

The analyses selected by Scharizer agree remarkably well with his theory, but there are aluminous hornblendes whose constitution cannot be readily explained in this way and which at the same time cannot be referred to the pargasite orthosilicate.\*

*Garnet.*—In the hand specimens the garnet is seen to possess a deep reddish-brown color. In the thin sections it is a paler brown although still deeply colored. It is not found in all parts of the mass and where it does occur is usually present only in small amount. It possesses the usual high index of refraction and is quite isotropic, occurring usually in irregular shaped grains but in some few cases showing distinct crystalline form. It frequently holds a few large inclusions which usually consist of calcite in single individuals, although the garnet is perfectly fresh and the calcite shows no distinct evidence of a secondary origin. It moreover sometimes holds inclusions of the hornblende above described, of pyrite, iron ore and even of nepheline. A garnet resembling this occurs in small amount associated with a similar hornblende, as above mentioned, in the nepheline-syenite of the Corporation Quarry at Montreal, and it also contains as inclusions most of the other constituents of the rock. The same is also true of the melanite in the nepheline-syenite of Alnö.†

Before analysis the garnet was purified by several separations with fused silver nitrate and on careful examination with the microscope the grains appeared to be entirely free from foreign matter. With the pycnometer their specific gravity at 16° C. was found to be 3.739. Chemical analysis gave the following results:

Silica .....	36.604
Titanium dioxide .....	1.078
Alumina .....	9.771
Ferric oxide .....	15.996
Ferrous oxide .....	3.852
Manganous oxide .....	1.301
Lime .....	29.306
Magnesia .....	1.384
Loss on ignition .....	.285
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	99.577

The atomic and quantivalent ratios deduced from the above analysis are as follows:

\* See Scharizer's paper, loc. cit., p. 156.

† "Ueber das Nephelinsyenitgebiet auf der Insel Alnö," von A. G. Högbom. Geol. Fören. i. Stockholm Förh., 1895, p. 144.