

exclusively confined to the number of human beings who perished, the number of cities laid in ruins, the value of property destroyed, or certain atmospheric appearances which dazzled or terrified the observers. The creation of a new lake, the engulfing of a city, or the raising of a new island, are sometimes, it is true, adverted to, as being too obvious, or of too much geographical or political interest, to be passed over in silence. But no researches were made expressly with a view of ascertaining the amount of depression or elevation of the ground, or any particular alterations in the relative position of sea and land; and very little distinction was made between the raising of soil by volcanic ejections, and the upheaving of it by forces acting from below. The same remark applies to a very large proportion of modern accounts: and how much reason we have to regret this deficiency of information appears from this, that in every instance where a spirit of scientific inquiry has animated the eye-witnesses of these events, facts calculated to throw light on former modifications of the earth's structure are recorded.

Phenomena attending earthquakes. — As I shall confine myself almost entirely, in the following notice of earthquakes, to the changes brought about by them in the configuration of the earth's crust, I may mention, generally, some accompaniments of these terrible events which are almost uniformly commemorated in history, that it may be unnecessary to advert to them again. Irregularities in the seasons preceding or following the shocks; sudden gusts of wind, interrupted by dead calms; violent rains at unusual seasons, or in countries where such phenomena are almost unknown; a reddening of the sun's disk, and a haziness in the air, often continued for months; an evolution of electric matter, or of inflammable gas from the soil, with sulphurous and mephitic vapours; noises underground, like the running of carriages, or the discharge of artillery, or distant thunder; animals uttering cries of distress, and evincing extraordinary alarm, being more sensitive than men of the slightest movement; a sensation like sea-sickness, and a dizziness in the head, experienced by men:—these, and other phenomena, less connected with our present subject as geologists, have recurred again and again at distant ages, and in all parts of the globe.

I shall now begin the enumeration of earthquakes with the latest authentic narratives, and so carry back the survey retrospectively, that I may bring before the reader, in the first place, the minute and circumstantial details of modern times, and thus enable him, by observing the extraordinary amount of change within the last 150 years, to perceive how great must be the deficiency in the meagre annals of earlier eras.

EARTHQUAKES OF THE NINETEENTH CENTURY.*

Syria, January, 1837. — It has been remarked that earthquakes affect elongated areas. The violent shock which devastated Syria in

* Since the publication of the first of recent earthquakes have been published; but as they do not illustrate any edition of this work, numerous accounts