

*Biographical notices of mineralogists recently deceased.*  
(*Second series.*)

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SHORT biographical notices of persons interested in scientific mineralogy have been given in this Magazine since 1876. In the last volume<sup>1</sup> these were more systematically collected together and indexed for convenience of reference and permanent record. For a continuation of this series the various details have been collected and filed during the past three years. I have to thank several foreign correspondents for kindly supplying some of the less readily accessible information; in particular, Professor P. N. Chirvinsky, of Novocherkassk in the Don region.

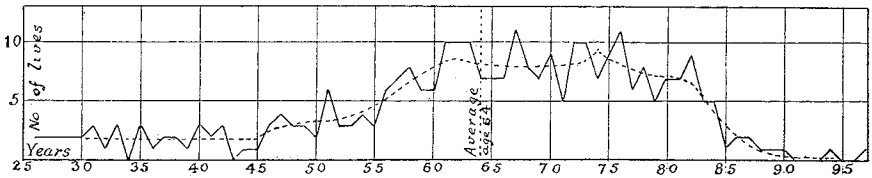
The present list includes 55 names, for 49 of which dates of birth and death, or ages, are here recorded. Including these with the 254 previously recorded in this Magazine,<sup>2</sup> the total is 308 lives for which ages are known. The average age for these 308 lives of mineralogists is 64 years. This is a near enough approximation with the data available. Frequently it is stated that a person died at the age of, say, 64, or in his 65th year, without mentioning his date of birth. In arriving at the above average, the age has been simply taken as the whole-number difference between the years of birth and death. A man born on, say, January 1, 1900, and dying on December 31, 1924, would be aged 25 years less one day, whilst one born on December 31, 1900, and dying on January 1, 1924, would be 23 years plus one day. However, the chances of the month of birth and whether a person dies before or after his birthday in any particular year are about even.

<sup>1</sup> L. J. Spencer, *Biographical notices of mineralogists recently deceased*; with an index of those previously published in this Magazine. *Min. Mag.*, 1921, vol. 19, pp. 240-262, with 9 portraits.

<sup>2</sup> Including ARMASHEVSKY, P. J. (1851-1919), whose date of birth was previously wanting. Another addition in dates is GROSSPIETSCH, O. (1874-1920).

On the accompanying graph the number of lives of each age are plotted against ages. Whilst the average age is 64, the highest points of the curve are at 67 and 76 years. Forty-three men attained the age of 80 or over; and of these, three lived to 90 or over. The latter are T. G. Bonney (90), A. A. Damour (94), and F. E. Neumann (97). The dates of F. E. Neumann, the crystallographer, are September 11, 1798, to May 23, 1895, his actual age being 96 years eight months. This is not the record. It has already been exceeded by Prof. G. D. Living, of Cambridge, born December 21, 1827, who for many years was a Vice-President of this Society.

The curve is a very jagged one, bristling with sharp, dangerous points. It has been smoothed by taking averages over five years, and the result is given in the dotted curve. This shows a very slight peak at 62 and



Mortality curve of Mineralogists (303 lives).

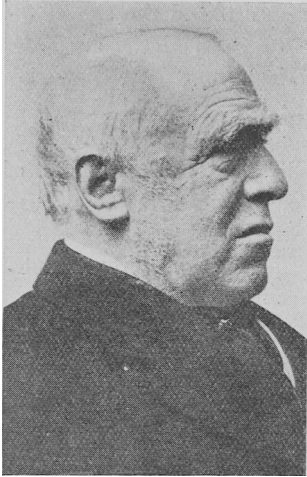
a small peak ('mode'<sup>1</sup>) at 74 years. As kindly pointed out to me by Dr. W. Alfred Richardson, it is somewhat similar, but with differences, to the old-age mortality curve (mode at 72 years) that was deduced by Prof. Karl Pearson<sup>2</sup> from an analysis of 1,000 English male lives all born in the same year.

BEALE (*Sir William Phipson, Baronet*) [1839–1922] had a striking personality, and was well known in legal, political, and scientific circles. Born on October 29, 1839, he was the son of William John Beale of Dolgelly. He was early trained as a chemist in Birmingham, and afterwards studied at Heidelberg, Freiberg (under A. Breithaupt), and Paris. For a short time he was employed at the iron-works of his family at Rotherham, and was called to the Bar in 1867, becoming later Q.C. (K.C.). As a lawyer he specialized in patent cases, and he sat in Parliament as

<sup>1</sup> For an explanation of the term 'mode' see W. A. Richardson in *Min. Mag.*, 1922, vol. 19, p. 305.

<sup>2</sup> K. Pearson, *Chances of death and other studies in evolution*. London and New York, 1897, vol. 1, plate iv at p. 26. (A reference to this work will be found on page 1 of the present volume.)

member for South Ayrshire from 1906 to 1918. He was much interested in several branches of science, joining the Geological Society in 1865, the Chemical Society in 1867, and the Mineralogical Society in 1897. He ably acted as Treasurer of the Mineralogical Society from 1902 to 1918, and as President from 1918 to 1921. His mathematical treatise on crystallography, published in 1915, was modestly styled 'An amateur's Introduction to Crystallography', the designation 'amateur' being intended to apply both to the author and to the reader. He was always very generous in placing his scientific books, instruments, and mineral specimens at the disposal of individual workers and institutions. He was created a baronet in 1912, and died on April 13, 1922, at the age of 82.



Sir WILLIAM P. BEALE, Bart.

By his Will he leaves, on the death of his wife, £5,000 to the Royal Institution of Great Britain and £200 to the Mineralogical Society.

BEMENT (Clarence S.) [1843-1923] was an enthusiastic private collector of minerals. Having a successful manufacturing business in Philadelphia, Pennsylvania, he was able to secure the very best specimens that money could buy. The whole collection of over ten thousand specimens, many of them of large size, was purchased in 1900 by Mr. J. Pierpont Morgan as a gift to the American Museum of Natural History in New York City, where it is now displayed to the public. Some account, with many good illustrations, of the Bement Collection is given in L. P. Gratacap's 'Popular Guide to Minerals' (New York, 1912); and G. vom Rath in 1884 briefly described some of the more striking specimens [cf. *Min. Mag.*, vol. 13, p. 55]. After disposing of this collection of large specimens, Mr. Bement went to the other extreme, and devoted himself to forming a collection of microscopic mounts of minutely crystallized minerals. On several occasions Mr. Bement was an interested and interesting visitor to the Mineral Gallery of the British Museum (Natural History), where a fine group of rhodochrosite crystals from Colorado bears his name as donor. His name is also commemorated to mineralogists by the species bementite, first found in 1887 at Franklin

Furnace, New Jersey, and recently in abundance in the State of Washington. He was born on April 11, 1843, and died on January 27, 1923.

BERGEAT (Alfred Edmund) [1866-1924] was born at Passau in Bavaria on July 17, 1866, and died after a long illness at Kiel on July 30, 1924. After graduating at Munich in 1891 he was assistant in the Mining Academy at Freiberg and later in the University of Munich. In 1899 he was appointed Professor of Mineralogy and Geology in the Mining Academy at Clausthal in the Harz; later he was at Königsberg in Prussia, and since 1921 Professor of Mineralogy in the University of Kiel. He wrote on rocks and minerals from Stromboli, Mexico, and Guatemala, cordierite-andesite from Lipari, and on nontronite. The large volume on ore-deposits by A. W. Stelzner was issued by A. Bergeat after the author's death.

BEUTELL (Albert) [1859-1921] was docent in mineralogy, petrography, and ore-deposits in the Technical High School and also assistant in the Mineralogical and Petrological Institute of the University at Breslau. He was formerly Professor of Chemistry, Physics, and Mineralogy in the Instituto Pedagógico de Chile and in the University at Santiago. After his return to Germany he published (1911-21) many papers giving the results of chemical experiments made with the object of determining the constitution of metallic sulphide and arsenide minerals and also of the water in zeolites. He was born at Breslau on March 6, 1859, and died on November 3, 1921.

BLAKE (John Marcus) [1838-1920] was born at Westville, Connecticut, on September 18, 1838, and died there on September 21, 1920. His English forefather, William Blake, settled in America between 1630 and 1635. He studied chemistry at the Sheffield Scientific School at New Haven, graduating Ph.B. in 1858, and acting as assistant in analytical chemistry during 1859-60. Between 1866 and 1869 he wrote in the *American Journal of Science* a few notes on crystallography and mineral crystals. His attempt to develop a new system of crystallography had, on account of the practical necessities of life, to be postponed for many years, and he returned again to the subject in a series of six articles in the same journal in 1915-18. (Obituary Record of Graduates of Yale University, 1922, pp. 180-181.)

BONNEY (Thomas George) [1833-1923], a well-known geologist, petrologist, theologian, author, and teacher, was born at Rugeley in Staffordshire on July 27, 1833, coming from a clerical family of Huguenot

origin. Educated at Uppingham and St. John's College, Cambridge, he graduated in 1856 in classics and mathematics. He started work as a mathematical master at Westminster School, and was ordained in 1857. He returned to Cambridge in 1861 as Junior Dean of St. John's College, later becoming Tutor (1868-76), and College Lecturer in Geology. Here, although not professor, he had a great influence on the teaching of geology in Cambridge, and at that time he did much to promote the study of microscopic petrography. In 1877 he was appointed Professor of Geology



T. G. BONNEY (in 1910).

in University College, London, retiring in 1905 with the title of Emeritus Professor. Returning again to Cambridge, he enthusiastically helped with the teaching in the Sedgwick Museum, as a voluntary demonstrator (being humorously referred to by the students as the junior demonstrator); this he continued almost up to the time of his death, on December 10, 1923. His valuable collection of rocks and micro-sections was given to the Sedgwick Museum. He was President of the Mineralogical Society (1883-85), Geological Society, Alpine Club, and British Association (1910), Honorary Doctor of many universities, and Honorary Canon of Manchester. He was an original (1876)

member of this Society and contributed several papers to the Magazine, including two presidential addresses. In the first volume he described the microscopic structure of luxullianite, and in vol. 11 discussed the origin of cone-in-cone structure. The last of the numerous books he wrote was 'Memories of a long life' (1921). A biographical notice with portrait and long bibliography of his scientific papers appeared in the series 'Eminent living geologists' (Geol. Mag., 1901, dec. 4, vol. 8, pp. 385-400). Obituary notices have appeared in Geol. Mag., 1924, vol. 61, pp. 49-51; Nature, 1924, vol. 113, pp. 201-202; Quart. Journ. Geol. Soc., 1924, vol. 80, pp. xlviii-li.

BRANNER (John Casper) [1850-1922], geologist, was born at New Market, Tennessee, on July 4, 1850, and graduated at Cornell University in 1874. He served on the Geological Survey of Brazil during 1875-77, visiting again in 1899 and 1907, and in 1919 he published a Map and

Geology of Brazil. He was also on the Geological Survey of Pennsylvania (1883-85), and State Geologist of Arkansas (1887-92); Professor of Geology in the University of Indiana (1885-92), and in Leland Stanford Junior University at Palo Alto in California (1892), where later he was President, retiring in 1916. He wrote on economic minerals. A radioactive mineral from Idaho has recently been named brannerite. He died at Palo Alto on March 1, 1922. (Portrait in Bull. U.S. National Museum, 1920, no. 109, pl. 2.)

BROWN (Alexander Crum) [1838-1922], Professor of Chemistry in the University of Edinburgh for nearly forty years (1869-1908), was an original and life member of this Society. A notice, with portrait, appeared in Journ. Chem. Soc. London, 1923, Trans. vol. 123 (pt. 2), pp. 3422-3431.

BURLS (Herbert Thomas) [ -1924] was a member of this Society since 1901. He studied (1874-77) at the Royal School of Mines in London. As a mining engineer he travelled in many lands, sometimes bringing back mineral specimens for the British Museum collection. His copy of the 'Mineralogical Magazine' sometimes failed to reach him, and only five days before his death, on April 17, 1924, at the age of 68, he wrote inquiring about it.

COLE (Grenville Arthur James) [1859-1924], a well-known geologist and writer, was born in London on October 21, 1859, the son of J. J. Cole, an architect. He was educated at the City of London School and the Royal School of Mines, coming under the inspiring influence of J. W. Judd, under whom he acted as demonstrator for several years. In 1890 he was appointed Professor of Geology in the Royal College of Science for Ireland, in Dublin, where since 1905 he also held the post of Director of the Geological Survey of Ireland. His well-known text-book for students, 'Aids in Practical Geology', first appeared in 1891 and passed through seven editions. He also wrote 'Outlines of Mineralogy for geological students' (1913) and several other successful books. He was elected F.R.S. in 1917, and was a member of the Mineralogical Society since 1888. Three papers by him, on riebeckite in Britain, devitrification of obsidian, and conc-in-cone structure, appeared in this Magazine during 1891-93. Although handicapped by rheumatoid arthritis, he travelled much and did an enormous amount of useful work. Only shortly before his death he had a note in 'Nature' (1924, vol. 113, p. 274) on the spelling of Feldspar or Felspar, suggesting that in the Irish Free State the former should be followed, as in America and Australia, leaving

Great Britain alone in the spelling Felspar. He died after a long and painful illness on April 20, 1924. (W. B. and M. C. Wright, *Geol. Mag.*, 1924, vol. 61, pp. 285-288; *Nature*, 1924, vol. 113, pp. 649-650.)

COLLINS (Henry Francis) [ -1924], a mining engineer, was the eldest son of J. H. Collins, the founder of this Society. After studying at the Royal School of Mines in London, where he gained the Murchison and Bessemer medals in geology and metallurgy, he spent five years as assistant chemist and metallurgist at the Rio Tinto mines in Spain, and eleven years at mines in Mexico. He also managed mines in New South Wales, North Wales, and Spain, and reported on mining properties in the British Isles (during the war for the Ministry of Munitions), Norway, Greece, and South Africa. He was the author of a standard text-book on the metallurgy of lead and silver, which passed through several editions. Elected a member of this Society in 1892, he contributed to the *Magazine* papers on minerals from Mexico (1892 and 1903) and Huelva (1923), giving descriptions of remarkable crystals of wollastonite and coquimbite. A recent paper presented to the Institution of Mining and Metallurgy (of which he was a member) gave a detailed account of the petrography and origin of the Spanish pyritic deposits. His large private collection of minerals contains specimens of many unrecorded occurrences of Spanish and Mexican minerals, a selection of which has been secured for the British Museum collection. He died suddenly from pneumonia in January 1924, in his 60th year.

DANBY (Thomas William) [1840-1924] was an original member of this Society. After studying at the Royal School of Mines, London, during 1857-60, and taking both medals in 1860, he went to Cambridge, and was top of the Natural Sciences Tripos in 1864. There he was a Fellow of Downing College, Lecturer in Natural Science at Trinity College, and Demonstrator in Chemistry in the University Laboratory. For many years he was Divisional Inspector of Schools for the south-east of England under the Board of Education. He was born on March 10, 1840, and died at his home at Seaford in Sussex on March 21, 1924.

GORDON (John More) [1849-1922] was an enthusiastic collector of minerals, and was a member of this Society since 1895. The eldest son of George More, of Edinburgh, he was born on April 13, 1849, and died suddenly at his London house on January 18, 1922. After a successful career at Oxford, he was ordained in 1875, and was Vicar of St. John's at Redhill in Surrey from 1882 to 1913. As a keen Alpine climber he was well acquainted with Swiss mineral localities, and during the course

of many years he had accumulated many choice and well-localized specimens. These he bequeathed to the British Museum, where they are of especial value in giving more precise information as to occurrence than is usually the case with Swiss minerals. His general collection of minerals and rocks, together with his mineralogical and petrological books and apparatus, was bequeathed to the University of Aberdeen to augment the 'Harry Gordon Collection' which he had started there some years ago in memory of his maternal grandfather, at one time a student at Aberdeen and through whom came the estates he inherited at Montrose in Forfarshire. Mr. Gordon had many and varied interests, and he left a fine library. He was a Fellow of the Geological Society (since 1888), the Physical Society, Royal Microscopical Society, &c.

GRAMONT (Antoine Arnaud, *Comte de*) [1861-1923], a well-known worker in spectroscopy, was born in Paris on April 21, 1861, and died on October 31, 1923. He studied in Paris and was a Doctor of Science in physics. His earliest papers on the pyroelectric properties of crystals, which appeared in the Bulletin of the French Mineralogical Society (1884), were followed by others on the artificial production of boracite and datolite. His great work, 'Analyse spectrale directe des minéraux', appeared in the same journal in 1895, and was also issued as a separate book (Paris, 1895).

GRISHCHINSKY (Petr Iustinovich), Гршчнскій (Петръ Иустиновичъ) [ -1920] was Assistant in Mineralogy at the University of Kiev, where previously (1902-1908) he was a student. During the war he served in the sanitary corps, and he died of typhus at Pyatigorsk in the Caucasus. He wrote a monograph on calcite from various Russian localities [cf. Min. Abstr., vol. 2, p. 96], and described a pallasite weighing about 183 kilos from Kruki, Minsk.

GRUBENMANN (Ulrich) [1850-1924] was born in humble circumstances at Trogen in Switzerland on April 15, 1850, and as a schoolboy he had to work for his living. With some kind help he was able to attend the Canton school and he eventually passed to the Technical High School at Zürich. He had scarcely completed his studies when he took a post of teacher of natural science in the Canton school at Frauenfeld (1874-93), also acting as chemist to the Canton. Seizing opportunities, he studied at intervals in Munich and Heidelberg; and he took the doctor's degree at the University of Zürich with a dissertation 'Die Basalte des Hegaus' in 1886. In 1893 he succeeded A. Kennigott as Professor of Mineralogy and Petrography in the University and the Technical High School at



Zürich, from which post he was retired in 1920, but he still continued working as honorary professor in the University. He did much work in Swiss petrography, publishing many chemical analyses of rocks. At the time of his death, on March 16, 1924, he was engaged on a third edition of his classical work 'Die Kristallinen Schiefer' (1904-06, and 1910). He worked on the Swiss Geological Survey and was the first president of the Geotechnische Kommission. In 1921 he founded a new journal 'Schweizerische Mineralogische und Petrographische Mitteilungen', of which he edited three volumes. (R. L. Parker, *Centralblatt Min.*, 1924, pp. 379-382, with bibliography.)

GRÜNLING (Friedrich) [1857-1919] was born at Freiburg in Baden on November 14, 1857, and studied at the Technical High School at Karlsruhe and the University of Strassburg. He was assistant in the Mineralogical Institute at Strassburg from 1880 till 1883, when he went with Groth to Munich. Here he acted as assistant in the Mineralogical Institute, and later as 'Kustos' (1894) and 'Konservator' (1902) of the State Mineralogical Collection in the University. In 1913 he was given the title of Professor, and he retired on January 1, 1918. He died at Munich on April 25, 1919. He published only few papers; two early ones on the crystallography of some carbon compounds, and the last on a mineral which he named maucherite. In 1900 he gave a good account of his trip to Ceylon in 1896-7, and the material he then collected was described by various students working in Munich. Grüningite, named after him, is a variety of tetradyomite from Cumberland.

HILLEBRAND (Silvia) [ -1923], daughter of the veteran mineralogist G. Tschermak, graduated at the University of Vienna, and was a member of the Vienna Mineralogical Society. In 1906 and 1913 she gave in two papers, the results of her work on the composition of the silicic acids yielded on the decomposition of serpentine, heulandite, sodalite, and nepheline, according to the method devised by Tschermak. Another paper (1913) gave analyses of aegirine and babingtonite, and no definite result could be obtained with the silicic acids from these minerals. In 1908 descriptions were given of porphyrites from Bruneck and of secondary actinolite. Silvialite, or sulphate-meionite, was named after her in 1914.

HINRICHS (Gustavus Detlef) [1836-1923], chemist, was born at Lunden in the Duchy of Holstein on December 2, 1836, educated in Copenhagen, and migrated to Iowa in 1861. For twenty-five years he was Professor of Physical Science in the University of Iowa, and later Professor of

Chemistry in the medical department of St. Louis University. His numerous papers and books on a variety of subjects were often published in French or German. One small book was on the Amana meteorites. He developed a theory, based partly on crystallography, of the unity of matter, calling the primitive material 'pantogen'. (C. Keyes, 'The crystallographic work of Gustavus Hinrichs', Amer. Min., 1924, vol. 9, pp. 5-8.)

HUTCHINGS (William Maynard) [ -1923] studied metallurgy and mining at Leipzig and Freiberg. He had an assay office in Liverpool and was manager of lead works. In his spare time he did good and careful work on the petrography and chemical composition of sediments and sedimentary rocks, also studying the effects of contact-metamorphism on shales and slates. His results were published in a series of papers in the Geological Magazine during 1889-98. He died at Harrogate on January 17, 1923, at the age of 73. (Nature, 1923, vol. 111, p. 298.)

JIMBŌ (Kōtoro) [1867-1924], a distinguished Japanese mineralogist, was born at Tōkyō on May 17, 1867. After graduating in geology in 1887 at the Imperial University of Tōkyō, he was appointed a field geologist of the local government of Hokkaidō, where he wrote several district memoirs. In 1892 he went to Berlin, studying under C. Klein, to whom he owed most of his training in mineralogy. On his return to Japan in 1894 he was appointed Assistant Professor of Mineralogy in the Imperial University of Tōkyō and full Professor two years later, retaining this post until his death. He devoted much of his time to teaching and helping his pupils in research work, while his holidays were spent prospecting for economic minerals. His 'Notes on the Minerals of Japan' (1899) was a forerunner of T. Wada's book, in which he evidently gave very material help, as well as in the production of the 'Beiträge zur Mineralogie von Japan'. He was of a charming and jovial disposition and (for a Japanese) remarkable for his large stature. With a liver complaint, he was in the University hospital at Tōkyō since



K. JIMBŌ (in 1921).

August 1923, and, surviving the earthquake of September, he died on January 18, 1924.

KARANDYEEV (Vissarion Vissarionovich), Карацѣвъ (Виссаріонъ Виссаріоновичъ) [ -1916] was Assistant in Mineralogy at the University of Moscow. He died of typhus on May 10 (April 27), 1916, whilst serving in the army. Since 1904 he had written fifteen crystallographical and mineralogical papers dealing with crystals of artificial compounds, the chemical constitution of nepheline, rotary power of biaxial crystals, &c.; and in 1913 he published a good text-book on crystal-optics. In 1909 he worked under T. Liebisch in Berlin. Obituary with portrait in *Priroda* [*Nature*], Petrograd, 1916, pp. 746-750.

KHARICHKOV (Konstantin Vasilevich), Харичковъ (Константиъ Васильевичъ) [ -1921], a voluminous writer on petroleum, was Professor of Technical and Analytical Chemistry in the University of Rostov on the Don. He had earlier been a privat-docent in the University of Kharkov, director of the railway laboratory at Groznyi in the Caucasus, and Professor and Dean in the Girls' High School at Tiflis. His numerous papers (catalogued under the name Charičkov, Charitschkow, &c.) date from 1892; and he published two books in Russian: *Composition and technical characters of petroleum from Russian localities (Baku, 1902)*; *Mineralogy of carbon compounds or Organic Mineralogy (Tiflis, 1911, 240 pp.)*.

KRETSCHMER (Franz) [1848-1921], a mining engineer, was born on October 4, 1848, at Vitkovice (=Witkowitz) in Moravia and died on December 25, 1921, at Sternberg. He was well acquainted with the mineralogy, geology, and ore-deposits of northern Moravia and Czechoslovak Silesia; and he earlier supplied material from these districts to G. vom Rath and others for investigation, while later he published several papers of his own. Compact chloritic minerals from the iron-ore deposits he described as new species under the names moravite, mackensite (or makensite), stilpnochlorane, and viridite. (*H. Beck, Jahrb. Geol. Bundesanst. Wien, 1922, vol. 72, pp. 151-154, with bibliography.*)

KRETSCHMER (Hans) [ -1921], a metallurgical inspector, died at Vitkovice (=Witkowitz) in Moravia on May 2, 1921, at the age of 59. He also was a mineral collector (and there has been some confusion between his collection and that of Franz Kretschmer). He had an opportunity of collecting foreign minerals from the cargoes of iron and manganese ores that were sent to Vitkovice for smelting. For example, crystals of braunite and hausmannite from Miguel Burnier in Brazil,

strengite and other rare phosphates from Kiirunavaara in Sweden, pyrochroite and beudantite from Ljubija in Bosnia, which have been described by R. Koechlin. (Mitt. Wiener Min. Gesell., for 1922, no. 84, p. 37, in Tschermaks Min. Petr. Mitt., 1923, vol. 36.)

КРОРОВ (Petr Ivanovich), Кроровъ (Петръ Ивановичъ) [1852-1914] was Professor of Geology and Geography in the University of Kazan. He described the Ochansk meteorite in 1887, and a new Russian occurrence of the mineral wolchonskoite in 1901. Obituary notice, with portrait and bibliography, in Ann. Géol. Min. Russ., 1915, vol. 17, pp. 57-62.

KYLE (Juan José Jolly) [1838-1922] was born on February 2, 1838, at Stirling in Scotland. He studied pharmaceutical chemistry at Edinburgh and for a time was chemical assistant in the School of Medicine. After trying industrial chemistry, he went to Argentina in 1864, served in the war of 1865, and was appointed Professor of Chemistry in the University of Buenos Aires in 1871. Most of his work was pharmaceutical, but he also analysed Argentine ores, waters, and meteorites. He found vanadium in the ash of coal and lignite. He died on February 23, 1922. (Anal. Soc. Cient. Argentina, 1922, vol. 93, pp. 170-187, with bibliography.)

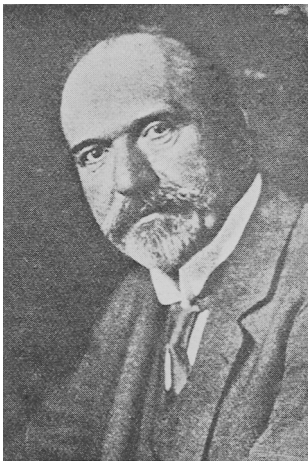
LEDoux (Auguste) [1887-1918] was born at Tirlemont in Belgium on April 7, 1887, and graduated at the University of Liège. At the outbreak of war, when he offered himself as a volunteer, he was Professor of Mineralogy in the University of Brussels. After being wounded at Liège and on the Yser, he was invalided from the Belgian army, and went to Canada. There he held a lectureship in the University of Toronto, working at research in mineralogy under Professor T. L. Walker. Being subject to fits, he met a sudden death by drowning in a bath at Sudbury, Ontario, in August 1918. He was joint-author of a paper on the crystallography of parahopeite in this Magazine (vol. 18, p. 101). Other notes of his appeared in Belgian geological journals and the Bulletin of the French Mineralogical Society, and on cerussite and aurichalcite in American journals. He also published a small text-book 'Eléments de Minéralogie' (Bruxelles and Paris, 1914).

LEHMANN (Otto) [1855-1922], famous for his work on liquid crystals, was born at Constance in Baden on January 13, 1855. After studying at Strassburg, he was Professor of Physics in the Technical High Schools of Aachen (1883), Dresden (1888), and Karlsruhe (since 1889). He

early devised a heating microscope for observing the polymorphic modifications of crystalline substances at different temperatures; and the results of his numerous observations are embodied in two wonderful volumes 'Molekularphysik' (1888-89). Liquid crystals of cholesteryl benzoate were discovered by F. Reinitzer at this time (in 1888); and, having a close bearing on his own work, Lehmann did much to develop the new subject, on which he produced numerous papers and books. He died with a grievance that his work was not sufficiently recognized—perhaps because his own account of it was too voluminous.

LEVISON (Wallace Goad) [1846-1924], a private mineral collector, and one of the earliest members of the New York Mineralogical Club, of which for several years he was secretary. He was the first editor, in 1916, of the 'American Mineralogist'. He graduated at Harvard University in 1870. (Amer. Min., 1924, vol. 9, p. 195.)

LIEBISCH (Theodor) [1852-1922] was elected an Honorary Member of this Society in 1903. He was born at Breslau on April 29, 1852, and graduated there with a petrographical dissertation in 1874. In 1875 he was assistant to G. vom Rath at Bonn, and afterwards Curator in the



T. LIEBISCH (in 1910).

Mineralogical Museum of the University of Berlin. Later he was Professor of Mineralogy and Crystallography successively at Breslau (1880), Greifswald (1883), Königsberg (1884), Göttingen (1887), and Berlin (1908), retiring from the last post, which included also Director of the Museum, in 1921. From 1885 to 1921 he was one of the joint-editors of the 'Neues Jahrbuch für Mineralogie, Geologie und Paläontologie', which since 1900 included also the 'Centralblatt'. His published papers were comparatively few in number; they dealt with the geometrical, optical, and physical properties of crystals, and with instruments for the determination of these properties. He was better known through

his advanced mathematical treatises on geometrical and physical crystallography. He died at Berlin on February 9, 1922. (K. Schulz, Centralblatt Min., 1922, pp. 417-434, with bibliography; portrait in

the T. Liebisch memorial volume, *Neues Jahrb. Min.*, 1923, Beilage-Band 48.)

LINDSTRÖM (Gustaf) [1838–1916] was Assistant in the Mineralogical Department of the State Natural History Museum at Stockholm from 1861 to 1905, first under A. E. Nordenskiöld and afterwards under H. Sjögren. He was born on July 1, 1838, and died on June 24, 1916. He published many good analyses of Swedish minerals, and described as new species blomstrandine, elpidite, melanotekite, and thaumasite (the last with Nordenskiöld). His first paper, in 1868, gave analyses of rocks from Spitsbergen, and his last, in 1907, an analysis of ptilolite from Iceland. He was largely instrumental in bringing together the relics of J. J. Berzelius to form in 1909 the Berzelius Museum in the Swedish Academy of Sciences. In catalogues he has often been confused with the palaeontologist of the same name, Gustaf Lindström (1829–1901), who also was on the staff of the Stockholm Museum. His portrait is given in 'Naturhistoriska Riksmuseets Historia' (Stockholm, 1916, p. 148).

MANASSE (Ernesto) [1875–1922] was, since 1915, Professor of Mineralogy in the University of Florence (R. Istituto di Studi superiori di Firenze). He was born at Leghorn (= Livorno) on January 21, 1875, and died on November 9, 1922, at Ardenza, a health-resort near Leghorn. He studied chemistry and natural science at the University of Pisa, and from 1899 to 1906 was Assistant in the Mineralogical Institute there, first under A. D'Achiardi and afterwards under G. D'Achiardi. From 1906 to 1915 he had charge of mineralogy in the University of Siena. He wrote several papers on the minerals and rocks of Tuscany, in which are given many careful chemical analyses. A separate publication (Siena, 1909) dealt with the petrography of Eritrea. (G. D'Achiardi, *Atti (Proc.-Verb.) Soc. Toscana Sci. Nat.*, 1922, vol. 31, pp. 49–57, with bibliography; F. Millosevich, *Boll. Soc. Geol. Ital.*, 1922, vol. 41, pp. lii–lv.)

MAUZELIUS (Robert) [1864–1921], noted as a mineral chemist, was born at Upsala on June 3, 1864, and died on November 9, 1921. He studied chemistry at the University of Upsala and for a time was assistant there under P. T. Cleve. Afterwards he had a private laboratory in Stockholm, and since 1901 was chemist on the Geological Survey of Sweden. He wrote a few papers, under his own name, on organic chemistry and the estimation of ferrous iron in rock analyses, and a joint paper with G. Aminoff on a new mineral, armangite, appeared

in 1920; but the bulk of his careful analytical work appeared in the papers of other authors (H. Sjögren, G. Flink, A. G. Högbom, G. Aminoff, and many others). He made analyses of rare and complex Swedish minerals, including many new species: the bibliography quoted below lists 113 such analyses. The species mauzelliite was named after him by H. Sjögren in 1895. (H. Sjögren, *Geol. För. Förh.*, 1921, vol. 44, pp. 511-527, with portrait and bibliography.)

MIELEITNER (Karl) [1890-1923] was born on March 31, 1890, in Munich, the son of a shoemaker. From a study of classics he turned to science, and in 1913 became assistant in the State mineral collection in the University of Munich, where in 1919 he succeeded F. Grünling as 'Konservator'. He was an energetic worker, and in a few years wrote several papers on Bavarian minerals. He was much interested in the ancient history of mineralogy, and he published German translations, with notes, of the old works of Steno, Bartholinus, and Cappeller. He also wrote a book on economic minerals, and was joint-author with P. Groth of 'Mineralogische Tabellen' (1921). He died of consumption on March 15, 1923. (H. Steinmetz, *Zeits. Krist.*, 1923, vol. 59, pp. 86-88, with bibliography; A. Johnsen, *ibid.*, p. 434.)

НЕСЧАЕВ (Alksyei Vasilevich), Печаевъ (Алекѣй Васильевичъ) [1864-1915], was formerly Professor of Mineralogy and Geology in the Polytechnic at Kiev, and latterly a Geologist on the Russian Geological Survey. His work was mainly geological, but he also wrote elementary text-books on Mineralogy (2nd edit., 1912; 3rd edit., 1922 [Min. Abstr., vol. 2, p. 242]) and Crystallography (3rd edit., 1913) which had a wide circulation in Russia. Obituary notice with portrait in *Geol. Vvestnik* [Messenger], Petrograd, 1915, vol. 1, pp. 287-289.

NICOL (William) [ -1924] was Professor of Mineralogy in Queen's University and the School of Mining at Kingston, Ontario. He was a keen collector of minerals, and was curator of the collection in the School of Mining. For a time (about 1898) he worked in V. Goldschmidt's laboratory in Heidelberg, and with Goldschmidt he published papers on the crystallography of sperrylite (1903) and on spinel-twins of pyrites (1904). Other short papers were on anhydrite (1896) and pyrrhotine (1899) from Ontario.

OSANN (Carl Alfred) [1859-1923], a well-known worker on the chemistry of rocks, was born at Hofheim in Bavaria on December 3, 1859. He studied at Heidelberg and Strassburg and was assistant to

H. Rosenbusch. After teaching for some years in the chemistry school at Mühlhausen in Alsace, he was since 1903 Professor of Mineralogy and Geology in the University of Freiburg in Baden. In addition to rocks, he also described some rock-forming minerals. Of the large number of soda-amphiboles, one is called osannite and another he named holmquistite. His best-known work is 'Beiträge zur chemischen Petrographie' (three parts, 1903-05, 1914-16), in which are tabulated some thousands of rock analyses. He devised a special notation and diagram for expressing the chemical composition of rocks. He died on August 6, 1923. (L. Milch, *Centralblatt Min.*, 1924, pp. 119-122, with bibliography.)

PAWLICA (Władysław=Ladislav) [1886-1919] was born on May 28, 1886, at Poronin, near Zakopane in the Tatra Mountains, and died at Cracow on December 20, 1919. He was educated at Cracow, graduating in 1913, and in 1918 joined the new Geological Survey of Poland as geologist. His papers on the petrography of the crystalline rocks of the Tatra Mountains, and on the minerals isolated from these rocks, were published by the Cracow Academy of Sciences during 1913-16, and a paper on Polish iron-ores appeared posthumously in 1920. (*Bull. Serv. Géol. Pologne*, 1921, vol. 1, pp. 277-282, with bibliography.)

PERCEVAL (Spencer George) [1838-1922], a private collector and gentleman of means, was born at Bindon House<sup>1</sup> in the parish of Langford Budville, west Somerset, on July 8, 1838, and died on March 7, 1922. He was the second son of Ernest A. Perceval, and grandson of Spencer Perceval, Prime Minister of England, who was assassinated in the lobby of the House of Commons in 1812. In 1847 the family moved to Chapel Cleeve, near Blue Anchor on the coast of Somerset, and here the boy developed an interest in geology and mineralogy, which was encouraged by his uncle, Sir Walter C. Trevelyan (1797-1879). He was educated at Radley College, Berkshire, and Trinity Hall, Cambridge. Later he went to the Theological College at Wells, but he gave up the idea of entering the Church. He lived for many years at Henbury and Clifton, and was of a very retiring and nervous disposition. Between 1866 and 1878 he published several short notes in the 'Geological Magazine' on minerals and fossils from the Bristol district and west Somerset; also recording the occurrence of topaz from Lundy Island, websterite from Brighton, celestite from Sidmouth (*Min. Mag.*, 1880,

<sup>1</sup> On this estate good *f*-twins of calcite have been found (H. L. Bowman, *Min. Mag.*, 1903, vol. 13, p. 329).



vol. 3, p. 255), &c. Since 1870 he had on various occasions presented specimens of minerals and fossils to the British Museum. His extensive and miscellaneous collections were, shortly before his death, given to the Fitzwilliam Museum at Cambridge. Here have been retained the objects of art; and, in accordance with his original wishes, selections from his mineral collection have been transferred to the British Museum. These include a unique set of specimens from the Mendip Hills (see *Min. Mag.*, 1923, vol. 20, p. 69); various carefully-labelled finds of his own from the West Country; and specimens from the collection of his uncle, Sir Walter C. Trevelyan, of Nettlecombe Court, Somerset, in which were included some of the lots bought by Sir John Trevelyan at the Portland Sale in 1786.

RÖNTGEN (Wilhelm Conrad von) [1845-1923], the discoverer of X-rays, or Röntgen-rays as they are often called. He was born at Lennep in Rhenish Prussia on March 27, 1845, went to school in Holland, and graduated at Zürich in 1868. After acting as assistant to



W. C. RÖNTGEN.

A. E. Kundt at Würzburg, he was Professor of Physics successively at Hohenheim, Strassburg, Giessen, Würzburg, and, since 1900, at Munich, retiring in 1919. At Strassburg and Munich he was a contemporary of P. Groth. Some of his earlier work was on the thermal and electrical properties of crystals: he devised a method of producing isothermal curves on crystal-faces; observed the change in birefringence of quartz in an electric field; studied the thermo-, actino-, and piezo-electrical properties of quartz; and determined the compressibility of rock-salt and sylvine. His discovery of X-rays was made accidentally at Würzburg in 1895. While experimenting on the

conduction of electricity through gases in a vacuum tube, he noticed that a barium platinoeyanide screen, which happened to be near by, became fluorescent, although the tube was enclosed in a black box. The important applications of X-rays are well known, and since 1912 they have supplied a new method for investigating the internal structure of crystals. Röntgen himself has taken no active part in this work, although he

determined the effect of X-rays on the electrical conductivity of calcite. He died at Munich on February 10, 1923. The Röntgen Society in London was founded in 1897.

ROSIWAL (August Karl) [1860–1923], engineer and geologist, was born at Vienna on December 2, 1860, and died on October 9, 1923. He was a student, assistant, and later Professor of Mineralogy and Geology in the Technical High School at Vienna. Since 1891 he was also Geologist on the Austrian Geological Survey, for which he wrote several district memoirs. His first papers, in 1890–91, were on rocks from the Balkans and East Africa, and several of his later papers were on the petrography of the crystalline schists. He also undertook various technical investigations on rocks and building materials. That on the resistance offered by rocks to boring led to a series of important papers (1893–1917) on the hardness of minerals and rocks, in which he endeavoured to arrive at an absolute measure of the degree of hardness. Geological and engineering problems in connexion with the hot springs in Bohemia also engaged his attention. In 1898 he described a method of 'geometrical rock analysis', now well known as the micrometric method or the 'Rosiwal method', in which from the measured areas of the minerals in micro-sections, and assuming the composition of the minerals, the chemical composition of the rock can be approximately calculated. This method has been adopted by many authors, and beautiful columns of figures to two places of decimals may unfortunately be readily mistaken for real chemical analyses, especially when published in a paper in some strange language. (G. Göttinger, 'Zur Erinnerung an August Rosiwal', *Jahrb. Geol. Bundesanst. Wien*, 1924, vol. 74, pp. 97–116, with portrait and bibliography.)

RUMPF (Johann) [1841–1923], a Styrian mineralogist, was born at Piber in Styria and died on his estate there on January 5, 1923. Since 1875 he was Professor of Mineralogy and Geology in the Technical High School at Graz. Kaluszite from Kalusz in Galicia was described by him in 1872, and also independently in the same year by V. von Zepharovich under the name syngenite. Rumpfite, a species of the chlorite group, was named after him in 1890. (*Verh. Geol. Bundesanst. Wien*, 1924, p. 3.)

RZEHAČ (Anton) [1855–1923], Professor of Mineralogy and Geology in the German Technical High School at Brünn (Brno) in Moravia, was born at Neudorf, Moravia, on May 26, 1855, and died on March 31, 1923. Most of his papers were on the geology and archaeology of Moravia, but he wrote a few on Moravian minerals, the last in 1920.

SCHEIBE (Robert) [1859–1923] was born on September 29, 1859, at Gera in Germany, and died on March 5, 1923, near Bogotá in Colombia. He studied at Halle, Jena, and Göttingen, graduating in 1882 with a dissertation on the crystallography of the alkaloid lupinine and its salts. He was a geologist on the Prussian Survey, and since 1895 Professor of Mineralogy in the Mining Academy in Berlin. He wrote on the geology and minerals of Thuringia, and on the diamond occurrences in South-West Africa. The mineral hauchecornite was named by him. In 1914 he went to Colombia, where he studied the occurrence of emerald and organized the Geological Survey. (O. H. Erdmannsdörffer, *Zeits. Krist.*, 1924, vol. 59, p. 431.)

SEMSEY (Andor, *of Semse*) [—1923], a Hungarian nobleman who was much interested in minerals. The Germanized form of his name 'Andor von Semsey' is better known to mineralogists than 'dr. semsei Semsey Andor úr', as printed in Hungarian. He was an important benefactor to the Hungarian National Museum at Budapest, often purchasing rare and valuable specimens for the mineral collection. Here he held the position of honorary curator with a room in the museum. A catalogue of the museum's collection of meteorites was published by him in 1886. Andorite and semseyite were named after him—to be the godfather of two good mineral species is surely unique. He died at Budapest on August 14, 1923.

SJÖGREN (Sten Anders Hjalmar) [1856–1922], a noted Swedish mineralogist, was born on June 13, 1856, at Persberg, where his father, Anton Sjögren, was a mining engineer. He studied at the Polytechnic High School of Stockholm (1875–78), and in the University of Lund, where he also acted as assistant in the Geological Institute. Here were written the earlier of a long series of important mineralogical papers, and he published a new edition of his father's text-book (*Lärobok i Mineralogi*, 1880). During 1883–85 he acted as deputy for the Professor of Mineralogy and Geology at the University of Upsala; and, after a period as oil geologist at the Nobel works in Baku, he returned to Upsala as professor in 1889. Here he equipped, largely at his own expense, the laboratory with the best optical apparatus (Swedish mineralogy had previously been more on the chemical side) and much good work was published in English in his own journal 'Bulletin of the Geological Institution of the University of Upsala'. He was now a wealthy man (having married Ludvig Nobel's daughter), a large owner of land and mines, and with interests in the Caspian oil-fields. He

therefore felt obliged to resign the professorship in 1894, but he remained a generous patron to science, and continued publishing papers on Swedish minerals and ore-deposits. Later, in 1901, he succeeded A. E. Nordenskiöld as superintendent of the mineralogical department of the State Natural History Museum at Stockholm, to which museum he gave his private collection of some 7,000 fine mineral specimens. These collections were installed in the new building in 1916. Some idea of the extent of his mineralogical work is given by the following names which he proposed for new species or varieties: adelite, astochite, bjelkite, celsian, fredricite, galenobismutite, manzeliite, potash-richterite, prolectite, retzian, soda-berzeliite, soda-richterite, svabite, tilasite, and urbanite. One of his papers, 'On the physical and geometrical properties of graphite', appeared in 1885 in this Magazine, and still remains the best paper on the crystallography of graphite. He had a Handbook of Swedish Mineralogy in preparation at the time of his sudden death from apoplexy on March 23, 1922. (A. G. Högbom, Bull. Geol. Inst. Univ. Upsala, 1922, vol. 18, pp. iii-xv, with portrait, and Bibliographia Sjögreniana by J. L. Samzelius, pp. xvi-xxvii.)

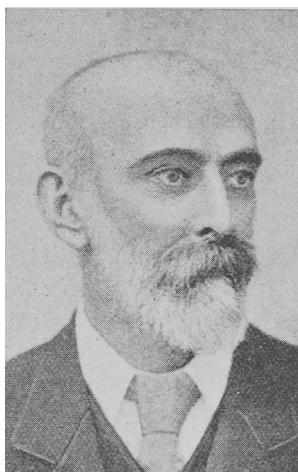


H. SJÖGREN.

STEAD (John Edward) [1851-1923], the well-known metallographer, was a brother of the journalist W. T. Stead. At the age of eighteen he was apprenticed to John Pattinson, and in 1876 he became a partner in the firm of Pattinson and Stead, metallurgical chemists of Middlesbrough. He worked on the Cleveland iron-ores, on the state in which phosphorus is present in iron and steel, meteorites, and basic slag, and always kept a sharp look out for crystallized materials in furnace products. Phosphate crystals (one kind since named steadite) from basic slag were described by him with H. A. Miers in 1887, and various other crystallized furnace products detected by him have been described in the pages of this Magazine since 1903. Since 1893 he did much to develop the new study of microscopic metallography, a method which has more recently

been applied to the examination of opaque minerals. He was elected F.R.S. in 1903, and was honorary D.Sc. and D.Met. (H. C. H. Carpenter, *Nature*, London, 1923, vol. 112, pp. 801–802; C. H. Desch, *Journ. Chem. Soc. London*, 1924, *Trans.*, vol. 125, pp. 992–995.)

TEALL (*Sir Jethro Justinian Harris, Knight*) [1849–1924], the author of ‘British Petrography’, was born on January 5, 1849, after the death of his father, at Northleach in Gloucestershire, and as a youth he was attracted by the Oolite fossils of the surrounding Cotteswold Hills. At Cambridge he commenced with mathematics, but was again attracted to geology by the lectures of T. G. Bonney, and he was able to attend the last course of lectures of Adam Sedgwick. After taking his degree in 1873 and the Sedgwick geological prize in 1874, he was for a few years engaged as a University Extension lecturer. In 1879 he gave an account of the microscopic structure of the pitchstone of Eigg, and in 1883–84 published three important papers on the Cheviot andesites and porphyrites, the north of England dike rocks, and the Whin Sill. His classical work ‘British Petrography’ commenced printing in 1886 as monthly parts, and was completed only after financial difficulties in 1888. It deals only with the igneous rocks, and unfortunately the contemplated sections on sedimentary rocks and crystalline schists never appeared.

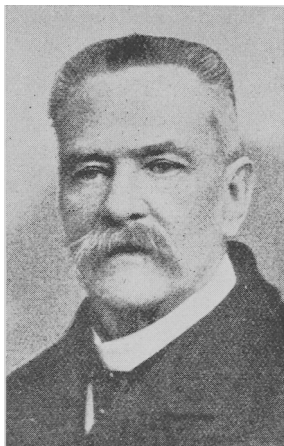


SIR JETHRO J. H. TEALL.

About the same period, 1887–91, he contributed several papers on rock-forming minerals to the ‘Mineralogical Magazine’, as well as detailed abstracts of petrographical papers. In 1888 he was appointed petrographer on the Geological Survey of Great Britain and Ireland, becoming director in 1901, and retiring in 1914. He was knighted in 1916 and held honorary degrees from several universities. A rare tin-bearing mineral from Bolivia has been named teallite. On account of ill health he felt obliged to decline the presidency of this Society, of which he had been a member since 1883. He died on July 2, 1924. His collection of rocks and micro-sections has been given by Lady Teall (by whom several of the plates in ‘British Petrography’ were drawn) to the Sedgwick

Museum at Cambridge. A biographical notice, with portrait and bibliography of his published works, appeared in the series 'Eminent living geologists' (Geol. Mag., 1909, dec. 5, vol. 6, pp. 1-8); and obituary notices have been given in *Nature*, London, 1924, vol. 114, p. 95, and *Geol. Mag.*, 1924, vol. 61, pp. 382-384.

VRBA (Karel) [1845-1922], the doyen of Bohemian mineralogists, was born on November 10, 1845, at Klatovy in western Bohemia, and after studying at Prague he became assistant to V. von Zepharovich and docent in petrography. From 1876 to 1881 he was Professor of Mineralogy in the University of Czernowitz, and in 1881 succeeded E. Bořický as professor in the Czech University at Prague, retiring in 1916, but still continuing (since 1893) to act as Director of the Mineralogical Museum of the University until his death on December 7, 1922. He wrote several papers on minerals and rocks, principally from Bohemian localities (e. g. beryllium minerals from Písek), and in 1885 a monograph on stephanite. He described frieseite as a new species in 1878; and there is a mineral name spelt<sup>1</sup> vrbaite. Since 1914 he was President of the Bohemian Academy of Sciences. (F. Slavík, *Almanach České Akad.*, 1923, 17 pp., with bibliography; A. Himmelbauer, *Zeits. Krist.*, 1924, vol. 59, pp. 432-434.)



K. VRBA.

WADSWORTH (Marshman Edward) [1847-1921] was born at Livermore Falls, Maine, on May 6, 1847, and graduated at Bowdoin College in 1869. After teaching chemistry in the Dental School at Boston, Massachusetts, he was Assistant in Mineralogy and Lithology at Harvard University. During 1884-85 he visited Europe and studied petrography under H. Rosenbusch. In 1887 he was appointed President of the new Michigan School of Mines, and later Dean of the School of Mines and Professor of Mining Geology in the University of Pittsburg, retiring in 1912. He wrote several papers on American geology and petrography,

<sup>1</sup> This spelling should not be modified with an idea of indicating, in different languages, the correct pronunciation.

of which his 'Lithological Studies' (1884) is the best known. He also wrote an elementary text-book on crystallography. He died on April 21, 1921. (A. C. Lane, *Bull. Geol. Soc. Amer.*, 1924, vol. 35, pp. 15-25, with portrait and bibliography.)

WEINSCHENK (Ernst Heinrich Oskar Kasimir) [1865-1921], a well-known petrographer, was born at Esslingen in Württemberg on April 6, 1865. He studied and graduated at Munich, where since 1900 he was Professor of Petrography in the Mineralogical Institute. In addition to petrographical papers, he wrote several on minerals and a few on meteorites and moldavites, describing as new species batavite, cohenite, fuggerrite, klinozoisite, and natron-phlogopite. He made an exhaustive study of graphite, its properties and modes of occurrence, with especial reference to the Bavarian and Bohemian deposits. Another long paper dealt with the minerals of the Gross-Venediger in the Austrian Alps. He prepared a new edition of Kobell's 'Lehrbuch der Mineralogie'; and his own text-books ('Die gesteinsbildenden Mineralien', 'Das Polarisationsmikroskop', 'Grundzüge der Gesteinskunde', and 'Petrographisches Vade-mekum') were very successful, passing through several editions and being also translated into English. Two quite distinct minerals have recently been named weinschenkite in his memory [*Min. Abstr.*, vol. 2, pp. 12, 221].

WILLIAMS (Gardner Fred) [1842-1922], a mining engineer, was born at Saginaw in Michigan on March 14, 1842, and died at Los Angeles on August 22, 1922. He graduated at the University of California in 1865 and studied for three years at the Mining Academy in Freiberg, Saxony. In 1870 he was assistant assayer in the United States Mint at San Francisco, and afterwards assayer, engineer, and superintendent of various mines in Nevada, Utah, and California. In 1884-85 he had charge of gold mines in the northern Transvaal, and from 1886 to 1905 he did good work as general manager of the De Beers diamond mines at Kimberley, where he was succeeded by his son Alpheus F. Williams. His large work 'The diamond mines of South Africa' appeared in two editions (1902 and 1906), and in 1904 he wrote a paper on the genesis of the diamond. On his retirement he settled in Washington, D.C., where he gave to the United States National Museum a collection illustrative of the occurrence of diamond in South Africa. He also possessed a fine series of coloured diamonds.

WINCHELL (Horace Vaughn) [1865-1923], a mining geologist, was born at Galesburg, Michigan, on November 1, 1865, the elder son of

Newton Horace Winchell [1839-1914], and died on July 28, 1923. After graduating at the University of Michigan in 1889, he joined the Minnesota State Survey (his father being then State Geologist), and he was assigned to study the newly discovered iron-ore deposits of the Mesabi Range. In 1898 he became Geologist to the Anaconda Copper Mining Company at Butte, Montana, and in 1906 to the Northern Pacific Railway. He wrote on ore-deposits, including various mineralogical items: the occurrence of cubanite at Butte, Montana; synthesis and genesis of chalcocite. The mineral racewinite was collected by Horace Winchell, and so named by his brother Alexander Newton Winchell in 1918. (J. F. Kemp, Bull. Geol. Soc. Amer., 1924, vol. 35, pp. 46-56, with portrait and bibliography.)

YACHEVSKY (Leonard Antonovich), Ячевский (Леонард Антонович) [1858-1916], whose name was often spelt Jaczewski, was born at Wilkowice in govt. Kalisz, Poland, on September 11 (old style, August 30), 1858. He died on May 3 (April 20), 1916. He was educated as a mining engineer, and for a time was teacher of mineralogy in the Mining School at Ekaterinoslav in South Russia. Later he was a geologist on the Russian Geological Survey ('Committee') and had charge of the work in Yeniseisk province of Siberia. His numerous papers and reports include accounts of various Siberian minerals (nephrite, jadeite, graphite, awaruite, platinum, diamond, &c.). Obituary notices with portrait and bibliography are given in Bull. Com. Géol. Petrograd, 1916, vol. 35, no. 7, pp. 1-30.

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