from 20 to 180 feet was the result. (See fig. 7, p. 29.) The high road has been several times turned to avoid this cavity, the enlargement of which is still proceeding, and the old line of road may be seen to have held its course directly over what is now the widest part of the ravine. In the perpendicular walls of this great chasm appear beds of clay and sand, red, white, yellow, and green, produced by the decomposition in situ of hornblendic gneiss, with layers and veins of quartz, as before-mentioned, and of a rock consisting of quartz and felspar, which remain entire to prove that the whole mass was once crystalline.

In another place I saw a bridge thrown over a recently formed gulley, and here, as in Alabama, the new system of valleys and of drainage, attendant on the clearing away of the woods, is a source of serious inconvenience and loss.

I infer, from the rapidity of the denudation caused here by running water, after the clearing or removal of wood, that this country has been always covered with a dense forest, from the remote time when it first emerged from the sea. However long may have been the period of upheaval required to raise the marine tertiary strata to the height of more than 600 feet, we may conclude that the surface has been protected by more than a mere covering of herbage from the effects of the sudden flowing off of the rain water.

I know it may be contended that, when the granite and gneiss first rose as islands out of the sea, they may have consisted entirely of hard rock, which resisted denudation, and therefore that we can only affirm that the forest has been continuous from the time of the decomposition and softening of the upper portion of these rocks. But I may reply, that similar effects are observable, even on a grander scale, in recently excavated ravines seventy or eighty feet deep, in some newly cleared parts of the tertiary regions of Alabama, as in Clarke County, for example, and also in some of the cretaceous strata of loose gravel, sand, and clay, in the same state at Tuscaloosa. These are at a much greater height above the sea, and must, from the first, have been as destructible as they are now.

We returned to Macon by our former route, through the pine