of large dikes, 180 to 300 feet wide, are shown in Pine Rock and Mill Rock, on the map on page 299. Smaller dikes are very common in many localities.

The West Rock Ridge, Mount Tom Ridge, and Saltonstall Ridge afford examples of outflow masses or sheets. With regard to the West Rock trapmass it is proved, on page 302, that it is a laccolith; that the eruptive rock, coming up from below, was forced into a space opened by itself between layers of the sandstone, and there it accumulated under the weight of the superincumbent sandstone, — probably one or more thousands of feet thick. It is also shown that the upturned sandstone underneath the outflow, Fig. 1347, was profoundly abraded by the forced movement, over it, of the melted

1347.



View of the south front of West Rock, near New Haven, Conn., showing the columnar trap and the sandstone underneath it.

rock, and thereby reduced to a nearly horizontal surface. No earth or stones intervene between the trap and sandstone in the section exhibited, showing that the material removed by abrasion was pushed on and lodged elsewhere; and also proving that the flow was not surficial, inasmuch as all surface earth or debris is absent. It has been shown, besides, that East Rock, near New Haven, is laccolithic; and so also the trap belt next west of the Saltonstall Ridge, and the second trap belt east of the same, as described by E. O. Hovey. In addition, the trap rests, in each case, on *upturned* sandstone, proving that the upturning was a previous event for the region. It follows, therefore, that the trap of the intervening Saltonstall Ridge must be similar in mode of origin and time of eruption.

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