

In the beds of this region of the Cambrian and Canadian periods there are *Salterella rugosa* Billings, closely like the Scottish; *S. Maccullochi* Salter; *Kutorgina cingulata* B., said by Davidson and Hall to occur in the Lingula flags; *Acrotreta gemma* B., very near *A. subconica* Kutorga; four species of *Piloceras*, a genus described from Scotland, but not known in the United States; *Holometopus Angelini* B., very near *H. limbatus* Angelin, of Sweden; *Nileus macrops* B., *N. scrutatus* B., *N. affinis* B., all closely allied to *N. armadillo* Dalman; *Harpides Atlanticus*, very near Angelin's *H. rugosus* of Sweden. In beds of Hudson age there are *Ascoceras Canadense* B., *A. Newberryi* B., and *Glossoceras desideratum* B., not found in the United States. In the Upper Silurian there are, as shown by Salter, the British species, *Rhynchonella Wilsoni* Sow., *Grammysia triangulata* Salter, *G. cingulata* His., *Platyschisma helicoides* Sow., *Platyceras Haliotis* Sow., *Bellerophon expansus* Sow., *B. carinatus* Sow., *Orthoceras bullatum* Sow. (?), *O. ibex* Sow., *Homalonotus Knightii* König, *Phacops Downingii* Salt.; to which Billings adds *Rhynchonella Stricklandi* Sow., and *Lituities Americanus* B., very near, if not quite identical with *L. giganteus* Sow. Billings, who furnished the above list of species, adds that, through the Cambrian and Canadian periods, there is a decided *European* tinge in the life, but in the Trenton period its character was peculiarly *American*. Then in the Hudson epoch there was again a *European* tinge, which increased in strength through the Upper Silurian.

H. M. Ami has given (1892) a list of 163 fossils from the Upper Silurian beds of Arisaig, Nova Scotia, and states that a closer relation exists between the fauna and that of the Ludlow rocks of Kendal in Westmoreland, England, than with either the Silurian rocks of Anticosti, Ontario, or New York.

EUROPEAN.

The *endogenous* growth of the European continent during the Upper Silurian era is manifest, though of less regular progress than that of North America. The Upper Silurian formations over the British Isles were not on the outer Atlantic border, but on the opposite side of a border region of Archæan and Lower Silurian rocks, and this inner side continued to be the region of growth to the end. Moreover, there appear to have been two or three confined and parallel troughs. In Scandinavia and Russia, part of France and the Spanish peninsula, the same is true. All the Upper Silurian rocks of Russia are the work of an Interior Continental Sea, without oceanic aid; and this great Interior Sea extended south and west over Hungary and Austria to Bohemia and the Alps. The Mediterranean Sea is related to the continent like the West Indies and Mexican Gulf to America.

The progress through the era was in general quiet; for the Upper Silurian rocks are conformable in superposition. They are horizontal, or very nearly so, over the great interior region in Russia and elsewhere. Nearer the ocean, in England, the rocks to a considerable extent pass regularly upward