

occupies a large area to the south of Shefford, approaches within two miles of it. In like manner, a few miles to the south of Belœil is another intrusive mass known as Mount Johnson or Monnoir; making in all nine hills of eruptive rock belonging to the Montreal group. Besides these, numerous smaller intrusive masses in the form of dykes are met with around and between the hills. From Mount Royal to Rigaud Mountain, a distance of about thirty miles, a gentle undulation of the strata is observed, which increases to the westward of Rigaud, and finally gives place to a considerable fault. This disturbance has been traced to the Laurentide hills on the Lac des Chats, 140 miles west of Montreal; but to the eastward the strata exhibit no evidence of this transverse undulation, unless the appearance of the intrusive rocks already mentioned be supposed to indicate the prolongation of a fracture without sensible dislocation.

The whole of these eruptive rocks rise through unaltered paleozoic strata, which however, in the immediate vicinity of the intrusive rocks, exhibit a local metamorphism. The hills of Shefford, Brome, and Yamaska break through the strata of the Quebec group, and lie a little to the east of the great line of dislocation which, in this region, brings up the lower members of the paleozoic series against the superior portion of the Lower Silurian, and divides into two districts the great paleozoic basin. (Geology of Canada, pp. 234, 597.) The other hills all belong to the western division of this basin, and break through various members of the Lower Silurian series from the Potsdam to the Hudson River formation. Among the numerous dykes which traverse not only the sedimentary strata but the intrusive masses, there are some which intersect the conglomerates of St. Helen's Island. These are of uncertain age, but repose unconformably on the Lower Silurian series, and enclose pebbles and masses of Upper Silurian limestone characterized by fossils of the Lower Helderberg period. (Ibid., p. 356.)

This group of intrusive rocks offers very great varieties in composition; thus Shefford and Brome consist of what we shall describe as a granitoid trachyte, while the succeeding mountain, Yamaska, and the most western, Rigaud, both consist in part of a kind of trachyte, and in part of diorite. Monnoir and Belœil also consist of diorites, which however differ from the last two, and from each other; while Rougemont, Montarville, and Mount Royal consist in great part of dolerites, presenting however many varieties in composition, and sometimes passing into pyroxenite. The dole-