

the researches of Mr. Charles Darwin in Patagonia and Chili. (*Geol. Proceedings.*)

*Modern Period of Ordinary Action.*

The value of such an arrangement as that here presented is not in its minute accuracy, but its general application ; and in this respect it is, apparently, worthy of considerable confidence. It is however impossible to assert, or to believe, that the *intervals* of disturbance were *very* short, or that a mountain range rose in a moment, to divide an ocean and change the relations of organic life. The alternation of great periods of repose and disturbance, in every district yet examined, is certain ; the correspondence of these periods in remote regions, though not completely proved, is rendered probable ; and it only remains to see what is the bearing of this discussion upon geological theory.

Such alternations of repose and violence appear a necessary consequence of the gradual refrigeration of the globe ; the duration of repose and the violence of the disturbance being dependent on the resistance to pressure offered by the consolidated crust of the earth. However hot a planet may have been, it is conceivable that in time sufficiently long the radiation of its heat into the cold ethereal spaces must continually reduce its internal temperature. The solidified crust, when cooled to the temperature derived from the joint influence of the hot sun and the cold regions around the globe, suffers no further loss of heat ; but the internal parts may still grow cooler through immense periods of time ; they may thus contract more than the outer parts, and fail to sustain them ; fractures follow, and the equilibrium of pressure is restored, till a long period of cooling revives the irregularity of forces, and the crust breaks again. Periods of ordinary, and intervals of critical, action are direct consequences of the Leibnitzian doctrine.

This however does not prevent the favourers of the contrary hypothesis from adding to their speculation of the constancy of natural forces the further assumption