those trending with the ridges, indicates that they were not the controlling factor, but that the direction was determined by something else, and, once determined, this joint set becomes of greater importance than the others. By a process of elimination, the faults seem to remain the most probable controlling factors in the original determination of the trend.

The present valleys were excavated below the Cretaceous base level in the Postcretaceous erosion cycle. The comparative weakness of the Grenville rocks determined valley location where they were present in any force, and a respectable number of the valleys of the region are of this origin. They are most numerous in western Essex and St Lawrence counties, being comparatively infrequent elsewhere. There are also many valleys in which one or more small patches of Grenville rocks may be found, surrounded by others of a different nature; and in these it is quite possible that the Grenville patches are merely the final remnants of much larger Grenville masses, which determined the location of the valley and have disappeared in its formation. But even where a very large allowance is made for possible instances of this sort, it yet remains true that Grenville rocks make small show in most of the region, and that the larger number of the valleys can not have been located on Grenville belts; are developed in fact in rocks identical in kind with those which make up the neighboring ridges. To account for these, it seems necessary to invoke some structural cause, and such may be found in belts of rubble rock along the faults, in belts of excessive jointing and slip faulting, and in the location of streams by the original fault scarps; also in the production of actual fault valleys (*Graben*). These are truer in direction than the Grenville belts and best explain the prevalent trend.

The larger number of the ridges of the northern Adirondacks show a certain type of configuration which calls for explanation. They have a long, gentle, even incline to the northeast, a summit well toward the south end, and a steep back slope, often in part a perpendicular cliff and in general steepest at the top. These features are seen most typically on the smaller ridges, but the larger ridge masses show a tendency to the same type. At the backs of these an amphitheater is apt to be developed, sometimes