applied to life an austere and almost fierce logic which made him a tenacious worker in the laboratory and an uncompromising opponent in the council room. He was a great teacher, visiting his students or staff at the bench. He would carry out a novel synthesis of several stages in test-tubes, and obtain sufficient product both to make a dyeing and a rough assay of its fastness properties; thus he imparted directly his skill, experience and enthusiasm. In return he was given loyalty and affection in an uncommon degree. He disliked all forms of ostentation and few knew how often he gave help to the unfortunate, including the victims of Hitlerite oppression. Finally, in his later years, he had the satisfaction of seeing in the policy of Imperial Chemical Industries, Ltd., towards research the realization of the cause for which he had fought, and nothing gave him greater pleasure than his periodical visits in his advisory capacity to the new laboratories of the Dyestuffs Group at Blackley.

Green's garden was his recreation, but even there he could not resist the urge to experiment, and he had obtained results indicating that traces of fluorescent dyes applied to the soil can affect the growth of plants.

His marriage with Constance Fanny, daughter of Henry Charles Heath, miniature painter, lasted for fifty-two years, and they showed to a wide circle of friends a perfect example of married life. She was a woman of great courage, and had it not been for her influence Green might never have emerged from a life of monastic seclusion to play the part he did. The shock of her unexpected death in January 1941 was one from which an already weakened heart could not recover, and he died suddenly and peacefully in his sleep nine months after her.

K. H. SAUNDERS.

Dr. J. S. Plaskett, C.B.E., F.R.S.

JOHN STANLEY PLASKETT, late director of the Dominion Astrophysical Observatory, Victoria, B.C., who died at Victoria on October 17 at the age of seventy-five, was the doyen of Canadian astronomers. Educated at Woodstock High School in Ontario, and apprenticed to the Edison Electric Company at Schenectady, he gained valuable engineering experience with the Canadian Edison Company at Sherbrook. His chance of securing a university education came somewhat late in life—as he graduated with first-class honours in mathematics and physics at the University of Toronto at the age of thirty-three. It was four years later that his engineering knowledge and experience together with his proved powers of research in photography and spectroscopy led to his appointment to the astronomical branch of the Department of the Interior at Ottawa. In 1905 he led the Canadian Eclipse Expedition to Labrador and was appointed to the post of astronomer at the Government Observatory of Ottawa. Here he was placed in charge of the new 15-in. telescope for which he had already designed the spectroscopic equipment.

Plaskett's early work on stellar radial velocities and on the solar rotation led him to press for a larger telescope to be placed in climatically more suitable surroundings. His efforts were successful and when the Canadian Government established a new observatory at Victoria, B.C., with a 72-in. telescope, on Plaskett fell the main task of dealing with all the optical and engineering problems that had to be faced; to him also naturally fell the task of directing the work of the new observatory. Stellar radial velocities, spectroscopic orbits of eclipsing variables, the physical nature of early-type stars—particularly *O*-type stars—such were the main subjects of his own work and of the researches of his staff. The distribution in space of the interstellar matter which gave the fixed calcium lines in early type spectra was a subject to which he gave much attention. The part of the Milky Way which was accessible to the Victoria Observatory became its special field of work, and Dr. Plaskett was a strong supporter of the scheme to place a companion large telescope at the Radcliffe Observatory, Pretoria, to complete the study of the southern regions of the Milky Way.

Dr. Plaskett was a regular and welcome attendant at the gatherings of the International Astronomical Union, serving on a number of its working committees. After his retirement from Victoria, he was fully occupied with work in connexion with the optical parts of the 80-in. telescope of the Fort Macdonald Observatory in Texas; recent publications have shown with what success he carried out this task. The value of his scientific work was freely recognized. He became F.R.S.C. in 1910, F.R.S. in 1923, and C.B.E. in 1935 on retirement. He was Gold Medallist and George Darwin lecturer of the Royal Astronomical Society, Bruce Medallist of the Astronomical Society of the Pacific, Draper Medallist of the National Academy of Sciences, and was the recipient of honorary degrees at a number of universities. He leaves a widow and two sons, one of whom is Prof. H. H. Plaskett, professor of astronomy in the University of Oxford.

F. J. M. STRATTON.

Dr. Walter Granger

STUDENTS of mammalian palæontology will have learnt with great regret of the death on September 6 of Dr. Walter Granger of the American Museum of Natural History at the age of sixty-eight.

Granger started his career in 1890 in the American Museum as a taxidermist, but an expedition to the Bad Lands of Dakota after living animals, a part of the world famous for its fossils, changed his outlook and started a love of palæontology which determined his future career. How many expeditions he afterwards made to the western States of the United States to search for fossils the writer of this short account, who has a happy personal memory of one of them, cannot record, but the number must have been well over twenty. In addition, Granger worked for a season in the Fayum Desert of Egypt and was second-in-command to Dr. Roy Chapman Andrews, now director of the American Museum, on the important and successful expeditions to Mongolia sponsored by that institution.

As a collector in the field Granger had very few equals. By long experience he seemed to have acquired an extra sense which led him to the places where the best things were to be found and, when discovered, his superb skill in their excavation and preservation, the result of his acquired knowledge and great patience, came into play, as many a specimen in the galleries of the American Museum bears permanent witness.

He was, however, far from being only a skilled collector. His scientific work, chiefly on the mammals of the Eocene Period, if not as great in quantity as that of some of his colleagues, was in no way behind in quality. His papers are models of clarity and conciseness which students would do well to study.

Granger was a most lovable character, entirely loyal to his friends and colleagues and to the American Museum. He was almost unduly modest about his own attainments, but he never withheld sound and generous advice whenever his help was asked. His quiet sense of fun and his good humour and unperturbability over the various worries incident to expeditions will be well known to those that have had the opportunity of being with him in the field.

Born in Vermont, he left for New York at an age too early for a university training, but towards the end of his career Middlebury University of his native State honoured him and itself with a doctorate *honoris causa*.

Granger was one of a band of vertebrate palæontologists who gathered around the late Prof. Henry Fairfield Osborn, and in his career of just over fifty years in the American Museum he performed a life work which is a monument to his memory.

C. FORSTER-COOPER.

Prof. W. H. Heaton

THE death on October 20 of Prof. W. H. Heaton at the age of eighty-five brought to an end a personal association with University College, Nottingham, almost from its beginning.

William Haslam Heaton, born at Bolton in 1856, attended Manchester Grammar School, where he won an open scholarship at Brasenose College, Oxford. He had a distinguished university career and gained the highest distinctions in both mathematics and physics. He was appointed lecturer and senior demonstrator in the Clarendon Laboratory of Physics at Oxford, and was repeatedly appointed examiner to the Universities of Oxford, Durham and Sheffield.

In 1884 he became professor of mathematics and physics at University College, Nottingham, which had been opened only three years before. There were flourishing evening classes, but scarcely any day students. Prof. Heaton's popular evening lectures on scientific subjects were very successful, but a more difficult task was to build up the full-time day work. One step forward was when an Education Department was opened in 1890. In this he played a leading part, as also in setting up a Department of Engineering, which was later followed by a Department of Mining.

Prof. Heaton became vice-principal in 1896, and in 1906 his teaching responsibilities were lightened by the establishment of a separate chair of physics; this gave him more time for consideration of general College policy. In spite of his own tastes lying in the direction of science, he clearly perceived that the development of the College had been one-sided, with the Faculty of Arts lagging far behind. In 1911 he became principal, and at once instituted new professorships of English and mining, to be followed later by several other chairs. Many developments in general policy were made at the same time, and the status of the College soon began to rise. This progress was checked by the outbreak of war in 1914, but a new period of rapid development began in 1919. New laboratories were opened and emergency accommodation of every possible kind was added, but the College grew too large for its existing site. Then came the splendid benefactions of Lord Trent and the opening of new College buildings at University Park in 1928.

Prof. Heaton retired in 1929, but still retained an active interest in College affairs and was repeatedly consulted by his successors in the principalship. His death represents a very great loss to the College he served so well.

H. T. H. PIAGGIO.

Prof. S. Kopeć

NEWS has been received that Prof. Stefan Kopeć, professor of biology in the University of Warsaw, and his son were among those executed near Warsaw as a reprisal for the killing of a Polish 'quisling'. In his early days Kopeć worked on the metabolism of insects with Prof. Garbowski at Cracow. After work on growth in rabbits at the Polish National Institute for Rural Economy at Pulawy he went with a Rockefeller fellowship to the Department of Animal Genetics at the University of Edinburgh. On his return he published a very extensive series of papers on growth and the body proportions of mice. In 1932 he was appointed professor in charge of the Biological Laboratory of the University of Warsaw where he continued his studies on growth. Lately he had been engaged in experimental studies on density of population problems as affecting fertility and growth. His death is a great loss to biological science.

WE regret to announce the following deaths:

Dr. E. S. Beaven, the well-known agricultural botanist and plant breeder, on November 12, aged eighty-four.

Dr. J. A. Hood, founder of the Hood chair of mining in the University of Edinburgh, on November 19, aged eighty-two.

Prof. Walther Nernst, For.Mem.R.S., professor of physical chemistry in the University of Berlin, aged seventy-seven.

Mr. J. F. F. Rowland, formerly public analyst for St. Marylebone, an authority on analytical and bacteriological examination of foodstuffs and water, on November 2, aged seventy.