

of formations, and sunken a thousand feet into the solid granite. The section of the rocks in the gorge shows above the granite two or three thousand feet of paleozoic sandstones, shales, and limestones, one thousand feet of sub-carboniferous limestones, and twelve hundred feet of carboniferous sandstone and limestone. Higher up the stream the section extends up through the Triassic and Cretaceous systems.

What æons have rolled by while this unparalleled river-work has been in progress! And yet this work must have been limited to the later ages, since the gorge cuts through Cretaceous strata. There was a time, during the Cenozoic ages, before yet the ridges of the Rocky Mountains had been elevated to their present altitudes, when this vast desert had just become dry land—upheaved from the recent bottom of the Cretaceous sea. Now the Colorado began to gather its forces and to irrigate the surface of the new-formed land. Now began the great cañon; but for many ages the surface features of the region were normal; and not improbably it was clothed with a soil, and watered by streams which sustained a luxuriant growth of vegetation. But man was slumbering in the voiceless future, and lazy reptiles held possession of the fair domain. Vast, then, as is the work, and vast as must have been its duration, its commencement can date back but to the end, or, at farthest, to the beginning of Cenozoic Time.

Who can tell but similar gorges have been cut in the strata of more eastern states. Here was land—permanent land—covered with vegetation, while yet the great desert was but ocean-slime. Here, too, were rivers—rivers like the Ohio and the Mississippi—with their numerous tributaries. What prevented these streams from scoring the strata to the depth of ten thousand feet? We know that during this interval the Niagara cut an ancient gorge. We