

erates, quartzites, and marble, all together attaining a thickness of one thousand to six thousand feet. Then come various schistose rocks and diorites; and about here occur great beds of hæmatite or iron ore. This series is four thousand or five thousand feet thick. Next above are black slates and schists, often ferruginous, and other diorites, making about twenty-six hundred feet more. Next, are five thousand feet of mica schists, and finally, several hundred feet of granite and gneiss and kindred rocks. These rocks altogether aggregate a thickness not exceeding twenty-five thousand feet. But this may not embrace all. In Canada, Sir William Logan computed the Eozoic rocks as fifty thousand feet thick, and that estimate is generally adopted. The thing of chief importance here, is to know that the thickness is great, and the rocks are all crystalline.

Now, we explore these old rocks from bottom to top, and scarcely find a trace of organic remains. Who could expect fossil shells or corals imbedded in hard rocks consisting of fragments of crystals and grains of quartz, feldspar, mica, and hornblende? The nature of the rock proclaims changes in constitution which must have dissolved or destroyed all relics of the hard parts of animals. Here must be some lost chapters of the history of life—the first chapters in the volume. It is like the loss of the Alexandrian Library. Could the records of those earliest ages be restored, how many outstanding doubts and irresolvable problems would be disposed of! But since the records are wanting—since the records may be regarded as lost, we must proceed—not as if the records never existed, but by some rational process to reproduce the records. From the bottom of the Cambrian up, we have learned well the general tenor of the history of life. We must project that tenor backward toward a lost beginning. When the death of Dickens, in 1870, left “The Mystery of Edwin Droud” an unfinished tale, it was considered not impracticable to devise concluding chapters which should carry out the tenor of the work as revealed in the written chapters—a conclusion which should form a unity with the portion in which the author had divulged his plan and purpose. By the same principles the