Section III.

Nature of the Rocks—Relative Age and Superposition of the Formations —Primitive, Transition, Secondary, Tertiary, and Volcanic Strata.

The preceding section has developed the geographical limits of the formations, the extent of the direction of the zones of gneiss-granite, micaslate-gneiss, clay-slate, sandstone, and intermediary limestone, which come successively to light. We will now indicate succinctly the nature and relative age of these formations. To avoid confounding facts with geologic opinions, I shall describe these formations, without dividing them, according to the method generally followed, into five groups—primitive, transition, secondary, tertiary, and volcanic rocks. I was fortunate enough to discover the types of each group in a region where, before I visited it, no rock had been named. The great inconvenience of the old classification is that of obliging the geologist to establish fixed demarcations, while he is in doubt, if not respecting the spot or the immediate superposition, at least respecting the number of the formations which are not developed. How can we in many circumstances determine the analogy existing between a limestone with but few petrifactions and an intermediary limestone and zechstein, or between a sandstone superposed on a primitive rock and a variegated sandstone and quadersandstein, or finally, between muriatiferous clay and the red marl of England, or the gem-salt of the tertiary strata of Italy? When we reflect on the immense progress made within twenty-five years, in the knowledge of the superposition of rocks, it will not appear surprizing that my present opinion on the relative age of the formations of Equinoctial America is not identically the same with what I advanced in 1800. To boast of a stability of opinion in geology is to boast of an extreme indolence of mind; it is to remain stationary amidst those who go forward. What we observe in any one part of the earth on the composition of rocks, their subordinate strata, and the order of their position, are facts immutably