

THE PHASE OF PAROXYSMAL VIOLENCE.

The phase of paroxysmal violence, or, as it is usually called, long intermittences, is characterized by lengthened periods of repose, followed by violent, though transient eruptions. Baron Humboldt has stated that lofty volcanoes are always in this state. The volcanic mountains of the Andes have not, generally speaking, an eruption more than once in a century; and the Peak of Teneriffe, which was active in 1798, had not at that time been disturbed for ninety-two years. It must not, however, be supposed, that this volcanic condition is confined to elevated craters, for the histories of other mountains give abundant instances to the contrary.

The phenomena which accompany eruption are nearly the same in all cases; varying in intensity, and consequently in the violence of their effects. In some cases the phenomena and the effects are confined to the immediate neighbourhood of the excited mountain; while in other instances, and it is generally the case when the mountain is in the phase of paroxysmal intensity, the effects are felt for many miles round the active cone. The explosions of Cotopaxi have been heard at a distance of 600 miles.

The activity of a volcano generally commences with a loud detonation, which is succeeded by others less loud, and the escape of aeriform fluids. Large fragments of rock and masses of lava are usually projected by these discharges, some of which fall back into the crater and are re-discharged, until they are reduced to powder, and mingle with the surrounding atmosphere of heated vapour. The accumulation of these particles produces the appearance of dense clouds of smoke, which are almost invariably seen to surround the summit of the crater.

The lava then rises to the vent of the mountain, and finds an egress from the crater, or from some lateral opening. In some cases, however, scorix alone are projected. During the day, the lava is generally hidden by the aqueous vapours which arise from it, but at night it appears of a glowing heat. While the lava continues to flow, the detonations are frequently less violent; but there is no proof of the diminution of the paroxysm until the mountain ceases to eject; and even then peace is not immediately restored, for scorix and masses of rock are often thrown out for some time after the dreadful crisis is past.