

densed by the coldness of the external atmosphere. The floor of the cavern being lower than the entrance, the gas is spread over the bottom like a pool of water, and the upper part is free from any noxious vapour. The deleterious effects of the carbonic acid is, therefore, not felt by any creature whose organs of respiration are above the level of this mephitic lake; but if a dog, or other small animal, enter the cave, it instantly falls senseless, and would expire if not speedily removed: the name of the cave is obviously derived from the experiment being often made on dogs, for the amusement of visitors.* It is impossible to fire a pistol at the bottom of the cavern; for, although gunpowder may be exploded even in carbonic acid by the application of a heat sufficient to decompose the nitre, and consequently to envelope the mass in an atmosphere of oxygen gas, yet the influence of a mere spark from steel produces too slight an augmentation of temperature for this purpose.†

50. CONSOLIDATION OF LOOSE STRATA BY IRON.

—Water charged with a large proportion of iron, acts an important part in the consolidation of loose materials, converting sand into iron-stone, and beach or shingle into a ferruginous conglomerate. At Clapham Common, and other places in the vicinity of London, a very compact breccia occurs in large blocks, being composed of chalk-flints, more or less broken, and rolled, cemented together by

* See Sandys' Travels.

† Daubeny on Volcanoes.