

GEOLOGY
OF
NEW-YORK.

PART I.

COMPRISING THE

GEOLOGY OF THE FIRST GEOLOGICAL DISTRICT.

BY WILLIAM W. MATHER,

Professor of Natural History in the Ohio University.

ALBANY:
PRINTED BY CARROLL & COOK, PRINTERS TO THE ASSEMBLY.
.....
1843.

yellow, xanthite, talc, black spinelle, ruby spinelle, coccolite of a rich green color, sphene, scapolite, phosphate of lime, zircon, and bronzite or clintonite.* Granite veins may be seen in the limestone a few rods south or southwest towards the tavern. Granite veins were also seen in the limestone during the digging of the well of the tavern. Another interesting locality is near that first mentioned, a few rods west across the little valley between the ridges. Hornblende (massive and crystallized), hexagonal plates of plumbago, coccolite (red and green), copper-colored mica, and garnet, red brucite, pargasite and idocrase, are also found at the western base of the eastern knoll.

About one mile southwest of Amity, by the road side, is the locality where the large spinelles were found in an aggregate of limestone, spinelle, serpentine, brucite, and crystals of specular iron ore. The rock was partially decomposed, and hornblende crystals were also found there. Some of the serpentine that I obtained at this place was distinctly crystalline.

"About three-quarters of a mile southwest of the above locality, in the middle of a by-path leading west from the main road, and distant about forty rods from it, are found handsome beryl-colored crystals of *apatite*, associated with a purplish brown *augite*, which is sometimes in distinct crystals of considerable size, but more frequently in granular concretions (coccolite). In the same connection also occurs a snowy white scapolite, not well crystallized, together with crystals of plumbago. These minerals are imbedded in the limestone, in a vein-like cavity." "It is not rare to find, in the limestone, partial veins of scapolite in this vicinity."†

About half a mile north of the last locality, are greyish red spinelles in octohedrons and hemitrope crystals of a large size. The crystals are often coated with a saponaceous or steatitic coating, and present various shades of green, yellow and black. Crystals of serpentine of a tabular form, and in the incipient stages of decomposition, occur. Sphene and *augite* also occur here, similar in aspect to the specimens from Rogers' rock on Lake-George.†

A locality about half a mile southeast of Amity, affords brown spinelle in large octohedral crystals. The cavities in some of the crystals of spinelle are lined with small crystals of corundum. The same rare mineral is also attached to grey hornblende in loose masses.†

One mile south of Amity, the spinelles abound, and the mineral called *warwickite* is also found in the limestone at this place. Brucite in large masses may be obtained from the soil where the limestone has decomposed, a few rods farther east.

A locality one mile north of Amity, shows the limestone filled with brucite of various

* This mineral was first found by Dr. Horton, Mr. John Finch and myself, in the summer of 1828. We conceived it to be a new mineral, and gave it the name of *clintonite*. It was afterwards described by Mr. Finch, under the name of *bronzite*, which he then believed it to be. It was afterwards called *serpentine*, and afterwards *holmsite*. As one of the original discoverers of the mineral, I claim the name originally given, in honor of our distinguished statesman, scholar, and man of science, DE-WITT CLINTON. Another mineral, since the above note was written in 1838, has been called *clintonite*, but this has the priority. Mr. Finch's article, describing the mineral, is in the *American Journal of Science*, Vol. 16, pp. 185, 186.

† SHEPARD, *American Journal of Science*, Vol. 21, pp. 230, 231.