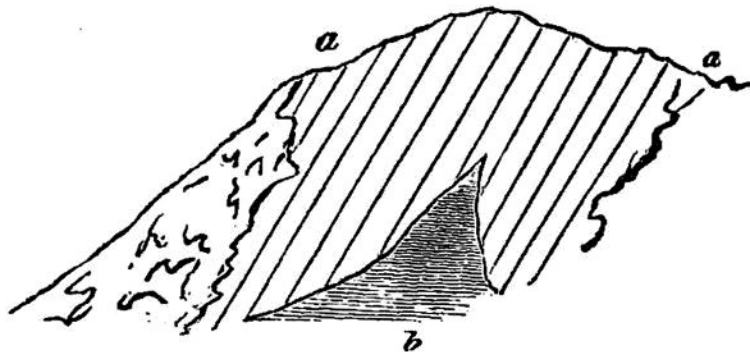


rise southerly from 45° to 60° . When I visited these hills in 1811, I was forcibly struck with the appearance and elevation of the strata, and I was disposed to attribute their position to the disturbing force which had elevated the granitic range of Charnwood; but such opinions were at that time much discouraged by English geologists. I visited these quarries again in 1830, after having repeatedly observed similar effects produced in the proximity of granite, and I was confirmed in my former views.

The theory of Von Buch respecting the conversion of common limestone into magnesian limestone by the proximity to porphyry (see Chap. XI.), may be considered as deriving some support from the near approach of this magnesian limestone to the porphyry and porphyritic sienite of Charnwood. I shall refer to the subject elsewhere. The reason for entering more into detail, respecting the magnesian limestone of Bredon and Cloud's Hill than may appear consistent with an introductory work, is, that the strata of the latter hill present an anomalous appearance, which I have not observed elsewhere, and which is connected with the enquiry respecting the character of stratified rocks. At Cloud's Hill, the face of the rock which is worked, rises to the height of about 300 feet. The stratification is most distinctly marked by regular strata seams, or partings, which show the elevation of the strata to be about 60° . In the midst of these strata there are masses in which all traces of stratification are obliterated; these masses are not separated by any partings or divisions whatever from the strata which surround them; the masses and strata are precisely of the same quality, and similar in appearance. The masses are more difficult to work because they have no regular partings; these masses are, on this account, called, by the quarrymen, knobs. The annexed cut represents one of these masses—



a a, strata of limestone; *b*, an unstratified knob.

Instances of unstratified beds and masses of one kind of rock, interposed between regular strata of another kind, are not uncommon; and in the midst of primary rocks, divided by regular cleavages, parts may be frequently seen, in which the cleavages or divisions are obliterated; but, in both these cases, the solution of the cause of this obliteration may be found in igneous fusion, combined with refrigera-