygiene in 1956, an award which was announced only a few days before his death.

Sinton was a man of boundless energy, high moral rectitude and outstanding personal charm. He never spared himself in any of his endeavours and was a source of inspiration to all who came in contact with him. He was buried with full military honours near his home in County Tyrone. G. Covell

Dr. A. G. Lowndes

Ashley Gordon Lowndes, who died on March 15 at Falmouth after an attack of pneumonia, has left his mark on science in several ways. His passion for investigation produced some valuable researches and, perhaps even more important, it generated in others a love of the subject and a rigour of method that have been the basis of many successful investigations. He went to sea in the Merchant Navy at the age of thirteen, until he was twenty-six, when the curate of a church in Portsmouth, where Lowndes was taking a Sunday School, recognized his brilliance as a teacher. The curate's father was the headmaster of Ardingley and he took Lowndes on to his staff. From there he went to Cambridge, where he was one of J. T. Saunders's first pupils and obtained a 'double first' and a 'swimming blue'. He joined the analytical staff of Nobel Industries as a chemist, and there his ideas led to several successful new processes.

The next phase of Lowndes's career was that Norwood took him to Marlborough as biology master, and it was here that he did his best work, both as teacher and investigator. He drove his pupils hard but gave them a real opportunity to see the fascination of living things and the possibility of exact investigation of them. It must be more than an accident that so many of them have proved to be successful investigators and teachers. His simple belief in scientific and moral principles, single-minded love of the subject and directness of statement, provided a compelling appeal to boys and an excellent basis for life.

Lowndes became interested at this time in Crustacea, and his series of papers on them are probably his best scientific work. He quickly mastered the systematics of the Entomostraca and contributed substantially to knowledge of freshwater copepods and ostracods. He would probably have been wise to concentrate on systematics, but it was characteristic of him to want to do more. By breeding experiments he showed that the superficially similar *Leptocyclops speratus* and *agilis* are unable to cross, although the various races of the latter do so freely. He then embarked on a study of locomotion and feeding, first in *Chirocephalus*, then in calanoids. He used elegant photographic techniques and obtained results that seemed to him unambiguous. But as he entered these experimental fields his aggressiveness led him into controversies of a type that often seemed unhappy; but were perhaps necessary for him. They became still more marked as he attacked more complicated problems, such as the mechanism