

Since 1844 Prof. Emmons has continued his observations and discoveries on those *bottom rocks*, and in 1855 he gave a more complete account of his Taconic system in the second part of his "American Geology." This book has unfortunately escaped M. Barrande's inquiries, for his attention would be strongly drawn to the new Taconic fossils it contains. It is evident from the new specimen of *Eliptocephalus asaphoides*, from the shales of Washington County, New York, figured Pl. I, fig. 18, that this trilobite is a *Paradoxides* related to the group of *P. spinosus*, perhaps identical with the *P. Harlani* of Braintree. Besides, the trilobite figured Pl. I, fig. 16, and called *Atops trilineatus*, is a true *Sao*, which genus is among the most characteristic of the Primordial fauna of Bohemia and Scandinavia. Prof. Emmons has thus found at least two trilobites of the Primordial fauna in slates forming part of his Taconic System. Trilobites are the most important fossils for the determination of the age of the oldest strata; the labors of M. M. Barrande and Angelin have shown with what certainty geologists can rely upon them. Other less significant fossils have been found by Emmons, such as *Graptolites*, *Lingulæ*, and *Obolæ*. Sections and very detailed descriptions of strata show that the Taconic system, as defined by its discoverer, is composed of shales, slates, limestones, dolomites, conglomerates, sandstones, and iron breccia, whose combined thickness is between 25,000 and 30,000 feet, always resting on granite, gneiss, quartzite, and other crystalline rocks; that it lies at the base of the Silurian (such as the Silurian was first established in England and in America); and that this *bottom formation* extends, according to Emmons himself, from Newfoundland to Maine, Canada, Vermont, Massachusetts, Rhode Island, and along the Alleghanies to Georgia.

A discovery made some time since, but only published last year, has brought before the scientific world new forms of fossils, which, according to M. Barrande, unquestionably belong to the Primordial fauna. The following is the statement of M. Barrande, contained in a letter to Prof. Bronn of Heidelberg, to be published in the German Geological Journal: "*Neues Jahrbuch für Geologie und Petrefakten Kunde*."

"Paris, July 16, 1860."

" I have recently received, thanks to the kindness of M. E. Billings, the learned paleontologist of the Geological Survey of Canada,