

a member of the carboniferous series. "The chasm," says Professor Sedgwick, "is surrounded by grassy shelving banks, and many animals, tempted towards its brink, have fallen down and perished in it. The approach of cattle is now prevented by a strong lofty wall; but there can be no doubt that, during the last two or three thousand years, great masses of bony breccia must have accumulated in the lower parts of the great fissure, which probably descends through the whole thickness of the scar-limestone, to the depth of perhaps five or six hundred feet." *

When any of these natural pit-falls happen to communicate with lines of subterranean caverns, the bones, earth, and breccia, may sink by their own weight, or be washed into the vaults below.

At the north extremity of the rock of Gibraltar are perpendicular fissures, on the ledges of which a number of hawks nestle and rear their young in the breeding season. They throw down from their nests the bones of small birds, mice, and other animals on which they feed, and these are gradually united into a breccia of angular fragments of the decomposing limestone with a cement of red earth.

At the pass of Escrinet in France, on the northern escarpment of the Coiron hills, near Aubenas, I have seen a breccia in the act of forming. Small pieces of disintegrating limestone are transported, during heavy rains, by a streamlet, to the foot of the declivity, where land shells are very abundant. The shells and pieces of stone soon become cemented together by stalagmite into a compact mass, and the talus thus formed is in one place fifty feet deep, and five hundred yards wide. So firmly is the lowest portion consolidated, that it is quarried for mill-stones.

Recent stalagmitic limestone of Cuba. — One of the most singular examples of the recent growth of stalagmitic limestone in caves and fissures, is that described by Mr. R. C. Taylor, as observable on the north-east part of the island of Cuba.† The country there is composed of a white marble, in which are numerous cavities, partially filled with a calcareous deposit of a brick-red colour. In this red deposit are shells, or often the hollow casts of shells, chiefly referable to eight or nine species of land snails, a few scattered bones of quadrupeds, and, what is still more singular, marine univalve shells, often at the height of many hundred, or even one thousand feet above the sea. The following explanation is given of the gradual increase of this deposit. Land snails of the genera *Helix*, *Cyclostoma*, *Pupa*, and *Clausilia*, retire into the caves, the floors of which are strewn with myriads of their dead and unoccupied shells, at the same time that water infiltrated through the mountain throws down carbonate of lime, enveloping the shells, together with fragments of the white limestone which occasionally falls from the roof. Multitudes of bats resort to the caves; and

* Memoir on the Structure of the Lake Mountains of the North of England, &c., read before the Geological Society, Jan. 5. 1831.

† Notes on Geol. of Cuba, from Observations made in 1836, *Phil. Mag.*, July, 1837.