

basins or troughs in which subsequent deposits have been laid. The masses, beds, or layers, technically called *strata*, so upraised, present of course their broken edges; and, by following these out-croppings, (as they are significantly called,) with careful search and scientific discrimination, through extensive tracts of country, the series is disclosed, from the crystalline rocks upon which the first or lowest stratum rests, up to the last or newest which lies immediately under the soil on which we live, build our habitations, and cultivate our food.

All strata follow antecedent ones in an order which is certain and invariable for every region of the earth, so far as investigation has been carried; and it has been carried, with great care and skill, far enough to render any exception from this rule extremely improbable. If the entire series exist in superposition in any places, it must be on a line of perpendicular descent, under low plains, which would admit of but a trifling depth of penetration, as water must soon fill the shafts, and the utmost depth to which any well can be sunk is but a small fraction of the perpendicular descent necessary to be explored. But this impracticable proof is utterly unnecessary; because the demonstration of the facts is incomparably more perfect from the out-cropping of strata, and their exposure upon large surfaces, highly inclined or even vertical, in mountainous countries and sea-cliffs. Nowhere, however, is the entire series found. Some member or many are wanting in every assignable locality; but they are never put in a violated order. Also, exact mineralogical identity of composition is not necessary to constitute what I may call the right and title to a given station: analogy of composition, order of succession, and (which is a most interesting and decisive evidence) similarity of organic remains, produce a sufficient equivalence; and when these three kinds of proof concur, we have a complete demonstration.