

through a porous stratum, which is in itself confined between two impermeable beds, at a gradually rising inclination, it tends to mount upwards, in obedience to a well-known hydrostatic law; and if it finds an opening in the upper stratum, it escapes violently, producing what is called a "jet" or "leaping fountain." Examples are found in the sources of the Loiret and the Touvre, which issue boiling from profound gulfs, regarded by the natives as bottomless abysses. These springs almost immediately after their emergence from the earth are deep enough to carry boats. The Touvre, an affluent of the Charente, furnishes the latter river with half its waters. It is formed of three springs opening in the bed of the ravine at about eight miles east of Angoulême. At the point of confluence of these springs, the channel is 320 feet wide by 7 feet deep. The forges and foundries of Ruelle are situated along its banks for an extent of nine miles.

At the castle of Sozay, near Clamecy, is a fountain of this kind, named *The Abyss*, which issues from a very deep well about 13 feet in diameter.

On the shore of Alvarado, in the Gulf of Mexico, is a hill of sand some 140 feet high, on whose summit rises a beautiful jet of pure limpid water, which furnishes the vessels of the port with their supplies.

Numerous similar fountains are scattered over the peninsula of the Morea.

Sometimes they are found escaping from the very bosom of the sea, as in the Bay of Jagua, on the warm southern coast of Cuba.

At a distance, says Humboldt, of two or three leagues from the land, springs of fresh water rise in the midst of the salt water. Their eruption takes place with so much force, that it is dangerous for small boats to approach their vicinity, on account of the waves, which are high and rolling, and clash against one another with surprising violence. Sometimes the coasting vessels draw near, however, in order to take on board a stock of fresh water, which is much sweeter than can be obtained from wells of a very great depth.

A remarkable example of a leaping fountain in the midst of the sea is found in the Gulf of Spezzia. The water mounts above the waves, and forms a kind of dome, more than 65 feet in diameter, and from 12 to 16 inches in height: in the centre may be observed a great number of vertical jets, of such impetuosity that the course of a boat can with difficulty be arrested in the midst of their liquid elevation. One hundred and seventy feet distant from the shore Spallanzani sounded the depth, and obtained bottom at 50 feet.

There are many springs, and especially these jets, distinguished by an intermittent character. Philosophers attribute the phenomenon to the presence of sub-