

tion many years ago, but I believe no one has distinctly enunciated it except that admirable geologist, Dr. Dawson, of Montreal. Geological time has been marked off into Ages, Periods, and Epochs by physical revolutions. These were universal for the Ages, but more local for the subordinate divisions of time. The commencement of every interval of time was characterized, to some extent, by disruptions, upheavals, violence, emission of heat and vapors from beneath the crust, violent dashing of waters against coast-barriers, destructive ocean tides and streams, and the more or less complete extinction of living beings. Simultaneously, therefore, with the disappearance of a fauna from the earth, the ocean's bottom was overstrewn with the coarse *débris* of a geological revolution. As the shaken crust subsided to a more quiet position, only the finer sediments were transported to great distances from the shores. Lastly, when peace and stability were again restored, the vast expanse of the ocean, as it floated over the area of North America, was a calm and clear lagoon, in which lived and labored those lime-loving animals which incase themselves in shells, found coral structures, and eliminate from the water the materials of limestone strata. There is, consequently, for each period of the world's history a definite succession of strata as to kind. These may be designated Coarse-fragmental, Fine-fragmental, and Calcareous. The Coarse-fragmental we style conglomerates, and their position is at the bottom of a group of strata. The Fine-fragmental vary from sandstones to shales, and they rest upon the conglomerates. The Calcareous constitute the limestones which answer to the culmination of a geological interval, and rest near the top of the group. The life of each interval attained its full expansion during the Calcareous epoch. Toward the close of this epoch the waters of the sea began again to be turbid, from the premonitory jarrings