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## GREEN CALCITE FROM GLENS FALLS, NEW YORK.<sup>1</sup>

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Specimens of a green silicate and a green carbonate mineral were recently received by the U. S. National Museum for examination and report. They were identified by Dr. Wherry as uvarovite, (chromium garnet) and calcite respectively. The source of the unusual color of the latter mineral seemed worth further investigation, and the writer, being at the time employed as private assistant to Dr. George P. Merrill, Head Curator of the Division of Geology, undertook an analysis of it in the Museum laboratory.

The material shows typical calcite cleavage, the surfaces being crossed by widely spaced twinning lamellas. The color is very pale yellow-green, corresponding approximately to Ridgway's "corydalis-green," which consists of 11% green, 6% yellow, 5% white and 78% gray. It is transparent in places tho for the most part rendered translucent by white, cloudy material; but no definite inclusions were present in the specimen studied.

It has recently been shown that the red-violet color of some calcites is due to a trivalent element, neodymium<sup>2</sup>, so it was thought that the green color in this case might be due to trivalent chromium.

A large sample (36 grams) was dissolved in dilute hydrochloric acid, the slight silicious residue filtered off and discarded, the sesquioxides precipitated with ammonia, filtered, dried, and fused with sodium carbonate. The fusion was extracted with water, filtered, and compared with a standard chromate solution; the presence of 0.0003% of  $\text{Cr}_2\text{O}_3$  was indicated. Traces of manganese and of ferrous iron were also found to be present; no vanadium could be detected.

It is not believed that the manganese or the iron could give rise to any green color in the calcite, since manganese carbonate, rhodochrosite, is red, and ferrous carbonate, siderite, is gray or brown; so the chromium, minute tho it is in amount, is regarded as the most probable cause of the color.

<sup>1</sup> Published by permission of the Secretary of the Smithsonian Institution.

<sup>2</sup> Edgar T. Wherry, *J. Wash. Acad. Sci.*, 7, (6), 143-145, 1917.