ART. LIII.—*Note on the Age of the Slaty and Arenaceous rocks in the vicinity of Schenectady, Schenectady County, N. Y.;* by S. W. FORD.

THE slaty and interstratified arenaceous rocks in the neighborhood of Schenectady, N. Y., have usually been referred to the epoch of the Lorraine Shales. They were considered to be of that age by Mather, who gives several sections of them, in their more eastward extension along the valley of the Mohawk, on

page 376 of his Report on the Geology of the First District of New York; and the same view appears to have been held by Emmons (Agriculture of New York, vol. i, pages 134, 135, 1846). Later, Mr. R. P. Whitfield, in a letter addressed to Dr. C. A. White, and published in Part I, vol. iv, of Lieut. Wheeler's Reports on Geographical and Geological Surveys west of the 100th meridian, considers the Schenectady rocks to be of Lorraine age, but does not support his position by the evidence of fossils obtained at that locality. He also refers to the Lorraine certain "disturbed and nearly vertical layers" occurring in the valley of the Norman's Kill, near Albany, which, he says, are lithologically undistinguishable from the rocks at Schenectady; and places the Norman's Kill Graptolitic beds, which are met with only a few hundred yards distant, in the Utica formation. Mr. Whitfield is quite possibly correct in considering the nearly vertical layers above spoken of identical with the Schenectady beds; but it by no means follows from this that the layers are Lorraine, or that the Norman's Kill Graptolitic beds are Utica.

The rocks at Schenectady are nearly horizontal, or with only a slight inclination to the southward, and continue in that position for three or four miles to the east. Not far from Rexford flats a break occurs, and from that point all the way to the Hudson the rocks are greatly tilted. The break here alluded to Dr. Emmons considered identical with the fault occurring at Saratoga Springs and Baker's Falls; and believed it to pass somewhere between Albany and Schenectady, and to be traceable in its effects as far south as Kingston. It appears to hold the same relation to the Great Appalachian fault that the Montmorency break does in Canada. I have never examined with care the slaty rocks directly *east* of the break along the valley of the Mohawk; but from the nearly horizontal beds to the west of it, in Wandell's quarry, a short distance back of Union College, at Schenectady, I have obtained good specimens of *Graptolithus pristis*, *G. mucronatus* and *Triarthrus Becki;* and from another quarry, a little to the west of Rexford flats, I have obtained the *G. pristis*, *Triarthrus Becki*, and a species of Lingula which I consider to be the Utica species *L. curta*. The slates and sandstones in the vicinity of Schenectady are, therefore, in my estimation, of Utica age. I find that the arenaceous layers are different in their make-up and aspect from those of the Lorraine that I have examined, and more nearly resemble those of the Utica formation of Northern New York. The rocks are poor in fossils; but fossils nevertheless exist, and may be found by diligently searching for them.

Schodack Landing, N. Y., March 5th, 1885.