are temporarily affected by earthquake movements, becoming greater or smaller in volume, sometimes muddy or discolored, and sometimes increasing in temperature. Brooks and rivers have been observed to flow with an interrupted course, increasing or diminishing in size, stopping in their flow so as to leave their channels dry, and then rolling forward with increased rapidity. Lakes are still more sensitive. Their waters occasionally rise and fall for several hours, even at a distance of many hundred miles from the centre of disturbance. Thus, on the day of the great Lisbon earthquake, many of the lakes of central and northwestern Europe were so affected as to maintain a succession of waves rising to a height of 2 or 3 feet above their usual level. Cases, however, have been observed where, owing to excessive subterranean movement, lakes have been emptied of their contents and their beds have been left permanently dry. On the other hand, areas of dry ground have been depressed, and have become the sites of new lakes.

Some of the most important changes in the fresh water of a region, however, are produced by the fall of masses of rock and earth, which, by damming up a stream, may so arrest its water as to form a lake. If the barrier be of sufficient strength, the lake will be permanent; though, from the usually loose, incoherent character of its materials, the dam thrown across the pathway of a stream runs a great risk of being undermined by the percolating water. A sudden giving way of the barrier allows the confined water to rush with great violence down the valley, and to produce perhaps tenfold more havoc there than may have been caused by the original earthquake. When a landslip is of sufficient dimensions to divert a stream from its previous course, the