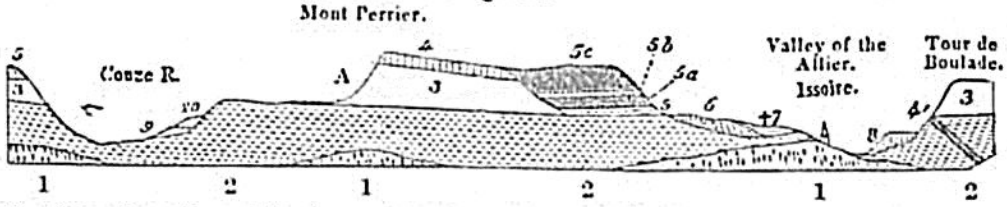
Fig. 676.



Section from the valley of the Couze at Nechers, through Mont Perrier and Issoire to the Valley of the Allier, and the Tour de Boulade, Auvergne.

10. Lava-current of Tartaret near its termination at Nechers.
9. Bone-bed, red sandy clay under the lava of Tartaret.
8. Bone-bed of the Tour de Boulade.
7. Alluvium newer than No. 6.
6. Alluvium with bones of hippopotamus.
5 *c*. Trachytic breccia resembling 5 *a*.
5 *b*. Upper bone-bed of Perrier, gravel, &c.
5 *a*. Pumiceous breccia and conglomerate, angular masses of trachyte, quartz, pebbles, &c.
5. Lower bone-bed of Perrier, ochreous sand and gravel.
4 *a*. Basaltic dyke.
4. Basaltic platform.
3. Upper fresh-water beds, limestone, marl, gypsum, &c.
2. Lower fresh-water formation, red clay, green sand, &c.
1. Granite.

may convey some idea to the reader of the long and complicated series of events which have occurred in that country, since the first lacustrine strata (No. 2) were deposited on the granite (No. 1). The changes of which we have evidence are the more striking, because they imply great denudation, without there being any proofs of the intervention of the sea during the whole period. It will be seen that the upper fresh-water beds (No. 3), once formed in a lake, must have suffered great destruction before the excavation of the valleys of the Couze and Allier had begun. In these fresh-water beds, Upper Eocene fossils, as described in Chap. XV., have been found. The basaltic dike 4′ is one of many examples of the intrusion of volcanic matter through the Eocene fresh-water beds, and may have been of Upper Eocene or Miocene date, giving rise, when it reached the surface and overflowed, to such platforms of basalt, as often cap the tertiary hills in Auvergne, and one of which (4) is seen on Mont Perrier.

It not unfrequently happens that beds of gravel containing bones of extinct mammalia are detected under these very ancient sheets of basalt, as between No. 4 and the fresh-water strata, No. 3, at A, from which it is clear that the surface of No. 3 formed at that period the lowest level at which the waters then draining the country flowed. Next in age to this basaltic platform comes a patch of ochreous sand and gravel (No. 5), containing many bones of quadrupeds. Upon this rests a pumiceous breccia or conglomerate, with angular masses of trachyte, and some quartz pebbles. This deposit is followed by 5 *b*, which is similar to 5, and 5 *c* similar to the trachytic breccia 5 *a*. These two breccias are supposed, from their similarity to others found on Mount Dor, to have descended from the flanks of that mountain during eruptions; and the interstratified alluvial deposits contain the remains of mastodon, rhinoceros, tapir, deer, beaver, and quadrupeds of other genera referable to about forty species, all of which are extinct. I formerly supposed them to belong to the same era as the Miocene faluns of Touraine; but,