

THE SIGNS AND PRECURSORS OF AN EARTHQUAKE.

It is generally imagined that an earthquake is always preceded, heralded, and, so to speak, prepared by some unusual atmospheric agitation, by a violent storm, a hot stifling wind, or an anomalous state of the magnetic needle. This is not the case. Nor should the absence of precursory symptoms surprise us, when we know that the cause of earthquakes is entirely internal, and, consequently, in no way connected with the conditions of the atmosphere. Frequently, the sun is shining with its most dazzling lustre, and in the air prevails the profoundest calm, when those catastrophes suddenly occur which convert the smiling plain, and towns echoing with the "busy hum of men," into a scene of death and ruin, and in the twinkling of an eye hurry thousands of our fellow-creatures into an unexpected and most awful grave. The terrible earthquake of Lisbon surprised the Portuguese capital on a day of festival, at nine o'clock in the morning—one of the loveliest mornings of that glorious climate—at the moment when its inhabitants were thronging to the churches. Earthquakes occur under a serene sky as frequently as during a storm of rain; when the wind blows freshly and gently, as when the hurricane is raging abroad. Humboldt had never seen the needle agitated in any one of the numerous earthquakes which he observed during his five years' sojourn in Equatorial America; and another traveller, Adolph Ermann, made the same observation in the temperate zone, on the occasion of an earthquake which occurred at Irkutsk, near Lake Baikal, on the 8th of March 1829. The earthquake of Rio-Bamba, February 4th, 1797—one of the most terrible calamities recorded in the physical history of our globe, and in reference to which Alexander von Humboldt collected many important details—was not preceded by any atmospheric symptom.

It frequently happens that a terrible noise precedes, accompanies, or follows the catastrophe. But this noise does not originate in the atmosphere; its source is in the bowels of the earth, and is produced by the crashing of the rocks as they yield, over an immense extent,