

which clays and sands were subjected, that they were converted into hard crystalline rocks. It is strange to reflect that the enduring materials out of which so many of the mountains, cliffs and pinnacles of the Alps have been formed are of no higher geological antiquity than the London Clay and other soft Eocene deposits of the south of England and the north of France and Belgium. At a later stage of Tertiary time, renewed disturbance led to the destruction of the lakes in which the molasse had accumulated, and their thick sediments were thrust up into large broken mountain masses, such as the Rigi, Rossberg and other prominent heights along the northern flank of the Alps. Since that great movement, no paroxysm seems to have affected the Alpine region except the earthquakes, which from time to time show the process of mountain-making to be only suspended or still slowly in progress.

The gradual evolution of a continent during a long succession of geological periods has been admirably worked out for Europe by Suess and Neumayr, and for North America by Dana, Dawson, Dutton, Gilbert, Hayden, King, Newberry, Powell and others. The general character of the structure of the American continent is extreme simplicity, as compared with that of the Old World. In the Rocky Mountain region, for example, while the Palæozoic formations lie unconformably upon pre-Cambrian gneiss, there is, according to King, a regular conformable sequence from the lowest Palæozoic to the Jurassic rocks. During the enormous interval of time represented by these massive formations, what is now the axis of the continent remained undisturbed save by a gentle and protracted subsidence. In the great depression thus produced, all the Palæozoic and a great part of the Mesozoic rocks were accu-