

igneous intrusions may also have aided or initiated the upward movement. The great thickness of rock removed indicates the probability of more than one upward movement, since it is unlikely that the region ever had an altitude equal to the bulk of removed rock. Periods of depression beneath the sea may have alternated, though it is improbable that these could have had any great duration, or we should surely find traces in the region of the deposits formed, and these we do not find. It is impossible to state positively the amount of rock removed during this great denudation, but in all likelihood at least from 3 to 5 miles of rock thickness were worn away from the surface, and perhaps considerably more, specially locally.

Surface topography at the close of the erosion interval. The land surface left at the termination of this long period of wear is of such nature that it could have been produced in no other way than by long protracted erosion under conditions of stability of level. After the last uplift of the region the streams sawed their valleys down to grade; and the slow processes of valley widening continued at their work of broadening the valley bottoms and narrowing the upland divides between the valleys, till the latter were largely obliterated, and the resulting surface was one of small relief, broad, shallow valleys, largely adjusted to the weaker rock beds and structures, separated by low, gently sloping divide ridges, with occasional low, rounded hills of extraresistant rock protruding above the general level, with elevations of only a few hundred feet above the valley floors as a maximum. To produce a land surface of this sort, specially on such resistant rocks as those of the Adirondacks, requires a vast lapse of time. The surface was not equally planed down in all parts of the region, but was somewhat more irregular on the present northern and eastern borders than on the southern and western, though the discrepancy is not marked. Over much of the surface the rocks were deeply weathered and decayed, forming a deep soil, but the evidence in this regard is conflicting, and apparently decay was less advanced on the northeast than elsewhere.