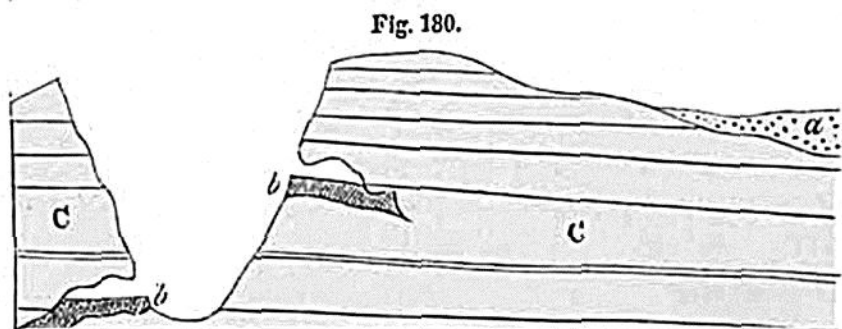


a bed of sand filled with sea-shells, almost all of recent species, rests a breccia (*b*, fig. 93), composed of fragments of calcareous rock, and the bones of animals. In the sand at the bottom of that cave, Dr. Philippi found about forty-five marine shells, all clearly identical with recent species, except two or three. The bones in the incumbent breccia are chiefly those of the mammoth (*E. primigenius*), with some belonging to an hippopotamus, distinct from the recent species, and smaller than that usually found fossil. (See fig. 137.) Several species of deer also, and, according to some accounts, the remains of a bear, were discovered. These mammalia are probably referable to the Post-Pliocene period.

The Newer Pliocene tertiary limestone of the south of Sicily, already described, is sometimes full of caverns: and the student will at once perceive that all the quadrupeds of which the remains are found in the stalactite of these caverns, being of later origin than the rocks, must be referable to the close of the tertiary epoch, if not of still later date. The situation of one of these caves, in the valley of Sortino, is represented in the annexed section.



*a.* Alluvium, } containing the remains of quadrupeds for the most part extinct.  
*b, b.* Deposits in caves, }  
*C.* Limestone containing the remains of shells, of which between 70 and 80 per cent. are recent.

*England.*—In a cave at Kirkdale, about twenty-five miles N. N. E. of York, the remains of about 300 hyænas, belonging to individuals of every age, have been detected. The species (*Hyæna spelæa*) is extinct, and was larger than the fierce *Hyæna crocuta* of South Africa, which it most resembled. Dr. Buckland, after carefully examining the spot, proved that the Hyænas must have lived there; a fact attested by the quantity of their dung, which, as in the case of the living hyæna, is of nearly the same composition as bone, and almost as durable. In the cave were found the remains of the ox, young elephant, hippopotamus, rhinoceros, horse, bear, wolf, hare, water-rat, and several birds. All the bones have the appearance of having been broken and gnawed by the teeth of the hyænas; and they occur confusedly mixed in loam or mud, or dispersed through a crust of stalagmite which covers it. In these and many other cases it is supposed that portions of herbivorous quadrupeds have been dragged into caverns by beasts of prey, and have served as their food, an opinion quite consistent with the known habits of the living hyæna.

No less than thirty-seven species of mammalia are enumerated by Professor Owen as having been discovered in the caves of the British islands, of which eighteen appear to be extinct, while the others still survive