# NOTES.

The following deaths have to be recorded:

Salvador Calderón y Arana (1851–1911), Professor of Mineralogy in the Central University of Spain and Chief of the section of Mineralogy in the Museum of Natural Sciences at Madrid, was previously (1884–1895) Professor of Natural History in the University of Sevilla. In 1905 he was elected president of the Real Sociedad Española de Historia Natural, of which society he had for many years previously acted as secretary; and recently (1909) he was elected an honorary member of the Mineralogical Society. Calderón's first work was on the volcanic rocks of the Canary Islands, and the majority of his later papers related to the geology and minerals of Spain. His Mineralogy of Spain, first published in German in conjunction with C. A. Tenne in 1902, was much enlarged in the Spanish edition of 1910 (reviewed in this volume, p. 72).

A detailed biographical notice, with bibliography and portrait, has been given by E. Hernández-Pacheco, Bol. R. Soc. Espaũ. Hist. Nat., 1911, vol. xi, pp. 405–445.

Eugen Hussak (1856–1911) was born on March 10, 1856, at Wildon near Graz in Styria, and died on September 5, 1911, at Caldas in Brazil. He studied at Graz, Vienna, and Leipzig, taking his degree in 1878 at Leipzig, where for a time he acted as assistant to Professor Zirkel. During 1882–5 he was Dozent in Mineralogy and Geology in the University of Graz, at the same time acting as a voluntary assistant on the Austrian Geological Survey; and in 1885–8 he was assistant to Professor Laspeyres at Bonn. In 1888 he sought a fresh opening by accepting the post of mineralogist and assistant geologist on the then newly-established 'Commissão Geographica e Geologica do Estado de São Paulo', becoming chief of the geological section in 1905. In 1908 he took up a similar appointment on the new 'Serviço Geologico e Mineralogico do Brazil' with head-quarters at Rio de Janeiro.

Most of Dr. Hussak's earlier papers were of a petrographical character; but later he worked assiduously at Brazilian minerals, several valuable papers descriptive of new species having been contributed by

him, in conjunction with Dr. G. T. Prior, to the pages of this Magazine. Since 1893 he had been an ordinary member of our Society. His book on rock-forming minerals, first published in 1885, was translated into English and passed through two editions in America.

A bibliography of his works, extending to sixty-five titles, has appeared in the 'Jornal do Commercio' of Rio de Janeiro.

Auguste Michel Lévy (1844–1911), Director of the Geological Survey of France, Inspector-General of Mines, and Professor in the Collège de France. He was a member of the Institute of France, and since 1898 an honorary member of our Society. In collaboration with F. A. Fouqué he produced the classical works 'Minéralogie micrographique: roches éruptives françaises' (1879), and 'Synthèse des minéraux et roches' (1882), and together with his son-in-law, Professor A. Lacroix, the well-known 'Les minéraux des roches' (1888). A later important mineralogical work is his 'Détermination des feldspaths' (1894–1904). His son, Albert Michel Lévy, carries on the petrographical work of the French survey on very much the same lines. (A brief notice has appeared in 'Nature', 1911, vol. lxxxvii, p. 524.)

Giorgio Spezia (1842–1911), Professor of Mineralogy and Director of the Mineralogical Museum in the University of Turin, was a member of the Lincei Academy at Rome; and ever since 1878 he had been an ordinary member of our Society. He died at Turin on November 10. He was best known by his contributions to chemical geology, in which he gave the results of various experiments made at high pressures and temperatures. The solubility of quartz in various aqueous solutions was determined under these conditions, and beautiful crystals of quartz were grown artificially. Some of his experiments had a bearing on the problems of rock-metamorphism.

Alfred Elis Törnebohm (1838–1911), formerly (1878–1897) Professor of Mineralogy and Geology in the Technical High School at Stockholm, and (1897–1906) Director of the Geological Survey of Sweden. His work, though mainly geological and petrographical in character, contained much of interest to mineralogists. He gave special attention to the iron-ores of Sweden; and in 1897 he published an important pamphlet 'Ueber die Petrographie des Portland-Cements', in which he proposed various names for the crystalline constituents of Portland-cement clinkers (this Magazine, vol. xii, p. 378). A detailed

account of his life and work has been given by A. G. Högbom (Geol. Mag., 1912, vol. ix, pp. 49–53, with portrait; Geol. För. Förh. Stockholm, 1912, vol. xxxiv, pp. 101–137, with bibliography and portrait).

NIELS VIGGO USSING (1864–1911), Professor of Mineralogy and Director of the Mineralogical and Geological Museum in the University of Copenhagen since 1895. He had studied in Munich, Stockholm, and Heidelberg, and for some years was assistant in the Museum at Copenhagen. His principal work was on the interesting minerals of Greenland, to which country he took part in three expeditions. A long paper on the nepheline-syenites appeared in 1894, and his detailed account of the geology of the Julianehaab district was left in a sufficiently advanced stage for publication at the time of his death. He also wrote on the geology of Denmark. Never of very robust health, he died, after a long illness, on July 23. (For further particulars see O. B. Böggild, Centralblatt Min., 1911, pp. 529–530; and Geol. För. Förh. Stockholm, 1911, vol. xxxiii, pp. 475–478, with portrait.)

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The first volume of a new annual publication entitled 'Fortschritte der Mineralogie, Kristallographie und Petrographie' appeared last year (Jena, 1911, pp. 290) under the auspices of the German Mineralogical Society (Deutsche Mineralogische Gesellschaft). This society, founded in 1908, holds its meetings in September in conjunction with the Gesellschaft Deutscher Naturforscher und Ärzte, a society which meets annually in different towns, in the same manner as the British Association; and abstracts of papers read before the mineralogical section appear in the 'Verhandlungen' of the parent society. The present volume, which has been edited by Professor G. Linck, contains a report of the proceedings of the meeting at Königsberg in September, 1910, under the presidency of Professor Max Bauer, the next succeeding president being Professor F. Becke. The membership of the new society had at that date already reached the satisfactory number of 158.[1] In addition to papers read at the meeting and themes brought forward for discussion, the volume includes reports on various special topics. Of the thirteen useful articles it contains we may mention: discussions on twin-crystals (by O. Mügge and F. Becke); a summary of our knowledge of the coloration of minerals (R. Brauns); a review of the literature of meteorites since 1900 (F. Berwerth); metamorphism (F. Becke); salt-petrography and metallography

[1] In February, 1912, the number was 288.

in relation to igneous rocks (F. Rinne); the phase-rule as applied to mineralogy (R. Marc).

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'The Data of Geochemistry' by Professor F. W. Clarke, first published in 1908 as Bulletin No. 330 of the United States Geological Survey, has already reached a second edition (Bull. No. 491, 1911), with an increase from 716 to 782 pages. It contains an enormous amount of mineralogical information presented in an attractive manner and replete with valuable suggestions. There are numerous references to the literature, and, with the very complete index, the volume is extremely handy for purposes of consultation; and furthermore it appears to be always reliable.

'Directions for Laboratory Work in Optical Mineralogy' is the title of a pamphlet (36 pp., Wisconsin, 1911) published by the author, Alexander N. Winchell, Professor of Mineralogy and Petrology in the University of Wisconsin. It gives useful laboratory notes, briefly and clearly stated, and is intended for the use of students in conjunction with the same author's 'Elements of Optical Mineralogy'. Being printed on bad paper, the pamphlet is, however, not well suited for the rough and constant usage of the laboratory.

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In celebration of the 70th birthday of Professor Paul von Groth, which will fall on June 23, 1913, it is proposed to publish a special volume of the 'Zeitschrift für Krystallographie und Mineralogie' containing papers from those of his numerous pupils and contributors who may wish so to join in doing honour to him. Arrangements for the preparation of the volume are now being made by Professor Erich Kaiser of Giessen (Südanlage 11).

In the meantime, Professor Groth may be congratulated on having reached the fiftieth volume of his 'Zeitschrift', which he founded thirty-five years ago (in 1877). This imposing row of volumes, which together with the four volumes of 'Repertorium' and 'General-Register' is in itself a working library, speaks much for his indefatigable industry and the long-continued support which he commands. Here we may also mention that last December Professor Groth was elected a Foreign Member of the Royal Society of London.

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Honours likewise fall on mineralogists at home. The lists of New Year Honours include the name of Principal Miers as a new knight—

Sir Henry A. Miers; and at the recent Anniversary Meeting of the Geological Society Dr. L. Fletcher was awarded the Wollaston gold medal. Only shortly before, the same two past-presidents of our Society had received honorary degrees from foreign universities; the former that of D.Sc. at Christiania (and also recently at Sheffield) and the latter that of Ph.D. at Berlin. Still more recently our Secretary, Dr. G. T. Prior, has been elected a Fellow of the Royal Society.

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An old collection of minerals, remarkable in containing many exceptionally fine and probably unique specimens, has recently come to light and been placed on the market. For many years it had remained hidden away in a suburb in the north of London, and its very existence was unknown to all but a few of the present generation of mineralogists. This collection was formed during two, and probably three, generations of the Walker family at Arnos Grove, Southgate; the last and most extensive collector being Mr. Isaac Walker[1] (1794–1853), a member of a firm of brewers, Taylor, Walker, and Co., of Limehouse. Being possessed of considerable means he was enabled to acquire the choicest and rarest specimens and to outbid other collectors, at a time when the formation of mineral collections was a fashionable hobby amongst persons of rank and culture. The majority of the best specimens were acquired between the years 1826 and 1847 from Henry Heuland, who by a cleverly-arranged series of public sales seems to have done much towards keeping alive the interest and rivalry of collectors. Many fine specimens came from the collection[2] of the dowager Countess of Aylesford (died 1832); and others were purchased at various sales, for example, that in 1827 of Sir Alexander Crichton's collection.

During that period scientific mineralogy was also ardently pursued in England by H. J. Brooke, T. Allan, T. Thomson, W. Phillips, A. Lévy, and many others. Mr. Isaac Walker left no records in the contemporary literature, and all we now find is a mention of his name as the donor of

[1] His father was John Walker and his grandfather Isaac Walker: the latter purchased the Arnos Grove estate about 1775. In a description of this estate, published in 1816, mention is made of a fine collection of minerals numbering nearly 4,000 specimens (E. W. Brayley, J. Britton, and J. N. Brewer, 'The Beauties of England and Wales,' 1816, vol. x, part 4, p. 709).

[2] Sold by H. Heuland in 1833-6. These specimens bear distinctive numbers corresponding to entries in the Lady Aylesford MS. catalogue, now in the British Museum (Mineral Department).

a specimen to the Turner collection.[1] Minerals appealed to him from the aesthetic rather than the scientific side. He preferred beautiful specimens of well-known species, and especially large and well-formed crystals. The collection contained some ten thousand specimens, amongst which are fine crystallized groups of chessylite from Chessy, topaz crystals from Brazil and Siberia, &c. After his death the collection passed from one to another of his seven, unmarried, sons, the celebrated cricketers, who have done their duty by the collection in keeping it well housed, and the specimens free from dust and damage.

Many fine specimens selected from this collection have fortunately been secured for the national collection of minerals, a considerable number having been generously presented by Mr. F. N. A. Fleischmann. These are now displayed in the recent addition case in the Mineral Gallery of the British Museum (Natural History) at South Kensington, where they may be admired by all comers, and where they will not run the danger of being forgotten and lost.

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Another noteworthy collection of minerals, and one which we have omitted to note earlier in this Magazine, is that of the late Frederick Tendron, F.G.S., who died at Tunbridge Wells on April 14, 1910, at the age of 76. His collection was bequeathed to the Trustees of the British Museum with the request to select from it any specimens worthy of finding a place in the national collection. Being for many years the Chairman of the St. John del Rey Mining Company, which operates the Morro Velho and other gold mines in Brazil, he had ample opportunities of acquiring fine mineral specimens as well as ore samples for his collection; and in particular he possessed many large and finely-crystallized groups of pyrrhotite, albite, dolomite, chalybite, and quartz, as well as small crystals of the rare chalmersite, all from the noted Morro Velho mine. Amongst the pyrrhotites is a unique crystal measuring 14 cm. across. A series of well-crystallized nuggets of gold, probably from Australia, and various miscellaneous specimens, for example, diamond in 'cascalho' from Brazil and ruby in its matrix from Burma, were also selected for the British Museum. The residue of the collection passed to the Corporation of Tunbridge Wells to form the nucleus of a local museum.

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[1] A. Lévy's Catalogue, 1837, vol. iii, p. 221. The name 'J. Walker' there mentioned refers perhaps to the father.