

## OBITUARIES.

MERVIN HERBERT NEVIL STORY-MASKELYNE (1823-1911).

(With Portrait, Plate VII.)

Nevil Story-Maskelyne<sup>1</sup> (or Maskelyne, as he was more often called) was born at Basset Down House, near Swindon, in Wiltshire, on September 3, 1823, and died at the same place on May 20, 1911. He was the son of Anthony Mervin Reeve Storey, F.R.S. (1791-1879), who in 1819 had married Margaret Maskelyne (1786-1858), the only child of the Rev. Dr. Nevil Maskelyne (1732-1811), the famous Astronomer-Royal. She was an accomplished woman, and the sole heiress of the Basset Down and Purton estates of the Maskelyne family in Wiltshire. Their son, Nevil Storey, entered Wadham College, Oxford, in 1840, where his father before him had had a distinguished career, and he took his degree in mathematics in 1845. Although originally destined for the legal profession (his father had practised as a barrister), he early took an interest in science, at a time when but few facilities were offered for its study in the University.

His early work was mainly in chemistry, which he studied with his friend, Benjamin Brodie. He also worked in Faraday's laboratory at the Royal Institution, and saw much of Liebig during the latter's visit to England. He played a prominent part in the establishment of science teaching in Oxford, and was secretary of the first committee formed to promote the scheme for building a university museum. From 1850 he acted as deputy reader in mineralogy in the place of Dean Buckland, and was appointed to the professorship<sup>2</sup> in 1856, a post held by him until 1895, when he was succeeded by H. A. Miers. Amongst those of his Oxford pupils are the well-known names, W. J. Lewis, L. Fletcher,

<sup>1</sup> Formerly Storey. In the titles of his published works his name appears variously as Storey Maskelyne, Nevil Story-Maskelyne, N. Story Maskelyne, N. S. Maskelyne, and Professor Maskelyne. His first name was often spelt Mervyn.

<sup>2</sup> The Oxford Chair of Mineralogy, founded in 1813, was officially styled a Readership, and in 1861 a Professorship.

and H. A. Miers. The duties of the professor were not very arduous, nor did they necessitate residence in Oxford for more than a short period each year. Under these circumstances he was able, whilst still holding the Oxford professorship, to accept the appointment of Keeper of Minerals in the British Museum, a post he held for nearly a quarter of a century (1857-80).

In 1857 the mineral collections of the British Museum were separated from the palaeontological collections, and a special department of minerals was created with Professor Story-Maskelyne as the first keeper. It was here that practically all his original work in mineralogy was performed, and he did much to raise the collection to its present high position amongst the mineral collections of the world. At first his only assistant was the late Thomas Davies, for whose training as a skilled mineralogist he was entirely responsible; later, at various periods, there were Dr. Viktor von Lang (1862-4), Dr. Walter Flight (1867-85), W. J. Lewis (1875-7), and L. Fletcher (1878-80). A chemical laboratory, so essential for the determination of minerals, was not placed at the disposal of the department until 1867, when one was fitted up in a private house outside the museum premises. Previous to that date, owing to fire risks, none but the very simplest chemical tests could be made, and this deficiency led to the development of optical and goniometrical methods. As early as 1861 a microscope fitted with a graduated rotating stage and accessories for polarized light was constructed for the examination of thin sections of meteoric stones; and a reflecting goniometer with telescope was designed for measuring crystals. In this way a considerable amount of important research work was performed; but in the meantime routine work connected with the registering, labelling, and arranging of the collections was not neglected. With the sole help of Thomas Davies large numbers of specimens which had been previously stored away were sorted and labelled, and the enormous mass of material in the whole collection was re-classified according to the crystallo-chemical system published by Gustav Rose in 1852.

During Story-Maskelyne's term of office the collections grew by the addition of no less than 43,000 specimens, many of them being selected individually on their own merits. For example, to mention only two specimens acquired respectively in 1858 and 1879: the 'Latrobe' nugget of crystallized gold weighing 23 oz. troy, from Victoria; and a large crystalline mass of bismuth with films of gold, from Bolivia. Mention may also be made of the Allan-Greg and the Koksharov collections acquired in 1860 and 1865 respectively, and the crystal collection

of Dr. A. Krantz in 1859. Special attention was given to the collection of meteorites, and the number of representative falls was increased from 72 to 312. All this work was done while the collections were still in the old British Museum building at Bloomsbury, before their removal to the Natural History Museum at South Kensington.

On the death of his father in 1879, the care of the family estates in Wiltshire and important public duties necessitated Story-Maskelyne's retirement from the British Museum in 1880, though he still held the Oxford professorship for many years later. For thirteen years (1880-92) he was a Member of Parliament for the Northern or Cricklade division of Wiltshire, and for a long period a member of the Wiltshire County Council and Chairman of its Agricultural Committee. He was also a county magistrate for Wiltshire and deputy-lieutenant for Brecknockshire. Although living the life of a country gentleman, interested in his estates and in the improvement of agriculture, he did not sever his connexion with the scientific world. For several years (1891-8) he was President of the Mineralogical Society, attending and presiding over its meetings with unflinching regularity, and with his fund of reminiscences adding much to the discussions. He was also Vice-President of the Chemical Society (1878-81), the Geological Society (1882-3), and the Royal Society (1897-9), and President of the Wiltshire Archaeological and Natural History Society (1883-6). He was a member (1881-94) of the British Association Committee on the teaching of science in elementary schools, and Chairman (1898-1908) of that on the structure of crystals.

Of his published works, special mention may be made of the catalogue of the Duke of Marlborough's collection of engraved gems (1870), and the treatise on crystallography published in 1895. Much of the latter had been written thirty years previously, and some of the proof-sheets had long been placed in the hands of students. Had its publication not been so long delayed many of the special descriptive terms that were proposed would, no doubt, have found acceptance by crystallographers. In his book, as in his lectures at Oxford and before the Chemical Society in 1874-5, he laid special stress on the symmetry of crystals.

In the determination of the mineral constituents of meteoric stones he did pioneer work, and was the first to recognize the presence of enstatite, whilst asmanite, oldhamite, and osbornite were described as new meteoric minerals. Cornish minerals also claimed his attention, and of these he long ago described and named andrewsite, langite, liskeardite, lyellite, and waringtonite, the first three of which still rank as well-defined

species. The wide interests he took may be judged from the accompanying bibliography. He gave much attention to the minerals that were used in classical times, and formed a fine collection of antique engraved gems.

The value of Story-Maskelyne's scientific work was recognized by the honours bestowed upon him from several quarters. In 1870 he was elected a Fellow of the Royal Society, of which his father and grandfather had also been Fellows. He was an Honorary Fellow of Wadham College, and in 1903 received the honorary degree of Doctor of Science at Oxford. Several foreign scientific societies elected him a corresponding member, and in 1898 he was awarded the Wollaston gold medal of the Geological Society.

He married in 1858 Thereza, daughter of J. Dillwyn Llewelyn, F.R.S.; she survives him, together with their three daughters, one the widow of the Rt. Hon. H. O. Arnold-Forster, and another the wife of Sir Arthur Rücker.

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#### CHARLES BARET (1831-1910).

Ch. Baret was born at Dinan in Brittany, and for thirty-seven years he carried on the business of apothecary in Nantes. His spare time was devoted to the collecting of minerals and in making a systematic mineralogical exploration of the department Loire-Inférieure. He was an original member of the French Mineralogical Society and three times its vice-

<sup>1</sup> The titles of this and of some of the other pamphlets have been taken from the Bibliography given in the *Wilts. Arch. Nat. Hist. Mag.*, 1911.



president, and several of his notes on the minerals of Loire-Inférieure were published in the Bulletin of the Society. Other publications were 'Description des Minéraux de la Loire-Inférieure' (1885),<sup>1</sup> 'Le pays de Guérande : Minéralogie' (1908), 'Catalogue de la Collection de Minéralogie de la Loire-Inférieure' (1905). The mineral bertrandite, first found in the neighbourhood of Nantes, was discovered by him, and first described by É. Bertrand. His collection of local minerals he gave to the museum at Nantes, and his general collection to the museum at Rennes. In an obituary notice (Bull. Soc. franç. Min., 1910, vol. xxxiii, pp. 295-296) Professor A. Lacroix acknowledges the assistance he received from Baret when writing his 'Minéralogie de la France'.

#### WILLIAM PHIPPS BLAKE (1826-1910).

After graduating in 1852 at the Sheffield Scientific School of Yale University, Professor W. P. Blake undertook at various times the duties of works-chemist, geologist on explorations and railroad surveys, mining engineer, editor of the 'Mining Magazine', commissioner to the Paris, Vienna, and other exhibitions, &c. In 1861-3 he acted as mining engineer to the Japanese Government, and he was one of the first teachers of science in Japan. In 1864 he was appointed Professor of Mineralogy and Geology in the College of California, and in 1895 Professor of Geology and Mining and Director of the School of Mines in the University of Arizona at Tucson, from which post he retired in 1905. He was also State Mineralogist and Geologist of Arizona. He was the author of numerous reports and papers, many of the latter, published in the 'American Journal of Science', being on mineral occurrences in the western states. The Royal Society catalogue of scientific papers gives, between 1850 and 1888, sixty-eight titles under his name. The now well-known name clinocllore was given by him so long ago as 1851.

Biographical notices, together with portrait and bibliography, are given by R. W. Raymond (Trans. Amer. Inst. Mining Engin., 1911, vol. xli (1910), pp. 851-864; Bull. Geol. Soc. Amer., 1911, vol. xxii, pp. 36-47).

#### SAMUEL FRANKLIN EMMONS (1841-1911).

After graduating at Harvard University in 1861, Dr. S. F. Emmons studied at the Paris School of Mines (1862-4) and the Freiberg Mining Academy (1864-5). This training well fitted him for the important

<sup>1</sup> A second edition with the title 'Minéralogie de la Loire-Inférieure' appeared in Bull. Soc. Sci. Nat. de l'ouest de la France, Nantes, 1898, vol. viii, pp. 1-175, with 19 plates.

work which he subsequently did on the Geological Exploration of the Fortieth Parallel (1867-77), and, since 1879, on the United States Geological Survey. His work on economic geology and ore-deposits is well known, and his elaborate monograph on the Leadville district in Colorado, published in 1883-6, still remains a pattern for the methodical examination and description of an ore-bearing district.

FELIX FRANZ XAVER KREUTZ (1844-1910).

Dr. Felix Kreutz was born at Neu-Sandec in Galicia on November 19, 1844, and after studying at Lemberg, Cracow, and Vienna, was attached during 1867-8 to the Austrian Geological Survey. He was successively Professor of Mineralogy in the High School and the University at Lemberg, and the Jagellonian University at Cracow. From the last post he retired in 1908, his successor being Professor J. Morozewicz, to whom his son, Dr. Stefan Kreutz, is now an assistant. He was a member of the Polish Academy of Sciences, and for a time director of its mathematical and natural sciences section.

Dr. F. Kreutz was the author of several geological, petrographical, and mineralogical papers. Of the latter may be mentioned his work on the colour, fluorescence, and phosphorescence of rock-salt and fluor-spar, and their alteration under the influence of the cathode rays, sodium vapour, and changes of temperature.

Obituary notices by R. Zuber and J. Morozewicz are given (in Polish) in 'Kosmos' (Lemberg), 1910, vol. xxxv, pp. 883 and 888, with portrait.

OTTO PAUL LUEDECKE (1851-1910).

Since 1884 Dr. Otto Luedecke was Extraordinary Professor of Mineralogy in the University of Halle. He was previously (from 1874) assistant in the Mineralogical Institute, and since 1899 its director. He was the author of numerous papers on the crystallography of various minerals and organic compounds, most of which were published in the 'Zeitschrift für Naturwissenschaften', a journal edited by him from 1882 to 1892. He paid special attention to the minerals of the Harz, Thuringia, and the Prussian salt-deposits, and his excellent volume 'Die Minerale des Harzes' (1896) will long remain a standard work of reference. His successor at Halle is Dr. H. E. Boeke. (See J. Walther, 'Leopoldina,' 1911, vol. xlvii, p. 16.)

## WILLIAM FREDERICK PETTERD (1849-1910).

Mr. W. F. Petterd was a shoemaker by trade, and the possessor of a very flourishing business in Tasmania. He was a native of Hobart, but for many years had lived at Launceston. As an amateur he seems to have always been interested in scientific pursuits and a keen collector of objects of various kinds. He was well known to conchologists, and as long ago as 1879 wrote a monograph on the land shells of Tasmania. Through making assays for prospectors he came into touch with the newly developed mining districts of Tasmania, and in some of these he had substantial interests. This naturally led him to the collecting of minerals, and the enthusiasm with which he worked at this is well shown by his 'Catalogue of the Minerals of Tasmania', reprinted from the 'Papers and Proceedings of the Royal Society of Tasmania'. By the constant addition of new localities and species of Tasmanian minerals this catalogue grew from 72 pages in the first edition of 1893 to 221 pages in the third edition of 1910; and the number of recognized Tasmanian species and varieties was increased to 356. In addition, he described several new species, some of them perhaps on rather slender evidence, but one—*dundasite*—has since been recorded from three localities in the British Isles. His valuable collection of minerals he bequeathed to the Royal Society of Tasmania, and it is now deposited in the Tasmanian Museum at Hobart.

## EMIL PHILIPPI (1871-1910).

Dr. E. Philippi was born at Breslau on December 4, 1871, and died at Assuan on February 26, 1910. For a short time he was an assistant in the geological department of the Berlin Museum, and in 1907 was appointed Extraordinary Professor of Geology and Palaeontology in the University of Jena. He had, however, travelled extensively, and as geologist took part in the German Antarctic Expedition of 1901-3. Although most of his papers were on geology and palaeontology, a few related to minerals, the most important being on the origin of dolomite, published in 1899 and 1907. (*See Geographen-Kalender, 1911, p. 270.*)

## JAKOB MAARTEN VAN BEMMELEN (1830-1911).

After a chemical training, J. M. van Bemmelen became in 1856 a teacher in the agricultural school at Groningen. This led him to his life's work on the study of soils, which he attacked from the point of view of colloidal chemistry. From 1874 to 1900 he was Professor of

Inorganic Chemistry in the University of Leiden. Many of the results of his work on colloids are only now being appreciated by chemists and mineralogists. He also discussed the accumulation of iron and the origin of chalybite and vivianite in peat-bogs; and quite recently, at the age of eighty, he gave (*Zeits. Anorg. Chem.*, 1910, vol. lxvi, pp. 322-357) a detailed account of the various modes of weathering of silicate-rocks. (*See H. E. Boeke, Centralblatt Min.*, 1911, pp. 225-226.)

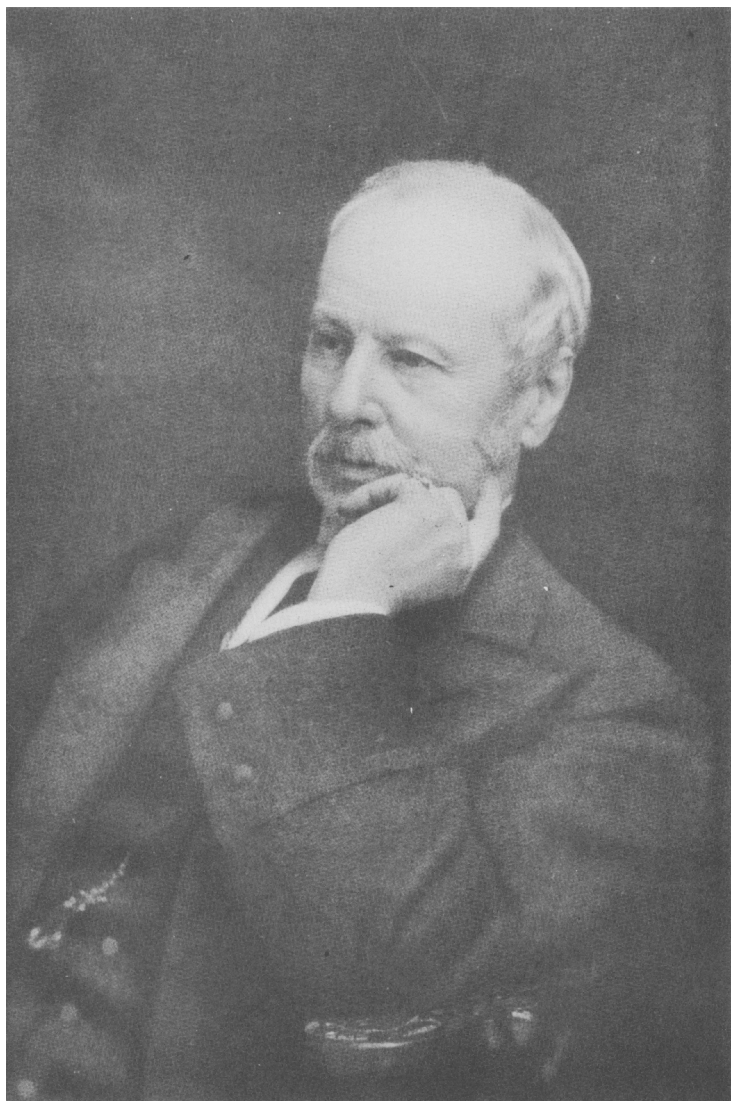
JACOBUS HENRICUS VAN 'T HOFF (1852-1911).

The celebrated Dutch chemist, J. H. van 't Hoff, was in 1878 appointed Professor of Chemistry, Mineralogy, and Geology in the University of Amsterdam, a post held by him until his call to Berlin in 1896, as director of a research laboratory under the Prussian Academy of Sciences and as Honorary Professor of Physical Chemistry in the University. It was since he went to Berlin that he applied himself and directed his pupils in the systematic study of the formation of oceanic salt-deposits, with special reference to those of the Stassfurt area. The important results of this work were given in a series of fifty-two papers between the years 1897 and 1908, and a collected account has been published under the title '*Zur Bildung der ozeanischen Salzablagerungen*' (2 parts, 1905 and 1909). The problem dealt with the equilibrium between different salts present in solution, and the determination of the limits of stability of the various double salts. A large number of minerals were so prepared artificially, and a new species (vanthoffite) discovered, but unfortunately the accounts of the experiments were unaccompanied by crystallographic descriptions of the materials obtained.

HENRY WURTZ (1828-1910).

Dr. Henry Wurtz was a contemporary of W. P. Blake (see above, p. 157) at the Sheffield Scientific School of Yale University, where in 1851 he was teacher of chemistry. The mineral wurtzilite was named after him by Blake. In 1853 he was chemist and mineralogist on the New Jersey Geological Survey, and in 1858 Professor of Chemistry in the National Medical College at Washington. The minerals animikite, grahamite, huntlite, and melanolite were described by him.

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M. H. NEVIL STORY-MASKELYNE (1823-1911).  
(From a photograph taken in April, 1898.)