

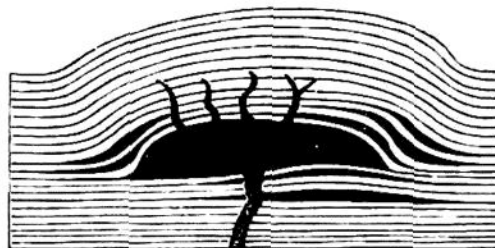
space that may offer a way of escape; and it may thus put layers of its own material into the stratified series.

(b) The lava of a fissure is always forced along by pressure from below; and if the fissure fails to reach the surface, the ascending stream may open a space for itself by lifting the overlying beds, and accumulate in great masses in the chamber so made.

An intercalated mass of igneous rock formed in the latter way is called, by G. K. Gilbert, a *laccolite*, from the Greek for *lake*, because it is a lake-like expansion of a stream. (As the termination *ite* is that used for a mineral or rock, the form *laccolith*, like that of monolith, is to be preferred.) The thickness depends somewhat on the fusibility of the rock, the more fusible kinds making extended masses or sheets, and the less fusible producing thicker and more bulging forms.

The Henry Mountains in southern Utah are of laccolithic origin, and they are those to which the term was first applied by Gilbert. The following figures are from his memoir (1877). The greatest thickness of the strata bulged upward by the lifting lava, in the manner illustrated in Fig. 272, was about 10,000 feet; and the height of the laccolithic dome in some cases is over 3000 feet. Fig. 273 represents an actual laccolith, called Jukes Butte, completely stripped of its inclosing strata and deeply gorged by denudation. The rock is andesyte, a rock less fusible than basalt; and the breadth of the mass is consequently only three to seven times greater than the height.

272.



Ideal section of a laccolith. Gilbert.

273.



Jukes Butte, a denuded laccolith, as seen from the northwest. Gilbert.

From the laccolith rise dikes of andesyte. The sandstone adjoining is usually more or less altered by the heat to a depth of a foot or more. The chamber occupied by the laccolith was in all cases made along a shaly layer in the formation where the cohesion was least. They occur at different levels in the strata, and the one lowest in geological position is 4500 feet below the level of the highest; the former is between Carboniferous beds,