occasionally found. These magnesian limestones are of a granular texture, and extremely hard; they are said to be very rich in lead and calamine, and have been extensively worked. The prevailing rocks on this (the western) side of the valley belong to this group.

GEOLOGICAL FORMATIONS OF DERBYSHIRE.—Before we proceed on our walk, let us sit down awhile on this mossy bank, beneath the magnificent knoll of trees that here overshadows the river, and by a reference to the geological table (p. 41.), and Professor Phillips's map, obtain a clear idea of the nature and succession of the strata around us; in other words, the order of superposition of the deposits of Derbyshire.

1. *Lowermost.* A bed of compact BASALT, or TRAP, (in Derbyshire called *Toadstone*,) of uncertain thickness and extent. This rock consists of mineral matter that has undergone complete fusion, and been erupted from the profound depths of some internal source of intense heat (see *Wond.* p. 742.). The upheaving force thus put in action, having been unequally exerted in different places, the superincumbent beds of limestone have been protruded in dome-shaped masses through the upper strata; and are now seen bent and curved, forming what is termed arched stratification.*

Vesicular, or *amygdaloidal* Toadstone; this partakes more

* My excellent friend, the late Robert Bakewell, Esq., was the first geologist who correctly explained the phenomena here described. See his Introduction to Geology, 5th edit. p. 147.