as MM. de Verneuil, D. Sharp, Prof. Hall, and others, who have entered upon this comparison, admit that there is a marked general correspondence in the succession of fossil forms, and even species, as we trace the organic remains downwards from the highest to the lowest beds; but it is impossible to parallel each minor subdivision. In regard to the three following points there is little difference of opinion.

1st. That the Niagara Limestone, No. 7, over which the river of that name is precipitated at the great cataract, together with its underlying shales, corresponds to the Wenlock limestone and shale of England. Among the species common to this formation in America and Europe are *Calymene, Blumenbachii, Homalonotus delphinocephalus* (fig. 587), with several other trilobites; *Rhynchonella Wilsoni*, and *R. cuncata*; Orthis elegantula, Pentamerus galeatus, with many more brachiopods; Orthoceras annulatum, among the cephalopodous shells; and Favosites gothlandica, with other large corals.

2d. That the Clinton Group, No. 8, containing *Pentamerus oblongus* and *P. lævis*, and related more nearly by its fossil species with the beds above than with those below, is the equivalent of the Middle Silurian as above defined, p. 437.

3d. That the Hudson River Group, No. 12, and the Trenton Limestone, No. 14, agree paleontologically with the Llandeilo flags, containing in common with them several species of trilobites, such as Asaphus (Isotelus) gigas, Trinucleus concentricus (fig. 598, p. 441); and various shells, such as Orthis striatula, Orthis biforata (or O. lynx), O. porcata (O. occidentalis of Hall), Bellerophon bilobatus, &c.*

Mr. D. Sharpe, in his report on the mollusca collected by me from these strata in North America,[†] has concluded that the number of species common to the Silurian rocks on both sides of the Atlantic is between 30 and 40 per cent.; a result which, although no doubt liable to future modification, when a larger comparison shall have been made, proves nevertheless that many of the species had a wide geographical range. It seems that comparatively few of the gasteropods and lamellibranchiate bivalves of North America can be identified specifically with European fossils, while no less than two-fifths of the brachiopoda, of which my collection chiefly consisted, are the same. In explanation of these facts, it is suggested that most of the recent brachiopoda (especially the orthidiform ones) are inhabitants of deep water, and that they may have had a wider geographical range than shells living near shore. The predominance of bivalve mollusca of this peculiar class has caused the Silurian period to be sometimes styled " the age of brachiopods."

The calcareous beds, Nos. 15, 16, 17, and 18, below the Trenton Limestone, have been considered by M. de Verneuil as Lower Silurian, because they contain certain species, such as *Asaphus (Isotelus) gigas, Illacnus* crassicauda, and Orthoceras bilineatum, in common with the overlying Trenton Limestone.[†] But, according to Professor Hall, the Illanus was

* See Murchison's Siluria, p. 414. † Quart. Geol. Journ. vol. iv. ‡ Soc. Géol. France, Bulletin, vol. iv. p. 651, 1847.