

these marls is of a light colour, and from thirty to forty feet thick, and rests horizontally on the lower bed, which is of a reddish colour. Both appear from the description to be tuffs composed of the materials of volcanic ejections, and forming a covering from sixty to seventy feet deep overlying the basalt, which seems to resemble some of the currents of prismatic lava in Auvergne and the Vivarais. Near the middle of this tufaceous mass, and therefore, at the depth of thirty feet or more from the surface, just where the two beds of tuff meet, Captain Dangerfield was shown, near the city of Mhysir, buried bricks and large earthen vessels, said to have belonged to the ancient city of Mhysir, destroyed by the catastrophe of Oujein.*

CHAPTER XLVII.

BURYING OF FOSSILS IN ALLUVIAL DEPOSITS AND IN CAVES.

Fossils in alluvium — Effects of sudden inundations — Terrestrial animals most abundantly preserved in alluvium where earthquakes prevail — Marine alluvium — Buried town — Effects of landslips — Organic remains in fissures and caves — Form and dimensions of caverns — their probable origin — Closed basins and subterranean rivers of the Morea — Katavothra — Formation of breccias with red cement — Human remains imbedded in Morea — Intermixture, in caves of South of France and elsewhere, of human remains and bones of extinct quadrupeds, no proof of former co-existence of man with those lost species.

Fossils in Alluvium. — THE next subject for our consideration, according to the division before proposed, is the imbedding of organic bodies in alluvium.

The gravel, sand, and mud in the bed of a river does not often contain any animal or vegetable remains; for the whole mass is so continually shifting its place, and the attrition of the various parts is so great, that even the hardest rocks contained in it are, at length, ground down to powder. But when sand and sediment are suddenly swept by a flood, and then let fall upon the land, such an alluvium may envelop trees or the remains of animals, which, in this manner, are often permanently preserved. In the mud and sand produced by the floods in Scotland, in 1829, the dead and mutilated bodies of hares, rabbits, moles, mice, partridges, and even the bodies of men, were found partially buried.† But in these and similar cases one flood usually effaces the memorials left by another, and there is rarely a sufficient depth of undisturbed transported matter, in any one spot, to preserve the organic remains for ages from destruction.

Where earthquakes prevail, and the levels of a country are changed from time to time, the remains of animals may more easily be inhumed and protected from disintegration. Portions of plains, loaded with alluvial accumulations by transient floods, may be gradually

* Sir J. Malcolm's Cent. Ind. — Geol. of Malwa, by Captain F. Dangerfield, Apr. No. ii., pp. 324, 325.

† Sir T. D. Lauder, Bart., on the great Floods in Morayshire, Aug. 1829, p. 177.