

ta at Blossberg in Pennsylvania, where they are very slightly disturbed, and where the coal is bituminous, I was desirous of examining some of the great mines of anthracite coal which occur in the midst of the most bent and inclined strata of the Alleghany mountains. Professor H. D. Rogers, who, with an able corps of assistants, had now nearly brought to a close his elaborate State Survey of Pennsylvania, kindly offered to be my guide, which enabled me in a comparatively short time to obtain an insight into the geological structure of this chain. We first followed the course of the Schuylkill River, passing through a country moderately elevated (B, c, fig. 5. p. 74.), with hills between 200 and 300 feet above the sea, where the rocks consisted chiefly of gneiss. As we went westward we entered a belt, about twenty-five miles broad, of red sandstone and trap (New Red), similar to that before mentioned at New Haven. Having traversed these granitic and secondary formations, we arrived at Reading, fifty-two miles N. W. of Philadelphia, and were then at the base of the easternmost of the great parallel ridges which constitute the Alleghanies or Appalachian chain of mountains. The rocks of this chain consist of the Silurian, Devonian, and Carboniferous groups, which are folded as if they had been subjected to a great lateral pressure when in a soft and yielding state, large portions having been afterwards removed by denudation. No traveller can fail to remark the long and uniform parallel ridges, with intervening valleys, like so many gigantic wrinkles and furrows, which mark the geographical outline of this region; and these external features are found by the geologist to be intimately connected with the internal arrangement of the