OBITUARY NOTICES.

KATHARINE A. BURKE.

DIED JULY 6TH, 1924.

MISS K. A. BURKE came to University College to carry out research work in the laboratory of Sir William Ramsay, having graduated from the Birkbeck College. Under the direction of the writer she investigated the chemical kinetics of the alkyl iodides, the results of which were published in the *Zeitschrift für physikalische Chemie* in the years 1904 and 1909.

For a time Miss Burke acted as a private assistant to Sir William Ramsay, and was engaged on investigations in the field of radioactivity. In 1906 she was appointed a member of the Chemical Staff at University College, and from that time until her death on July 6th, 1924, she continued her teaching work, having charge of the practical laboratory work for students of the Intermediate Science class, and giving courses of lectures to more advanced students on the chemical aspects of radioactive transformations.

Miss Burke was an excellent linguist, and in 1907 made an important contribution to the series of Text-books of Physical Chemistry, edited by Sir William Ramsay, by translating from the Danish an account of the thermochemical researches of Professor Julius Thomsen.

F. G. DONNAN.

JAMES GRANT.

BORN 1858; DIED DECEMBER 7TH, 1925.

JAMES GRANT, who died on December 7th, 1925, at the age of 67, had been a Fellow of the Society since February 6th, 1890.

Born of Scottish parents, he spent his early years in the south, where he entered the teaching profession. Coming to Lancashire, he studied Chemistry at the Owens College under Sir H. E. Roscoe and later became an Associate and Fellow of the Institute of Chemistry. In 1889 he was appointed on the teaching staff of the Manchester Technical School, which subsequently became the College of Technology. He later devoted his attention to foodstuffs and inaugurated and organised the foodstuffs sub-department, keeping in close touch with the related industrial associations. He retired from the staff of the College in March, 1925, after a period of 35 years' service.

Grant was a Master of Technical Science, a Justice of the Peace

for the County of Lancaster, and Chairman of the Chemical section of the Manchester Literary and Philosophical Society.

Among his publications were "Chemistry of Breadmaking," "Confectioners' Raw Materials," "Notes on Costings," and a revised edition of Amos's "Processes of Flour Manufacture," and at the time of his death he was engaged upon a book on the diseases of wheat, bread, and flour.

As a man Grant was punctual, energetic, and thorough in his methods—a successful teacher who communicated his enthusiasm to his students and secured the confidence of those in the industries to which his work applied.

E. L. RHEAD.

WILLIAM JAMES LEWIS.

BORN JANUARY 16TH, 1847; DIED APRIL 16TH, 1926.

PROFESSOR W. J. LEWIS, well known as the Professor of Mineralogy at Cambridge, had been a Fellow of this Society since 1869. He was the second son of the Rev. John Lewis of Llanwyddelan in Montgomeryshire, and was educated at Llanrwst Grammar School and Jesus College, Oxford. Taking first classes in mathematics and natural science, he gained the Senior Mathematical Scholarship and was elected a Fellow of Oriel College in 1872. This fellowship he held until his death. For a short time he was an assistant master at Cheltenham College and an assistant in the Mineralogical Department of the British Museum (1875—77), and he took part in two solar eclipse expeditions. In 1879 he acted as deputy to Prof. W. H. Miller at Cambridge, and in 1881 he succeeded Miller as Professor of Mineralogy. Like Whewell and Miller before him, he was more interested in the crystallographic side of mineralogy, and the subject as taught had as much bearing on chemistry, physics, and petrology as on mineralogy—he might, indeed, have been called Professor of Crystallography. Under his *régime* the department and the collection of minerals were very considerably increased, and many more students took mineralogy as a subject for an honours degree. In 1925 and 1926 there were respectively 46 and 43 Tripos candidates in this subject. All these students must at least have been impressed with the importance of the crystalline structure of matter, apart from chemical composition and the mass physical properties.

Lewis's first scientific papers appeared in the *Journal* of this Society in 1875. These dealt with the crystallography of mairogallol and leucaurin; and his later papers were on the crystallography of various minerals, many of which he collected himself

in Switzerland. His "Treatise on Crystallography" (1899) is still the best text-book on geometrical crystallography. He was elected a Fellow of the Royal Society in 1909. L. J. S.

SHIGETAKE SUGIURA.

BORN MARCH 3RD, 1855; DIED FEBRUARY 13TH, 1924.

THE life of Shigetake Sugiura was, in certain respects, a remarkable one. Beginning with a promising scientific career, he was destined soon to renounce the study of science because of illness, and yet, fighting always with his delicate health, he was able to make himself known and respected throughout Japan as one of her ablest thinkers and most gifted teachers.

Shigetake, second son of Shigebumi Sugiura, was born on March 3rd, 1855, in the small town of Zeze, not far from Kyōtō. Receiving a general education in his native town, young Sugiura soon distinguished himself by his unusual ability and firmness of character, and when, soon after the Restoration, the Central Government asked every clan (according to its size) to send either one, two, or three of its most promising young students to Tokyo to be educated in Western science, he was selected by the Feudal Lord of Zeze to be the "contribution student" of his clan. This was in 1870, when Sugiura was fifteen years of age.

The Government school, which Sugiura entered and in which English and the elements of Western sciences were taught, was known as Daigaku Nanko, an institution which has since grown into the present Imperial University of Tokyo. When, in 1874, special courses of study were first established, he took up Chemistry as his future profession. R. W. Atkinson was then Professor of Chemistry, and for two years Sugiura worked diligently under him. About this time, promising students were being selected by the Government to be sent abroad for further study, and together with some others, of whom the writer was one, Sugiura was in June, 1876, elected to a Foreign Scholarship and sent to England to continue his study of Chemistry.

With the idea of studying Agricultural Chemistry, Sugiura entered the Agricultural College in Cirencester in October, 1876, but finding that the agricultural conditions in England were totally different from those prevailing in Japan, he soon left Cirencester and went to Manchester, entering Owens College in December of the same year. Here he was brought into close personal contact with Roscoe and Schorlemmer, of both of whom Sugiura, in his after years, never ceased to speak in terms of affection and reverence.

In Manchester, he was also constantly associated with H. B. Baker, C. F. Cross, and Pattison Muir, and the few papers he published while in Owens College were in collaboration with one or other of these men. In 1878 he was elected a Fellow of the Chemical Society and became a life-member.

In the same year, he moved to London and entered the Royal College of Chemistry in South Kensington, where Frankland was then Professor of Chemistry. During the course of a conversation with the writer in London in December, 1901, Sir Henry Roscoe told him the following story in reference to this incident in Sugiura's life : Sugiura carried off the first prize in his first year's examination at Owens College, but at the end of the second year he was placed second on the list; soon afterwards, Sir Henry learnt that Sugiura was leaving the college and found that he considered himself disgraced by not having taken the first place. This story is repeated in " The Life and Experience of Sir Henry Enfield Roscoe " (London, 1906, p. 114), written by himself. It appears, however, that the story arose from a misunderstanding on the part of Sir Henry, as Sugiura himself told the writer afterwards, and that his only motive in leaving Owens College and entering the Royal College of Chemistry was his desire to widen his experience by working in another laboratory under another great chemist such as Frankland. Indeed, at one time, Sugiura even thought of going to Germany.

Whatever may have been the real motive of his leaving Owens College, Sugiura was soon destined to give up his study of chemistry altogether, for in the following year his health was so much impaired, mainly from neurasthenia, that the doctor advised him to take a holiday and go to the seaside. Following this advice, he went to Hastings, but without any beneficial results, and, after much worry and anxiety, he at last returned to Japan in May, 1880.

Although somewhat improved after the return to Japan, Sugiura's health was still in a more or less indifferent condition, and it was, therefore, rather wonderful that, at one time or another, he was able to assume such responsible duties as those of the director of a Preparatory School attached to the University of Tokyo (1882—85), member of the Lower House of the Imperial Diet (1890), and member of the Higher Education Council (1897—98), besides several other duties of a more personal nature. For some years after returning from England he was also a constant contributor to magazines and daily papers, writing on educational, ethical, philosophical, political, and other questions, and expounding more particularly what he called a Scientific Religion, which was an attempt at formulating a moral code based upon modern science. This was an idea Sugiura nourished while still in England.

Sugiura again suffered from neurasthenia in 1899, and, although his recovery was then comparatively speedy, within a few years he suffered from the same complaint for the third time, to lie in bed continuously for seven long years (1902—1909). All hope of his recovery was given up, and yet, miraculously, although slowly, he once more recovered his health, and, what is even more remarkable, he got better than he had ever been, whilst his mental activity never showed even the slightest sign of deterioration.

Indeed, Sugiura's most important work began a few years after his recovery from his third and most serious illness, for in 1914 he was called to the responsible duties of a tutor to H.I.H. The Crown Prince and, later, also to H.I.H. Princess Nagako, who was then betrothed to the Crown Prince. Ethics was the subject Sugiura taught his Imperial pupils, and with his profound knowledge of both Eastern and Western cultures, combined with his noble and unselfish personality, he was undoubtedly the man most fitted for the important duties of a tutor to the future Sovereign and his future Consort. In this capacity, Sugiura served most meritoriously for seven years, and this was destined to be the last of the public services he rendered to his country.

Towards the end of 1923, Sugiura's health began to decline rapidly, and on February 13th, 1924, he passed away peacefully at the age of 69, leaving a widow and five children.

List of Chemical Papers published by Sugiura.

1. " On a Slight Modification of Hofmann's Vapour-density Apparatus " (with M. M. Pattison Muir). J., 1877, **32**, 140—144.

2. " On Essential Oil of Sage " (with M. M. Pattison Muir). J., 1878, **33**, 292—298.

3. " Action of the Halogens at High Temperatures upon Metallic Oxides " (with C. F. Cross). J., 1878, **33**, 405—409.

4. " On the Decomposition of Ultramarine by Carbonic Acid." *Chem. News*, 1878, **37**, 213.

5. " On the Formation of Barium Periodate " (with C. F. Cross). J., 1879, **35**, 118—119.

6. " Note on the Magnesium Vanadates " (with H. B. Baker). J., 1879, **35**, 713—716.

JOJI SAKURAI.