

derings are heard; even the very foundations of the earth are agitated, trembling as it were with agony at the knowledge of the coming ruin. At last the long-watched for, dreaded hour is come; stream after stream of molten fire pours forth unceasing and unchecked, and large masses of rock are hurled down. The flames abate; a stately column of smoke rises upward silently to heaven, bearing with it the agonizing prayers of widowed mothers, or the piteous cries of orphan babes; unrelenting, undiscriminating, the fatal stream has flowed its course, and where but a few brief hours before the light of plenty shone and nature smiled, all—all is waste. Thankful should we be then that, although beset with many hardships, our lot has been cast in a land where none of these calamities take place.

In connection with this subject I will just make a few remarks upon earthquakes, and then pass on to that portion of the Lecture which relates to water. Between volcanoes and earthquakes there evidently exists some affinity. The concussions arising from earthquakes most frequently take place in volcanic regions, but the shocks are most severe in places distant from active volcanic sites the vents of the latter, acting as a sort of safety valve to the elastic force which, pent up, agitates the crust of the earth in its attempt to escape. Dreadful, as I have described to you, are the effects of eruptions; much more so is an earthquake, for it commences without the slightest warning; the shocks follow in quick succession, the first or second being usually the most tremendous; and almost at the same instant a vast extent of country is involved in disaster from the oscillation. Some of the most notable earthquakes are those which have taken place at Lisbon, Nov. 1st, 1755, which catastrophe destroyed the city and 60,000 inhabitants, shook Europe, and rocked the waters of Lake Ontario, and was over in six minutes. The desolation of Caracacas, March 26th, 1812, felt on the banks of the Magdalena River, occupied less time: in the space of fifty seconds three great shocks shattered the city, and killed 10,000 of its inhabitants, and covered the province with ruins. The earthquake of Gaudaloupe, Feb. 8th, 1842, was felt along a right line from 60 to 70 miles in breadth and 3000 miles in length, extending from the mouth of the Amazon into South Carolina. Though unable to trace the intimate connection of earthquakes, volcanoes, hot waters, the

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