exhalations have killed tigers, birds, and innumerable insects; and the soft parts of these animals, such as the fibres, muscles, nails, hair, and skin, are very well preserved, while the bones are corroded, and entirely destroyed.

We learn from observations made in 1844, by Mr. Jukes, that a recent tertiary formation composed of limestone and resembling the coral rock of a fringing reef, clings to the flanks of all the volcanic islands from the east end of Timor to the west end of Java. These modern calcareous strata are often white and chalk-like, sometimes 1000 feet and upwards above the sea, regularly stratified in thick horizontal beds, and they show that there has been a general elevation of these islands at a comparatively modern period.*

The same linear arrangement which is observed in Java holds good in the volcanos of Sumatra, some of which are of great height, as Berapi, which is more than 12,000 feet above the sea, and is continually smoking. Hot springs are abundant at its base. The volcanic line then inclines slightly to the north-west, and points to Barren Island, lat. 12° 15′ N., in the Bay of Bengal. This volcano was in eruption in 1792, and will be described in the twenty-seventh chapter. The volcanic train then extends, according to Dr. Maclelland, to the island of Narcondam, lat. 13° 22′ N., which is a cone seven or eight hundred feet high, rising from deep water, and said to present signs of lava currents descending from the crater to the base. Afterwards the train stretches in the same direction to the volcanic island of Rambree, about lat. 19° N., and the adjoining island of Cheduba, which is represented in old charts as a burning mountain. Thus we arrive at the Chittagong coast, which in 1762 was convulsed by a tremendous earthquake (see chap. xxx.).†

To enumerate all the volcanic regions of the Indian and Pacific oceans would lead me far beyond the proper limits of this treatise; but it will appear in the last chapter of this volume, when coral reefs are treated of, that the islands of the Pacific consist alternately of linear groups of two classes, the one lofty, and containing active volcanos, and marine strata above the sea-level, and which have been undergoing upheaval in modern times; the other very low, consisting of reefs of coral, usually with lagoons in their centres, and in which there is evidence of a gradual subsidence of the ground. The extent and direction of these parallel volcanic bands has been depicted with great care by Darwin in his map before cited (p. 337.)

The most remarkable theatre of volcanic activity in the Northern Pacific—or, perhaps, in the whole world—occurs in the Sandwich Islands, which have been admirably treated of in a recent work by Mr. Dana.‡

*Volcanic region from Central Asia to the Azores.* — Another great region of subterranean disturbance is that which extends through a

* Paper read at meeting of Brit. Assoc. Southampton, Sept. 1846.

† Maclelland, Report on Coal and Min. Resources of India. Calcutta, 1838.

‡ Geology of the American Exploring Expedition, under the command of Capt. Wilkes.