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. 83 (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 $Ba_3Al_6Si_4O_{21}$, 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.