

- Upper.
- (4) Water-lime (Tentaculites, Eurypterus, and Pterygotus) Onondago salt group, consisting of red and gray marls, sandstones and gypsum, with large impregnation of common salt, but nearly barren of fossils.
 - (3) Niagara shale and limestone (Halysites, Favosites, Calymene Blumenbachii, Homalonotus delphinocephalus, Leptaena transversalis, etc.); also fish-remains (Onchus, Glyptaspis) in the shale in Pennsylvania. The Niagara Limestone may be paralleled with the Wenlock Limestone.
 - (2) Clinton group: Pentamerus oblongus, Atrypa reticularis, Monograptus clintonensis, Retiolites venosus, etc. This group may represent the Tarannon shales.
 - (1) Medina group with Oneida conglomerate (Modiolopsis orthonota).
- Lower.
- (5) Cincinnati (Hudson River) group: Syringopora, Halysites, Pterinea demissa, Leptaena sericea, Climacograptus bicornis, C. typicalis, Diplograptus pristis, D. putillus. This group corresponds to the Caradoc rocks of Britain.
 - (4) Utica group—Utica shale: Leptograptus flaccidus, Diplograptus mucronatus (?), D. quadrimucronatus, etc. The shales of Norman's Kiln, near Albany, on the Hudson River, have yielded a large series of graptolites resembling the assemblage that characterizes the Glenkiln shales of Scotland.
 - (3) Trenton group

{	Trenton limestone. Black River limestone Birdseye limestone.	} Trinucleus concentricus, Orthia testudinaria, Murchisonia, Conularia, Orthoceras, Cyrtoceras, etc. ¹²²
---	--	---
 - (2) Chazy group—Chazy limestone: Maclurea magna, M. Logani, Orthoceras, Illænus, Asaphus.
 - (1) Calciferous group: Lingulella acuminata, Leptaena, Conocardium, Ophileta compacta, Orthoceras primigenium, Amphion, Bathyrurus, Asaphus, Conocoryphe, Tetrograptus, Phyllograptus, Didymograptus, Clonograptus, Loganograptus, Diplograptus, etc. This group answers to the Welsh Arenig rocks.¹²³

It is interesting to observe the number of genera and even of species common to the Silurian rocks of America and Europe, and the close parallelism in their order of appearance. Not a few of the widely diffused forms occur in Arctic America, so that a former migration along shallow northern waters between the two continents is rendered highly probable. Among these common species the following may be enumerated as occurring in the Upper Silurian rocks of New

¹²² Remains of ganoid fishes, like *Holoptychius* and *Astorolepis*, and of a chimæroid fish, have been found in what seems to be a representative of the Trenton group in Colorado. C. D. Walcott, Bull. Geol. Soc. Amer. iii. 1892, p. 153.

¹²³ According to researches by Mr. Selwyn, the so-called Quebec group as defined by Logan embraces three totally distinct groups of rock, belonging respectively to Archæan, Cambrian and Lower Silurian horizons; and in the fossiliferous belt of Logan's Quebec group are included—in a folded, crumpled and faulted condition—portions of subdivisions that lie elsewhere comparatively undisturbed, and embrace strata even lower than the Potsdam formation. Trans. Roy. Soc. Canada, vol. i. sect. iv. p. 1, 1882.