

to stay his hand. But man was not yet. Ichthyic life seems to have dawned upon our earth in remarkable profuseness. The bones, and plates, and jaws, and teeth of fishes large and small have been cleft from the Corniferous limestone in Canada, Michigan, and Ohio. Our first authentic information of these earliest vertebrates came from Dr. J. S. Newberry—equally distinguished in the service of science and his country—and who has very recently worked up a wonderful collection of Devonian fishes, created mainly by the intelligent industry of a German Methodist minister, Rev. Herman Herzer, while discharging the duties of his ministry at Delaware, Ohio. These ancient fishes were only the *avant-couriers* of the shoals of sharks, and sturgeons, and garpikes which made a Golgotha of the Old Red Sandstone.

The closing convulsions of this epoch upheaved still higher the growing continent, and depopulated the coral cities of the sea that had just been astir with being. A pause, and another epoch—the Hamilton epoch—followed, a period characterized by its abundance of argillaceous sediments, and by two masses of black bituminous shale—the “Marcellus” at the bottom, and the “Genesee” at the top, with the more calcareous strata between. The absence of the “Marcellus” at the West has dropped the limestones of this group upon the top of the Corniferous limestone, and formed the appearance of but a single mass. This is clearly seen in the extensive quarries upon the islands in the western part of Lake Erie. Indeed, the absence of the “Oriskany” at the West has brought the calcareous portions of four groups of rocks into immediate juxtaposition. These are the Niagara, the Salina, the Corniferous, and the Hamilton. Before these groups were correctly discriminated, the entire mass was known in the West as the “Cliff Limestone.” No epoch of the world’s history ever