

MINERALOGICAL NOTES: No. VII.—RHODONITE,
BROKEN HILL, NEW SOUTH WALES.

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(Plates xxviii-xxix.).

Fine specimens of rhodonite are found in the sulphide zone of the Broken Hill silver-lead mines, associated with galena, blende and garnet. The occurrence seems to have been first noted by Professor R. Beck of Freiberg, by whom it has been described.¹ It is found either as crystals with the characteristic rounded edges of rhodonite, or as isolated fragments disseminated through the ore; it generally shows evidence of corrosion by the metalliferous solutions, and various stages of replacement by galena and blende may be traced. The mineral is of a pleasing deep red colour, and in small well crystallised specimens is quite transparent; it greatly resembles some varieties of garnet.

Of the seven specimens which form the subject matter of this paper three were kindly lent by the Director of the National Museum, Melbourne, one by the Geological Department of Sydney University, the others are from the Australian Museum collection.

Five crystals (referred to hereafter as Nos. i.-v.) were measured on the two-circle goniometer and the co-ordinate angles obtained; a few interfacial angles were also determined. The position chosen is that of Goldschmidt,² which, for rhodonite considered by itself, and particularly for the usual habit of the Broken Hill crystals, is more suitable than Dana's,³ as the three most prominent faces, which are also the directions of cleavage, are made axial planes, but Dana's elements show more clearly the relation of rhodonite to the other members of the pyroxene group.

In habit the crystals vary somewhat, but they may be generally described as extended parallel to c (010). The commonest forms are a (001), c (010), b (100), o (110), s (110), the three first being particularly well developed. In all twenty-eight forms were recognised, of which ten are new, or at least not recorded in Goldschmidt's 'Winkeltabellen.' The new faces occur principally

¹ Beck—Zeits. prakt. Geol., March, 1899, pp. 65-71 (*trans.* Rec. Geol. Surv. N.S. Wales, vii., 1, 1900, pp. 20-28).

² Goldschmidt—Krystallographische Winkeltabellen, p. 287.

³ Dana—System of Mineralogy, 6th Edition, 1892, p. 378.