

ART. XXXVI.—*On the White Garnet from Wakefield, Canada;*  
by GEORGE F. KUNZ.[Read before the American Association for the Advancement of Science, at the  
Minneapolis Meeting, August, 1883.]

AT McBride's, Lot 7, Range 1, Township of Wakefield, 21 miles north of Hull on the right bank of the Gatineau River, Canada, there have been found some remarkable white garnets. This occurrence has been known to a number of collectors for some years, but as yet little information regarding it has been published. On visiting the locality I found that the garnets occur in a vein from several inches to over one foot in width in the crystalline magnesian limestone, and I traced the vein east and west a distance of over 75 feet. This vein has been followed to the depth of more than six feet. The crystals vary in size from 1<sup>mm</sup> to 80<sup>mm</sup> in diameter and in color from colorless to yellow and brown; some of them are transparent enough to yield small gems. The brown color is very often the result of the oxidation of the associated pyrrhotite. The form is that of a dodecahedron, either alone or modified by the trapezohedron 2-2.

Associated with the garnet are crystals of pyrrhotite and fine crystals of a white pyroxene, the adhering crystals being held together sufficiently by the pyroxene to form fine groups of this mineral when the limestone has been removed by acid. Perfect isolated crystals are very uncommon. Determinations of the specific gravity of the mineral gave 3.6002 and 3.5948; of the Orford garnet 3.52 and 3.53. An analysis of the garnet by C. Bullman, Ph.B., yielded the following results:

Silica .....	38.80
Alumina .....	22.66
Sesquioxide of iron .....	1.75
Oxide of manganese .....	.3
Lime .....	35.
Magnesia .....	.68
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	99.19

The spectroscope gave no potassium lines, soda was not determined.

An analysis of white garnet from Orford, Canada, by T. Sterry Hunt (see Geological Survey of Canada, p. 496), gave

SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	MgO	FeO, MnO	Na <sub>2</sub> O, K <sub>2</sub> O	ign
38.60	22.71	34.83	0.49	1.60	0.47	1.10=99.80