A (fourth) list of new mineral names[1].

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Aegirine-hedenbergite. F. von Wolff, 1904. Centralblatt Min., 1904, p. 214 (Aegirin-Hedenbergit). A monoclinic pyroxene intermediate in composition between aegirite and hedenbergite. H. Rosenbusch (Mikroskopische Physiographie d. Mineralien, 4th edit., 1905, vol. i, part 2, p. 218) prefers the form Hedenbergit-Ägirin.

Analcidite. C. Hintze, 1897. Handbuch d. Mineralogie, vol. ii, p. 1714 (Analcidit). The more correct derivation of analcite, from ἄναλκις, ἀνάλκιδος, weak.

Ansilit. Zeits. Kryst. Min., 1906, vol. xli, p. 184. Error for ancylite, owing to the name having been transliterated into Russian and back again.

Antiperthite. F. E. Suess, 1905. Jahrb. geol. Reichsanst. Wien, vol. liv, pp. 419, 425 (Antiperthite, *pl.*). Regular intergrowths of two felspars in which orthoclase is the enclosed mineral and plagioclase the host; being the reverse of the case which holds in microperthite.

Argentoalgodonite. G. A. Koenig, 1903. Proc. Amer. Phil. Soc., vol. xlii, p. 229; Zeits. Kryst. Min., 1904, vol. xxxviii, p. 537. An artificially prepared copper arsenide containing some silver $(Cu,Ag)_6As$.

Argentodomeykite. G. A. Koenig, 1903. Proc. Amer. Phil. Soc., vol. xlii, p. 229; Zeits. Kryst. Min., 1904, vol. xxxviii, p. 537. An artificially prepared copper arsenide containing some silver $(Cu,Ag)_3As$.

Astrolite. R. Reinisch, 1904. Centralblatt Min., 1904, p. 108 (Astrolith). Small, greenish-yellow spheres with radially fibrous structure, which occur embedded in fragments of carbonaceous quartz-schist, limestone, and shale in a basalt-tuff at Neumark, Saxon Vogtland. $(Al,Fe)_2Fe''(Na,K)_2(SiO_3)_5 . H_2O$. Named from ἄστρον, stars, and λίθος, stone; known locally as 'Sternle'.

[1] Previous lists are given at the ends of vols. xi, xii, and xiii of this Magazine (1897, 1900, 1903).

Babylonian quartz. (P. Groth, Mineraliensammlung, Strassburg, 1878, p. 100 (Babylonquarz). Century Dictionary, New York, 1889.) Synonym of babel-quartz.

Baryta-orthoclase. J. E. Strandmark, 1904. Geol. Fören. Förh. Stockholm, 1903, vol. xxv, p. 289; 1904, vol. xxvi, p. 97. Celsian, $BaAl_2Si_2O_8$, is shown to be monoclinic and to form a series of mixed crystals with orthoclase. Celsian ranges in composition from Ce to Ce_1Or_2, the other members of the series being classed as baryta-orthoclases (baryt-kalifältspater); those having the composition Ce_1Or_2—Ce_1Or_6 are referred to hyalophane, whilst those with still less barium (Ce_1Or_6—Or) are called barium-bearing orthoclases (barythaltiga kalifältspater). J. P. Iddings (Rock Minerals, New York, 1906, p. 233) refers to minerals of the last of these divisions as barium-orthoclase.

Beckelite. J. Morozewicz, 1904. Rozpr. Akad. Kraków, Ser. A, vol. xliv, p. 216; Bull. Intern. Acad. Sci. Cracovie, 1905, année 1904, p. 485 (beckelicie, Beckelith, béckélite); Min. Petr. Mitt. (Tschermak), 1905, vol. xxiv, p. 120. Wax-yellow, octahedral or rhombic-dodecahedral crystals resembling pyrochlore in appearance and physical characters. Occurs in a dyke modification of elaeolite-syenite near Mariupol on the Sea of Azov, Russia. Calcium cero-lanthano-didymo-silicate, $Ca_3(Ce,La,Di,Y)_4(Si,Zr)_3O_{15}$. Named after Professor Friedrich Becke, of Vienna.

Bellite. W. F. Petterd, 1905. Rep. Secr. Mines, Tasmania, for 1904, p. 83. 'Chromo-arsenate of lead' occurring as velvety tufts of bright red or yellow, hexagonal needles or as powdery encrustations at Magnet, Tasmania. [The analysis suggests a mixture of crocoite, mimetite, and quartz.] Named after W. R. Bell, a prospector in Tasmania. The name bellite has long been in use for an explosive.

Beryllium-humite. H. Rosenbusch, 1905. Mikroskopische Physiographie d. Mineralien, 4th edit., vol. i, part 2, p. 193 (Berylliumhumite, *pl.*). Humite containing a small amount of beryllium (BeO, 1 per cent.) and no fluorine, $Mg_5(MgOH)_2(SiO_4)_3$. Analysed by P. Jannasch and J. Locke (1894), and described by R. W. Schäfer (1895) from the serpentine of the Allalin district, Wallis, Switzerland.

Blanfordite. L. L. Fermor, 1906. Trans. Mining and Geol. Inst. India, vol. i, p. 78. A monoclinic pyroxene containing some sodium, manganese, and iron, occurring with manganese ores in the Central Provinces, India. The strong pleochroism (rose-pink to sky-blue) is

a prominent character. Named after the late Dr. William Thomas Blanford (1832–1905).

Blomstrandine. W. C. Brögger, 1906. Videnskabs-Selsk. Skrifter, Kristiania, 1906, No. 6, p. 98 (Blomstrandin). A titano-niobate of yttrium-earths, thorium, uranium, &c., occurring at Hitterö, Arendal, and other localities in Norway, as large orthorhombic crystals, which had previously (W. C. Brögger, 1879) been referred to aeschynite. Named after the late Professor Christian Wilhelm Blomstrand (1826–97), of Lund, Sweden, whose analyses showed it to be distinct from aeschynite. It is dimorphous with polycrase and isomorphous with priorite (q.v.). Not to be confused with the blomstrandite of G. Lindström (1874), which is a hydrated titano-niobate and -tantalate of uranium, &c.

Borax, octahedral. *See* 'Octahedral borax'.

Bowmanite. R. H. Solly, 1904. Nature, vol. lxxi, p. 118; Min. Mag., 1905, vol. xiv, p. 80. Small, honey-yellow, rhombohedral crystals from the white, crystalline dolomite of the Binnenthal in Switzerland. Named after Herbert Lister Bowman, of Oxford, and proved by him (Min. Mag., 1907, vol. xiv, p. 389) to be identical with hamlinite.

Californite. G. F. Kunz, 1903. Amer. Journ. Sci., ser. 4, vol. xvi, p. 397. F. W. Clarke and G. Steiger, Bull. U.S. Geol. Survey, 1905, no. 262, p. 72. Massive, green idocrase occurring as large masses in California. It resembles jade in appearance, and is used as an ornamental stone.

Carbapatite. P. N. Tschirwinsky, 1906. Annu. Géol. Min. Russie, vol. viii, p. 251 (карбапатитъ), p. 256 (Carbapatit). A name later withdrawn (Centralblatt Min., 1907, p. 283) in favour of podolite (q.v.).

Carborundum. E. G. Acheson, 1893. Journ. Franklin Inst. Philadelphia, vol. cxxxvi, p. 194. Silicide of carbon, CSi, formed artificially as brilliant, rhombohedral crystals and extensively used as an abrasive agent. Named from carbon and corundum, because, before it had been analysed, it was thought to be a compound of carbon and alumina. More recently (1904) the same substance has been isolated from a meteoric iron and named moissanite (q.v.).

Cerepidote. H. Rosenbusch, 1905. Mikroskopische Physiographie d. Mineralien, 4th edit., vol. i, part 2, p. 286 (Cerepidot). Synonym of allanite. So named because it is a member of the epidote group containing cerium.

Chlormanganokalite. H. J. Johnston-Lavis, 1906. Nature, vol. lxxiv, p. 104. A. Lacroix, Compt. Rend. Acad. Sci. Paris, 1906, cxlii, p. 1251; H. J. Johnston-Lavis and L. J. Spencer, Nature, 1907, vol. lxxvi, p. 215. Chloride of manganese and potassium, $MnCl_2 . 4KCl$, found as yellow, deliquescent, rhombohedral crystals in blocks ejected from Mount Vesuvius.

Chlornatrokalite. H. J. Johnston-Lavis, 1906. Nature, vol. lxxiv, p. 174. Potassium and sodium chloride, 6KCl.NaCl, found as cubic crystals with chlormanganokalite in blocks ejected from Mount Vesuvius.

[Specimens of 'chlornatrokalite' sent by Dr. Johnston-Lavis to the British Museum consist of cubes of sylvite and of halite in association.—L. J. S.]

Chocolite. J. Garland, 1894. Trans. Inst. Mining and Metallurgy, 1893–4, vol. ii, pp. 128, 224. A chocolate-coloured nickel-ore from New Caledonia; a hydrated silicate of iron, nickel, and magnesium, related to garnierite.

Coronadite. W. Lindgren and W. F. Hillebrand, 1904. Amer. Journ. Sci., ser. 4, vol. xviii, p. 448; Bull. U.S. Geol. Survey, 1905, no. 262, p. 42; Profess. Paper U.S. Geol. Survey, 1905, no. 43, p. 103. A black, metallic mineral with finely fibrous structure; not unlike psilomelane in appearance. Manganite of lead and manganese, $(Pb,Mn)O . 3MnO_2$. Occurs in fairly large amount in the Coronado vein, Clifton-Morenci district, Arizona. Named after the Spanish explorer, Francisco Vasquez de Coronado, who visited the region in 1540.

Crenite. D. A. Wells, 1852. Proc. Amer. Assoc. Adv. Sci., vol. vi, p. 230. Stalactitic calcite coloured yellow by organic matter, which was identified with crenic acid or crenate of calcium.

[J. Fromme (Jahresber. Ver. Naturwiss. Braunschweig, 1897, vol. x, p. 104) found 0·231 per cent. of apocrenic acid in chestnut-brown, translucent crystals of calcite from the Harz.]

Cryolithionite. N. V. Ussing, 1904. Overs. K. Danske Videnskab. Selsk. Forhandl., 1904, p. 3. Large, colourless rhombic-dodecahedra found in the cryolite of Greenland. $Li_3Na_3Al_2F_{12}$. So named because of its relation to cryolite and the large amount of lithium (5·35 per cent.) it contains.

Dachiardite. G. D'Achiardi, 1906. *See* Zeolite mimetica.

Davidite. D. Mawson, 1906. Trans. R. Soc. South Australia, vol. xxx, p. 191. An incompletely described mineral [possibly identical

with ilmenite] from South Australia. Named after Professor T. W. Edgeworth David, of Sydney University.

Denhardtite. H. Potonié, 1905. Monatsber. Deutsch. geol. Ges., 1905, p. 259 (Denhardtit). A pale yellow, waxy hydrocarbon similar to pyropissite. It is derived from plants and forms a stratum in loam in British East Africa. Named after the brothers Clemens and Gustav Denhardt, by whom it was collected in 1878.

Doughtyite. W. P. Headden, 1905. Proc. Colorado Sci. Soc., vol. viii, p. 66. Hydrated basic aluminium sulphate, $Al_2(SO_4)_3 . 5Al_2(OH)_6 . 21H_2O$, formed abundantly as a white precipitate by the interaction of the waters (an alkaline water and one containing aluminium sulphate) of the Doughty Springs, in Delta Co., Colorado. Named after Mr. Doughty, the owner of the springs.

Dubuissonite. C. Baret, 1904. Bull. Soc. Sci. Nat. de l'ouest de la France, Nantes, ser. 2, vol. iv, p. 141. A pink clay from near Nantes, analysed by A. Damour in 1885 and placed by A. Lacroix (Minéralogie de la France, 1895, vol. i, p. 483) under montmorillonite; it differs from this, however, in its resistance to acids and in its fusibility. Named after Mr. Dubuisson, mineralogist and founder of the museum at Nantes.

Ebelmenite. (Collection de Minéralogie du Muséum d'Histoire Naturelle, Paris, Guide du Visiteur, 2nd edit., 1900, p. 29.) A variety of psilomelane containing potassium. Named after Jacques Joseph Ebelmen (1814–52), who analysed a specimen in 1841.

Erikite. O. B. Boeggild, 1903. Contributions to Mineralogy, Min. Geol. Mus. Univ. Copenhagen, no. 2, p. 93; Meddelelser om Grønland, 1904, vol. xxvi, p. 93. Brown and opaque, orthorhombic crystals from the nephelite-syenite near Julianehaab in Greenland, when examined in thin section under the microscope, were seen to consist of an intergrowth of two substances, of which the predominant one (erikite) is yellow, strongly refracting and birefringent, whilst the other is probably hydronephelite. An analysis of this mixture corresponds with the formula $8SiO_2 . 4P_2O_5 . 4(Ce,La,Di)_2O_3 . 3Al_2O_3 . CaO . 3Na_2O . 11H_2O$. Named after Erik the Red, who discovered Greenland in A.D. 986.

Ferrinatrite. R. Scharizer, 1905. Zeits. Kryst. Min., vol. xli, p. 209 (Ferrinatrit). To replace the name ferronatrite (J. B. Mackintosh, 1889), since the mineral to which it is applied is a hydrated sodium ferric (not ferrous) sulphate.

Giorgiosite. A. Lacroix, 1905. Compt. Rend. Acad. Sci. Paris,

vol. cxl, p. 1310; Bull. Soc. franç. Min., vol. xxviii, p. 198. A basic magnesium carbonate occurring as a white powder on lava erupted from Santorin in 1866. Under the microscope it is seen to consist of minute, birefringent spherules, and to have the same characters as the artificial compound $4MgCO_3 . Mg(OH)_2 . 4H_2O$. Named from Giorgios, one of the cones formed during the eruption of 1866.

Glendonite. T. W. E. David and T. G. Taylor, 1905. Records Geol. Survey New South Wales, vol. viii, p. 161. Large pseudomorphs of granular calcite, probably after glauberite, found in abundance at Glendon on the Hunter River and other localities in New South Wales. They were described by J. D. Dana in 1849, and are similar to thinolite and pseudogaylussite.

Gorceixite. E. Hussak, 1906. Min. Petr. Mitt. (Tschermak), vol. xxv, p. 338 (Gorceixit). Hydrated barium aluminium phosphate, $BaO . 2Al_2O_3 . P_2O_5 . 5H_2O$, occurring as brown pebbles ('favas'), with a compact, jaspery structure, in the diamond-bearing sands of Brazil. It is optically uniaxial, and belongs to the hamlinite group of minerals. Named after Professor Henri Gorceix, formerly director of the School of Mines at Ouro Preto, Brazil.

Greenalite. C. K. Leith, 1903. Monogr. U.S. Geol. Survey, vol. xliii, pp. 14, 101, 239. A hydrous silicate of iron occurring in the form of green granules and closely resembling glauconite, from which it differs in containing no potassium. The composition varies somewhat; one analysis gives the formula $Fe_2'''(Fe,Mg)_3(SiO_4)_3 . 3H_2O$. Occurs abundantly as a constituent of sedimentary rocks in the Mesabi iron-bearing district of Minnesota.

Greenite. John Ruskin, 1884. Catalogue of a series of specimens in the British Museum (Natural History) illustrative of the more common forms of native silica. Orpington, Kent (G. Allen), 1884, p. 28. The English equivalent of chlorite. 'Chlorite, which ought to be more simply termed "Greenite" or "Greeny", is a combination of . . .'

Harttite. E. Hussak, 1906. Min. Petr. Mitt. (Tschermak), vol. xxv, p. 341 (Harttit). Hydrated strontium aluminium sulphato-phosphate, $SrO . 2Al_2O_3 . P_2O_5 . SO_3 . 5H_2O$, near svanbergite in composition. It is found as flesh-red pebbles ('favas') in the diamond-bearing sands of Brazil. The crystalline structure is rhombohedral. Named in memory of Charles Frederick Hartt (1840–78), the first director of the Geological Survey of Brazil.

Hedenbergit-Ägirin. *See* Aegirine-hedenbergite.

Hibschite. F. Cornu, 1905. Min. Petr. Mitt. (Tschermak), vol. xxiv, p. 327; 1906, vol. xxv, p. 249 (Hibschit). Minute, octahedral, optically isotropic crystals of contact-metamorphic origin, occurring in enclosures of chalk-marl in phonolite at Aussig, Bohemia. It usually forms a colourless layer around a nucleus of green titaniferous melanite. The chemical composition, $H_4CaAl_2Si_2O_{10}$, is the same as of the orthorhombic lawsonite. Named after Professor Josef Emanuel Hibsch, of Tetschen, Bohemia.

The same mineral also occurs in enclosures of limestone in basalt at Aubenas, Ardèche, France, and was described by A. Lacroix in 1893 as colourless garnet with a core of brown melanite.

Hollandite. L. L. Fermor, 1906. Trans. Mining and Geol. Inst. India, vol. i, p. 76. A crystallized manganate of barium, manganese, and ferric iron, $m(Ba,Mn)_2MnO_5 + nFe_4(MnO_5)_3$. From Central India. Named after Thomas Henry Holland, Director of the Geological Survey of India.

Hutchinsonite. R. H. Solly, 1904. Min. Mag., 1905, vol. xiv, p. 72. (A preliminary account of the unnamed mineral appeared in Nature, 1903, vol. lxix, p. 142, and the name (Hutchinsonit) was first printed in Min. Petr. Mitt. (Tschermak), 1904, vol. xxiii, p. 551.) G. T. Prior, Nature, 1905, vol. lxxi, p. 534. G. F. H. Smith and G. T. Prior, Min. Mag., 1907, vol. xiv, p. 284. Minute, red, orthorhombic crystals found in the white, crystalline dolomite of the Binnenthal, Switzerland. An analysis made on a small amount of material suggests the formula $(Tl,Cu,Ag)_2S \cdot As_2S_3 + PbS \cdot As_2S_3$; thallium is present to the extent of about 20 per cent. Named after Dr. Arthur Hutchinson, of Cambridge.

Ilmenitglimmer. H. Rosenbusch, 1905. Mikroskopische Physiographie d. Mineralien, 4th edit., vol. i, part 2, p. 81. The same as Titaneisenglimmer (q.v.).

Irvingite. S. Weidman, 1907. Amer. Journ. Sci., ser. 4, vol. xxiii, p. 451. A variety of lithia-mica differing somewhat from other varieties in chemical composition. Occurs with marignacite (q. v.) in pegmatite-veins near Wausau, Wisconsin. Named after Roland Duer Irving (1847–88), formerly of the Geological Survey of Wisconsin.

Isorthose. L. Duparc, 1904. Compt. Rend. Acad. Sci. Paris, vol. cxxxviii, p. 715. A variety of orthoclase (French, orthose) differing from ordinary orthoclase in optical orientation: the acute bisectrix of the optic axes is positive in sign and is perpendicular to the plane

of symmetry. It is met with in granite from the northern Urals and in the protogine of Mont Blanc.

Janosite. H. Böckh and K. Emszt, 1905, Földtani Közlöny, Budapest, vol. xxxv, pp. 76, 139; ibid., vol. xxxvi, pp. 186, 228, 404, 455 (Jánosit). Described as an orthorhombic, hydrated normal ferric sulphate, $Fe_2O_3.3SO_3,9H_2O$, dimorphous with coquimbite; it occurs as a greenish-yellow, powdery efflorescence at Vashegy, Comitat Gömör, Hungary. Named after Dr. János [=John] Böckh, Director of the Geological Survey of Hungary.

Proved by E. Weinschenk (ibid., 1906, vol. xxxvi, pp. 182, 224, 289, 359) and Z. Toborffy (ibid., 1907, vol. xxxvii, pp. 122, 173; Zeits. Kryst. Min., 1907, vol. xliii, p. 369) to be identical with copiapite, $2Fe_2O_3 . 5SO_3 . 18H_2O$, which is orthorhombic and not monoclinic.

Jentschite. Min. Petr. Mitt. (Tschermak), 1904, vol. xxiii, p. 551; Min. Mag., 1905, vol. xiv, p. 80 footnote. Synonym of lengenbachite (q. v.). Named after Franz Jentsch, mineral dealer of Binn, Switzerland. Not to be confused with the jenzschite of J. D. Dana, 1868.

Johnsonite. H. D. Richmond and H. Off, 1892. Chemiker-Zeitung, Jahrg. xvi, pp. 567, 648 (Johnsonit); Chem. News, vol. lxv, p. 257. A fibrous alum, containing the supposed new element masrium, found in Egypt by S. E. Johnson Pasha. The mineral was immediately afterwards re-named masrite (see first list, Min. Mag., vol. xi, p. 331).

Justite. Min. Petr. Mitt. (Tschermak), 1904, vol. xxiii, p. 97 (Justit); the name also appears on dealers' labels. Synonym of koenenite (see third list, Min. Mag., vol. xiii, p. 369). Named from the Justus I salt-mine in Hanover, where the mineral was found.

Kassiterolamprit. A. Frenzel. C. Hintze, Handbuch d. Mineralogie, 1904, vol. i, p. 1191 footnote. Thought to be a new mineral from Bolivia, but afterwards identified with stannite.

Katharite. W. Ainsworth, 1834. An account of the caves of Ballybunian, County of Kerry: with some mineralogical details. Dublin, 1834, pp. 83, 85. Synonym of alunogen. Named katherite or katharite 'from καθαρος [i. e. κᾰθᾰρός], impermixtus, simplex; in allusion to the absence of potash', it being hydrous aluminium sulphate and thus more simple in composition than alum.

Kertschenite. S. P. Popoff, 1906. Centralblatt Min., 1906, p. 113 (Kertschenit). Hydrated phosphate of iron with small amounts of manganese and magnesium, $(Fe,Mn,Mg)O . Fe_2O_3 . P_2O_5 . 7H_2O$. It occurs

as radially fibrous aggregates of dark-green, flattened crystals in the limonitic iron-ores of the Kerch (German, Kertsch) peninsula, Crimea.

Kleinite. A. Sachs, 1905. Sitzungsber. Akad. Wiss. Berlin, 1905, p. 1091; Centralblatt Min., 1906, p. 200 (Kleinit). An oxychloride of mercury, $Hg_4Cl_2O_3$, containing small amounts of nitrogen and sulphate. It occurs as sulphur-yellow, hexagonal crystals in the mercury-mines at Terlingua, Texas. Named after Professor Carl Klein (1842–1907), of Berlin.

Kutnohorite. A. Bukovský, 1901. [Anz. III Congr. böhm. Naturf. u. Aerzte, Prag, 1901, p. 293; Programm d. Oberrealschule in Kuttenberg, 1902]; Neues Jahrb. Min., 1903, vol. ii, Ref. p. -338- (Kutnohorit). A rhombohedral carbonate with the atomic ratios Ca : Mn : Fe : Mg = 7 : 5 : 1 : 2, occurring as reddish-white cleavage-masses at Kutná Hora (German, Kuttenberg), Bohemia.

Landerite. M. M. Villada, 1891. La Naturaleza, México, ser. 2, vol. i, p. 502 (Landerita). A beautiful, pink grossularite occurring as large rhombic-dodecahedra embedded in white marble at Xalostoc, Morelos, Mexico. It was analysed by A. Damour in 1871 and by Carlos F. de Landero in 1891, after whom it is named. Also called rosolite and xalostocite (q.v.).

Landevanite. Comte de Limur. A. Lacroix, Minéralogie de la France, 1895, vol. i, p. 484. 'Under the name of landevanite, M. de Limur has distributed to his correspondents a rose-coloured clay coming from Landevan in Morbihan and resulting from the decomposition of a pegmatite rich in albite.' It is placed by Lacroix under montmorillonite.

Lengenbachite. R. H. Solly, 1904. Nature, vol. lxxi, p. 118; Min. Mag., 1905, vol. xiv, p. 78. Thin, blade-shaped crystals, probably anorthic, occurring in the white, crystalline dolomite of the Lengenbach, Binnenthal, Switzerland. Analysis by A. Hutchinson (Min. Mag., 1907, vol. xiv, p. 204) gives the formula $Pb_6(Ag,Cu)_2As_4S_{13}$. *See* Jentschite.

Lepidolamprite or Schuppenglanz. A. Breithaupt. C. Hintze, Handbuch d. Mineralogie, 1904, vol. i, p. 1198 footnote (Lepidolamprit). A specimen of franckeite (A. W. Stelzner, 1893) in the Freiberg collection was so labelled by Breithaupt in the first half of the nineteenth century.

Magnesium-diopside. H. Rosenbusch, 1905. Mikroskopische Physiographie d. Mineralien, 4th edit., vol. i, part 2, pp. 200, 206 (Magnesiumdiopsid). A monoclinic pyroxene near to diopside, but containing only 8–9 per cent. CaO.

Marignacite. S. Weidman and V. Lenher, 1907. Amer. Journ. Sci., ser. 4, vol. xxiii, p. 287. A variety of pyrochlore occurring as brown octahedra in pegmatite at Wausau, Wisconsin. It differs from other members of the pyrochlore group in containing rather more cerium and yttrium with less calcium and iron, and in the presence of a small amount of silica. Named after Jean Charles Galissard de Marignac (1817–94).

Marrite. R. H. Solly, 1904. Nature, vol. lxxi, p. 118; Min. Mag., 1905–6, vol. xiv, pp. 76, 188. Small, steel-grey crystals with brilliant metallic lustre found in the white, crystalline dolomite of the Binnenthal, Switzerland. They are monoclinic with a rich development of faces; their chemical composition is not known. Named after Dr. John Edward Marr, of Cambridge.

Metaautunite. P. Gaubert, 1904. Bull. Soc. franç. Min., xxvii, p. 224 (Métaautunite). The same as Metakalkuranit (F. Rinne, 1901; third list, Min. Mag., xiii, p. 371).

Metaboracite. E. S. Fedorov, 1892. Zeits. Kryst. Min., vol. xx, p. 74. The names metaboracite, metaleucite, and metaperovskite (Metaboracit, Metaleucit, Metaperowskit) are applied to those dimorphous forms possessing higher symmetry met with at ordinary temperatures, whilst the names boracite, leucite, and perovskite respectively, are restricted to the cubic, optically isotropic modifications of the same substances which are stable only above certain temperatures.

Metachalcophyllite. P. Gaubert, 1904. Bull. Soc. franç. Min., vol. xxvii, p. 224 (Métachalcophyllite). Following F. Rinne (1901), this name is given to chalcophyllite which has been partly dehydrated by heating artificially until only the water of constitution remains; the loss of water is accompanied by changes in the optical characters.

Metaleucite. E. S. Fedorov, 1892. *See* Metaboracite.

Metanhydrite. E. Sommerfeldt, 1907. Neues Jahrb. Min., vol. i, p. 140 (Metanhydrit). A modification of calcium sulphate which in external form appears to be isomorphous with barytes, though in physical characters (sp. gr. and cleavage) it is identical with anhydrite. The crystals examined were prepared artificially: the same substance probably occurs as a volcanic product at Santorin.

Metaperovskite. E. S. Fedorov, 1892. *See* Metaboracite.

Metauranocircite. P. Gaubert, 1904. Bull. Soc. franç. Min., vol. xxvii, p. 226 (Métauranocircite). *See* Metachalcophyllite.

Micaultlite. Comte de Limur, 1883. Catalogue raisonné des minéraux du Morbihan. Vannes, 1883, p. 38. An earthy, brick-red decomposition product of rutile, which is suggested may be an aluminous hydrorutile. Presumably named after Victor Micault, of Paris.

Minette. A mining term applied to oolitic brown-iron-ores (limonite) of Lorraine and Luxemburg. A diminutive of the French *mine*, ore, in allusion to the low content of metal in the ore.

Moissanite. G. F. Kunz, 1905. Centralblatt Min., 1905, p. 154; Amer. Journ. Sci., ser. 4, vol. xix, p. 396. Silicide of carbon, CSi, identical with the artificial product known as carborundum (q. v.), found by H. Moissan (Compt. Rend. Acad. Sci. Paris, 1904, vol. cxxxix, p. 778; 1905, vol. cxl, p. 405) as small, green, hexagonal plates in the meteoric iron of Cañon Diablo, Arizona. Named after Professor Henri Moissan (1852–1907).

Moravite. F. Kretschmer, 1906. Centralblatt Min., 1906, p. 293 (Moravit). A finely scaly chloritic mineral, of the leptochlorite group, occurring abundantly as iron-black masses with sub-metallic lustre in association with iron-ores at Gobitschau in Moravia. It resembles thuringite in appearance, but differs chemically from this, the formula being $H_4(Al,Fe)_4(Fe,Mg)_2Si_7O_{24}$. Named from the locality.

Morencite. W. Lindgren and W. F. Hillebrand, 1904. Amer. Journ. Sci., ser. 4, vol. xviii, p. 455; Bull. U.S. Geol. Survey, 1905, no. 262, p. 49; Profess. Paper U.S. Geol. Survey, 1905, no. 43, p. 115. A brownish-yellow mineral occurring in finely fibrous seams, the minute fibres having straight extinction. Hydrated ferric silicate with some magnesia, lime, &c., and a little alumina; $H_{22}R_2''Fe_6'''(SiO_4)_{11}$. Occurs in calcareous shale at Morenci, Arizona, and is probably an alteration product of some contact-metamorphic mineral.

Naegite. T. Wada, 1904. Minerals of Japan. Tōkyō, p. 49 (Naëgite). A tetragonal mineral occurring as small, rather indistinct crystals with angles near those of zircon. Described as a silicate of uranium, thorium, &c., and considered to be isomorphous with zircon; in a later analysis (Beiträge zur Mineralogie von Japan, 1906, no. 2, p. 23) zirconium figures largely. [Further investigation will probably prove its identity with zircon.] Found in alluvial tin-washings at Naëgi, near Takayama, Prov. Mino, Japan.

Nemaphyllite. F. Focke, 1902. Min. Petr. Mitt. (Tschermak), vol. xxi, p. 323 (Nemaphyllit). A chlorite-like mineral occurring as

greenish scales with a fibrous structure: it has the composition of serpentine ($H_4Mg_3Si_2O_9$), containing also 2·11 per. cent. Na_2O. It is from the Zillerthal, Tyrol, where it sometimes forms regular intergrowths with dolomite. Named from *νῆμα*, a thread, and *φύλλον*, a leaf.

Nepouite. E. Glasser, 1906. Compt. Rend. Acad. Sci. Paris, vol. cxliii, p. 1173; Bull. Soc. franç. Min., 1907, vol. xxx, p. 17 (Népouite). A hydrated silicate of nickel (NiO,18·1—50·7 per cent.) and magnesium (MgO,3·0—30·0 per cent.) with the formula $3(Ni,Mg)O \cdot 2SiO_2 \cdot 2H_2O$, occurring as a finely crystalline, bright green to pale yellowish-green powder in niccoliferous peridotite at Népoui in New Caledonia. It differs from connarite, garnierite, &c., and in its optical characters it resembles the chlorites.

N'hangellite. (L. A. Boodle, Bull. Roy. Botanic Gardens, Kew, 1907, p. 145; Sir Boverton Redwood, ibid., p. 151.) An elastic bitumen derived from a gelatinous alga, and resembling coorongite; from the neighbourhood of Lake N'hangella in Portuguese East Africa.

Nuissierite. The same as nussierite (G. Barruel, 1836). A calciferous mimetite from the Nuissière lead-mine near Chenelette, dep. Rhône, France. The new spelling (nuissiérite) is given by A. Des Cloizeaux, Manuel de Minéralogie, 1893, vol. ii, p. 519.

'Octahedral borax.' The conditions necessary for the formation of the artificial salt long known as 'octahedral borax' (sodium borate, $Na_2B_4O_7 \cdot 5H_2O$, crystallizing in rhombohedral forms $r\,c$ with the appearance of regular octahedra) have been investigated by J. H. van 't Hoff and W. C. Blasdale (Sitzungsber. Akad. Wiss. Berlin, 1905, p. 1086), who point out that this substance was observed by E. Bechi in 1854 as an incrustation at the Tuscan lagoons.

Oehrnite. E. S. Fedorov, 1905. Gornyi Zhurnal, St. Petersburg, year lxxxi, vol. iii, p. 264 (эрнитъ, Oehrnit). A rock-forming mineral from the Caucasus resembling diallage in appearance: it has three rectangular cleavages, but is shown by its optical characters to be monoclinic. The formula is given as $6(Mg,Fe,Ca)O \cdot 6SiO_2 \cdot H_2O$, but the analysis shows also Al_2O_3, 6·74 per cent. Named after A. G. Ern, a Russian mining engineer.

Osannite. C. Hlawatsch, 1906. Festschrift Harry Rosenbusch, Stuttgart, 1906, p. 76 (Osannit). Those soda-amphiboles, intermediate between riebeckite and arfvedsonite, in which the optic axial plane is perpendicular to the plane of symmetry and the acute, negative bisectrix

nearly coincides with the vertical prism-axis. A constituent of amphibole-gneiss at Cevadaes, Portugal. Named after Professor Alfred Osann, of Freiberg in Baden.

Otavite. O. Schneider, 1906. Centralblatt Min., 1906, p. 389 (Otavit). A basic carbonate of cadmium (Cd, 61·5 per cent.) occurring as minute, curved rhombohedra and forming white to reddish crystalline crusts on copper-ores at Otavi in German South-West Africa.

Palaeoleucite. H. Rosenbusch, 1905. Mikroskopische Physiographie d. Mineralien, 4th edit., vol. i, part 2, p. 33 (Paläoleucit). The original mineral of pseudoleucite. *See* Soda-leucite.

Palmerite. E. Casoria, 1904. Atti R. Accad. Georgofili, Firenze, ser. 5, vol. i, p. 293; Ann. R. Scuola Sup. Agric. Portici, 1904, vol. vi. Hydrated aluminium potassium phosphate, $HK_2Al_2(PO_4)_3 . 7H_2O$, occurring as a white powder under bat-guano in a cave on Monte Alburno, Salerno, Italy. Named after Paride Palmeri, professor of chemistry in the Royal School of Agriculture at Portici, near Naples.

Palmierite. A. Lacroix, 1907. Compt. Rend. Acad. Sci. Paris, vol. cxliv, p. 1400 (palmiérite). Minute hexagonal scales which are optically uniaxial with strong negative birefringence; found enclosed in aphthitalite amongst the products of the Vesuvian eruption of April, 1906. Anhydrous sulphate of lead, potassium, and sodium, $PbSO_4 . (K,Na)_2SO_4$. Named after Luigi Palmieri (1807–96).

Paracelsian. E. Tacconi, 1905. Rend. R. Istit. Lombardo, ser. 2, vol. xxxviii, p. 642 (Paracelsiana). A mineral with the composition $Ba_3Al_8Si_8O_{31}$, occurring as pale yellow granules in veins in crystalline schists at Candoglia, Piedmont. It is near to celsian ($BaAl_2Si_2O_8$) in composition and optical characters, but it seems to differ from this in possessing only poor cleavage.

Paratacamite. G. F. H. Smith, 1905. Nature, vol. lxxi, p. 574; Min. Mag., 1906, vol. xiv, p. 170; Zeits. Kryst. Min., 1907, vol. xliii, p. 28. Hydrated oxychloride of copper, $Cu_2Cl(OH)_3$, dimorphous with atacamite. The bright green crystals are rhombohedral but with optical anomalies. From Chili.

Paravivianite. S. P. Popoff, 1906. Centralblatt Min., 1906, p. 112. A variety of vivianite with part of the iron replaced by small amounts of manganese and magnesium, $(Fe,Mn,Mg)_3P_2O_8 . 8H_2O$. Occurs as blue, acicular crystals in limonitic iron-ore in South Russia.

Patronite. F. Hewett. Engineering and Mining Journ. New York, 1906, vol. lxxxii, p. 385. C. Matignon, Revue Scientifique, Paris, 1906, ser. 5, vol. vi, p. 597. A dark green mineral containing much vanadium, perhaps vanadium sulphide, but not yet completely determined. It occurs with vanadiferous asphaltum near Cerro de Pasco in Peru. Named after Antenor Rizo Patrón, of the Huaraucaca smelting works near Cerro de Pasco, who detected the vanadium.

Pearcit. P. Groth, Tabell. Uebersicht d. Mineralien, 4th edit., 1898, p. 38. Error for pearceite: named after Dr. Richard Pearce.

Pholidite. C. Hintze, 1892. Handbuch d. Mineralogie, vol. ii, p. 835 footnote (Pholidit). The more correct derivation of pholerite, from *φολίς, φολίδος*, a scale; a scaly variety of kaolinite.

Phosphorus. Evidence of the existence of native phosphorus in a meteoric stone is adduced by O. C. Farrington, Amer. Journ. Sci., 1903, ser. 4, vol. xv, p. 71; Chem. News, 1903, vol. lxxxvii, p. 66.

Picrocrichtonite. (Collection de Minéralogie du Muséum d'Histoire Naturelle, Paris, Guide du Visiteur, 2nd edit., 1900, p. 24.) A. Lacroix, Minéralogie de la France, 1901, vol. iii, p. 284. Synonym of picroilmenite $(Fe,Mg)TiO_3$ (compare Min. Mag., vol. xiv, p. 165). Lacroix distinguishes between crichtonite ($FeTiO_3$) and ilmenite ($FeTiO_3 . xFe_2O_3$); hence the above name for the magnesian variety.

Podolite. W. Tschirwinsky, 1907. Centralblatt Min., 1907, p. 279 (Podolit). A mineral closely related to apatite and staffelite, but with the composition $3Ca_3(PO_4)_2 . CaCO_3$, occurring as minute hexagonal crystals in phosphorite nodules in govt. Podolia, South Russia. It had earlier been called carbapatite (q. v.).

Prasiolite. C. Hintze, Handbuch d. Mineralogie, 1892, vol. ii, p. 940 (Prasiolith). Variant of praseolite (Praseolit, A. Erdmann, 1842). Hintze gives as derivation *πράσιος*, leek-green, and *λίθος*, stone; whilst Erdmann gives *πράσον*, leek, and *λίθος*.

Priorite. W. C. Brögger, 1906. Videnskabs-Selsk. Skrifter, Kristiania, 1906, no. 6, p. 110 (Priorit). A titano-niobate of yttrium, cerium-earths, &c., found as indistinct orthorhombic crystals in the tin-gravels of Swaziland, South Africa. Named after Dr. George Thurland Prior, of the British Museum, who analysed it (Min. Mag., 1899, vol. xii, p. 96). It is isomorphous with blomstrandine (q.v.) and dimorphous with euxenite, the four minerals euxenite-polycrase and priorite-blomstrandine forming an isodimorphous group.

Pseudo-jade. A name which may be applied to any mineral resembling jade in appearance; for example, bowenite (C. A. McMahon, Min. Mag., 1890, vol. ix, p. 187).

Pseudomeionite. H. Rosenbusch, 1902. Mitt. Grossherz. Badisch. geol. Landesanst., vol. iv, p. 391 (Pseudomejonit). A name provisionally given to a felspathoid mineral occurring with bytownite in a para-amphibole-gneiss from the Black Forest; it has the microscopical characters of meionite, except in possessing a good basal cleavage.

Pseudowollastonite. E. T. Allen and W. P. White, 1906. Amer. Journ. Sci., ser. 4, vol. xxi, p. 89 (Pseudo-Wollastonite). An artificial product usually known as hexagonal calcium metasilicate: the crystals are, however, pseudo-hexagonal and probably monoclinic. Wollastonite when heated to 1180° C. becomes changed, without melting, into this dimorphous modification.

Purpurite. L. C. Graton and W. T. Schaller, 1905. Amer. Journ. Sci., ser. 4, vol. xx, p. 146; Zeits. Kryst. Min., 1906, vol. xli, p. 433. A hydrous manganic ferric phosphate, $2(Mn,Fe)PO_4 . H_2O$, with a purple or dark reddish colour; hence the name, from the Latin, purpura, purple. It is probably orthorhombic, and occurs in small irregular masses as an alteration product of lithiophilite and triphylite in the lithium-bearing pegmatite-veins of North Carolina and of San Diego Co., California.

Radiobaryt. J. Knett, 1904. Sitzungsber. Akad. Wiss. Wien, vol. cxiii, Abt. IIa, p. 761. Crystals of barytes from the hot springs of Carlsbad, Bohemia, but not crystals from other localities, were found to be radio-active (as demonstrated by their action on a photographic plate).

Radiotine. R. Brauns, 1904. Neues Jahrb. Min., Beil.-Bd. xviii, p. 314 (Radiotin). Small spheres with radially fibrous structure occurring in a serpentine which has resulted from the alteration of picrite near Dillenburg, Nassau. It has the same composition as serpentine ($H_4Mg_3Si_2O_9$), but differs from this in not being attacked by hydrochloric acid and in its higher specific gravity of 2·70. So named because of its radial structure and its relation to serpentine.

Rancieite. (Collection de Minéralogie du Muséum d'Histoire Naturelle, Paris, Guide du Visiteur, 2nd edit., 1900, p. 29 (Ranciéite).) The correct spelling of rancierite (A. Leymerie, 1857), a variety of wad (hydrated manganese oxide) from the iron-mines of Rancié, Ariège, France.

Reyerite. F. Cornu, 1906. Min. Petr. Mitt. (Tschermak), 1906–7, vol. xxv, pp. 211, 519 (Reyerit). A 'micaceous zeolite' indistinguishable in appearance from gyrolite and zeophyllite. The thin plates with perfect cleavage and pearly lustre are rhombohedral and form radial aggregates. Sp. gr. 2·499—2·578; refractive index (ω) 1·564. Hydrous silicate of calcium with a little aluminium. The specimens examined were collected in Greenland by C. L. Giesecke in 1807–13, and the mineral is probably identical with his 'Glimmerzeolith' (see Min. Mag., vol. xiv, p. 95). Named after Professor Eduard Reyer, of Vienna.

Romanechite. (Collection de Minéralogie du Muséum d'Histoire Naturelle, Paris, Guide du Visiteur, 2nd edit., 1900, p. 29 (Romanéchite).) Psilomelane from Romanèche, France, with the composition $(Ba,Mn)O.3MnO_2.H_2O$; analysed by A. Gorgeu (1890).

Rosolite. (Trans. Amer. Inst. Mining Engin., 1902, vol. xxxii, pp. 55, 57.) A rose-pink garnet from Mexico. *See* Landerite.

Rutherfordine. W. Marckwald, 1906. Centralblatt Min., 1906, p. 763 (Rutherfordin). A yellow uranyl carbonate, $UO_2.CO_3$, resembling uranochre in appearance and resulting by the alteration of uraninite; from German East Africa. It is strongly radio-active, and is named after a prominent worker in radio-activity, Professor Ernest Rutherford, of Manchester, formerly of the McGill University, Montreal. Not to be confused with rutherfordite (C. U. Shepard, 1851) from Rutherford Co., North Carolina.

Schertelite. Zeits. Kryst. Min., 1906, vol. xlii, p. 386 (Schertelit). The correct spelling of schertalite (R. W. E. MacIvor, 1902; third list, Min. Mag., vol. xiii, p. 376). Named after Arnulf Schertel (1841–1902), formerly professor in the Bergakademie of Freiberg, Saxony.

Schuppenglanz. *See* Lepidolamprite.

Silicomagnesiofluorite. P. A. Zemjatčenskij, 1906. Zeits. Kryst. Min., vol. xlii, p. 209 (Silicomagnesiofluorit). Ash-grey, greenish, or bluish, radially-fibrous aggregates associated with quartz and serpentine, in a boulder at Luppiko, Finland. The fibres are optically positive and give straight extinction. Formula, $H_2Ca_4Mg_3Si_2O_7F_{10}$. So named on account of its composition.

Smithite. R. H. Solly, 1905. Min. Mag., vol. xiv, p. 74. (A preliminary description of the unnamed mineral appeared in Nature, 1903, vol. lxix, p. 142.) G. F. H. Smith and G. T. Prior, Min. Mag., 1907, vol. xiv, p. 293. Minute, red, monoclinic crystals found in the white,

crystalline dolomite of the Binnenthal, Switzerland. Sulpharsenite of silver, $AgAsS_2$. Named after Dr. George Frederick Herbert Smith, of the British Museum.

Soda-leucite. An analysis of pseudoleucite, consisting of a mixture of orthoclase, nephelite, scapolite, &c., showed the presence of 7·08 per cent. Na_2O with 8·49 per cent. K_2O; this suggests that the original mineral was a soda-leucite (C. W. Knight, Amer. Journ. Sci., 1906, ser. 4, vol. xxi, p. 292). A soda-leucite (Natronleucit) was prepared artificially by J. Lemberg in 1876. *See* Palaeoleucite.

Sommairite. (British Museum (Natural History), Students' Index to the Collection of Minerals, 1897. Collection de Minéralogie du Muséum d'Histoire Naturelle, Paris, Guide du Visiteur, 2nd edit., 1900, p. 32.) Zinciferous melanterite from Laurion, Greece; analysed, but not named sommairite, by L. Michel (Bull. Soc. franç. Min., 1898, vol. xvi, p. 204).

Soretite. L. Duparc and F. Pearce, 1903. Arch. Sci. Phys. Nat. Genève, ser. 4, vol. xvi, p. 599 (Soretite); Bull. Soc. franç. Min., vol. xxvi, p. 126 (sorétite). A variety of common aluminous hornblende, defined by its optical characters, which vary, however, in different specimens. It occurs in anorthite-diorite at Koswinsky Kamen, northern Urals. Named after the late Professor Charles Soret (1854–1904), of Geneva.

Souesite. G. C. Hoffmann, 1905. Amer. Journ. Sci., ser. 4, vol. xix, p. 319. A native nickel-iron alloy occurring as small, rounded grains in the auriferous gravels of the Fraser River, British Columbia. Named after F. Soues, who sent the material for identification.

G. S. Jamieson (Amer. Journ. Sci., 1905, ser. 4, vol. xix, p. 413; Zeits. Kryst. Min., 1905, vol. xli, p. 157) points out that awaruite, josephinite, souesite, and other terrestrial nickel-iron alloys have no definite composition, though they all lie between $FeNi_3$ and $FeNi_2$; and he proposes that they should all be referred to the earliest name awaruite (W. Skey, 1885).

Spandite. L. L. Fermor, 1907. Records Geol. Survey India, vol. xxxv, p. 22. The term spessart-andradite, contracted to spandite, is applied to garnets intermediate in chemical composition between spessartite and andradite.

Stilpnochlorane. F. Kretschmer. 1905. Centralblatt Min., 1905, p. 203; 1907, p. 292 (Stilpnochloran). A chloritic mineral occurring

as shining, yellow scales in the iron-mines at Gobitschau, Moravia. It is an alteration product of thuringite, and has the composition $H_{24}(Al,Fe)_{10}(Ca,Mg)Si_9O_{46}$. Named from στιλπνός, glistening, and χλωρός, pale-green, yellow.

Strüverite. F. Zambonini, 1907. Rend. Accad. Sci. Napoli, ser. 3, vol. xiii, p. 35. A black, tetragonal mineral, with angles near those of rutile and tapiolite, found in pegmatite at Craveggia, Piedmont. In chemical composition it is near to ilmenorutile. Named after Professor Giovanni Strüver, of Rome. Not the strüverite of A. Brezina, 1876.

Synkysit. O. B. Boeggild, Mineralogia Groenlandica, Copenhagen, 1905, p. 167. Variant of synchysite (G. Flink, 1901).

Tarbuttite. L. J. Spencer, 1907. Nature, vol. lxxvi, p. 215. Hydrous phosphate of zinc occurring as colourless or faintly coloured, anorthic crystals with descloizite at the Rhodesia Broken Hill mines, North Western Rhodesia. The crystals have a perfect cleavage in one direction, through which emerges obliquely the acute, negative bisectrix of the optic axes. Named after Mr. Percy Coventry Tarbutt, a director of the mining company, who furnished the material for determination.

Teallite. G. T. Prior, 1904. Min. Mag., vol. xiv, p. 21. Sulphostannite of lead, $PbSnS_2$, occurring as black, metallic, soft, and flexible folia resembling graphite, which are orthorhombic with a perfect basal cleavage. Named after Dr. J. J. Harris Teall, Director of the Geological Survey of Great Britain. From Bolivia; R. Koechlin (Min. Petr. Mitt. (Tschermak), 1905, vol. xxiv, p. 114) gives a more definite locality.

Thorianite. W. R. Dunstan, 1904. Nature, vol. lxix, p. 510; Bull. Imp. Inst. London, 1904, vol. ii, p. 13; 1905, vol. iii, p. 155. W. R. Dunstan and G. S. Blake, Proc. Roy. Soc. London, 1905, ser. A, vol. lxxvi, p. 253. W. R. Dunstan and B. M. Jones, Proc. Roy. Soc. London, 1906, ser. A, vol. lxxvii, p. 546. A heavy, black mineral found as water-worn, cubic crystals in the gem-bearing gravels of Ceylon. It was first described as uraninite (A. K. Coomaraswamy, Spolia Zeylanica, 1904, vol. i, p. 112; Administration Reports, Ceylon, for 1903, 1904, part iv, p. L 11), but it differs from this in that the uranium oxide (UO_2) is largely replaced isomorphously by thoria (58·8—78·8 per cent. ThO_2). So named because of the large amount of thorium which it contains.

Titanaugite. A. Knop, 1892. Der Kaiserstuhl im Breisgau. Leipzig, p. 72 (Titan-Augit). Titaniferous augite.

Titaneisenglimmer. H. Rosenbusch, 1885. Mikroskopische Physiographie d. Mineralien, 2nd edit., vol. i, p. 331. Ilmenite as thin, transparent scales of a clove-brown colour by transmitted light; described by K. Hofmann (1879) in basaltic rocks from Hungary. *See* Ilmenitglimmer.

Titanmelanite. A. Knop, 1892. Der Kaiserstuhl im Breisgau. Leipzig, p. 145 (Titanmelanit). Titaniferous melanite approaching schorlomite in composition.

Trechmannite. R. H. Solly, 1904. Min. Mag., 1905, vol. xiv, pp. 75, 189. (A preliminary description of the unnamed mineral appeared in Nature, 1903, vol. lxix, p. 142, and the name (Trechmannit) was first printed in Min. Petr. Mitt. (Tschermak), 1904, vol. xxiii, p. 552.) G. F. H. Smith and G. T. Prior, Min. Mag., 1907, vol. xiv, p. 300. Minute, red crystals associated with tennantite, &c., in the white, crystalline dolomite of the Binnenthal, Switzerland. The crystals are rhombohedral with parallel-faced hemihedrism, and were found to contain silver and arsenic: probably a sulpharsenite of silver. Named after Dr. Charles O. Trechmann, of Castle Eden, Co. Durham.

Tschernichewite. L. Duparc and F. Pearce, 1907. Compt. Rend. Acad. Sci. Paris, vol. cxliv, p. 763 (tschernichéwite). A variety of amphibole occurring with magnetite in a quartzite in the northern Urals. It is defined by its optical characters: the plane of the optic axes is perpendicular to the plane of symmetry and the axial angle is near 90°; $\gamma : c = 4°$; the pleochroism is very strong. These characters point to a soda-iron-amphibole near riebeckite or arfvedsonite; compare osannite. Named after Theodosij Nikolajevič Černyšev (Tschernyschew), Director of the Geological Survey of Russia.

Tychite. S. L. Penfield and G. S. Jamieson, 1905. Amer. Journ. Sci., ser. 4, vol. xx, p. 217; Zeits. Kryst. Min., vol. xli, p. 235. Octahedral crystals indistinguishable in appearance from northupite, and differing from this in containing sodium sulphate in place of sodium chloride, the formula being $2MgCO_3 . 2Na_2CO_3 . Na_2SO_4$. Amongst several thousand crystals of northupite from Borax Lake, San Bernardino Co., California, only four crystals of tychite were found, and the first one only by the merest chance, hence the name, from τύχη, luck. The formula was determined by the analysis of artificially prepared crystals. Mixed crystals containing the northupite and tychite molecules in varying proportions have been prepared by A. de Schulten (Compt. Rend. Acad. Sci. Paris, 1906, vol. cxliii, p. 403).

Weinbergerite. F. Berwerth, 1906. Min. Petr. Mitt. (Tschermak), vol. xxv, p. 181 (Weinbergerit). Radially-fibrous aggregates occurring with diopside and bronzite in the meteoric iron of Kodaikanal, India. The optical characters agree with orthorhombic symmetry. $(Na,K)_2O\,.\,6(Fe,Ca,Mg)O\,.\,Al_2O_3\,.\,8SiO_2$ or $R'AlSiO_4 + 3R''SiO_3$. Named after J. Weinberger, of Vienna.

Winchite. L. L. Fermor, 1906. Trans. Mining and Geol. Inst. India, vol. i, p. 79. A blue amphibole closely allied to tremolite in chemical composition, but containing also iron, sodium, potassium, and manganese. Found by Howard J. Winch with manganese-ores in Central India. A preliminary description of the mineral was given by L. L. Fermor in 1904 (Records Geol. Survey India, vol. xxxi, p. 235).

Xalostocite. (Collection de Minéralogie du Muséum d'Histoire Naturelle, Paris, Guide du Visiteur, 2nd edit., 1900, p. 49.) The pink grossularite occurring in white marble at Xalostoc, Morelos, Mexico. See Landerite.

Yttrocalcite. E. S. Fedorov, 1905. Gornyi Zhurnal, St. Petersburg, year lxxxi, vol. iii, p. 264 (иттрокальцитъ). Described as a fluoride of calcium, yttrium, and cerium, but found on further examination to be identical with fluor-apatite (Ann. Rep. Progr. Chem. Soc. London, 1907, for 1906, vol. iii, p. 311).

Yttrocrasite. W. E. Hidden and C. H. Warren, 1906. Amer. Journ. Sci., ser. 4, vol. xxii, p. 515; Zeits. Kryst. Min., 1907, vol. xliii, p. 18. Hydrous titanate of yttrium-earths, thorium, uranium, &c., found in Burnet Co., Texas, as black, orthorhombic crystals with a pitchy lustre and uneven fracture. Apparently so named because of its resemblance in appearance to polycrase (from κρᾶσις, a mixing), though it contains no more yttrium than does polycrase.

Zeiringit. *See* Zeyringite.

Zeolite mimetica. G. D'Achiardi, 1906. Atti Soc. Toscana Sci. Nat., Mem., vol. xxii, p. 160. A zeolitic mineral from Elba was determined to have the form of octagonal prisms built up of sectors with different optical orientation, and to have the composition $(Ca,K_2,Na_2)_3Al_4(Si_2O_5)_9\,.\,14H_2O$. Had the author been in no doubt as to this being really a new mineral he would not have hesitated to call it 'dachiardite' (p. 164) in memory of his father, Antonio D'Achiardi (1839–1902); for the present, however, he prefers to call it 'zeolite mimetica'.

Zeyringite. — Pantz, 1811. Taschenb. Min. (Leonhard), vol. v, p. 373 (Zeyringit). A finely fibrous, greenish-white or sky-blue calcareous sinter containing nickel, from Zeyring, Styria. It is placed under aragonite by V. von Zepharovich (Min. Lexicon Österreich, 1859, vol. i, p. 28) and E. Hatle (Die Minerale des Herzogthums Steiermark, 1885, p. 68); the latter spells Zeiringit.

SYSTEMATIC CLASSIFICATION OF NEW MINERALS[1].

Element.

Phosphorus.

Silicide.

Moissanite, CSi.

Sulphide.

Patronite, (vanadium sulphide ?).

Sulpharsenites, &c.

Teallite, $PbSnS_2$.
Smithite, $AgAsS_2$.
Hutchinsonite, $(Tl,Cu,Ag)_2PbAs_4S_8$.
Trechmannite. (Contains Ag,As.)
Lengenbachite, $Pb_6(Ag,Cu)_2As_4S_{13}$.
Marrite.

Haloids.

Cryolithionite, $Li_3Na_3Al_2F_{12}$.
Kleinite, $Hg_4Cl_2O_3$.
Paratacamite, $Cu_2Cl(OH)_3$.
Chlormanganokalite, $MnCl_2 . 4KCl$.

Oxides.

Thorianite, $(Th,U)O_2$.
Coronadite, $(Pb,Mn)O . 3MnO_2$.
Hollandite,
$m(Ba,Mn)_2MnO_5 + nFe_4(MnO_5)_3$.
Ebelmenite, var. of psilomelane.
Romanechite, ,, ,,

Carbonates.

Kutnohorite, $(Ca,Mn,Fe,Mg)CO_3$.
Rutherfordine, $UO_2 . CO_3$.
Tychite,
$2MgCO_3 . 2Na_2CO_3 . Na_2SO_4$.
Otavite, basic Cd carbonate.
Giorgiosite,
$4MgCO_3 . Mg(OH)_2 . 4H_2O$.

Sulphates.

Metanhydrite, $CaSO_4$.
Palmierite, $PbSO_4 . (K,Na)_2SO_4$.
Sommairite, $(Fe,Zn)SO_4 . 7H_2O$.
Doughtyite,
$Al_2(SO_4)_3 . 5Al_2(OH)_6 . 21H_2O$.

Phosphates.

Podolite, $3Ca_3(PO_4)_2 . CaCO_2$.
Purpurite, $2(Mn,Fe)PO_4 . H_2O$.
Gorceixite,
$BaO . 2Al_2O_3 . P_2O_5 . 5H_2O$.
Harttite,
$SrO . 2Al_2O_3 . P_2O_5 . SO_3 . 5H_2O$.
Palmerite, $HK_2Al_2(PO_4)_3 . 7H_2O$.
Kertschenite,
$(Fe,Mn,Mg)O . Fe_2O_3 . P_2O_5 . 7H_2O$.
Paravivianite,
$(Fe,Mn,Mg)_3(PO_4)_2 . 8H_2O$.
Tarbuttite, Hyd. phosp. Zn.

[1] Only the more important of the names given in the above alphabetical list are here included.

Borate.

'Octahedral borax,' $Na_2B_4O_7 . 5H_2O$.

Tantalates, Titanates, &c.

Marignacite.
Blomstrandine.
Priorite.
Yttrocrasite.
Strüverite.

Silicates.

Isorthose, var. of orthoclase.
Baryta-orthoclase.
Paracelsian, $Ba_3Al_8Si_8O_{31}$.
Tschernichewite, var. of amphibole.
Soretite, ,, ,,
Osannite, ,, ,,
Winchite, ,, ,,
Magnesium-diopside.
Blanfordite, var. of pyroxene.
Soda-leucite.
Landerite, var. of grossularite.
Naegite [= zircon ?].
Californite, var. of idocrase.
Beckelite, $Ca_3Ce_4(Si,Zr)_3O_{15}$.
Weinbergerite, $(Na,K)_2(Fe,Ca,Mg)_6Al_2Si_8O_{26}$.
Beryllium-humite, $(Mg,Be)_5(MgOH)_2(SiO_4)_3$.
Oehrnite, $6(Mg,Fe,Ca)SiO_3 . H_2O$.
Hibschite, $H_4CaAl_2Si_2O_{10}$.
Astrolite, $(Al,Fe)_2Fe''(Na,K)_2(SiO_3)_5 . H_2O$.
Silicomagnesiofluorite, $H_2Ca_4Mg_3Si_2O_7F_{10}$.
Erikite, hyd. sil. and phospnate, Ce,Al,Ca,Na.
Morencite, $H_{22}(Mg,Ca)_2Fe_6'''(SiO_4)_{11}$.
Radiotine, $H_4Mg_3Si_2O_9$.
Nemaphyllite, $H_4Mg_3Si_2O_9$.
Nepouite, $(Ni,Mg)_3Si_2O_7 . 2H_2O$.
Chocolite, hyd. sil. Fe,Ni,Mg.
Greenalite, $Fe'''_2(Fe,Mg)_3(SiO_4)_3 . 3H_2O$.
Irvingite, var. of lithia-mica.
Moravite, $H_4(Al,Fe)_4(Fe,Mg)_2Si_7O_{24}$.
Stilpnochlorane, $H_{24}(Al,Fe)_{10}(Ca,Mg)Si_2O_{46}$.
Zeolite mimetica, $(Ca,K_2,Na_2)_3Al_4(Si_2O_5)_9 . 14H_2O$.
Reyerite, hyd. sil. Ca,Al.

Hydrocarbons.

Denhardtite.
N'hangellite.

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