some in Sicily, between Aragona and Girgenti. Pallas observed them in the Crimea—in the peninsula of Kertch, and in the Isle of Tamàn. Von Humboldt has described and figured a group of them in the province of Cartagena, in South America. Finally, they have been observed in the Island of Trinidad and in Hindostan. In 1797 an eruption of mud ejected from Tunguragua, in Quito, filled a valley 1,000 feet wide to a depth of 600 feet. On the opposite page is represented the mud volcano of Turbaco, in the province of Cartagena (PLATE IV.), which is described and figured by Von Humboldt in his "Voyage to the Equatorial Regions of America."

In certain countries we find small hillocks of argillaceous formation, resulting from ancient discharges of mud volcanoes, from which all disengagement of gas, water, and mud has long ceased. Sometimes, however, the phenomenon returns and resumes its interrupted course with great violence. Slight shocks of earthquakes are then felt; blocks of dried earth are projected from the ancient crater, and new waves of mud flow over its edge, and spread over the neighbouring ground.

To return to ordinary volcanoes, that is to say, those which eject lava. At the end of a lava-flow, when the violence of the volcanic action begins to subside, the discharge from the crater is confined to the disengagement of vaporous gases, mixed with steam, which make their escape in more or less abundance through a multitude of fissures in the ground.

The great number of volcanoes which have thus become extinct form what are called *solfataras*. The sulphuretted hydrogen, which is given out through the fissures in the ground, is decomposed by contact with the air, water being formed by the action of the oxygen of the atmosphere, and sulphur deposited in considerable quantities on the walls of the crater, and in the cracks of the ground. Such is the geological source of the sulphur which is collected at Pozzuoli, near Naples, and in many other similar regions—a substance which plays a most important part in the industrial occupations of the world. It is, in fact, from sulphur extracted from the ground about the mouths of extinct volcanoes, that is to say from the products of *solfataras*, that sulphuric acid is frequently made—sulphuric acid being the fundamental agent, one of the most powerful elements, of the manufacturing productions of both worlds.

The last phase of volcanic activity is the disengagement of carbonic acid gas without any increase of temperature. In places where these continued emanations of carbonic acid gas manifest themselves, the existence of ancient volcanoes may be recognised, of