

to surface features, such as lines of hollow, or of ridge rising above hollow, the effect of a fault often being to bring rocks of unequal resistance together, so as to allow the more durable to rise more or less steeply from the fracture.<sup>6</sup>

#### PART VII. ERUPTIVE (IGNEOUS) ROCKS AS PART OF THE STRUCTURE OF THE EARTH'S CRUST

The lithological differences of eruptive rocks having already been described in Book II. (p. 269), it is their larger features in the field that now require attention—features which, in some cases, are readily explicable by the action of modern volcanoes; and which, in other cases, bring before us parts of the economy of volcanoes never observable in any recent cone, by revealing deep-seated rock-structures that lie far beneath the upper or volcanic zone of the terrestrial crust. A study of the igneous rocks



Fig. 276.—Extensively-denuded Volcanic District (B.).

of former ages, as built up into the framework of the crust, serves to augment our knowledge of volcanic action.

At the outset, it is evident that if eruptive rocks have been extruded from below in all geological ages, and if, at the same time, denudation of the land has been continuously in progress, many masses of molten material, poured out at the surface, must have been removed. But the removal of these superficial sheets would uncover their roots or downward prolongations, and the greater the denudation, the deeper down must have been the original position of the rocks now exposed to daylight. Fig. 276, for example,

<sup>6</sup> See "Field Geology," by the author, chapter x.