

Between Rockville and Cincinnati the bituminous shales corresponding to the Hamilton group (or No. 10 of the large map) are seen, and below them what is called the "Cliff limestone," which is considered, and, I believe correctly, by Mr. Hall, as the representative both of the Helderberg and Niagara limestones of New York. Among the characteristic shells, I observed the *Pentamerus oblongus*, so abundant in the Clinton group of New York, a shell considered by Messrs. Murchison and De Verneuil to mark the line of separation between the Upper and Lower Silurian rocks of Europe.

In discussing with Dr. Locke the probability of the former continuity of the Illinois and Appalachian coal-fields (see the section, Vol. I. page 92), and the possible extension of the strata (Nos. 5, 6, and part of 7 of that section, or 9, 10, 11, and 13 of the large map) over that flat dome on the middle part of which Cincinnati is built, we endeavoured to calculate the height which the central area would have attained, if the formations supposed to have been removed by denudation were again restored. In that case the thickness of the strata of coal, subjacent conglomerate, Devonian and Upper Silurian beds, which must have been carried away, could not, if we estimate their development from the mean of their aggregate dimensions on the east and west of Cincinnati, have been less than 2000 feet. The tops of the hills near Cincinnati, composed of the blue limestone, are about 1400 feet above the level of the sea. If, then, the formations presumed to have been destroyed by denudation were replaced, the height of the dome