nean heat. This agent may, perhaps, have been, in some manner, the cause of the formation of the cavern; it is, however, supposed, by some, to have been an excavation formed at a remote period by mining operations.

Instances of rivers of considerable magnitude sinking into the earth, and emerging again at the distance of several miles, have been long known in many countries: it is not the object of the present chapter to enumerate them, but to direct attention to these subterranean streams, that have no apparent connection with the surface. It cannot be doubted, however, that the rivers which run only for a few miles under ground, and emerge without any apparent loss of water, must effect considerable changes in the strata during their subterranean course. In some cases rivers are absorbed into caverns, in others they merely sink into softer strata, as takes place with the river Rhone, about twenty miles from Geneva, at what is called the *Perte du Rhône*. See Travels in the Tarentaise, vol. ii. p. 264.

The subject of subterranean currents has scarcely attracted the attention of English geologists, but it is beginning to excite enquiry in France, where the practice of boring for water is becoming general, and has brought to light some interesting facts. In the report of M. Desnoyers, before referred to, several of these facts are described, but he previously states the observations of MM. Boblet and Virlet, on the closed valleys or gulfs in central Morea, called katavotrons, "into which torrents of water amassed during rainy seasons are precipitated, carrying with them the mud with which they are coloured, the skeletons of animals, with fragments of shells and plants mixed with gravel, which they introduce into subterranean cavities. The water again springs up at a great distance from the sea, pure and limpid. This circumstance serves to explain the filling of many caverns; may it not also explain the sinuous passages filled with sand and gravel, between strata which are found at great depths from the surface in the environs of Paris?"

From the borings and sinking for water in different parts of France, it is evident that they occasionally meet with considerable subterranean streams that have somewhere a connection with the surface waters. In a well sunk at Tours, in 1829, in the lower chalk, to the depth of 330 feet, the water rose rapidly for some hours, bringing with it much fine sand, fragments of thorns and seeds of marsh plants, with land and freshwater shells unchanged. Another fact was recently discovered at Reinke, near Bochum, in Westphalia. A well was sunk to the depth of a hundred and forty-three feet, when the water rose to near the surface, bringing with it small fish from three to four inches in length. The nearest currents of surface water are from two to five leagues distant from the well. How small is the proportion of seeds, shells, or fish, sand or gravel, that came to the surface, compared with those which are arrested in their progress, and finally fill up the subterranean passages and change the direc-