



Fig 1 KUNZ COLLECTION (4)

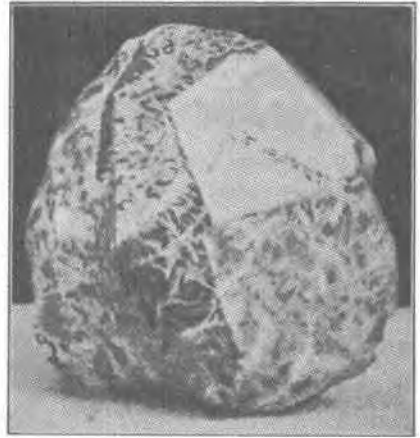


Fig. 2. MANCHESTER COLLECTION (4)



Fig. 3. STANTON COLLECTION (4)

NEW YORK CITY GARNETS
FROM "THE MINERALS OF BROADWAY," BY J. G. MANCHESTER
BULL. NO. 3, NEW YORK MINERALOGICAL CLUB

PLATE III

THE AMERICAN MINERALOGIST

VOL. II

JULY, 1917

No. 7

A DISCOVERY OF GEM GARNET IN NEW YORK CITY

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New York City

The mica schist and gneiss of Manhattan Island, New York City, as well as the accompanying granite veins, contain many garnets. Some may be found at almost any point, while in parts of the city, notably the region of Mount Morris Park and the south shore of Spuyten Duyvil Creek—the extreme northerly shore line of Manhattan Island—they are thickly disseminated thruout the schist, but all are fractured, semi-translucent and poorly colored, and rarely show a crystal face.

In the granite or pegmatite veins better crystals occur, some of large size, associated at times with tourmaline, and more rarely with beryl. The most notable specimen for size and perfection of crystal form is one found at Thirty-fifth Street and Broadway and now the property of Dr. George F. Kunz.¹ The crystal is free from matrix, weighs nine pounds ten ounces, and is probably the finest large garnet crystal yet found in the United States. A fragment of a somewhat larger crystal of similar form to the Kunz garnet was taken out of the rock by Charles W. McDonald at Broadway and One hundred and sixty-fifth Street. This specimen, with only a few of the crystal faces developed, weighs ten pounds eight ounces, including a small amount of the matrix which is attached.

Single crystals three or four inches in diameter are occasionally found, being mostly modified trapezohedrons. (See Fig. 2). Several of these are included in the New York Mineralogical Club collection in the American Museum of Natural History. The locality that has furnished the greatest number of finely crystallized garnets is Sixty-fifth Street just east of Broadway, discovered by one of us (G. S. S.) in 1888.² Hundreds of fine dodecahedrons with trapezohedral truncations, mostly from three-eighths to one inch in diameter, were collected here from a coarse pegmatite vein. (See Fig. 3). The garnets usually occurred at the juncture of the quartz and orthoclase, and were flattened when imbedded in the latter.

¹ *Trans. N. Y. Acad. Sci.*, 5, 265, May 31, 1886. See Fig. 1, Frontispiece.

² *Trans. N. Y. Acad. Sci.*, 10, 50, Jan. 5, 1891; "Geology of the City of New York," L. P. Gratacap, p. 135.

The garnets of the city have been considered to be mostly almandite, altho essonite has been reported as occurring at Tenth (Amsterdam) Avenue and One hundred and thirty-fifth Street and at Fort George, and grossularite is listed, without locality, as from the city. In view of the following facts, analysis might show some to be spessartite or andradite.

In October, 1916, one of us (J. G. M.) discovered a new collecting locality which held out good prospects. During the erection of apartment buildings in the block bounded by Haven and Northern Avenues and West One Hundred and Seventy-eighth and West One Hundred Seventy-ninth Streets, in the Washington Heights section of the city, a large amount of rock was taken out. The material was the usual gneiss and contained many veins of mica, quartz and feldspar, of varying composition. The writers in examining the material found a number of garnet crystals, one a four inch distorted trapezohedron, and the others smaller, poorly defined crystals, of the usual local type. There was also found embedded in a granite vein a half-crystal about three inches in diameter and it was readily seen to be of gem quality and somewhat different from the garnet crystals usually found in the Manhattan rocks. Unfortunately this gem half-crystal could only be removed in fragments, but, the fractures being somewhat parallel to each other, material suitable for cutting purposes was obtained. At first the mineral was thought to be almandite, but a specimen, submitted to Dr. W. T. Schaller, was found by him to contain large amounts of aluminium and manganese, with only very small amounts of iron, calcium and magnesium, indicating it to be spessartite. The latter is indeed suggested by the color of the cut stones, which might however, be mistaken for essonite.

The rough material was cut by the Espositer, Varni Co. and pronounced by them to be of fine gem quality and of an unusual color. Upon direct comparison with specimens of the Amelia Court House spessartite in the Morgan Gem Collection at the American Museum of Natural History the New York stones proved to be more brilliant, more perfect, more translucent and of a more beautiful color, being a clear, slightly orange red, rather than the cloudy brownish red of most of the Amelia Court House stones.

In all 39 brilliant and step-cut stones have been cut. Their combined weight is about 19 carats, the largest weighing 1.37 carats.

Among the many garnets found in New York City rocks, some of them remarkable as crystals, none have heretofore been found of gem quality. That this crystal should cut into gems of more than usual beauty was unexpected, and the find is an important addition to the gem stones already listed as native to Manhattan Island.