

what regularly deepened channel excavated in the drift filling of the older rock gorge of the Hudson which it is to be presumed was quite as deeply filled when the ice began to retreat as it now is. The most serious objection which I have to this view is that it makes it necessary to suppose that the land remained at practically the same level throughout the epoch of retreat and till the beginning of the marine invasion on the north. If we accept, as on the whole seems necessary, the successive deltas rising to the north from near the Narrows to beyond the Highlands as indicating the actual water level within the valley during that portion of the ice retreat, then two alternative hypotheses present themselves to account for the difference of inclination of the earlier and later levels in the lower Hudson and Champlain valleys respectively. The first of these, the simple one, attempts to explain the difference of inclination by a more rapid rise on the north, not excluding, what the observed facts demonstrate, some depression on the south. Here again the fact that the attempt is made to compare the levels of water bodies which existed at very different times leaves the matter in doubt. The second of these hypotheses is that after the retreat had gone on with bodies of water standing in front of the ice with their levels approximately parallel owing to the stability of the land as regards tilting, the whole eastern part of the State became tilted down toward the north during the stage of Lake Vermont, and that in the subsequent reversal of this movement the same district participated blocklike in the change. There are no facts indicating precisely how far above sea level any part of the district lay, till the upper marine limit was established. For, though we may determine the rate of tilting by a change of the former sea level, it is obvious that the whole mass may have been undergoing a positive or negative movement at the same time that it was tilting.

The district shows a number of features which are better explained by this hypothesis than by the other view. In the first place, the Albany clays sheet the rock terraces of the middle and upper Hudson valley but are wanting over the Highland and southern section, their lithologic equivalents being there