greatly uplifted as compared with it, that to the west considerably less so. Its own hilltops reach concordant levels, and probably represent the Cretaceous base level, but dropped below its normal altitude.

Faults as topographic features

As has been stated, it is probable that all fault scarps in the region disappeared by being worn down during the Cretaceous base-leveling period. Such wearing down customarily brings different rock masses into juxtaposition on opposite sides of a fault. Any renewed uplifting of the district then tends to cause a reappearance of a scarp along the fault line, owing to the more rapid wearing away of the weaker of the two rocks. The hight that this scarp may attain will have the difference between the old and the new base levels for its maximum value, and the proportion of this actually attained will, other things being equal, depend on the comparative resistances of the two rocks. If one is very strong and the other very weak, relative prominence may be gained, specially in the near vicinity of drainage lines. The weaker rock may be on either the downthrow or the upthrow side, and, according as the first or the second is the case, the scarp will face in its original, or in the opposite direction, in the latter case giving rise to the anomaly of the downthrow side standing at a higher level than the upthrow. In the cases where there is little or no difference in resistance between the rocks on the two sides, there will be no tendency to cause reappearance of a scarp along the fault line.

Furthermore, except in the case of faults which exactly parallel the strike, the surface rock will vary from time to time on the same side of the fault, and with these changes, now on one side and now on the other, the scarp becomes either less or more pronounced than it was before, as the variation diminishes or increases the difference in resistance of the rocks. In the case of dip faults an irregular topography is sure to be produced along the fault, owing to the more frequent passage from one sort of rock to another.

In general, the faults of northern New York show a weaker rock on the downthrow side and hence tend, on uplift, to reproduce a scarp facing in the direction of the original one.