

sents much geological interest in the union which it contains of the same two distinct petrographical and biological types found in Europe. Traced along the Allegheny chain, through Pennsylvania, into New York, the Devonian rocks are found to contain a characteristic suite of marine organisms comparable with those of the Devonian system of Europe. But on the eastern side of the great range of Silurian hills in the northeastern States, we encounter in New Brunswick and Nova Scotia a succession of red and yellow sandstones, limestones, and shales nearly devoid of marine organisms, yet full of land-plants, and with occasional traces of fish remains. The marine type is well developed above the Silurian series in Nevada.

The marine or Devonian type has been grouped in the following subdivisions by the geologists of New York:

UPPER DEVONIAN.	{	Catskill Red Sandstone, with fish remains (<i>Holoptychius</i>).
		Chemung group: <i>Spirifer Verneuili</i> .
		Portage group: <i>Goniatites</i> , <i>Cardiola</i> , <i>Clymenia</i> .
		Genesee group: <i>Rhynchonella</i> cf. <i>cuboides</i> .
MIDDLE DEVONIAN.	{	Hamilton group: <i>Phacops</i> , <i>Homalonotus</i> , <i>Cryphæus</i> .
		Marcellus group: <i>Goniatites</i> .
LOWER DEVONIAN.	{	Corniferous limestone: <i>Spirifer acuminatus</i> , <i>S. gregarius</i> , <i>Dalmanites</i> , <i>Proëtus</i> .
		Onondaga limestone, Schoharie grit, Canda-galli grit. This and the Corniferous limestone are bracketed together as the Upper Helderberg group.
		Oriskany sandstone: <i>Spirifer arenosus</i> , <i>Rensseleria ovoides</i> .
		Lower Helderberg group consisting of
		<ul style="list-style-type: none"> c. Upper <i>Pentamerus</i> limestone: <i>Pentamerus pseudo-galeatus</i>. b. <i>Delthyris</i> limestone: <i>Meristella levis</i>. a. Lower <i>Pentamerus</i> limestone: <i>Pentamerus galeatus</i>.

In the Lower Devonian series, traces of terrestrial plants (*Psilophyton*, *Caulopteris*, etc.) have been detected, even as far west as Ohio. Corals (cyathophylloid forms, with *Favosites*, *Syringopora*, etc.) abound especially in the Corniferous Limestone, perhaps the most remarkable mass of coral-rock in the American Palæozoic series, and from which Hall has made a magnificent collection of specimens. Among the brachiopods are species of *Pentamerus*, *Stricklandinia*, *Rhynchonella*, and others, with the characteristic European form *Spirifer cultrijugatus*, and the world-wide *Atrypa reticularis*. The trilobites include the genera *Dalmanites*, *Proetus*, and *Phacops*. Remains of fishes occur in the Corniferous group, consisting of ichthyodorulites and teeth of cestraciant and hybodont placoids, with plates, bones, and