

[181]. The numerous coal and iron works of **Kilmarnock** show how much the aspect of the district has been changed by the development of its mineral wealth. From Kilmarnock northwards to the Clyde the greater part of the surface is covered with volcanic rocks which occupy two marked platforms among the lower Carboniferous formations. One of these lies at the top of the Carboniferous limestone, and the other at the top of the red sandstones which form the lowest group of the Carboniferous system. It is the porphyrites, diabases, and tuffs of this lower series which crown the ridges from Ardrossan to the Clyde, and extend likewise along the east side of the valley followed by the railway from Kilbirnie to Johnston. Further reference to this portion of the country is made at p. 452. At **Johnston** the railway quits the narrow valley of the Black Cart Water and strikes eastward, skirting the platform of glacial clay with Arctic shells at **Paisley** [369], and then the alluvial flats of the Clyde till it reaches Glasgow.

## 6. EDINBURGH AND ITS NEIGHBOURHOOD

**Edinburgh** is the best centre for seeing the scenery and geology of the Midland Valley. The visitor should begin with a bird's-eye view of the country from one of the hills of the town—the Castle Rock (Mons Meg Terrace, 437 feet), Calton Hill (355 feet), or Arthur's Seat (823 feet). The whole region from the top of Ben Lomond, 60 miles away on the western horizon, to the May Island, 30 miles to the north-east; and from the crest of the Ochils on the north to the far heights of Tweedsmuir on the south—a total area of about 2000 square miles—is spread out as in a map around him. Looking westward up the valley of the Forth the tops of the Highland mountains rise along the sky-line from Ben Lomond on the left through the range of the Trossach Hills, Ben Venue, Ben An, and Ben Ledi, to Stuc-a-Chroin and Ben Vorlich on the right. Turning in the opposite direction his eye can take in the whole line of the Southern Uplands from the heights of Tweedsmuir, which appear faintly on the southern horizon, immediately to the left of the Pentlands, eastward through the group of the Moorfoot Hills to the far end of the Lammermuirs, above Dunbar. Between these two limits of the Midland