

Limestones
holding fossils.

of *Serpula*; there are also two or more species of small gasteropods, several lamellibranchs, including *Pterinea* and a cast of a *Cucullæa*-like shell, a large *Orthis* is also quite common. Much of the rock is compact and of a reddish-grey color, but portions are of a more open texture, the interior of the shells and spaces between them being occupied by crystalline calcite. Numerous fragments of dark red shale and sandstone, and a few of red petrosilex, porphyritic with white calcite, occur with the limestone blocks, but the surface of the country at this out-crop is so densely covered with a young growth of trees that the relation of the limestone and arenaceous beds could not be determined. That portion of the Nerepis Valley which lies to the north of the range of Devonian slates in Petersville (Report of Progress, 1870-71, page 199) has been eroded to the depth of several hundred feet through the Lower Carboniferous rocks, exposing the slates above named in the bottom of the valley as well as along the base of the enclosing eminence, while patches of felsite, such as occur on the South Branch of the Oromosio, appear at intervals along the tops of the hills on the south side of the valley, and rise to the surface from beneath the coal measures on the north side.

Anticlinal folds.

In the intervening space there are one or more breaks or anticlinal folds, one of which at Lower Clones, exposing friable red sandstone, sweeps over a ridge of Pre-Carboniferous slates, of which a small area is exposed to view. This is about half a mile eastward of the Lower Carboniferous limestones described above. About three miles farther up the valley, the red rocks leave the main Nerepis stream and pass into the valley of Summer Hill Brook, one of its branches. At the junction of the two streams, a small area of Pre-Carboniferous slates is exposed. Above this point on the Nerepis, there are no exposures for the space of about a mile. Then for a quarter of a mile, following upward along the stream, the red measures of the Lower Carboniferous series form a low cliff on the left bank. Here dark red conglomerates rise from the stream in a low anticlinal to a height of eight feet, capped by a dark olive-grey and reddish doleritic amygdaloid in loose shelly layers. For a distance of half a mile further up, the stream flows through alluvial flats without rock exposures, and beyond that point out-crops of the conglomerate and grit pertaining to the barren measures at the base of the Middle Carboniferous formation begin to appear.

Doleritic amygdaloid.

Exposures on
Summer Hill
Brook.

Better exposures of the Lower Carboniferous series occur on Summer Hill Brook, above an out-crop of vertical Pre-Carboniferous slates at its mouth. The first ledges of the former series, which come into view here, are red conglomerates, full of grey calcareous nodules, and holding fragments, chiefly of grey Pre-Carboniferous slates, flesh-grey and dark maroon colored felsites dotted with crystals of pellucid quartz and calcite, also fragments of dark grey petrosilex, and pebbles of white quartz. The conglomerates show in the left bank of the stream, and are covered by beds of hardened