

land, from which the existing land has descended. And lastly, there is the story of the gradual carving of that upheaved land into valley and hill, and the evolution of the topography which is now to be seen.

The hills and valleys of Scotland are obviously not all of one age. They differ greatly also in geological structure, with a corresponding variety of scenery. As a convenient subdivision they were grouped into three districts,—the Highlands, the Southern Uplands, and the Midland Valley. In taking leave of them, however, for the present, let us regard them finally as a whole, and picture briefly the changes by which they have come at last to wear their present outlines.

Abundant as is the evidence of vast subterranean disturbance, it is assuredly not to that cause that the origin of the existing topography of Scotland is to be assigned. Huge masses of rock, torn from a depth of at least two or three thousand feet, have undoubtedly been driven upward and pushed along for miles. The crust of the earth has been fractured in innumerable places, and the severed sides of the fissures have been uplifted or depressed for many hundred feet. Mountainous masses of eruptive material have been thrust into the rocky crust, disrupting and altering the surrounding rocks. All this and more has taken place; and yet, paradoxical as it may seem, we are driven by the actual evidence of the present surface to conclude that these colossal movements have not determined the existing topography. It is not even certain that they ever affected the surface. They were probably in most cases deep-seated, and if they proceeded slowly, any uplift which they might cause at the surface may have been removed by denudation as fast as it rose. But in any case, it is quite certain that the present topographical features were